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D 19155/77

Aydin, O.

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The description of peers and the perception of
intentions by popular and unpopular children.

by

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Thesis submitted to the University of Stirling
for the degree of Doctor of Philosophy, January
1977.

Ph.D. awarded February } 1977
conferred March }

ACKNOWLEDGEMENTS

I should like to express my special thanks to Dr. Ivana Markova who has supervised this work and who has offered invaluable advice, suggestions, criticism and encouragement throughout the course of the research. Thanks are also due to the headmaster, the teachers and the children of Dunblane primary school whose co-operation made this research possible.

I am indebted to a number of members of the Psychology Department. Dr. Ranald Macdonald has given valuable advice throughout the course of the analysis of the data. Dr. P. Shanahan, R. Baker, R. Lockyer, M. Murray and A. Mohanna have kindly acted as independent judges in various content analyses. Credit must also go to Mrs. I. Mack for the patience she demonstrated in typing this thesis.

My thanks also go to my wife, Gül for the help and support she has given to me when it was most needed.

Finally, a special word of thanks to all members of staff and postgraduate students of the Psychology Department who have offered their help and friendship during my stay in this university.

ABSTRACT

The aim of this research was to investigate the relations between the perceptual tendencies of children and their social success with peers. Firstly, we compared the cognitive categories which popular and unpopular children employ in perceiving their peers. Secondly, we analysed the directions of the causal and intentional attributions popular and unpopular children make concerning the actions of others in ambiguous situations. Three primary school classes with mean ages of 8.2, 9.5 and 10.4 participated in the study. Popular and unpopular children were identified by using a sociometric test.

The cognitive categories which popular and unpopular children employ in perceiving their peers were determined by analysing the contents of the free descriptions provided by them. The children were interviewed individually and required to describe three peers they liked and three peers they disliked. The descriptions obtained in this way were analysed at two stages. In the first stage, the descriptions were divided into their component ideas and each idea was classified into one of the following three categories: (a) dispositional ideas, (b) objective ideas and (c) ideas referring to personal involvement. This classification was made on the basis of the previous findings that children's developing ability for interpersonal relations is accompanied by a developmental shift in their perception from external characteristics of others to their dispositional qualities and by their decreasing tendency to involve themselves in their descriptions of their peers. The results indicated that popular children tended to emphasise dispositional qualities of their peers when describing them, while unpopular children made more use of objective ideas in their

descriptions. However, no significant difference was found between the two groups in their use of the ideas referring to personal involvement. The relationship between a tendency to emphasise dispositional qualities and popularity with peers was interpreted in terms of the importance of dispositional qualities for predictions concerning the actions of others in different situations. The results also indicated some age and sex differences in the type of categories used to describe liked and disliked peers.

In the second stage, a set of subcategories was developed to cover varieties of the dispositional, objective and personal involvement ideas found in the descriptions given by the subjects. Popular and unpopular children were compared as to their use of these subcategories. The results indicated a consistent relationship between popularity and the use of only some of the dispositional subcategories. These subcategories generally contained the ideas which have high predictive and descriptive potential when applied to the behaviour of others. No objective subcategory was found to be consistently related to unpopularity.

The directions of intentional and causal attributions made by popular and unpopular children in ambiguous situations were examined using some pictures in which the motivation of the characters and the causes of the outcomes were ambiguous. The subjects were presented with the pictures and required to make up stories about them. In addition, they were asked to complete a questionnaire concerning

descriptions. However, no significant difference was found between the two groups in their use of the ideas referring to personal involvement. The relationship between a tendency to emphasise dispositional qualities and popularity with peers was interpreted in terms of the importance of dispositional qualities for predictions concerning the actions of others in different situations. The results also indicated some age and sex differences in the type of categories used to describe liked and disliked peers.

In the second stage, a set of subcategories was developed to cover varieties of the dispositional, objective and personal involvement ideas found in the descriptions given by the subjects. Popular and unpopular children were compared as to their use of these subcategories. The results indicated a consistent relationship between popularity and the use of only some of the dispositional subcategories. These subcategories generally contained the ideas which have high predictive and descriptive potential when applied to the behaviour of others. No objective subcategory was found to be consistently related to unpopularity.

The directions of intentional and causal attributions made by popular and unpopular children in ambiguous situations were examined using some pictures in which the motivation of the characters and the causes of the outcomes were ambiguous. The subjects were presented with the pictures and required to make up stories about them. In addition, they were asked to complete a questionnaire concerning

these pictures. The questionnaire contained directive questions and a number of possible answers to each question. The analysis of the stories and the questionnaires showed that popular children were more inclined to assign positive intentions to the uncompleted actions of others and to see undesirable effects of the actions as unintentionally produced. The relationship between such tendencies and children's popularity with their peers was discussed in terms of attribution theory. The results also indicated a possible developmental shift from a tendency to make positive attributions to a tendency to make negative attributions.

On the basis of these results, it was concluded that popularity in children's groups is closely related to a tendency to perceive those qualities of peers which have predictive and descriptive potential when applied to their behaviour and to interpret the perceived actions and the action outcomes in a positive direction. Finally, the results were summarized and the implications for further research were considered.

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CHAPTER I

INTRODUCTION AND OVERVIEW

Person perception embodies two kinds of processes: firstly, categorization, that is processes by which we make sense of the diverse characteristics of other people, and secondly, attribution, that is processes by which we try to understand other people's actions and what underlies them.

These two aspects of person perception have led to two basic research orientations: one is concerned with how the diverse characteristics of other people are perceived and inter-related; what categories individuals use in perceiving others, and what is the nature of such categories; how individuals reach a unified impression from limited information, and so on. The other line of research is concerned with the exploration of the process of making inferences about actions; how we evaluate the relative contribution of situation and person; how we make presuppositions about the intentions, motives and abilities of the actor, and so on.

