SELF-CONCEPT AND PERSON PERCEPTION IN CHILDREN
IN GRADES TWO TO FOUR

by

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ABSTRACT

The purpose of this study was to explore the development of self-concept and person perception in children in grades two, three and four.

The study was designed to investigate three questions: (a) if grade three or four children would have significantly higher frequency and differentiation scores on the 'Who am I?' and 'friend' description than grade twos; (b) if grade three or four students would show an increase on specified types of abstract content and a decrease in concrete content in answer to the two questions as compared to grade twos; and (c) if a modal shift would occur between the 'egocentric-concrete' and 'nongocentric-concrete' categories in response to the 'friend' description from grade two to grades three or four.

A total of 111 primary children, 25 grade twos, 52 grade threes and 34 grade fours were tested on the WAI and 'friend' questions. The data were analyzed in terms of the three statistical hypotheses. The results showed that grades three or four increased significantly in frequency of response and differentiation to both the WAI and 'friend' descriptions. Main effects for question type were found in six content categories, and for grade in three content categories. Grade by question interactions was found in two content categories. Finally, a modal shift occurred from the 'egocentric-concrete' to 'nongocentric-concrete' categories from grades two to three.

Some limitations of the study and implications for future research follow.
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CHAPTER I

INTRODUCTION

There has been a growing interest in recent years in the child's social development (Forbes, 1978; Shantz, 1975), as evidenced by an increase in the research literature. This interest is reflected both in instructional theories and developmental theories.

Instructional Theory

First, holistic education offers an example of how social development may be an influence in instructional theory. Holistic education emphasizes the importance of teaching new material to students in a manner that they can relate to as individuals (Garrison & Magoon, 1972, pg. 188). Thus, instruction could be tied into the child's own life experiences.

Educators such as Jersild (1952, p.3) have commented that the most important task for educators and child psychologists is to discover how the educational system can help the child and young adult to understand and to accept himself. Social development is seen as being relevant for both practical purposes - we may teach a child more effectively if social/personality factors are considered, and to help a child develop a well-adjusted personality.

Developmental Theory

There is also an increased interest within the field of social cognition research in developmental psychology. Damon (1978) discusses
the trends that have led to an interest in social cognition in child development. In Piagetian theory, the child is seen as an active agent, interacting with the world to gain an understanding of his/her environment. This has implications for social cognition in the importance of social interactions for the child's social development, when social cognition is defined as the child's understanding of other people. Educators and psychologists stress the need to consider the child's social as well as cognitive development.

Furth (1978) comments on the role of social development in the child's development. The primary learning experience of the child is seen to be becoming socialized into society. The child must learn to communicate with others around him. The child must also learn to interact with the physical world, of course. Social development, then, may be argued to have a role in the child's learning environment.

There is research which suggests that social and cognitive development are related. Social development will be considered as self-concept, and cognitive development as school achievement, in the following studies.

Self-concept has been related to the child's academic performance, in such areas as reading and arithmetic. While academic achievement is not always a direct measure of cognitive growth, in most children academic achievement is reflective of their cognitive development in relation to school work.

Self-concept scores were found to be significantly related to academic achievement by Brookover (1964; 1965; 1967), even when intelligence, SES, educational motivation, and expectations of the family and peers were taken into account.
Self-concept has been related specifically to reading achievement. Hebert (1968) found that low self-concept in high school freshmen correlated significantly with low reading comprehension scores. Wattenburg and Clifford (1964), in a two year follow-up study from kindergarten to grade two, saw that pupil's self-concept was significantly related to reading achievement.

Bruck (1959), Bodwin (1959), and Bruck and Bodwin (1962) found a significant correlation between low reading and arithmetic achievement and immature self-concept at grades three, six and eleven.

This research suggests that cognitive development, as defined by school achievement scores, and self-concept are related at all levels of school. Social development in the child affects cognitive growth, so the overall social development is an important part of the total development.

Nature of the problem

Livesley and Bromley (1973) observe that there are no studies of children's concepts of personality such as there are for the concepts of space, time, number, causality and the physical world.

Although major reviews exist in the development of the self-concept (Spitzer & Stratton, 1971; Wylie, 1961; 1974), and in the area of person perception (Dubin & Dubin, 1965; Rosenberg & Sedlak, 1972; Shantz, 1975), little research has been effected as to their relationship.

Theoretical and empirical literature suggests the importance of the development of social cognition and the self-concept, and their relation. Shantz notes that there are important bases in the works of both Mead and Sullivan to assert that there are relations between the self- and other-concepts in both children and adults (1975, p.259).

Zelen (1954) found a significant correlation between acceptance by
one's peers, with acceptance of others and self-acceptance. This provides some support for the connection between understanding of self (self-concept) and of others in child development.

Richmond and Mason (1972) also found a relationship between self-concept and perception of others. When college students were tested on the Tennessee Self-Concept Scales (TSCS) and the Philosophy of Human Nature Scales (PHN), their perception of others was positively related to self-identity, behavior, personal self and family self (subscales of the TSCS). Another interesting finding was that the variability scale of the TSCS, uncertainty in self-perception, correlated with negative attitudes towards others in eight out of 15 subscales of the PHN. Richmond and Mason, and Zelen (1954) both provide experimental evidence for the relationship between the self-concept and perception of others.

The introduction noted the importance of the self-concept in cognitive development. Understanding of self-concept and social cognition, then, is of importance for educators and psychologists. The purpose of this study is to examine the relationship between the child's self-concept and the child's understanding of others (social cognition).

Justification of the Study

The study proposed here may be justified for theoretical and practical considerations. The results of this study may lead to a better theoretical understanding of the relationship between the child's self-concept and social cognition. While further research is needed in this area, this research will at least begin to delineate the relation between self-perception and perception of others.

Further, practical results may be cited as grounds for this type of
research. An understanding of the social development of normal children may have clinical application to aid socially maladjusted children. Also, educators and society place importance on the child's understanding of a knowledge-based curriculum. More research in social cognition may focus the need for some consideration of the child's social development as well as for cognitive growth. Therefore, this study may have practical and theoretical applications, as discussed above.

Organization of the Study

Chapter I has introduced the problem to be researched in this study, and a justification for the study to be carried out. Chapter II will provide an overview of relevant literature in the areas of self-concept and social cognition, and will conclude with a statement of the problem and hypotheses to be investigated. The methodology of the study and a pilot study conducted for this research will be presented in Chapter III. The results of the statistical analysis, and a discussion of the results and future research will comprise Chapters IV and V, respectively.
CHAPTER II

REVIEW OF THE LITERATURE

The literature will be reviewed in two sections: self-concept literature and person perception studies.

First, measurement of the self-concept will be discussed in relation to the "Who am I?" question (defined below) and some methodological considerations in the measurement of self-concept will be noted. Next, developmental studies of children's self-concepts will be reviewed. Finally, male/female differences and cultural differences will be studied because of their effects on the child's self-description. The person perception literature will be briefly discussed in terms of the content analysis used in this area. Then developmental trends found in social cognition which are similar to those found in self-concept studies will be identified. An attempt will then be made to integrate these two diverse traditions.

Self-Concept Literature

Theorists have conceptualized the self-concept's formation in early childhood (Bardwick, 1975; Erikson, 1959; Mead, 1934). In cognitive research on self-concept, children's descriptions of their self-concepts are studied to observe developmental changes in their self-perceptions.

Research on self-concept using questions to elicit responses often employ the question Who am I? (WAI) (Montemayor & Eisen, 1977).

The WAI was first proposed by Kuhn (1950), and further researched
by Kuhn & McPartland (1954). Kuhn named the WAI the Twenty Statements Test (TST) as the subject was asked to respond to the question Who am I? with twenty different statements. The TST has been widely used in both sociological and psychological research on child and adult populations. Spitzer et al. (1971) reported over 100 studies employing the TST. A similar test is the Who are you? (WAY) technique devised by Bugenthal and Zelen (1948), in which the subject is asked to make three answers to the question.

Other self-concept tests include the true-false, sentence completion, adjective check list, rating scales, Qsorts, semantic differential technique, and questionnaires (for a review see Yamamoto, 1972; Wylie, 1974). The more important methodological issues in self-concept research will now be discussed.

Methodological Issues in Self-Concept Research

An evaluation of self-concept based on questionnaires, rating scales, Qsorts, adjective check lists and other instruments which provide the person with a set of adjectives may not be the most complete measure, according to Gordon (1969). This type of self-concept instrument does not provide an opportunity for the subject to reply with categories (noun form) as well as attributes (adjective form). Many types of information about the individual's self-concept may be contained in the categories, such as social roles, memberships and activities. The open-ended answer format of the WAI allows the subject to define his self-concept using both categories and attributes, rather than having the subject rate the self-concept on a standard set of adjectives. Livesley and Bromley (1973) and Peevers and Secord (1973) both found that traits
made up only 20% of a child's answer to open-ended questions. Therefore rating scales and the like may neglect an important part of a child's self-description.

The WAI, then, was felt to provide a more complete picture of self-concept than some of the above-mentioned tests of self-concept. Developmental studies in children's self-concept research will now be reviewed.

Developmental Studies

Three developmental studies by Montemayor and Eisen (1977), Livesley and Bromley (1973) and Jersild (1952) on children's self-concepts will be discussed. All three experiments have relatively large sample sizes (over 250), and cover a broad age range from 9 or 10 year olds to 15 or 17 year olds, and therefore can provide an idea of trends in self-concept development.

Despite different questioning techniques in the studies of Montemayor and Eisen (WAI), Livesley and Bromley (describe 'myself') and Jersild ('what I like about myself', 'what I dislike about myself') studies, two similar developmental trends: from concrete to abstract references, and increased differentiation, occur in children's descriptions of their self-concepts, from childhood to adolescence.

These two trends are in agreement with Werner's orthogenetic principle (Werner, 1957), which states that:

whenever development occurs, it proceeds from a state of relative globality and lack of differentiation to a state of increasing differentiation, articulation, and hierarchic integration (1957, p.126).

These three studies (Jersild, 1952; Livesley & Bromley, 1973; Montemayor &
Eisen, 1977) will be reviewed in detail to illustrate the nature of children's self-descriptions. Content analysis of these self-descriptions reveals the qualitative change in the content of children's self-concepts from concrete to abstract, and the increased number of categories used by older children.