Although the main body of research in both these orientations has, until recently, been concerned with adults' rather than children's perception, there is a growing interest in the

developmental aspect of person perception. Research concerned with how children perceive the diverse characteristics of others has indicated some developmental changes in the cognitive categories used in perceiving others. As children grow older their perception becomes increasingly more complex and their emphasis shifts from concrete and readily observable characteristics to inferences of more abstract qualities (Scarlett, Press and Crockett, 1971; Livesley and Bromley, 1973; Brierley, 1966). Research on the perception of actions by children has also revealed developmental changes. The ability to distinguish intentionally produced from accidental outcomes increases with age (King, 1971). As children grow older they begin to take into account a greater number of factors in their attribution of responsibility (Shaw and Sulzer, 1964), they show an increasing tendency to judge actions according to intentions (Rule and Duker, 1973), and their ability to understand the unconscious motives underlying others' behaviour also increases (Whiteman, 1967).

These developmental changes both in childrens' perception of the diverse characteristics of others and their interpretations of others' actions are accompanied by developmental changes in their skills in handling interpersonal relations (Smart and Smart, 1967; Livesley and Bromley, 1973). As children learn to take into account things other than a person's readily observable characteristics they gradually become aware of the fact that other people are not objects but individuals with thoughts and feelings like themselves. Children also gradually learn that the superficially diverse actions

of others are actually governed by some underlying and unifying rules. The understanding and appreciation of the thoughts and feelings of others enables them gradually to transcend their initial imprisonment in a private and egocentric world and interact on the premises of other people; and this consequently enables them to establish more intimate and continuing relationships with their peers (Smart and Smart, 1967).

Examination of children's groups, however, reveals that children of the same age show varying degrees of success in handling interpersonal relations; some children are popular and interact with almost every member of the group, some interact with only a few members, still others appear to be totally rejected. This raises the question as to whether the children who differ in this respect also differ in their perception of peers and their actions. This is an important issue since popularity itself is related to the child's social and emotional adjustment. Trent (1957) reported six studies all of which showed that popular children were better adjusted than unpopular children. Hartup (1959) found a significant correlation between peer acceptance scores and scores on the "Early adjustment to school scale". Cox (1953), in a study of fifty-two children aged from five to thirteen, found a correlation of .76 between sociometric status and adjustment ratings based on TAT stories, a social adjustment questionnaire and interviews with those caring for children.

A study reported by Davis and Paranti (1958) showed that

even among emotionally disturbed children, disliked children were more emotionally disturbed than ignored children.

Popular children also appear to be less anxious than unpopular children. McCandless et al (1956) reported correlation coefficients ranging from $-.28$ to $-.75$ between scores on the "Children Manifest Anxiety Scale" and popularity with the same sex peers, Iscoe and Garden (1961) found a significant negative correlation between CMAS scores and the sociometric status of girls.

Due to the expenses and difficulties associated with longitudinal information on a large sample of children, it has been difficult to obtain data regarding the long term stability of sociometric status and its implications for social and emotional adjustment. However, the longitudinal studies available suggest that the early pattern of relationships - social responsiveness, acceptance, sociometric status - tends to be stable from middle childhood through adolescence to adulthood (Kagan and Moss, 1960). Cowen, Paderson, Babigan, Izzo and Trost, (1973) found in a follow-up study, that unpopular children were disproportionately represented later in life in a community wide psychiatric register. Roff, Sells and Golden (1972), in a study of forty thousand children, found a highly positive relationship between delinquency and low sociometric scores taken four years earlier.

Although the generally accepted importance of a child's status in his peer group has led to much research concerning the

determinants of popularity in children's groups, a review of the literature on person perception reveals that little research has been devoted directly to a child's status with his peers in relation to his person perception. The purpose of the present study is to contribute to the filling in of this lacuna in two areas, firstly, categorization in person perception, and secondly, the attribution process.

An Overview of the thesis

In accordance with the purpose of the study, the structure of the thesis divides into two parts. The first part (Chapters II, III, IV, V) is concerned with the relationship between the cognitive categories children employ in perceiving their peers and their success in social relations.

The second part contains three chapters (VI, VII, VIII) covering the details of an investigation concerned with the relationship between a child's tendency to attribute positive or negative intentions to the actions of others and his success in social relations with his peers.

Chapter II of Part I contains four sections. The first section provides a review of the literature on the development of person perception in children and particular attention is given to those studies dealing with developmental trends in the type of categories children employ in perceiving others. These

studies indicate two noticeable developmental trends. Firstly, as children grow older their emphasis shifts from the readily observable characteristics of others to their dispositional qualities. Secondly, with increasing age, children involve themselves in their description of others to a lesser extent. In this section, factors, such as sex and the affect for the perceived, which significantly influence the cognitive categories the individual employs, are also discussed in relation to developmental trends. In section two, studies dealing with the relationship between children's perception of their peers and their effectiveness in interpersonal relations are reviewed in detail and some methodological and empirical reasons are given to show why some of the positive findings in this area cannot entirely clarify this issue. Some methodological reasons are also advanced to demonstrate why some other investigators have failed to find any positive relationship between the cognitive categories children employ in perceiving their peers and their social success with them. Section three contains a critical examination of the different methods used to investigate the cognitive categories individuals employ in perceiving others. The statistical methods, the role construct repertory test and the free response method are examined and their advantages and disadvantages are discussed. In section four the implications of the previous research for the present study are discussed and on the basis of the findings of the developmental studies some tentative predictions are advanced concerning how categorizing others in terms of their dispositional and objective

qualities and perceiving them as different from the perceiver may affect the child's success in interpersonal relations. This section also contains a discussion about our reasons for adopting the free response method and why we have found it necessary to develop a purpose-built procedure for dealing with the free descriptions provided by our subjects rather than adopting one of the existing methods of listing the contents.

In chapter III the selection of popular and unpopular children and the method for obtaining free descriptions are described and a detailed account is given of the unit of analysis chosen and our studies regarding coding reliability and subjects' consistency in their category usage.

Chapter IV (Content analysis I) contains details of the investigations of the relationship between popularity with peers and the use of dispositional and objective categories on the one hand, and the category referring to personal involvement on the other. The results indicated a significant relationship between popularity and the use of objective and dispositional categories, while no significant result was obtained for the category of personal involvement. In the discussion, the results are summarized and some general conclusions are proposed regarding the cognitive categories used and effectiveness in interpersonal relations.

The study reported in chapter V (Content analysis II)

was carried out to explore the varieties of dispositional and objective categories and the categories referring to personal involvement found in the descriptions provided by our subjects and to pinpoint exactly what kind of dispositional, objective and personal involvement categories are used by popular and unpopular children. The results obtained are listed and discussed in the light of the conclusions drawn on the basis of content analysis I.

Turning now to part II, the first chapter consists of three sections. The first section provides a general theoretical orientation to the investigation. In this section, Heider's formalization of the "naive" analysis of action, which has proved useful as a means of understanding the ways in which individuals attribute causality and intentions to the actions of others, is reviewed in detail and it is shown how this theoretical formulation is used to conceptualize some possible differences between popular and unpopular children in their perception of the actions of others. Section 2 provides a review of literature on the development of the attribution process in children and the effects of perceived causality and intentionality behind a given action on interpersonal attraction. The review of literature indicates that despite the fact that the perceiver variable has been shown to affect the process of impression formation and that much research has been devoted to individual differences in impression formation, there is no empirical evidence concerning the effect of the perceiver

variable on the attribution process. Therefore in section 3 on the basis of the studies of impression formation some empirical and theoretical reasons are advanced to demonstrate that the perceiver himself can be an important factor in determining the causal and intentional attributions and that individuals may differ in their tendencies to make positive or negative causal or intentional attributions. In section 3, on the basis of our developmental studies some tentative predictions are also made concerning the relationship between popularity and the tendency to make positive or negative causal and intentional attributions.

Chapter VII contains the details of a number of pilot studies which were carried out to explore different issues regarding the method to be used in the main investigation. The main study reported in chapter VIII is directly concerned with the investigation of the relationship between popularity and the tendency to attribute positive or negative intentions to the actions of others. First, detailed accounts are given of the collection and processing of data and the studies regarding the reliability of the techniques used and consistency of the subjects in their attribution of causality and intentions to the actions of others. Then the results are presented and discussed.

In the final chapter of thesis (IX) the results are summarized and some conclusions are proposed regarding the

relationship between perception of others and effectiveness in interpersonal relations in children, and the implications of the present study are discussed.

PART I

THE RELATIONSHIP BETWEEN THE COGNITIVE CATEGORIES

CHILDREN USE AND THEIR SOCIAL SUCCESS WITH PEERS

CHAPTER II

A REVIEW OF THE LITERATURE ON THE COGNITIVE CATEGORIES USED BY CHILDREN AND ON THE METHODOLOGICAL PROBLEMS

1. Developmental trends in the use of cognitive categories

Research on perception in children, until recently, has been focused on a child's perception of physical objects. However we can now see a growing body of research on a child's perception of other people. These studies are generally concerned with developmental trends in person perception and with sex differences in relation to developmental trends.

Livesley and Bromley (1973) studied free descriptions provided by children in their attempt to account for the development of person perception. A total of three hundred and twenty children, half male, half female, ranging in age from 7.4 to 15.9 were divided into eight age groups. Subjects were asked to describe eight people known to them - a man, woman, boy, girl they disliked and a man, woman, boy, girl they liked.

The contents of descriptions were tested at two levels. The unit of analysis was a "statement" and a "statement" was defined "as an element or idea referring directly or indirectly to the stimulus person" (p.98). In the first phase of the analysis, the responses were coded into two categories: (1) Peripheral statements:

This category included statements referring to the external qualities of a person and to his surroundings, such as, appearance, age, sex, residence, likes and dislikes, possessions, actual incidents, kinship and social relationship. (2) Central statements: This category included statements referring to inner, psychological qualities, such as personality traits, general habits, motives, attitudes.

The age and sex of the subjects significantly affected the types of statement used. The number of central statements increased with age and girls used central statements more often. Like/dislike for stimulus persons did not affect the types of statement used. More central statements were used to describe children than to describe adults, and more central statements were used to describe boys than to describe girls.

In the second phase, the responses were analysed into thirty three categories. It was found that age had a significant effect on twenty of the thirty three categories. Five categories decreased and eleven categories increased in use with age. The categories showing an increase with age were generally concerned with abstract psychological qualities of the person being described, while the categories showing a decrease with age were concerned with readily observable external qualities.

The sex of the subjects affected the use of four categories. The categories related to personality attributes, the stimulus

person's opinions and attitudes toward himself, evaluation, family and kinship relations were used significantly more frequently by girls. Like and dislike of the stimulus person affected the use of fifteen categories- eight of these categories were used more frequently to describe a liked stimulus person.

Brierley (1966), using the role construct repertory test and a sentence completion test, studied children's use of personal constructs. Individual interviews were given to two hundred and seventy children, half boys, half girls, aged 7, 10 and 13 years. The constructs used by subjects were classified into six categories; personality, kinship, behaviour, appearance, social role and literal. The youngest group used constructs referring to "appearance" most frequently, followed by "social role" and "behaviour" constructs. Ten year old groups used "behavioural" constructs most frequently followed by "social role" and "appearance" constructs. The oldest group also used "behaviour" constructs most frequently. However, the second most frequently used constructs were "personality" constructs. The number of "personality" constructs increased considerably with age. There were also sex differences in the use of "personality" constructs. Girls used "personality" constructs more frequently than boys did.