Montemayor and Eisen (1977) conducted the most comprehensive developmental study with the WAI, using children aged 9 to 17. Content categories developed by Gordon (1968) covered areas such as characteristics (sex, age, etc.); roles and membership; abstract identifications (existential, individuating); interests and activities; material references, senses of moral worth, self-determination, unity, competence; judgements imputed to others; and situational references; (in all 30 categories under these groupings). Developing content categories for a free description instrument such as the WAI or WAY can be a problem. Many sophisticated techniques have been designed, such as a computer coded dictionary and content system (McLaughlin, 1966). Generally, a larger number of content categories are used for studies with adult populations than for young children.

Montemayor and Eisen found that with increasing age, the child expressed the self-concept using more abstract categories, and less concrete references. Categories which increased significantly between ages 10 and 18 (percentage of subjects using the category at least once) were occupational role, existential and individuating, ideological and belief references, senses of self-determination and unity, interpersonal style and psychic style. Physical self and body image, possessions, and territoriality and citizenship were the three categories that declined significantly with age. Curvilinear changes were seen in five content
areas: sex, name, kinship role, membership in an abstract category (e.g. a speck in the universe), and judgements, tastes and likes. It can be observed that the development of the concrete-abstract shift in description of self-concept is not a simple, linear one.

Livesley and Bromley (1973), in their study on person perception, did a subsidiary investigation of self-concept with children aged 7 to 15. The content categories they used were somewhat similar to the Gordon scheme employed by Montemayor and Eisen (1977).

Content Categories

Content categories that could be matched between the two studies agreed in change with age in nine out of 12 cases. The exceptions were sex and name, found to be curvilinear by Montemayor and Eisen, were found to decrease in the Livesley and Bromley study, under the category of general information. Identification (information) was also found to decrease significantly between the ages of 7 and 11 by Beglis and Sheikh (1974). Kinship, curvilinear in the Montemayor study, was a category which decreased in the Livesley and Bromley experiment.

The self-concept became more differentiated, in that the mean number of categories increased between 10 and 18 in the Montemayor study, but this was only a trend. However, if a younger sample of children is selected, the number of categories used does increase significantly from age 7 to 10 (Bain, 1970). Unfortunately, the mean number of categories is not reported in many studies, so it is not possible to note if differentiation occurred with increasing age.
Free-description Format

Another study employing a free-description format was carried out by Jersild (1952). Jersild had over 2800 children from age 9 to college write about 'what I like about myself' and 'what I dislike about myself'. Responses were broken by percentages into 21 categories, although no statistical analysis was performed. The study was considered of note because it covered a broad age range, with a sample at every age level. Percentages will be reported at grades 4 and 12 to compare with the lower and upper limits of the Montemayor study. The following categories were found to increase: just me, myself (1-7%); intellectual abilities (1-8%); personality and character (37-65%); social attitudes and relations (16-24%); independence (0-4%). Home and family references decreased from 18-6%, as in the Livesley and Bromley study. Kinship and family was a category which resulted in different findings between Montemayor and Livesley. The second ambiguous finding between the two studies, the general information category, was not used as a content category by Jersild. The percentages reported were for the responses to 'what I dislike about myself', and were very similar to results for 'what I like about myself', except for the independence category which remained about the same (3-4%). The self-concept may be seen to become more differentiated in the Jersild study in that the subcategories in personality and character, and social relations were used more frequently. For example, within social attitudes and relations, 'friendships' increased (1-26%), as did 'attitudes' (2-8%) and 'heterosexual attitudes'(1-8%). Self-concept studies which focus on younger children will be discussed next.
Young Children

Two studies with younger children, aged 3 to 11, will be studied next. These two experiments are considered separately from the developmental studies because the age range was less, and the sample sizes were smaller (under 100).

Keller (1978) found that pre-school children aged 3 to 5 preferred the action category in oral self-description, compared to 9 other categories - relationships, body image, possessions, personal labels, gender, age, evaluation, and personal characteristics and preferences. The frequencies of the other categories were low and varied with age.

Thus, it can be seen that the pre-school children in the Keller study expressed their self-concepts in global terms - primarily with the action category, and that it was relatively undifferentiated, as only 1 category of 10 was used with any frequency.

Beglis and Sheikh (1974) studied 7, 9 and 11 year old black and white children's responses to the WAI. The identification category was used most frequently at all ages, although its use declined significantly between ages 7 and 11. The content categories of body image, ethnic and racial identification, personal preferences and future perspective were seen to increase significantly with age. Circumstantial references were found to decrease between 7 and 11. Nine year olds generally wrote a more differentiated self-description than the seven year olds, in that they used more types of content. Black children made more references to racial identification and less of the competence/task achievement category than did white children. Beglis and Sheikh suggest further research on the race variable as their results contradict previous findings.

In summary, the self-concept could be described as becoming more
differentiated with age, as 4 out of 10 content categories increased significantly between ages 7 and 11. The mean number of content categories per child was not calculated, but the analysis of categories by age does provide a type of measure of differentiation. The concrete to abstract shift may be observed as the identification category (concrete references as address, year in school, etc.) decreased significantly. The future perspective category, which is abstract in that it deals with future time and activities, was not even employed until age 9.

Some methodological issue and developmental trends in self-concept research have been reviewed. Next, the subject variables of sex and cultural differences in self-concept literature will be studied.

Sex of the Subject

Three studies (Beglis & Sheikh, 1974; Keller, 1978; Livesley & Bromley, 1973) examined male/female differences. Beglis and Sheikh were surprised to find the lack of significance of sex of the subject on the responses to the WAI, except for a three-way interaction (race-age-sex) on the racial/ethnic category. Keller found no effect in an analysis of the action category in the study on pre-schoolers. Low responses frequencies in the other categories were not possible to be analysed. Livesley and Bromley found little effect of the sex of the child on the content used in description. Girls used the 'family and kinship' and 'relations with the opposite sex' more often, and the 'interests and hobbies' category was more popular with boys. In all, only 3 out of 30 categories were significantly different. In these studies, age was always a more important variable than sex. Many studies do not use the
Finally, the 4th variable which may affect the self-concept is the cultural milieu. Kikuchi (1969) studied the self-concept of Japanese children from age 6 to 16, on a variation of the WAI. Grade 1 and 3 children described their self-concept in terms of character, tendency and attitude more often than the other categories of physical aspects, consensual aspects (age, sex, etc.), and other aspects. This is a contradictory finding in relation to the Beglis and Sheikh (1974) study with grade 2 and 4 children. The attention of the 6-9 year olds in the Kikuchi experiment to the more psychological aspects of self-concept may be partially attributable to the different wording of the WAI as 'What kind of a person do you think you are?'. Another variable may be cultural differences which affect the development of the self-concept. Therefore, caution should be exercised in generalizing the results of self-concept studies cross-culturally, without further investigation.

The Kikuchi study, however, supported the developmental trend of a change from concrete to abstract categorization. Within the character, tendency and attitude category, with increasing age, subjects discussed their self-conceptions more often with 'personal and intrinsic qualities of themselves' rather than the 'self in relation to others' or 'self concerning outer things' (possessions and surroundings). Kikuchi felt that age 8 to 9 was an important level in the development of the self-concept because at this age there was a great shift from 'self concerning "outer" things' as the modal category to 'personal and intrinsic qualities of themselves'.
In this review of self-concept literature, the developmental trends of an increased use of abstract over concrete content, and a differentiation of the self-concept have been noted. The effects of sex of the individual and cultural differences have also been discussed.

Next, a second tradition, the literature on the development of person perception in children will be examined. Some parallels between self-concept and person perception literature will be drawn.

**Person Perception Literature**

The area of person perception has traditionally been separate from the self-concept literature, although both deal with the child's social development. The comparison of the person perception literature to self-concept research is central to the purpose of this study, because this study compares children's responses on self-concept and person perception measures.

There seems to be a parallel in the self-concept literature and person perception studies in the development of the child's conceptual system on the continua of concrete to abstract ideas, and the degree of differentiation. These two developmental trends were seen to be recurrent findings throughout the child's self-concept literature. Again, these same two themes of social development will be noted in the person perception area.

Shantz (1975) stated that there has been a lot of research in the area of person perception in the past ten years. The study of a child's understanding of others is of importance because it provides some understanding of the cognitive development at a given age through the types of concepts used in the child's descriptions of others (Shantz, 1975, p.258).
Two major reviews of person perception research appeared prior to Shantz (Dubin & Dubin, 1965; Rosenberg & Sedlak, 1972), from an experimental social psychology view and role theory, respectively.

Person perception research has also developed within a cognitive structural framework, similar to the approach seen in the self-concept literature, e.g. Montemayor and Eisen (1977). Beach and Wertheimer (1961) applied a content analysis to perception, with categories such as objective information, social interaction, behavioral consistencies and performance. The content analysis is similar to categorization on the WAI, and thus, answers on person perception measures and the WAI may be compared. This fact is of interest in the present study, because as previously discussed, children's responses on the WAI and a social cognition measure are to be related.

Crockett (1965) applied Werner's orthogenetic principle to explain the child's social cognition development. The orthogenetic principle is also applied to the theory of self-concept development, e.g. Montemayor and Eisen (1977). There can therefore be seen theoretical and methodological common points in self-concept and person perception research.

Scarlett, Press and Crockett (1971) devised a content system which formed a continuum, in social development, from concrete to abstract, and egocentrism to nonegocentrism, simultaneously. Livesley and Bromley (1973) also postulated that the decline of egocentrism might explain the child's change in social cognition between the ages of 7 and 8.

Scarlett et al. studied the interpersonal perception of boys aged 6, 8 and 10. The boys were asked to describe four people: a boy he liked, a boy he disliked, a girl he liked, and a girl he disliked. Statements containing interpersonal qualities of the person being described were
scored as belonging to one of four categories - concrete - we constructs, egocentric-concrete constructs, nonegocentric-concrete constructs and abstract constructs (see Appendix A). The egocentric-concrete category was used most by grade 1 and 3 boys, followed by nonegocentric-concrete constructs. The third graders, however, employed proportionately more nonegocentric-concrete statements than the first graders. The abstract category was used the most with grade 5 boys, followed by the nonegocentric-concrete. Overall, the modal category responses varied significantly with age, and the mean number of responses increased with age. The development of person perception from concrete to abstract, and from egocentric to nonegocentric focus with increasing age was seen. This is a most interesting way to study egocentrism in the concrete/abstract shift in person perception, and was selected as a measure of social cognition for this study.