Scarlett, Press and Crockett (1971) following Werner's ontogenetic development principle, hypothesized that

(a) the absolute number of constructs used to describe peers would increase with age (b) there would be a shift from a relatively egocentric mode of description to a nonegocentric mode and from a concrete to an abstract mode. The subjects were all male students from the first, the third, and the fifth grades of elementary schools and were asked to describe a boy and a girl they liked, and a boy and a girl they disliked.

The constructs used by subjects were classified into four categories: (a) Concrete constructs: constructs in which subjects did not differentiate between themselves and the stimulus person, but they described what they do together (b) Egocentric-concrete constructs: constructs which referred to concrete behaviour, but in which the object of the statement was the subject himself: such as "He hits me", "He shares things with me". (c) Nonegocentric-concrete constructs: these constructs also referred to concrete behaviour, but the object of the statement was the person being described (d) Abstract constructs: constructs which referred to permanent psychological attributes of the described, that is to qualities that were not limited to a specific context.

The results obtained confirmed both hypotheses: there was a highly significant increase in the average number of constructs used and a developmental shift from egocentric and concrete constructs to nonegocentric and abstract constructs. The effect of like/dislike for the stimulus person was significant

only in the case of descriptions of liked boys. More constructs were used to describe liked peers than disliked peers. Scarlett et al, also found consistent individual differences within a given age group both in the number and in the type of constructs used.

In an attempt to account for the development of person perception, Peevers and Secord (1973) analysed free descriptions provided by their subjects in a somewhat different way. In the studies mentioned so far each unit or construct was coded into only one of the mutually exclusive categories. Peevers and Secord divided the descriptions into items, each consisting of one discrete bit of information, and coded each item on each of the following four dimensions: (1) Descriptiveness, (2) Personal involvement, (3) Evaluative consistency and (4) Depth.

"Descriptiveness" referred to the amount of information an item contained about a person as a unique individual and Peevers and Secord distinguished four levels of descriptiveness: (a) Undifferentiating: "The person was not differentiated from his environment, but was described in terms of his possessions or social settings". (b) Simple differentiating: the person was recognized as an individual but descriptions referred to his superficial characteristics or his relationship to the described (c) Differentiating: descriptions referred to fairly specific personal characteristics of the described such as; interest, abilities, beliefs, or temporary states or conditions. (d) Dispositional: the person was described in terms of characteristics which had implications for his behaviour in a

wide range of situations.

"Personal involvement" referred to the degree to which the describer involved himself in the description and three levels of involvement were distinguished (a) Egocentric: the person was described in a way which made the describer the object of the description. (b) Mutual: the stimulus person was described in terms of his relationship with the perceiver. This type of description was characterised by the use of "we" or "us". (c) Other oriented: no personal involvement was expressed by the described.

"Evaluative consistency", "referred to the extent to which the describer recognised and articulated desirable qualities in people he liked and undesirable characteristics in people whom he did not like" (p.122). Evaluatively consistent person descriptions were those in which nothing unfavourable was mentioned about a liked person or "nothing favourable about a disliked person".

"Depth" referred to the extent to which personal characteristics were recognised as depending upon certain situational, temporal or internal states and three depth levels were distinguished. (a) Depth level I: level I included descriptions referring to the person in terms of his social setting and his superficial characteristics, (b) Depth level II: this level included descriptions referring to a person's contradictory characteristics, circumstances under which a certain characteristic

is present, an account of first impressions which later proved inaccurate and whether the person is trying or not trying to do something, (c) Depth level III: this level included descriptions which contained an explanation of a dispositional characteristic.

Eighty subjects, half male, half female, representing the following five developmental levels acted as subjects in Peevers and Secord's study: Kindergarten pupils, third and seventh grades, high school juniors and college students. Subjects were asked to describe three friends and one disliked person. In order to test consistency in category usage Peevers and Secord gave a second interview to twenty of the eighty subjects and asked them to describe the same persons again.

The results of Peevers and Secord's study can be summarised as follows: sharpness in category differentiation increased with age. Kindergarten children hardly differentiated a person from his environment, social setting and possessions whereas the oldest subjects used more sharply differentiated categories.

The frequency with which dispositional items were used increased with age. On the basis of their results, Peevers and Secord suggested that the ability to attribute dispositions develops quite early. However, they argued that in younger children the trait word itself was not used, but was implied in the description. For example, the statement "I don't like him because he stole my pencil" implies indirectly that the described is "Dishonest". The results also showed that the

younger children made use of dispositional items more frequently when they described their disliked peers.

There was a shift from egocentric to other-oriented types of description with age. However, mutual items were used infrequently by younger children, while other age groups used them to about the same extent. All the age groups used more egocentric items when they described their disliked peers.

The result also showed that third and seventh grade children were more consistent than high school juniors. However, the college students were about as consistent as the seventh grade children.

There was also a shift from depth level I to depth level III as age increased. No sex differences were found for personal involvement, evaluative consistency or depth. The only sex difference found was on the dimension of descriptiveness. Girls used simple differentiating items more frequently while complex differentiating items were used more frequently by boys.

A comparison between the first and the second interviews of the twenty subjects showed that individuals were apparently highly consistent from one time to another in their use of categories to describe other people.

A number of other investigators studied the cognitive

categories used by children in perceiving others and obtained comparable results - (Yarrow and Campbell, 1963; Little, 1968; Livesley and Bromley, 1967).