Livesley and Bromley (1973) conducted a study of 320 English students aged 7 to 15. This research will be described in detail because it is a major study in person perception. Children were asked to write 8 descriptions of liked and disliked/men and women, boys and girls that they knew. Two types of content analysis were performed. The first content analysis looked at central (psychological) versus peripheral (nonpsychological) statements. The largest and only significant change occurred between ages 7½ and 8½, in both the frequency and the proportion of central statements used as compared to peripheral statements. The 8½ year olds did not differ significantly from any of the older groups aged 13, 14 or 15. Verbal fluency alone is not responsible for the shift as the proportion increased along with the frequency of responses. Livesley and Bromley suggest a connection in
the changes in person perception description between ages 7 and 8, as discussed above, and the shift from egocentric to socialized thought, since the Piagetian studies have found a change in conceptual thought at this age.

Livesley and Bromley categorized the subject's responses into 30 categories in the second content analysis. There was a significant increase in the following categories: personality attributes, behavioral consistencies, beliefs, self-attitudes, reputation, relations with others, others behavior to the subject, relations with the opposite sex, subject's opinion and behavior to other person, comparison with others, and collateral facts. General information and identity, routine habits and activities, possessions, family and kinship and irrelevant ideas were used less frequently, with increasing age. Contemporary events, expressive behavior, preferences and aversions, and evaluations showed a curvilinear relationship with age. As statements about behavior and personality traits were seen in older children's descriptions, and appearance, identity, family and possessions were used less often, we see the cognitive shift from concrete to abstract, and from particular to general (Livesley and Bromley, 1973, p.149). Decline in egocentric thought is considered a major factor in the changes in a child's perception of others.

Peever and Secord (1973) rated interviews of people from kindergarten to college age on four different criteria. The subject described liked and disliked friends of the same sex. Kindergarten to grade three children used only the lower two levels: descriptiveness and personal involvement. With increasing age, consistency of evaluation and depth were employed more frequently than the lower two levels. At the high
school and college levels, students employed all 4 levels, but the upper
two levels accounted for more of the content. (Shantz, 1975, p.297).
Peevers and Secord supported the findings of Livesley and Bromley, that
as children grow older, they use more abstract categories and less
egocentric language.

In conclusion, the review of person perception literature has
demonstrated important similarities with the child's self-concept
research. Studies by Scarlett et al. (1971), Livesley and Bromley (1973)
and Peevers and Secord (1973) have supported the idea of a shift from
concrete to abstract content in children's descriptions and understanding
of others.

Differentiation in the number of categories used in content occurred
in most studies in the development of person perception (Gollin, 1958;
Rosenback, 1968; Scarlett et al., 1971, Supnick, 1967; Yarrow and
Campbell, 1963), although two studies did not find this (Olshan, 1970;
Signell, 1966). Shantz (1975) felt that different methodology may have
caused some differences.

An egocentric and concrete orientation was seen to shift to a less
egocentric and abstract system of social cognition by Scarlett et al.
(1971) and Peevers and Secord (1973).

Another study which suggests the similarity in development of
children's self-concept and social cognition is Katz and Zigler (1967).
They found that there was an increased differentiation between 'real'
and 'ideal', and 'real' and 'social' selves, in children's descriptions
of themselves on a rating scale on achievement, physical skills, inter-
personal skills, intellectual traits and social responsibility. This
suggests that as 'real' and 'social' selves develop in a similar fashion,
we may compare findings in person perception to development of the child's self-concept.

The relationship in self-concept and person perception research has been reviewed. The statement of the problem and the research hypotheses of this study will now be presented.

Statement of the Problem

The aim of this study is to investigate the development of the child's self-concept and the perception of peers between the ages of 7, 8, and 9, from a cognitive-structural perspective.

Of particular relevance to this problem is the study of Livesley and Bromley (1973), which has been reviewed above.

Investigators (Livesley & Bromley, 1973) have found in children's descriptions of other, known people, that between the ages of 7 and 8 both the frequency and proportion of psychological versus nonpsychological statements used increased significantly. A psychological statement is a statement referring to abstract qualities such as personality traits, general habits, motives, needs and values, and attitudes. Further, the greatest increase in differentiation (number of categories used) was at the same age. This was the only significant effect found, even though children's ages ranged from 7 to 15. Livesley and Bromley posit that the decline of egocentrism in the child's thought may account for the change observed in the perception of others. Livesley and Bromley state that "The impression a person has of himself can be expected to influence others. Research on the self-concept, however, has not progressed far enough for us to understand much about this topic (1973, p.50).
The study thus will attempt to answer the following questions:

1) If children's conceptions of others is becoming more abstract and less egocentric, will this change occur at the same age as their conceptions of themselves, i.e. self-concept?

2) If the change in children's perceptions of others is due to a decline in children's egocentric mode of thought, will the child between the ages of 7, 8, and 9 change from a primarily egocentric description of peers, to a nonegocentric construct of peers (as categorized by Scarlett et al., 1971)?

The statistical hypotheses to be investigated will now be presented.

**Statistical Hypotheses**

The three statistical hypotheses to be investigated in this study will now be stated.

Hypothesis 1: Grade 3 or 4 children will have significantly higher frequency of response, and will employ a significantly greater number of categories on both the WAI, and the 'friend', than grade 2 children.

Hypothesis 2: Grade 3 or 4 students will show an increase in the amount of abstract types of content with which they respond to both questions (personality attributes; behavioral consistencies aptitudes; personal preferences) and a decrease in concrete types of information (general information; appearance; routine habits; possessions; and 'other') as compared to grade 2.
Hypothesis 3: There will be a shift from egocentric-concrete category to nonegocentric-concrete category, as the modal category on the 'friend' description from grade 2, to grade 3 or 4.

Chapter III will present a pilot study conducted to examine a methodological question related to this study, and will then discuss the method for this research.
CHAPTER III
DESIGN

The first part of this chapter is devoted to the description of a pilot study which was conducted to test the experimental methodology for the main study. The second part contains the method, including subjects, instrumentation, procedure, scoring, and the analysis of the experiment.

Pilot Study

A pilot study was carried out with seven grade two children from a Greater Vancouver area school. This was done to determine whether the children could respond in writing and orally to the WAI and 'I have a friend I like who is . . . ' (friend) instruments in a similar manner with respect to frequency of statements, differentiation of categories and content.

Therefore, six children were interviewed individually and asked to describe, in turn, themselves and a friend in response to the WAI and 'friend' questions. Their replies were taped. Due to time constraints, only six out of the seven children did the oral interview.

As a group, the seven children were read the 'Who am I?' question and were told to respond either in phrases or sentences, to describe themselves. A stencil had the question printed in block letters at the top of the page, and the paper was lined so the children would find it easy to write their responses. The papers were collected after ten
minutes. A ten minute distractor task was used and then the procedure was repeated for the 'friend'.

Differentiation (the number of categories), the frequency of statements made between the written and oral forms of each question, and the combined written and oral frequencies and differentiation scores were the subject of the first analyses. The t-test for dependent groups was used as these measures were taken from the same subjects.

The variables abbreviated as C1 to C12 in Table I will now be defined. Differentiation on the written form of the WAI and 'friend' formed variables C1 and C2, respectively, and differentiation on the oral form of the WAI and 'friend' were variables C3 and C4. As an overall score of the written to oral responses, the differentiation score for the written WAI and 'friend' tests (C1 and C2) were added to form C5, and compared to C6, the sum of the differentiation scores for the oral WAI and 'friend' (C3 and C4). The differentiation scores for written and oral WAI, and written and oral 'friend' were also contrasted.

The frequency scores were compared in a similar fashion. The frequency of responses for the written WAI and oral WAI (C7 and C9), and the written 'friend' and oral 'friend' frequencies (C8 and C10) were contrasted. An overall frequency was formed by comparing the sum of the written WAI and 'friend' (C7 and C8) as C11, to the sum of the oral frequencies, C12, the sum of the oral WAI and oral 'friend' (C9 and C10).

The results of the six t-tests performed are presented in Table I. There were no significant differences as a result of any of the t-tests.
### TABLE I

**T-TESTS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>(Difference) Mean</th>
<th>Corr.</th>
<th>2-Tail Prob.</th>
<th>T Value</th>
<th>Degree Free</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>3.50</td>
<td>1.05</td>
<td>.50</td>
<td>.43</td>
<td>.40</td>
<td>1.17</td>
<td>5</td>
</tr>
<tr>
<td>C3</td>
<td>3.00</td>
<td>.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>4.00</td>
<td>1.22</td>
<td>1.40</td>
<td>.14</td>
<td>.83</td>
<td>1.72</td>
<td>4</td>
</tr>
<tr>
<td>C4</td>
<td>2.60</td>
<td>1.52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C5</td>
<td>7.60</td>
<td>1.82</td>
<td>1.80</td>
<td>-.18</td>
<td>.77</td>
<td>1.45</td>
<td>4</td>
</tr>
<tr>
<td>C6</td>
<td>5.80</td>
<td>1.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C7</td>
<td>10.83</td>
<td>3.25</td>
<td>4.17</td>
<td>.56</td>
<td>.25</td>
<td>3.14</td>
<td>5</td>
</tr>
<tr>
<td>C9</td>
<td>6.67</td>
<td>3.62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8</td>
<td>5.00</td>
<td>1.22</td>
<td>-.60</td>
<td>-.16</td>
<td>.79</td>
<td>-.45</td>
<td>4</td>
</tr>
<tr>
<td>C10</td>
<td>5.60</td>
<td>2.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C11</td>
<td>16.80</td>
<td>3.03</td>
<td>3.80</td>
<td>.24</td>
<td>.70</td>
<td>1.57</td>
<td>4</td>
</tr>
<tr>
<td>C12</td>
<td>13.00</td>
<td>5.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The question of whether the content of the children's answers was changed as a result of the response modes was the basis for the second part of the analysis. Low individual response frequencies precluded statistical analysis in five out of the ten content categories. A 2x2x5 (mode x question x content) ANOVA was performed, with frequency as the dependent variable. The summary ANOVA table is reported in Table II.
<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>DF</th>
<th>MEAN SQUARE</th>
<th>F</th>
<th>SIGNIFICANCE OF F</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTENT</td>
<td>77.97</td>
<td>4</td>
<td>19.49</td>
<td>12.92</td>
<td>0.00*</td>
</tr>
<tr>
<td>MODE</td>
<td>2.98</td>
<td>1</td>
<td>2.98</td>
<td>1.97</td>
<td>0.16</td>
</tr>
<tr>
<td>QUESTION</td>
<td>19.35</td>
<td>1</td>
<td>19.35</td>
<td>12.82</td>
<td>0.00*</td>
</tr>
<tr>
<td>CONTENT MODE</td>
<td>6.33</td>
<td>4</td>
<td>1.58</td>
<td>1.05</td>
<td>0.38</td>
</tr>
<tr>
<td>CONTENT QUESTION</td>
<td>29.96</td>
<td>4</td>
<td>7.49</td>
<td>4.96</td>
<td>0.00*</td>
</tr>
<tr>
<td>MODE Question</td>
<td>6.77</td>
<td>1</td>
<td>6.77</td>
<td>4.49</td>
<td>0.04</td>
</tr>
<tr>
<td>CONTENT MODE QUESTION</td>
<td>7.65</td>
<td>4</td>
<td>1.91</td>
<td>1.27</td>
<td>0.29</td>
</tr>
<tr>
<td>EXPLAINED</td>
<td>149.46</td>
<td>19</td>
<td>7.87</td>
<td>5.21</td>
<td>0.00</td>
</tr>
<tr>
<td>RESIDUAL</td>
<td>158.42</td>
<td>105</td>
<td>1.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>307.88</td>
<td>124</td>
<td>2.48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05

Content and question, as main effects, were both found to be significant, with \(F(4,124)=12.92, p<.05\), and \(F(1,124)=12.82, p<.05\), respectively. Content would be expected to affect frequency, as children use certain categories more often than others, particularly at age 7 when the self-concept is less differentiated, as compared to aged 9 or 11 (Montemayor and Eisen, 1977). Livesley and Bromley (1973, p.236) note that 78% of the 7 year olds in their study wrote longer self-descriptions than descriptions about another person. The mean in this study was higher for the WAI
(both modes, 2.70) than for the 'friend' description (both modes, 1.75). This could account for the main effect seen for question.