So far the studies of the cognitive categories children use in perceiving others suggest that (1) the use of categories referring to enduring dispositional characteristics of others increases with age (2) as children grow older they involve themselves in their descriptions to a lesser extent (3) girls use categories related to the internal characteristics of others more frequently than boys of the same age (4) despite these general developmental trends, children of the same age differ considerably both in the type of categories they use and in the degree to which they involve themselves in their descriptions, (5) although each child has a certain number of categories which he consistently employs, the person described also affects the type of categories used.

2. The relationship between children's use of cognitive categories and social success with peers

The relationship between children's perception of peers and their social success with them has received little research attention except for a few studies dealing with the commonsense hypothesis that the person who is more accurate in his perception of the diverse characteristics of others is better able to get on with people than is the person whose perception is less accurate.

This lack of experimental research is a little surprising considering the theoretical ground for assuming a relationship between an individual's structuring of his social world and his appraisal of interpersonal relations (see for example, Kelly 1955, Hastorf et al, 1958); and the consistency of the empirical findings about individual differences in category usage. To our knowledge, there have been only three studies concerned with this question and only one of them concerns itself directly with the relationship between the type of categories used and social success with peers.

Richardson, Dornbusch and Hastorf (1961) studied the effect of sociometric status, amongst other variables, such as age, sex, physical handicap and race, upon the type of cognitive categories employed by children. In a free interview situation seven hundred and thirty six children were asked to describe themselves and three other children known to them.

The free descriptions were divided into units and a "unit" was defined as a single "thought" or "idea" about the person described. Each "idea" was first coded into one of sixty nine first order categories, such as sex, trust, honesty, appearance, aggression and so on; and then into nine second order categories which emphasised "the descriptive style of the describer".

The results showed that the sociometric status of both

the describer and the described affected the type of categories used. Sociometrically low status children used aggressive statements more frequently than did sociometrically high status children. Subjects, in general, used the category of "positive comments" and the different type of categories referring to the interaction between themselves and the person being described more frequently in their descriptions of sociometrically high status children.

The main purpose of Richardson and his colleagues was to demonstrate the possibility of using a free response method in studying the cognitive categories employed by individuals. Consequently, they did not give a detailed account of their findings, but rather indicated some of the general results they obtained. It is, therefore, difficult to draw conclusions from their results. However, their results indicate some possible differences between popular and unpopular children in the ways they perceive their social world.

Klaus (1959) studied the interrelationship of the traits that popular and unpopular children ascribe to their classmates. Forty two boys and sixty two girls from four sixth grade classes acted as subjects in the study. The popular and unpopular children were selected on the basis of a classroom social distance scale. All the subjects were asked to rate their classmates on twenty one bipolar traits.

A factor analytic study showed that popular and

unpopular children did not differ with respect to the interrelationship of the traits they ascribe to their peers. For example, a factor which Klaus labelled as "conformity" showed a rather consistent loading of traits in the case of both popular and unpopular children. These traits were: "well-liked", "ideal", "happy", "good-looking", "good sport", "neat and tidy", "takes a joke", "talkative". A second factor labelled "aggression" also showed rather consistent loadings in the ratings of both popular and unpopular children. These factors contained such traits as "bossy", "quarrelsome", "quick-tempered", "boring", "show-off", "unfriendly", "fights", "restless".

However, popular children differed from unpopular children in the traits they ascribed to their peers. While popular children emphasised such traits as "friendly", "doesn't fight", "not daring", "neat and tidy", "gregarious", "happy", unpopular children tended to ascribe opposite traits, such as "fights", "unfriendly", "daring", and so on.

These results suggest that popular and unpopular children evaluate their friends differently. However, one should have reservations about the result as far as the differences in category usage is concerned. Because of the very nature of rating scales, popular and unpopular children were necessarily judging their peers by the same categories. In other words, all the subjects were forced to judge their peers along the dimension of, for example, "friendliness", though unpopular children or popular

children might not use this dimension at all, if they were allowed to describe their classmates freely. It is therefore difficult to conclude from this experiment whether or not popular and unpopular children employ different categories in perceiving their peers.

The relationship between the cognitive categories children employ in perceiving their peers and their social success with them was directly examined by Campbell and Yarrow (1961). Two hundred and sixty boys and girls, white and negro, aged from 8 to 12, acted as subjects while they were at a summer camp. Groups of six to ten children, originally strangers, were placed together in cabins. The children in each cabin were homogenous in age and sex.

A combined score, based on a Sociometric and a "guess who test" was used as an index of popularity and five groups of children, ranging from very high to very low in popularity, were identified.

Children's impressions of one of their cabin members were elicited in interviews at the beginning and at the end of the two week camp session. Each child was presented with individual snapshots of all his cabin members and asked to choose the one whom he felt he knew most about. Then the child was encouraged to talk about him freely.

Campbell and Yarrow compared popular and unpopular children

in terms of (a) the type of categories used in descriptions (b) the level of organization of the descriptions (c) the use of inferences about interpersonal relations.

Children's free descriptions were analysed into thirteen categories. A few noticeable differences were found between popular and unpopular children but only one category showed a consistent trend: affiliative interactions were described with slightly greater frequencies by popular children.

Popular and unpopular children, however, differed significantly in both the level of organization of their descriptions and in their use of inferential interpretations. Campbell and Yarrow used a seven point scale to assess complexity of descriptions and the use of inferential interpretations. The criterion for organization was whether the response represented a complex integrated description or was made up of isolated unrelated detail or a vague global statement such as "he is good". A child was credited with the use of inference if he made an interpretative statement concerning behaviour, motivation or personality.

Based on their results, Campbell and Yarrow suggested that "it is not so much what the child selects out in his perception of others as it is what he does with these perceived stimuli which accounts for

the link between perception and valuation by others. The perceptual selectivity reported in some studies of projective testing, tachistoscopic stimulus presentation, and the like does not appear to operate in a pronounced fashion in this real-life social situation"(p.9).