In the two-way interactions, a note of particular interest is that the mode x content interaction was not significant, that is that the written versus oral response probably did not affect the content of the grade 2's descriptions. The content x question interaction was significant, F (4,124)=4.96, p<.05. An examination of cell means (Table III) shows that the mean for each content category was higher for the WAI (question 1) than for the 'friend' (question 2). As noted above (Livesley & Bromley, 1973), seven year olds write longer descriptions about themselves than others, so the means for the WAI would be expected to be higher than for the 'friend'.

TABLE III
CELL MEANS FOR CONTENT X QUESTION

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SUM</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>167.00</td>
<td>2.29</td>
</tr>
<tr>
<td>QUESTION</td>
<td>1</td>
<td>111.00</td>
</tr>
<tr>
<td>CONTENT</td>
<td>1</td>
<td>45.00</td>
</tr>
<tr>
<td>CONTENT</td>
<td>2</td>
<td>35.00</td>
</tr>
<tr>
<td>CONTENT</td>
<td>8</td>
<td>19.00</td>
</tr>
<tr>
<td>CONTENT</td>
<td>9</td>
<td>12.00</td>
</tr>
<tr>
<td>QUESTION</td>
<td>2</td>
<td>56.00</td>
</tr>
<tr>
<td>CONTENT</td>
<td>1</td>
<td>15.00</td>
</tr>
<tr>
<td>CONTENT</td>
<td>2</td>
<td>15.00</td>
</tr>
<tr>
<td>CONTENT</td>
<td>3</td>
<td>7.00</td>
</tr>
<tr>
<td>CONTENT</td>
<td>8</td>
<td>14.00</td>
</tr>
<tr>
<td>CONTENT</td>
<td>9</td>
<td>5.00</td>
</tr>
</tbody>
</table>
The mode x question interaction was also significant, \( F(1,124) = 4.49, p<.05 \). An examination of cell means (Table IV) showed that while the WAI elicited a higher mean response on the written form than the 'friend', on the oral form the means were very close, the 'friend' mean being slightly higher than the WAI.

The differentiation and the frequency scores were not significantly affected by the response mode. Further, the ANOVA did not reveal any main effects either for mode, or a mode x content interaction. It was therefore decided that the written form of the WAI and 'friend' did not greatly change the quality or quantity of the grade 2 children's responses from the oral mode, so the written mode was selected for the main study as a result of the pilot study results, as it is a more efficient method of testing.

### TABLE IV

**CELL MEANS FOR QUESTION X MODE**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SUM</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>167.00</td>
<td>2.29</td>
</tr>
<tr>
<td>MODE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QUESTION</td>
<td>102.00</td>
<td>2.27</td>
</tr>
<tr>
<td>QUESTION</td>
<td>72.00</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>30.00</td>
<td>1.43</td>
</tr>
<tr>
<td>QUESTION</td>
<td>65.00</td>
<td>2.32</td>
</tr>
<tr>
<td>QUESTION</td>
<td>39.00</td>
<td>2.29</td>
</tr>
<tr>
<td>QUESTION</td>
<td>26.00</td>
<td>2.36</td>
</tr>
</tbody>
</table>
Method

Subjects

The subjects who took part in the experiment included 25 grade two, 52 grade three, and 34 grade four students, or a total of 111 primary school children. The mean ages for each grade were: 7.4 (grade two), 8.5 (grade three), and 9.5 (grade four). The students were drawn from two Montreal area schools, under the jurisdiction of the Protestant School Board of Greater Montreal. The schools were of a fairly similar socio-economic status, the first being an 'inner-city' school and the second in a lower-middle class neighbourhood. The schools were situated a few miles apart.

Instrumentation

The children were given two written measures, the WAI, and the 'friend' questions, both to be completed by each child.

The WAI has been described above (in the pilot study), and so will not be repeated in detail here. A form of test-retest reliability on the WAI, with this age group of children, is noted by Beglis and Sheikh (1974). By an analysis of content categories similar to those employed in this study, they found no significant differences in 7/8 categories, between 2 test administrations given to the same children, in a 2 week period. Only 1 category, evaluative descriptions, declined in frequency on the second administration.

The 'friend' question was used by Livesley and Bromley (1973), as discussed in the review of the literature. The rationale for the particular wording of the question in this study will be noted here.
The length and content of a child's description of another person has been found to differ significantly as a function of the qualities of the 'stimulus' person, on such dichotomies as liked/disliked, adult/child and male/female (Shantz, 1975, p.296). Without attempting to introduce a detailed discussion of the interactions between these variables, general effects will be noted. Livesley and Bromley (1973) found that children give longer and more detailed descriptions of liked children, than disliked adults. They feel that similarity and frequency of interaction with the other person may account for a child's greater success in describing liked peers than disliked adults. This hypothesis is supported by Bromley (cited in Livesley & Bromley, 1973), who found that familiarity (frequency of contact) increased the number of psychological statements which children made about others. An effect of similarity between the subject and the stimulus person was seen by Livesley and Bromley. 'Comparisons with Self', one of their content categories, was made more often when children wrote about children, rather than adults.

In an attempt to maximize the length and quality of the children's responses in this study, they were asked to describe a friend (known person, presumably another child), whom they liked. The child was told to write the friend's name, to make sure the child was writing about a real person, rather than an imaginary friend.

Procedure

The children were tested in the classroom by their regular classroom teacher. This was done for two reasons: the testing was done in another city, and to provide a more natural testing atmosphere for the children. The procedure was as described in the pilot study, above, for
the written form of the question. A set of standard instructions were provided for the teachers to read, as follows, for the WAI:

(Who am I? question) "Pretend someone has just asked you "Who are you?". You are to write as many different things as you can about yourself to answer the question. Write each different thing on a different line—you can use words or sentences. Don't worry about spelling. You have 10 minutes, I'll tell you when to stop. Any questions? Begin."

The procedure for the 'friend' description was also followed as in the pilot study. The teachers were told to administer the questions at anytime in the class schedule, but not to give both questions at the same time. All testing was carried out within a two week period. A school contact (teaching librarian) supervised meeting teachers and delivering the test materials. The instructions for the 'friend' question were:

(I have a friend . . question) "Now I'm going to ask you to describe a friend that you like. Write the friend's name in the blank after the sentence at the top of the page. Write down as many things about your friend, to tell about your friend, as you can. It could be what your friend is like, as well as other things about your friend. Write each different thing on a different line. Don't worry about spelling. You have about 10 minutes. I'll tell you when to stop. Any questions? Begin."

Scoring

A content category system of ten categories was used in the first analysis for both the WAI and 'friend' questions. The content categories were selected by an examination of content categories used with the WAI in the experimental literature, in an attempt to find common categories. (Beglis & Sheikh, 1974; Gordon, 1968; Keller, 1978; Kikuchi, 1969; Livesley & Bromley, 1974; Montemayor & Eisen, 1977; Oyadama, 1967).
While studies with an adolescent or adult population commonly employ 30 categories (Gordon, 1968; Jersild, 1952; Montemayor & Eisen, 1977), research with young children often have a content categorization of 10 types of content, or less (Beglis & Sheikh, 1974; Keller, 1978). The 10 content categories used in this study were: general information and identity, appearance, routine habits and activities, possessions, personality attributes, behavioral consistencies, aptitudes and achievements, preferences and evaluations, family references, and other statements. These categories are defined more fully in Appendix A. Categories common to several studies (Livesley & Bromley, 1974; Montemayor & Eisen, 1977) were selected for this study.

An inter-rater reliability of .87 was obtained on a reliability test of 15 randomly selected protocols (5 at each grade), between the second rater, an education graduate student, and the first rater, myself.

A content system of interpersonal constructs was used to score the 'friend' description, in the second analysis. The categories were: concrete-I, concrete-we, egocentric-concrete, nonegocentric-concrete and abstract.

The categories were ordered, and progressed from egocentric to nonegocentric, and from concrete to abstract. The scoring of interpersonal constructs involved a selection of statements from the 'friend' description, as only interpersonal statements were scored. Other statements having to do with appearance and possessions, for example, were not included in this part of the analysis. The first category 'concrete-I', was devised for this study, for sentences in which the 'I' was the subject. The latter four categories are as defined by Scarlett et al. (1971).
Definitions of these are contained in the Appendix.

An inter-rater reliability coefficient of .83 was found on a subsample of 15 randomly selected subjects, between the first and the second rater, on an item-by-item test of reliability. A third rater (a graduate science student), on another random sample of 15 students, correlated .89 with the first rater in a reliability check.

Analysis

A quantitative analysis was first carried out on the frequency of responses, and number of categories used by students, on both the WAI and 'friend' questions. Next, qualitative responses to both questions were examined, by performing a repeated measures 3 x 2 (grade by question) ANOVA for each content category. This analysis employed the 10 content category system.

Finally, the modal category for each grade on the interpersonal constructs categories was determined.

The method used in this research has been presented. Chapter IV provides the results of the data analysis.
CHAPTER IV

RESULTS

This chapter will present the statistical results of the data analyses. The results will be presented in the order that the statistical hypotheses were presented at the end of Chapter II.

Hypothesis 1

Hypothesis 1: Grade 3 or 4 children will have a significantly higher frequency of response, and will employ a significantly greater number of content categories on both questions, than grade 2 children.

One-way analyses of variance (ANOVAs) for the WAI and the 'friend' questions, with grade as the independent variable and frequency of response (number of statements) as the dependent variable, was significant in both cases, F (2,108)=25.88, p<.05, and F (2,108)=28.08, p<.05, for the WAI and 'friend', respectively (see Table V). The results of a Scheffe range test showed that the mean frequency for grade two (6.12) was significantly less than the mean frequency for grade three (8.73) on the WAI. The mean frequency for grade three on the WAI was also significantly less than the mean for grade four (13.53), both p values <.05.

A Scheffe test for the 'friend' was performed, and the mean responses for grade two (4.68) and grade three (8.13) were found to be significantly less than the mean for grade four (12.41), both p values <.05. The mean response to the WAI was higher at each grade level than the mean for the friend's description.
### TABLE V

**ONE-WAY ANOVA: WAI FREQUENCY OF RESPONSE**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>D.F.</th>
<th>SUM OF SQUARES</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>F. PROB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>867.00</td>
<td>433.50</td>
<td>25.88</td>
<td>.00*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>108</td>
<td>1809.33</td>
<td>16.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>2676.34</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05

**ONE-WAY ANOVA: 'FRIEND' FREQUENCY OF RESPONSE**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>D.F.</th>
<th>SUM OF SQUARES</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>F. PROB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>888.93</td>
<td>444.47</td>
<td>28.08</td>
<td>.00*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>108</td>
<td>1709.73</td>
<td>15.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>2598.66</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05
One-way ANOVAs, with grade as the independent variable, and number of categories used in response to the question as the dependent variable were performed. A significant increase in differentiation to both questions was found, with $F(2,108)=11.41$, $p<.05$, and $F(2,108)=19.02$, $p<.05$ on the WAI and friend, respectively (see Table VI). A Scheffe test was done, and it was found that the mean number of categories used in response to the WAI in grades two (3.08) and three (3.86) differed significantly from grade four (4.74), $p<.05$. There was also a significant difference on the mean number of categories used by grade two (2.28) on the 'friend' as compared to the means for grades three (3.98) and four (4.76), all $p$ values $<.05$. While the mean number of categories used in grade two was less for the 'friend' than the WAI, this trend reversed in grades three and four.

Subanalysis

A post-hoc analysis was done of individual response style, defined as a subject's manner of answering both the WAI and the 'friend'. A test was performed to see whether the frequency of response and number of categories used in answer to the two questions were related, or if the subject responded to these two questions quite differently.

A Pearson correlation coefficient of .75 ($p<.05$) was found between the WAI and 'friend' descriptions on the number of statements made. The degree of differentiation between the questions was correlated by .45 ($p<.05$). As noted above, this was not one of the original research hypotheses.

Hypothesis 2

Hypothesis 2: Grade 3 or 4 students will show an increase
### TABLE VI

**ONE-WAY ANOVA: WAI DIFFERENTIATION**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>D.F.</th>
<th>SUM OF SQUARES</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>F PROB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>2</td>
<td>40.25</td>
<td>20.13</td>
<td>11.41</td>
<td>.00*</td>
</tr>
<tr>
<td>Within groups</td>
<td>108</td>
<td>190.52</td>
<td>1.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>230.78</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05

### ONE-WAY ANOVA: 'FRIEND' DIFFERENTIATION

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>D.F.</th>
<th>SUM OF SQUARES</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>F PROB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>2</td>
<td>90.94</td>
<td>45.47</td>
<td>19.02</td>
<td>.00*</td>
</tr>
<tr>
<td>Within groups</td>
<td>108</td>
<td>258.14</td>
<td>2.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>349.08</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05
in the amount of abstract types of content with which they respond (personality attributes, #5; behavioral consistencies, #6; aptitudes, abilities, & achievements, #7; personal preferences, #8) and a decrease in concrete types of information (general information, #1; appearance, #2; possessions, #4; routine habits, #3; and other or irrelevant, #10) compared to grade 2.

Ten 3x2 (grade by question) repeated measures analyses of variance were performed, for the ten content categories, to see if there was any significant difference by grade in the proportion of that content used in the description. The dependent measure was a proportion of the number of responses the child made in that category to the total number of statements made to the question.

Three content categories showed a significant change with grade, #3; #5; #7, to be discussed below. Routine habits and activities (#3) had a significant change with grade, F (2, 108) = 3.62, p < .05 (see Table VII). The proportion of responses of routine habits and activities decreased significantly from grades two to three, as shown from the results of a Scheffe test, p < .05. This content category was predicted to decrease, as it was considered to be concrete content.

Personality attributes (#5) demonstrated a significant change by grade, F (2, 108) = 7.66, p < .05 (see Table VIII). The results of a Scheffe test demonstrated that the proportion of personality attributes increased significantly from grades two to three, p < .05. Personality attributes content was considered to be an abstract type of content, and was therefore predicted to increase by grade. From grades three to four, references to personality attributes decreased significantly, p < .05. The decrease may have been caused by the use of the proportion measure. While frequency increased significantly from grades two to three, with a
### TABLE VII
3 x 2 (GRADE BY QUESTION) ANOVA
ROUTINE HABITS & ACTIVITIES (#3)

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>D.F.</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Grade)</td>
<td>0.39</td>
<td>2</td>
<td>0.20</td>
<td>3.62</td>
<td>.03*</td>
</tr>
<tr>
<td>S-Within</td>
<td>5.84</td>
<td>108</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B (Question)</td>
<td>2.04</td>
<td>1</td>
<td>2.04</td>
<td>53.19</td>
<td>.00*</td>
</tr>
<tr>
<td>AB</td>
<td>0.09</td>
<td>2</td>
<td>0.04</td>
<td>1.11</td>
<td>.33</td>
</tr>
<tr>
<td>BS-Within</td>
<td>4.13</td>
<td>108</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05

### TABLE VIII
3 x 2 (GRADE BY QUESTION) ANOVA
PERSONALITY ATTRIBUTES (#5)

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>D.F.</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Grade)</td>
<td>0.33</td>
<td>2</td>
<td>0.16</td>
<td>7.66</td>
<td>.00*</td>
</tr>
<tr>
<td>S-Within</td>
<td>2.30</td>
<td>108</td>
<td>0.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B (Question)</td>
<td>0.08</td>
<td>1</td>
<td>0.08</td>
<td>6.88</td>
<td>.01*</td>
</tr>
<tr>
<td>AB</td>
<td>0.04</td>
<td>2</td>
<td>0.02</td>
<td>1.87</td>
<td>.15</td>
</tr>
<tr>
<td>BS-Within</td>
<td>1.19</td>
<td>108</td>
<td>0.01</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05
mean difference of 3.03, the mean frequency increase from grades three to four was greater (4.53). The lower increase in frequency from grades three to four, along with a smaller increase in differentiation from grades three to four (0.82 versus 1.24 for grades two to three), possibly caused the proportion in this category to drop.

There was also a significant difference with the category of aptitudes, abilities and achievements (#7), $F(2,108)=3.92, p<.05$ (see Table IX). A Scheffe test was performed, and it was found that a significant increase occurred from grade two as compared to grade three and to grade four, both $p<.05$. This content was considered abstract content, and was therefore hypothesized to increase by grade.

The seven categories: general information (#1); appearance (#2); possessions (#4); behavioral consistencies (#6); preferences (#8); family and kinship (#9) and 'other' (#10) did not show a significant difference with grade with $Fs(2,108)=1.56; 2.94; 2.82; 1.25; 1.47; 2.06; and 1.72$, in order of the content categories listed, all $p$ values $>.05$.

Five types of content showed a significant difference between the WAI and friend descriptions. General information (#1) had a significantly higher mean for the WAI (.289) than for the friend (.133), $F(1,108)=46.08, p<.05$ (see Table X). Routine habits and activities (#3) showed a significantly higher mean on the friend's description (.268) as compared to the self description on the WAI (.077), $F(1,108)=53.19, p<.05$. (see Table VII). Personality attributes (#5) had a significant difference between questions, $F(1,108)=6.88, p<.05$, with a mean of .049 for the WAI versus .096 for the 'friend' (see Table VIII). Family and kinship (#9)
### TABLE IX

3 x 2 (GRADE BY QUESTION) ANOVA APTITUDES #7

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>MEAN SQUARE</th>
<th>D.F.</th>
<th>F RATIO</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Grade)</td>
<td>0.04</td>
<td>2</td>
<td>0.017</td>
<td>3.92</td>
<td>0.02*</td>
</tr>
<tr>
<td>S-Within</td>
<td>0.48</td>
<td>108</td>
<td>0.004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B (Question)</td>
<td>0.00</td>
<td>1</td>
<td>0.002</td>
<td>0.58</td>
<td>0.45</td>
</tr>
<tr>
<td>AB</td>
<td>0.00</td>
<td>2</td>
<td>0.001</td>
<td>0.15</td>
<td>0.86</td>
</tr>
<tr>
<td>BS-Within</td>
<td>0.44</td>
<td>108</td>
<td>0.004</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05

### TABLE X

3 x 2 (GRADE BY QUESTION) ANOVA GENERAL INFORMATION #1

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>D.F.</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Grade)</td>
<td>0.13</td>
<td>2</td>
<td>0.06</td>
<td>1.56</td>
<td>0.22</td>
</tr>
<tr>
<td>S-Within</td>
<td>4.38</td>
<td>108</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B (Question)</td>
<td>1.27</td>
<td>1</td>
<td>1.27</td>
<td>46.08</td>
<td>0.00*</td>
</tr>
<tr>
<td>AB</td>
<td>.00</td>
<td>2</td>
<td>0.00</td>
<td>0.04</td>
<td>0.96</td>
</tr>
<tr>
<td>BS-Within</td>
<td>2.98</td>
<td>108</td>
<td>0.03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05
showed a significantly higher mean on the WAI (.096) to .049 for the 'friend', $F(1,108)=9.36$, $p<.05$ (see Table XI). Finally, 'other' references (#10) had a significant difference between questions, $F(1,108)=8.99$, $p<.05$, with more references on the WAI (.039) than the 'friend' (.018) (see Table XII).

A two-way interaction was significant in only two content categories: behavioral consistences (#6) and 'other' (#10). An examination of the means showed that while more references to behavioral consistences were made to the 'friend' in grades two and four, grade threes used this content more on the WAI (see Table XIII). 'Other' references were greater on the WAI for grades two and four, while the reverse was true for grade three. (see Table XII). The significance levels for the two-way interactions were $F(2,108)=3.36$ for behavioral consistences, and $F(2,108)=6.62$ for 'other', both $p(s)<.05$. (see Tables XIII and XII). The grade by question interaction for behavioral consistences and 'other' statements was not predicted, and these results will be considered in the discussion.