However, for a number of reasons, Yarrow and Campbell's study, as they admit, does not conclusively rule out the possibility of a relationship between the categories used and social success with peers.

Firstly, when examining the categories developed by Campbell and Yarrow, we find that almost all of them are concerned with either overt behaviour, or with the interaction style of the children. These categories include "dominance", "direct aggression", "rebellion", "conformity", "verbal sociability", "physical play dependence", "affection", "affiliation", "nurturance", "assertive leadership". Obviously in a new situation, the most noticeable aspect of a person is his overt behaviour and his interaction style. Therefore, when a person is asked to verbalize his first impression it is to be expected that he will report these most obvious characteristics. The children used in the study by Campbell and Yarrow were all brought together for the first time and gave their descriptions of another child they thought they knew well. Thus it is not surprising that Campbell and Yarrow found the categories they did. A number of studies have shown that categories referring to the behavioural characteristics and interaction style of the

described constitute only some of the categories used when children describe persons they know well. It would, therefore, be interesting to know whether there would be a difference in the types of categories used by popular and unpopular children when they describe persons they really know well.

Secondly, perhaps an important feature of Campbell and Yarrow's study is that they asked their subjects to describe a child whom they felt they knew most about. We know that when a group of people meets for the first time, some individuals are likely to stand out from the crowd by virtue of their behaviour, hence attract more attention and reveal more about themselves. It is therefore likely that . . . most members of a particular cabin were generally describing the same prominent child (Campbell and Yarrow do not give information about the children being described). A number of studies have shown that when two subjects describe the same person, there is a noticeable category overlap which obviously indicates that the stimulus person himself constitutes a common factor affecting the contents of impressions (Richardson et al, 1961; Dornbusch et al, 1965).

Thirdly, it appears from the examples given by Campbell and Yarrow that some of the statements they identified as "inferential" refer to a permanent inner quality of the described. These types of statements have been referred to differently by different investigators as "dispositional descriptions" (Peevers and Secord, 1973), "personality constructs" (Brierley 1966),

"central statement" (Livesley and Bromley, 1973), "abstract constructs" (Scarlett et al, 1971), as opposed to concrete or external or objective statements. In view of this, it can be argued that a categorization of the descriptions based on an external (or concrete or objective) dispositional dimension might have revealed some differences between popular and unpopular children in their category usage.

3. Methods of studying cognitive categories in person perception

(a) Statistical Methods

How can the cognitive categories an individual uses in perceiving others and his belief about what categories go together be extracted from his descriptions and then represented in at least a quasi-formal manner. Various techniques to investigate this problem, mostly based on statistical models, have been proposed.

Bruner et al (1958) and Wishner (1960) have demonstrated that the relationships between the traits in a person's implicit personality theory can be examined by computing intertrait correlations based on his ratings or rankings of other people on a number of traits.

Cronbach (1955, 1958) suggested that a person's descriptions of others on a set of rating scales can be thought of as defining

a distribution of points in a multivariate space; and that his implicit personality theory can be represented in terms of means, variances and covariances of this multivariate space. The mean may be regarded as the person's stereotype, the variance as his tendency along a given dimension and covariance as his perceived relations between the traits.

Modified forms of the semantic differential, originally devised to study connotation, (Osgood, Suci and Tannenbaum , 1957), require subjects to make their judgements on a series of seven point bipolar scales; and then the ratings are intercorrelated and the resulting matrix factor-analysed.

Although statistical techniques have the merit of achieving quantitative data, they are applicable only to rating scales, adjective checklists and other instruments that limit the respondent to a fixed format and the trait categories selected in advance by the investigator. The use of adjective checklist or rating scales in the study of perceptual categories and trait intercorrelations has a number of disadvantages.

Firstly, this restricted approach fails to capture other categories that are used by the subject in real life situations. In everyday life, the individual is free to choose the categories in which he makes his judgements and a given individual may use a number of categories in perceiving others. Studies using rating scales or adjective checklists can provide information only about

how the subjects use categories specified on the scale or checklist, thus leaving out some information that may be of considerable interest to the investigator.

Secondly, adjective checklists and rating scales cannot provide information about a person's usual methods of categorising others, the sorts of categories he generally uses, the frequency with which the categories are used.

Thirdly, although it is known that categories are used to evaluate others in life situations, it is not possible to determine the extent to which a particular subject actually uses the categories specified by the experimenter. In other words, there is no guarantee that the categories in which the experimenter is interested are also those which the subject employs or may utilize in perceiving people. Under such conditions, interpretation of the results becomes difficult since the "meaning" and "salience" of the categories for subjects may be unclear, atypical or even absent.

(b) Role Construct Repertory Test

The role construct repertory test provides a means of eliciting the important constructs which a person uses to give structure to his social world. The test was originally developed by Kelly (1955), and was based on his Personal construct theory.

The subject is provided with a list of role titles which

he is likely to have encountered in everyday life - such as "teacher", "friend", "brother" - and then asked to designate actual individuals known to him who fit these role titles. The names of people designated are presented randomly in triads and the subjects are asked to state how two of them are similar and different from the third. Thus the subject may decide that two of them are "generous" while the third is "mean". This procedure is repeated until a set of interpersonal constructs has been elicited.

The role construct repertory test has not been standardized to the extent that many other tests have been. The number and content of the roles vary depending on the purposes of the studies. However Kelly (1955) suggests that 15 to 25 constructs elicited by the role construct repertory test are sufficient to provide an adequate sampling of the major constructs the individual uses to structure his social world.

The role construct repertory test has been shown to provide reliable and consistent information about an individual's structuring of his social world and the major constructs he uses to do so (see - Bonarius, 1965). However, in practice, precise identification of the constructs a person uses may be difficult because of both lack of articulation and the possible effect of a common cultural heritage.