Subanalysis

Another form of content analysis was performed. The percentage of students using each category at least once, by grade, is presented in Table XIV.

The percentage of students using each content category increased in: general information (#1); appearance (#2); possessions (#4); behavioral consistences (#6); aptitudes and abilities (#7); personal preferences (#8); and family and kinship (#9). Routine habits and activities (#3) increased from grades two to four, although it declined
### TABLE XI

**3 x 2 (GRADE BY QUESTION) ANOVA**

**FAMILY & KINSHIP (#9)**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>D.F.</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Grade)</td>
<td>0.07</td>
<td>2</td>
<td>0.04</td>
<td>2.06</td>
<td>0.13</td>
</tr>
<tr>
<td>S-Within</td>
<td>1.92</td>
<td>108</td>
<td>0.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B (Question)</td>
<td>0.11</td>
<td>1</td>
<td>0.11</td>
<td>9.36</td>
<td>0.00*</td>
</tr>
<tr>
<td>AB</td>
<td>0.00</td>
<td>2</td>
<td>0.00</td>
<td>0.03</td>
<td>0.97</td>
</tr>
<tr>
<td>BS-Within</td>
<td>1.26</td>
<td>108</td>
<td>0.12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05

### TABLE XII

**3 x 2 (GRADE BY QUESTION) ANOVA**

**'OTHER' REFERENCES (#10)**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>D.F.</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Grade)</td>
<td>0.02</td>
<td>2</td>
<td>0.010</td>
<td>1.72</td>
<td>0.18</td>
</tr>
<tr>
<td>S-Within</td>
<td>0.60</td>
<td>108</td>
<td>0.006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B (Question)</td>
<td>0.05</td>
<td>1</td>
<td>0.053</td>
<td>8.99</td>
<td>0.00*</td>
</tr>
<tr>
<td>AB</td>
<td>0.08</td>
<td>2</td>
<td>0.059</td>
<td>6.62</td>
<td>0.00*</td>
</tr>
<tr>
<td>BS-Within</td>
<td>0.64</td>
<td>108</td>
<td>0.006</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05*
### TABLE XIII

3 x 2 (GRADE BY QUESTION) ANOVA
BEHAVIORAL CONSISTENCIES (#6)

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>D.F.</th>
<th>MEAN SQUARE</th>
<th>F RATIO</th>
<th>PROB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Grade)</td>
<td>0.02</td>
<td>2</td>
<td>0.009</td>
<td>1.25</td>
<td>0.29</td>
</tr>
<tr>
<td>S-Within</td>
<td>0.79</td>
<td>108</td>
<td>0.007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B (Question)</td>
<td>0.00</td>
<td>1</td>
<td>0.009</td>
<td>1.80</td>
<td>0.18</td>
</tr>
<tr>
<td>AB</td>
<td>0.03</td>
<td>2</td>
<td>0.017</td>
<td>3.36</td>
<td>0.04*</td>
</tr>
<tr>
<td>BS-Within</td>
<td>0.55</td>
<td>108</td>
<td>0.005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05

### TABLE XIV

PERCENTAGE OF STUDENTS USING EACH CONTENT CATEGORY BY GRADE

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>GRADE</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>62</td>
<td>77</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>54</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>30</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>18</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>46</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>19</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>46</td>
<td>58</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>20</td>
<td>34</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>16</td>
<td>14</td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>
at the grade three level. Personality attributes (#5) increased from
grades two to four. The increase in percentage from grades two to
three was high, so that a decline was seen from grades three to four.
'Other' references (#10) increased from grades two to four, with a
slight decline at grade three.

The percentages in each category can be seen to be increasing from
grades two to four in nine out of ten content categories. The results
of category usage by grade, in percentage form, illustrates the finding
that differentiation increased significantly by grade.

Concrete content category percentages did not decline with increas­
ing grade, as the percentage did not represent the proportional use of
a category, but the percentage of subjects using that category at least
once.

Hypothesis 3

Hypothesis 3: There will be a shift from 'egocentric-concrete'
category to 'nonegocentric-concrete', as the modal category
on the description of the 'friend' from grade 2 to grade 3 or
4.

The modal category for grade two (see Table XV) was the egocentric­
concrete, with a mean of 1.32. The modal category for both grades three
and four was the nonegocentric-concrete, with means of 1.85 and 2.03,
respectively. A shift was therefore observed between grades two and
three, in the modal response category, from egocentric-concrete to
nonegocentric-concrete category.

The three research hypotheses and the statistical results have been
presented. Hypotheses #1 and #3 were supported. Hypothesis #2 was only
partially supported, as not all types of content changed proportionally
by grade, as predicted. Chapter V will be devoted to a discussion of
the results and implications for instructional theory and future research.

### TABLE XV

**MEANS AND S.D.'s OF INTERPERSONAL CONSTRUCTS BY GRADE**

<table>
<thead>
<tr>
<th>GRADE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 MEAN</td>
<td>.36</td>
<td>.64</td>
<td>1.32*</td>
<td>.28</td>
<td>.08</td>
</tr>
<tr>
<td>S.D.</td>
<td>.76</td>
<td>1.11</td>
<td>1.18</td>
<td>.54</td>
<td>.28</td>
</tr>
<tr>
<td>3 MEAN</td>
<td>.55</td>
<td>.58</td>
<td>.98</td>
<td>1.85*</td>
<td>1.25</td>
</tr>
<tr>
<td>S.D.</td>
<td>.89</td>
<td>1.00</td>
<td>.87</td>
<td>2.68</td>
<td>1.64</td>
</tr>
<tr>
<td>4 MEAN</td>
<td>1.65</td>
<td>1.65</td>
<td>1.88</td>
<td>2.03*</td>
<td>.88</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.65</td>
<td>2.46</td>
<td>1.95</td>
<td>2.18</td>
<td>1.20</td>
</tr>
</tbody>
</table>

* modal category response for grade
CHAPTER V
DISCUSSION

The results of the statistical analyses will be discussed in this chapter in three parts, to correspond to the three statistical hypotheses. The chapter will be concluded with a section on the limitations of the experiment, and on the implications for instructional theory and future research.

Part 1: The First Statistical Hypothesis

Two quantitative variables, frequency of response and the number of categories used, were examined. Frequency of response was found to increase significantly with age. This could indicate either that the children's fluency in written descriptions improved with age, or that their self-concept and concept of others became more elaborated.

The mean response for the WAI in grade twos was 23.5% higher than the response for the friend. Livesley and Bromley (1973, p.236) found that most of the 7 year olds in their study had written a longer self-description than description of others. Grade threes and fours in the present study, however, wrote self- and others descriptions of more equal length than the grade twos. Grade threes and grade fours descriptions of self were 6.9% and 8.3%, respectively, longer than the friend's description. The general decline in the length of the self-description as compared to the others description could be related to a
decline in egocentrism in this age range (age 7 to 9).

The mean frequencies to the two questions were considered to be of interest as most studies on children's written descriptions (Jersild, 1952; Livesley & Bromley, 1973; Montemayor & Eisen, 1977; Sheikh & Beglis, 1974) report overall percentages for all subjects for content categories, rather than mean response rates.

There were large individual differences in the response rates. For example, the minimum to maximum range for response frequency to the WAI for grade two and four were (2,12) and (4,21), respectively. Similar ranges for the frequency responses to the 'friend' were also found. It must be considered, then, when developmental trends are discussed, that within-grade scores were quite variable.

Differentiation increased significantly at each grade level. Grade three and four students wrote more differentiated descriptions than grade twos. The quality of content in grades three and four improved, in the sense that they used more types of content.

Grade twos used more content categories to respond to the WAI than the 'friend'. Grades three and four had more differentiated responses to the 'friend' than the WAI, but the differences were small. The grade two students may have had a more differentiated self-description because at this stage of development, their understanding of another person may be less complex than their self-understanding. The idea that the child's understanding of others grows from his self-concept is illustrated by the finding that children can describe peers like themselves with more abstract statements than they can adults (Livesley & Bromley, 1974, p.121). Another factor might be that the seven year old is more egocentric than the eight or nine year old, and therefore gave a more
differentiated description of him/herself than of a friend.

Finally, a post-hoc analysis found that the subjects' response style across questions was similar, to the extent that frequency of response, and differentiation to the WAI and 'friend' correlated significantly. Although there were individual differences in the range of length of response frequencies and number of categories used, as discussed above, any one subject's response to the WAI and 'friend' was fairly consistent on these two variables, across the two questions.

Next, the results of the content analyses will be examined.

Part 2: The Second Statistical Hypothesis

The main effects of grade and question on content categories, and the interaction effects of grade and questions will be discussed in this section.

Three types of content were found to change significantly with age: routine habits and activities; personality attributes; and aptitudes, abilities and achievements.

Routine habits (as concrete content) decreased from grades two to three, and personality attributes, and aptitudes, abilities and achievements (as abstract content) increased from grades two to three. Personality attributes decreased from grades three to four. This may have been a function of the significant increase in both frequency and differentiation from grades three to four. That is, more types of content were being described, and therefore the proportion in this category decreased.

More types of content were predicted to change with age in the
description of the self and the friend. The unit of measure in the statistical analysis was somewhat different than other studies and this may have had an effect in the results. The proportion was selected as a more meaningful dependent measure than frequency, as frequency itself increased significantly with age. Proportion, therefore, controlled for greater fluency of older subjects on a written instrument. The Montemayor and Eisen study (1977) employed a score for a category as a percentage of subjects using that category at least once. Livesley and Bromley (1973) used frequency, and group percentage for each content category based on all stimulus persons at each age level. The proportional measure used in this study was calculated for each subject, as the frequency in each content category divided by the total number of statements. Subjects who had both a high frequency and high differentiation score would therefore have a lower proportional score than subjects with a low frequency response. However, if group percentages had been used, content scores might have been higher as the group mean frequency would have been lower for some cases.

Another effect on the content categories may have been due to differences in instructional technique. Livesley and Bromley (1973) told pupils to 'describe what sort of person he was' (the person being written about), and not to describe physical characteristics. These instructions were felt to be too directive, and that they might create a bias, in that grade two children might not follow the directions as well as grades three or four. Changes in the content might then be attributable to greater ability in grades three or four children to follow cues in instructions. The instructions used in this study were similar
to those reported by Sheikh and Beglis (1974). The effect of question (WAI versus 'friend') will now be discussed.

Five types of content differed significantly by question. General information and identity, family and kinship, and 'other' references were used more frequently in the self-descriptions. Routine habits and activities, and personality attributes were seen more often in the friend's description. The child was more concerned about personal information, as age or address, and family, as being central to his/her own self-identity, whereas the friend was described in terms of shared activities and characteristics (personality). Character and shared activities would seem to be basic elements (or a basis for friendship) among children, or perhaps even among adults. 'Other' references also varied by question, but an interaction of grade by question also occurred, so this category will be discussed separately.

The child made more tangential ('other') references in self-description in grade two than at the other grade levels, and no (literally) 'other' statements in the friend's description. Grades threes made less 'other' statements on the WAI than the 'friend', while grade fours had more of this content on the WAI. This category showed complex changes.

Behavioral consistencies were used more in the WAI responses in grades two and four, while grade threes described the 'friend' more frequently with this content.

In summary, while not all types of content in the description of the self and of a friend showed change, some variables did differ. Frequency and differentiation showed change at all grade levels. One type of concrete content, and two types of abstract content varied
proportionally between grades. Different types of content may be used to tell about the self and the 'friend'.

While it is hard to pick out 'typical' examples, individual examples may serve to illustrate some of the changes that have been described statistically. The first example is from a girl, grade two. Her description is somewhat longer than the average response for grade two, but it does show the concrete nature of a grade two description. The second example is a boy, grade four. While his description is longer, it is much more varied in the types of content that he includes.

'My name is Pauline B. I am a human being. I have brown eyes. I have red pants. I have a blue shirt. I have red and white running shoes. I have hands, and toes, and arms and legs. And I have a brain.' (grade two).

'I am a boy. I have brown hair, blue eyes. 57 inches tall. I weigh about 72 pounds. I eat three good meals a day. I have a sister, no brothers, no pets. I live in Montreal at . . . My telephone number is . . . My school is . . . on . . . Street, not far from home. My favourite foods are pizza, chicken, turkey, meat loaf, steak, cake, all kinds of fruit and vegetables. I have three jeans. I come from Gaspe Coast. In school my favourite thing is art. My teacher's name is Mr. H. I never do bad things. I was born in 1968. I like girls' (grade four). Two examples from each grade level are contained in the Appendix B.

Next, the interpersonal constructs content will be discussed.

Part 3: The Third Statistical Hypothesis

The interpersonal constructs used in describing a 'friend' showed a modal shift from 'egocentric-concrete' to 'nonegocentric-concrete' in grade two to grade three. The modal category for grade four was also the
'nonegocentric-concrete'. As the five categories formed an ordinal scale, the distance (in this case age) between the categories was not necessarily equal. Thus, while the shift from 'egocentric-concrete' to 'nonegocentric-concrete' in this study occurred from grades two to three, the modal shift from 'nonegocentric-concrete' to 'abstract' did not take place from grade three to grade four (nor was it predicted to be).

While the descriptions of peers in grades two and three dealt primarily with concrete behaviors, the focus of the description shifted from an egocentric perspective (the child being the object of the sentence) to a nonegocentric focus (the friend, alone being in the sentence). This shift occurred from age 7½ to 8½, the period noted by Piaget (1926) as being important in the decline of egocentric thought in the child.

There was an increase from grade two to four in the mean number of references in four interpersonal categories, although in 3 categories the increase was curvilinear. The mean response for 'concrete-we', and 'egocentric-concrete' categories decreased at the grade three level. The 'abstract' category increased at the grade three level, and decreased by grade four. The 'concrete-I' and 'nonegocentric-concrete' categories increased in grades three and grade four. Overall, the mean number of responses increased from grade two to grade three, through to grade four, with mean responses of 2.68, 5.21 and 8.09. The percentage of interpersonal constructs out of the total number of statements about the friend increased at each grade level.

Thus, the interpersonal description of the peer was seen to become more differentiated, longer, and less egocentricly oriented from grades two to four.

The discussion of the results has now been completed.
Limitations of the Study

Some limitations of the study will now be noted. First, as discussed in the method, intact classes were used for testing, rather than random selection of pupils from a class. Random selection is a superior method of sampling, to improve the internal validity in a study.

The use of repeated measures on the same subjects may produce a testing effect, and a control for order effect of the treatment, in this case question, is desirable. However, the circumstances for this study made classroom testing in a set order more practical. The number of children per class, and the number of classes at each grade level were not known prior to testing, so a control for order effect of the question was not included in the experimental design.

The purpose of the repeated measures design in this study was to compare the two treatments (questions), by controlling for subject heterogeneity between the two treatments, as individual differences were anticipated. As was shown in the results, large individual differences were found in the range of responses.

A basic question which may be asked of most studies is that of generalizability of the study results. The student population was drawn from a lower-middle SES area. Therefore different results might be gained from a middle or upper SES area.

One limitation of this study may have been the narrow age range used. While the purpose of this study was to examine a smaller age range than some developmental studies in the area, in retrospect, a four or five year span might have been better. Montemayor and Eisen (1977) and Livesley and Bromley (1973) both used developmental ranges of eight years, for example. A slightly longer age span (four or five years) might be
superior to clarify some curvilinear relationships found by providing more than three means on which to base a developmental 'line' or trend, for a given type of content.

Another major limitation was the choice of proportion as the unit of measure in the statistical analyses. The proportional measure was selected to control for the greater fluency of older subjects on a written description. However, the proportional measure used in the ten repeated measure ANOVAs might be questioned. The denominator of each proportion was the total number of statements that the subject made to the question, so the subject's scores on the ten ANOVAs were not independent of each other. The ten univariate analyses were performed, rather than a multivariate analysis, because the proportional measures for each subject were interdependent.

Differences in measurement and scaling techniques may cause discrepancies in free description research (Shantz, 1975). As discussed above, there was a measurement problem in finding a suitable dependent variable in this study. Next, implications for instructional theory will be studied.

Implications for Instructional Theory

Some implications for instructional theory will now be discussed as a summary of the results. Chapter I introduced some ideas on social development in instructional theory, and therefore some general conclusions will be related.

The child's self-concept and understanding of others was seen to become more differentiated and more abstract (in certain types of content) in grades three and four, as compared to grade two children. Further, the
child's description of a friend became less egocentric in orientation in grades three and four. The results suggest that there may be a change in a child's understanding of him/herself and of others from grades two to four.

What implications, if any, may be drawn for instructional theory? It seems that two developmental trends - a shift from concrete to abstract concepts; and a decline in egocentrism; are reflected in this study.

Children in younger primary grades (grade two) may be more egocentric and use more concrete types of content in their expression of themselves and others, than middle primary students (grades three and four).

It may be helpful to remember that a child's social as well as his/her cognitive skills develop with increasing age. A child in grade two may possibly be at a less advanced developmental level of social cognition than a child in grade four. This point should be considered in instructional theory and practice in the classroom. Next, some implications for future research will be considered.

Implications for Future Research

Several implications for future research will now be drawn. First, methodological and measurement problems encountered in this study will be reviewed, then future research questions will be suggested.

One point, as noted in the limitations of the study, was that an ideal age range for this type of content research would be a four or five year age span. Even if specific types of content are selected out for study, if a curvilinear function results, it may provide an ambiguous finding when only a three year span has been tested.
For example, while personality attributes content increased from grades two to three, it decreased from grades three to four. It is not known whether personality attributes would have continued to decrease or increase in grade five, from these results.

Anomalous results were obtained on a grade by question interaction with behavioral consistencies and 'other' references. These results were not explained, except for the fact that the interaction was caused by the grade threes' response being opposite to the grade twos and fours, in the proportion of behavioral consistencies and 'other' content with which they responded. Again, a broader age range might have clarified whether this type of interaction would occur at more than one grade level.

Another problem in 'content' research is what type of categorization scheme to employ. Studies in self-concept and person perception typically employ either a ten category or thirty category scheme. These figures are somewhat approximate, but do illustrate the problem of finding a content scheme which is detailed enough to be of interest, but does not have too much detail. This problem might be overcome to some extent, by using a small scale content system first to identify major changes, and then employing a finer scoring system to find more detailed types of information.

The problem of finding a unit of measure for the dependent variable in this type of study has been discussed, above. Future research in self-concept and person perception might focus on scaling and measurement problems associated with free description responses.

Another area that might be of interest in future studies employing the free description technique would be the effect of varying experimental instructions, to see if there is a difference in content response. For
example, if children are told to write about specific types of content, a lower level might be found below which children did not follow the experimental directions.

An important part of the experimental methodology in person perception research is the stimulus person being described. Studies have been done on the effect of varying the stimulus person, e.g. liked/disliked, child/adult, etc. (Livesley & Bromley, 1973; Scarlett et al., 1971). The stimulus person in self-concept research cannot be varied in the same manner, as it is the self that is described. However, the method by which the question is asked could be investigated. Alternate question forms to 'Who am I?' could be compared within and across grades to examine whether the content of self-description changes as a function of question type.

The focus of this experiment has been the content of what the child was describing. Another type of self-concept and person perception research might be the organization of the child's description. The organization or structure of a child's description of him/herself or of a friend might be another method of observing a concrete to abstract shift in cognitive development.

Suggestions have been made for methodological and measurement issues in self-concept and person perception research, using the free description. Implications for instructional theory have been noted. Implications for future research have been suggested, including studies on the effects of instructions and question type.

Self-concept and social cognition research is an important area of child development, and has many interesting research questions for future investigation in clinical and experimental areas.
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APPENDIX A
Content categories - 10 categories

1. **General information and identity**
   The person's name, age, sex, nationality, religion, residence, school and physical environment, for example, 'He lives at ...' 'He is a catholic', 'He goes to our school'. 'She will be 10 years old on Wednesday'.

2. **Appearance and Physical Condition: references to**
   - **Appearance**
     References to external qualities, that is, physical build, facial appearance, clothing, and so on, including approvals, 'He is tall', 'She is pretty'. 'He has blue eyes. 'He has fair hair'.
   - **Physical condition**
     Health, physical fitness and strength, for example, 'He is strong', 'He is often ill', 'He has a bad leg'.

3. **Routine Habits and Activities:**
   - **Routine habits and activities**
     Daily and weekly routine, for example, 'He goes to work at 8 o'clock', 'She goes skating every Thursday', 'He gets up at 6 o'clock and makes the fire'.

4. **Possessions**
   - **Possessions**
     The person's property and possessions, for example, 'He has a pet rabbit', 'He owns a car', 'He has a new bicycle'.