A given subject may have difficulties in formulating

similarities and dissimilarities between three individuals. Furthermore, as Kelly suggests, some constructs are non-verbal or implicit. Although such constructs may affect an individual's perception, it is not possible to detect them by the role construct repertory test.

According to Kelly the nature of constructs is such that, explicitly or implicitly, three things are involved. A and B have an attribute in common and that attribute is psychologically opposite to an attribute of C. In many cases, a culture specifies certain "acceptable" opposites for certain attributes, such as "happy-sad", "intelligent-stupid", "generous-mean". Therefore the role construct repertory tester may sometimes require considerable experience to find out that a particular individual has the construct "intelligent-lazy" rather than the more traditional construct "intelligent-stupid".

It may also be added that the role construct repertory test was originally devised for individual administration. Therefore in group administration it becomes difficult for the experimenter to assess whether the same construct means the same thing for two different subjects.

(c) The free response method

The free response method is an alternative approach to studying the major categories an individual uses to give structure

to his social world. It generally involves asking subjects to describe in their own words some people known to them and content analysing the data. The people to be described are generally specified by the experimenter, but the experimenter does not interfere with the subject's descriptions in any way.

The free response approach involves the following assumptions: (1) subjects can give verbal descriptions of other people, (2) in describing others, subjects employ categories that are relevant to them (3) the content of free descriptions can be readily and reliably analysed and coded into a set of selected categories (4) the relative frequency of occurrence of different categories reflect the relative salience of importance of the categories for a given subject in structuring his world.

The use of the free response method appears promising since it solves a number of problems:

i) Subjects have a good many choices in selecting the information upon which they base their judgements and they are free to respond in their own way. This enables the experimenter to study the categories that are actually used by subjects in structuring their world.

ii) Since the categories subjects use in making their judgements are not restricted, the method may capture all the important categories they employ in perceiving others.

iii) The objects of perception are drawn from the real worlds of subjects. This minimizes the possibility of making faulty

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ii) Since the categories subjects use in making their judgements are not restricted, the method may capture all the important categories they employ in perceiving others.

iii) The objects of perception are drawn from the real worlds of subjects. This minimizes the possibility of making faulty

generalizations from judgements based on artificial stimulus objects which are highly unrepresentative of a subject's real world.

iv) Leaving a subject as free as possible to respond in his own way reduces the effects of bias caused by the investigator's own assumptions about person perception. Furthermore, since the objects of perception are real people from the subject's own world, it is not possible for the investigator to manipulate and control more than a few of the factors that may be relevant from the subject's point of view. Thus, the possible effects of the experimenter's bias are minimal.

v) The free response method can provide information about the effects of such factors as like and dislike for the stimulus person on the type of categories used.

vi) When the focus is on children, the free response method has one other further advantage. The instruction is very simple and easily understood. This overcomes the difficulties arising from children's limited vocabulary and comprehension. In this sense, the free response method has a considerable advantage over the role construct repertory test.

However, the method is not without its problems. One drawback is that it cannot provide information about nonverbalised aspects of impressions. Some aspects of an impression are nonverbal or implicit. In other words, a person may use a dimension in judging others without being aware of it. Although such impressions may affect one's behaviour toward another person, they cannot be verbalised. Therefore, it can be argued that the free response

method provides only partial information about the categories a subject uses in structuring his world.

Another drawback is that the descriptions have to be categorized, and the danger is that the investigator may impose his own assumptions upon the data. Previous research, however, has shown that the content of descriptions can be assigned to categories with a relatively high degree of reliability and with reasonable agreement between independent judges (Peevers and Secord, 1973 ; Beach and Wertheimer, 1961 ; Yarrow and Campbell, 1963).

One other drawback concerns the interpretation of the data. This problem can be formulated as "what is said and what is meant". This is especially important in categorizing children's descriptions. For example, if a child makes the statement "he sits next to me", this statement is generally coded into a category related to concrete or objective information (Dornbusch et al, 1965; Livesley and Bromley, 1973). But sitting together with that particular person might have much greater significance for the child. Rather than giving simple objective information, the child may be referring indirectly to his personal relationships with that particular person. However, such possible misinterpretations may reasonably be ignored since the method is only interested in the manifest contents of the descriptions and since in any case any given statement may be endowed with hidden meaning to the point of uninterpretability.

In spite of minor difficulties associated with the free

response method, it has been shown to provide reliable and consistent information about the major categories employed by individuals in perceiving others.

4. Implications for the study

The review of literature has indicated an absence of well established findings clarifying the relationship between the type of categories children use in perceiving others and their social success with peers. Studies by Richardson et al (1961) and Klaus indicate some possible differences between popular and unpopular children in the type of categories they employ. Campbell and Yarrow (1961), on the other hand, found no significant difference between popular and unpopular children, probably because of the system of content categories they used. These conflicting results indicate that more detailed and systematic investigations of the relationship between the type of categories used and social success with peers are required.

Despite the generally held belief that the impressions we form of others determine our relations with them, there is no theory which systematically explains the implications of differences in the categorization process for interpersonal relations. In the absence of such a theoretical background it is difficult to put forward hypotheses about the relationships between the use of certain categories and social success with peers. However, some tentative predictions can be made on the basis of the findings of developmental studies of person perception.

Studies of person perception in children consistently indicate two developmental trends. Firstly, as children grow older, the emphasis in their perception of others shifts from readily observable characteristics to their dispositional qualities not limited to any specific context. Secondly, with growing age children decentre and therefore involve themselves to a lesser extent in their descriptions of others.

The child typically wants acceptance from his peers and this desire motivates him to adopt the standards of his peer group (Kagan, 1971). But, social relations in a school environment, unlike the child's relations with his parents, are determined on a voluntary rather than on a mandatory basis. These voluntary relations may be initiated, sustained and broken off by either child. Sustaining effective relations requires a certain degree of ability to form realistic and sensitive impressions of peers, (Hammond, Wilkins and Todd, 1966).