5. **Personality Attributes**
   - **General personality attributes**
     Personality traits and temperament, for example, friendly, conceited, selfish, 'kind', 'moody', 'bad tempered, gentle, changeable.

6. **Behavioral Consistencies**
   - **Specific behavioral consistencies**
     General habits, characteristic reactions to others of a specific nature, reaction to blame, stress, failure, and so on, for example, 'grumbles', 'can't take a joke', shouts, plays nice, groans a lot'.


Content categories continued

7. Aptitudes, Abilities and Achievements

Aptitudes and Achievements  
Intellectual aptitudes and abilities  
Achievements and skills  

Mental skills and intellectual capacity, scholastic ability, scholastic achievements and failures, for example, 'intelligent', 'clever', 'good at sums'.  
Physical skills, successes, failures, disabilities, for example, 'He is a good footballer', 'She is good at cooking', 'She wins a lot of house points'.

8. Personal preferences, evaluations, and hobbies

Interests and Preferences  
Preferences and aversions  
Interests and hobbies  

Likes and dislikes (both persons and things), for example, 'He likes sweets', 'He likes watching television', 'He does not like school', 'He is very fond of ice-cream'.  
General interests and hobbies, including play activities, for example, 'His hobby is collecting stamps', 'He enjoys walks in the country', 'He is very interested in ships'.  
self-evaluations e.g. I like myself  
self-attitude e.g. I am nice  
also 'most children in my class like me'

9. Family and kinship references

The person's family and relations, the number of siblings, family description, e.g. 'She has three brothers, I help my father work, I play with my sister.

10. Other

Any other statements that are about unrelated persons, situational responses, or that do not fit into other categories. e.g. 'I don't have anything else to say'.

Further qualifications of content categories

#1. identity e.g. I am a person; a mammal; a kid, a human being, 
name, e.g. my teacher calls me Steve.  
descriptions of home and school: e.g. I live in a bungalow  
My school is Hampstead  
but I go to Hampstead School is #3 routine activities  
I am real - #1 identity.
Further qualifications of content categories Continued

#2. Physical condition and appearance

I am alive, (physical condition)
I am a white person (appearance)
I am strong
I am wearing clothes but I have red shoes (pants, etc. #4 possessions
I have a brain
When I was in Toronto, I was small. (When I was in Toronto - collateral fact.
I have trouble hearing
I don't know what I look like
I am cute
but I have the nose of my mother #9 family (description)

#3. Routine Habits and Activities

- 'I watch T.V.' - #3, 'I go to the movies'
- besides daily activities, seasonal activities over time
  e.g. In spring I make a pile of leaves and jump in them.
- 'I mostly like to do all sorts of things'
- activities starting (the sentence) with "sometimes"
- descriptions of playmates e.g. I play with Bobby.
- 'I go to (name of school) - #3 routine activities, also 'I am going to camp.

#4. Possessions

- clothes e.g. I have boots, pants, etc.
  but I am wearing clothes #2 appearance.
- I have an earring
- 'my car is on the street' (description of possession).

#5. Personal Attributes

besides personality attributes other e.g.'s
- I am marvellous'
- 'I am fun'
- 'I am funny'

#6. Behavioral Consistencies

- general behaviors, also behaviors with psychological implication
  e.g. 'she is not a show-off'
  he helps me make bikes
- 'She talks a lot'
- 'He shouts'
- 'I am a nuisance' (coded as #6 implying behavior)
- 'I am cheap' (i.e. not spending money)
- 'I work hard' - #6 (see #7 for other 'work' statements)
- 'she buys me stuff'
Further qualifications of content categories Continued

#7. Aptitudes, Abilities, Achievements

Sports activities e.g. I like football are coded as #8 preferences
I play soccer #8 interests
I am a boxer #8 interests

Sports or abilities coded as #7 if stated as an ability
E.g. 'my art work is good'
'I am in the playoffs' (implies achievement in sport)
'My writing is good'
Also negative achievement e.g. 'My arithmetic is bad'.

- Future career 'I want to be a (career/sports)
- 'My teacher teaches me grade 7 work and I am in grade 4'
- 'I can do good tricks on my skateboard'
- 'I am fast' - implies sport ability

Work activities 'I am a good worker'
'I know my work'
'I do a lot of work in school' but I work hard - #7.

#8. Preferences, interests and hobbies

Generally, any statement beginning I like or I don't like ... This overrides other categories - as I like to play would be #8, not #3, routine activities

Other . . . .
'I am in love' - #8, preferences
'I have lots of friends' - #8, personal preferences
'My friends' names are . . . ' - #8 personal preferences
'I like myself' #8 self-attitude

Hobbies - 'I like Judo' #8 hobbies
'I learn Judo' #8 hobbies

#9. Family and Kinship

- Descriptions of family 'I have my father's chin'
- Activities with family 'I play with my sister'
  'I talk business with my father' etc.
- Activities of family 'My brother is ten', 'He plays hockey too'
  'His team is called . . . .' all coded as #9.

#10. Other - e.g. 'I can't think of anything else'
  'I need food to live'
Interpersonal Construct Categories - 5 categories

Qualification for Content Categories

Concrete - I

A. Subjects' descriptions of their acquaintances were scored by assigning each personality construct to one of the following five categories:

  statements - statements in which the writer (the child) is the subject of the sentence (I) and the object of the sentence is the 'friend' being described, in a concrete behavior:

  e.g. 'I go to his house'
      'I like my friend'

B. Concrete-we constructs - Constructs in which S did not distinguish between himself and the other, but described what they do together (e.g., "we play together")

  e.g.'s 'we are very good friends'
      'we have a good time together'

C. Egocentric-concrete constructs - Constructs which were both concrete, in describing what the other person does in particular contexts, and ego-centric, in that the object of the sentence was the describer himself (e.g."He hits me" for "he gives me things")

  e.g.'s. 'Donna is my best friend'
      'She is in my school' (class, street, etc.)
      'He is a lot like me'
      'She is nice to me'
      'He is a (my) buddy'
      'Naomi invited me to her party'
      'She is a nice Friend' her friend
      'Michelle is sleeping over' at her house

D. Nonegocentric-concrete constructs - Constructs which referred to concrete behaviors, but did not include the subject himself in the sentence (e.g., "he plays baseball" or "he hits people all the time").

  nonegocentric - concrete
  also includes statements dealing with friend's family, friends and preferences, as objects of sentence
  e.g.'s family 'she has a sister who is nice'
      preferences 'He likes Star Wars'
      friends 'He has a friend called Gus'

  concrete behaviors 'He (never) fights'
      'She knows her work'
      'He is in a higher grade'
      'She says a lot of jokes'
Interpersonal Constructs continued

E. Abstract constructs - Constructs which referred to abstract attributes of the other person, that is, to qualities that were not limited to a specific context (e.g. "he is intelligent" or "he is kind").

Abstract

'He is smart, athletic, strong' (not limited to 1 context)
'Wayne is a nice boy'
'She never lies' — psychological quality
'She loves her parents'
'She's not fussy' : 'she's not a show-off'

also attributions to friendship

e.g. 'nothing can break up our friendship'
'she is a nice friend because she is a best friend'
but 'we are friends' - B. concrete-we constructs.

Scoring

It should be noted that the categories are arranged in the postulated developmental order, from egocentric to nonegocentric and from concrete to abstract. Whenever there was doubt about the category to which a construct should be assigned (e.g., when a construct such as "he bullies people" might be considered either nonegocentric-concrete or abstract) it was assigned to the higher order category. Only constructs having to do with the person's interpersonal qualities were scored, other qualities, such as the person's appearance or the location of his home, were not included in the analyses to be reported below.

General Scoring for Interpersonal constructs

1) Separate adjective attributes into 2 phrases
   e.g. He is nice, and generous, - count as 2 phrases,
   'E' construct

2) Take first subject in sentence
   e.g. 'I like Ellen because she is nice' -
   code as 'A' - concrete - I, as I is subject of sentence.

3) If a sentence is begun 'He and I' or 'me and him' code it as C not B.
   (although it is grammatically 'we', the 2 subjects are differentiated).

4) If 2 friends are described, code them sequentially as both being part of the description.
APPENDIX B

EXAMPLES OF RESPONSES TO THE WAI AND 'FRIEND'
WAI

I am Ricardo.
I'm eight years old.
I like to go to school.

"FRIEND" - (boy)

My friend is name Michael.
I go ridding my bike with him.
He comes to my house a lot.
I play games with him.
WAI
I have brown hair.
I like girls very much.
I am a nuisance (nuisance) sometimes.
I have blue eyes.
I have big feet.
I am in love.
long legs
long nose
long tongue (tongue)
big teeth
big eyes
strong

'FRIEND' (girl)
She is nice very nice.
great eyes.
She is my partner sometimes.
I am a boy,
and my name is Costa.

My friend Elvis and I play with each other.
He protects me.
I am Wendy R
I have a dog and a cat
I have a bird too.
I have black hair, green eyes, and a small nose.
I have two nanny's and two pops.
I have 5 uncles and 5 ants.
I have four cousins that are boys and 6 that are girls
and my nanny has some fish.
two and she has two cats and a dog
My ant has two cats
its cool in the morning.
I wake up at 8:00 but sometimes I wake up at 7:30
it's fun and I love life
Don't you?
WAI

I am a boxer

I fight at the Shamrock Boys and Girls Club

I was in all kinds of sports like baseball and hockey and football and summer to

and on the weekends my whole family goes to the kuntree and we have fun

'FRIEND' (boy)

He is my boxing partner.

I like him.

he is a good friend.

he lives right necked to me.

I walways hag around with him

we go boxing at six on monday, tusday and wesday and thusday to friday is are track time.
I am a girl.
I have brown hair and brown eyes.
I weigh 60 pounds.
I go to L... School.
I want to be a gymnastek or Tennis player.
I play tennis good.
In wintertime I shovel snow for people and I make a lot of money.
I like to play baseball and go to school.
My best subject is math.
I not so good in math but I try my best.
Some times I go to Dances at kient C...
I have a good time there to.
Some people dance good.

'FRIEND' (girl)
we play lots of games
I like to play dress up with her.
Sometimes I sleep at her house.
I play with her in school every day.
When I slepted at her house one day and she was teckling my arms
and feet.
her moth likes me to and so does my grandmother.
We play in the park
Sometime we bring a ball or a bamatin racket and we play
or we go on picknicks at the park
Me and her go to the boys and girls club and play games there
we laugh and tell jokes to each other
sometimes we go and see movies
We like to take our baby cousin out for a walk with them
we bring them to the park or to her house
we like to be friends for ever and ever.