Categories used consistently by individuals indicate what they tend to emphasise in forming impressions of others or what they tend to notice in others (Secord and Backman, 1964; Dornbusch et al, 1965). A child who bases his impressions of his peers on their dispositional characteristics is likely to be more sensitive, because the perceived dispositional qualities enable the perceiver to make predictions about the actions of others; and effective interpersonal relations depend upon the ability to discern regularities in the superficially diverse actions of others

and to take situational factors into account when forming expectations about them (Heider, 1958; Kelly 1955). In this respect, a child who utilizes the external qualities of his peers is probably at a disadvantage, because external qualities have no generality and are poor predictive cues. By utilizing such qualities, it is not possible to predict what kinds of action will cause what kinds of reaction, and what kinds of action can be expected from a person under certain conditions.

On the other hand, the observed developmental shift from using self-involving to nonself-involving categories is considered an indication of the child's developing ability to see others as individuals in their own right (Scarlett et al, 1971). Increasing realisation of the distinctions between self and others enables the child to take their point of view, to show respect for their thoughts and feelings, and to judge them in situations in which the child himself is not involved. The possible implications of this development for interpersonal relations are obvious: the ability to show respect for the thoughts and feelings of others and to take their point of view make it easier to initiate and sustain effective social relations.

Considering the developing skills of children in interpersonal relations paralleled with the development of person perception, one may be tempted to speculate that children who make use of the dispositional qualities of others in perceiving them, and who include themselves in their descriptions less frequently, may be

more successful in their social relations than children of the same age who emphasise external qualities and who include themselves more frequently when describing their peers.

This mode of thought has led us to design the present study in order to investigate the relationship between social success with peers and the use of certain types of categories in perceiving them.

We have adopted the free response method, because in addition to its potential advantages in studies dealing with children, it seemed to be the technique most free from methodological preconceptions and it had already been tried with some success.

One problem associated with the free response approach is how to develop a set of content categories which are free from experimenter bias. A number of attempts have been made to develop a suitable set of categories for analysing the contents of free descriptions (Yarrow and Campbell, 1963; Richardson et al, 1961; Livesley and Bromley, 1973; Peevers and Secord, 1973; Beach and Wertheimer, 1961). However, these were not adopted, instead we have developed our own categories and coding system.

The main reason for not adopting one of the already developed content analysis systems lies in the purpose of this study. Since different studies are concerned with different problems, each

content analysis deals with different aspects of free descriptions. For this reason, the content categories that have been developed so far are purpose built categories rather than a universal system of classification. While purpose built categories may reliably serve the objective of the research in which they are used, their application to a study dealing with a different problem may not be possible.

Our categorizing system has, however, much in common with Livesley and Bromley's (1973) categories of peripheral and central statements and with Peevers and Secord's (1973) category of personal involvement. With reference to the two previously mentioned developmental trends in childrens' perception (p. 37) we shall categorize our subjects' descriptive ideas into dispositional, objective and personal involvement categories. Livesley and Bromley's categorization of "peripheral" versus "central statements" corresponds partly to our "objective" versus "dispositional" categories. However, while they were interested in classifying the descriptions as to whether such descriptions were external characteristics or psychological qualities of the person described, our category of dispositional descriptions, in addition to descriptions which refer to psychological characteristics, includes also all other types of descriptions which refer to a permanent quality of the person that predisposes him to act in a certain way under certain conditions.

Our category of personal involvement is similar to Peevers and Secord's category of personal involvement in that both include

the type of description in which the describer refers to himself in one way or another. However, Peevers and Secord were concerned with the development of person perception and in order to study the developmental changes in the use of such descriptions, they stipulated different levels of personal involvement according to the degree to which the describer involves himself. Since the present study is not concerned with the developmental aspect of person perception our category of personal involvement does not make such differentiation.

Although classification of the descriptions into three broad categories may reveal certain aspects of the relationship between social success with peers and category usage, we felt that such a broad classification would not describe these relations in sufficient detail, since a given category includes various types of statement. For this reason we have developed a set of subcategories to cover varieties of the descriptions within a given category and compared our subjects as to the use of these subcategories as well as to the use of the main categories.

In conclusion, then, we have argued that the results of studies by Richardson et al (1961), Klaus (1959) and Campbell and Yarrow (1961) indicate a need for a more systematic study of the relationships between the categories children use in describing their peers and their social success, and we have suggested that the categorization of free descriptions provided by popular and unpopular children along the objective, dispositional and personal

involvement dimensions may throw some light on this issue. To a large extent the present study was designed to explore a relatively neglected issue rather than to test specific hypothesis. However, on the basis of the findings of developmental studies, it is expected that popular children would use more dispositional categories while including themselves less in their descriptions of their peers than would do their unpopular age-mates.

CHAPTER III

I. METHOD

1. Subjects:

Three classes, with mean ages of 8.2, 9.5 and 10.4 from a primary school in the Dunblane area participated in the study. There were 87 subjects in all - 43 boys and 44 girls.

A sociometric test was used for the specification of popular and unpopular children. The test was conducted in a classroom situation and each class was tested separately. Each subject was provided with a form on which were the following statements: "These are the three people in the class whom I most like to be with" and "These are the three people in the class whom I least like to be with". Under each statement there were spaces for three names (for actual form used see appendix A). The task was explained to the subjects by showing them a large card exemplifying how the form should be filled; and although sociometric tests assume that names are spontaneously written in preference order this point was particularly emphasised (to avoid a possible misunderstanding). Subjects were not forced to identify themselves, nor was there a time limit imposed.

Sociometric tests were analysed using "a quantitative method" (Lindzey and Byrne 1968). Subjects were given three points if named as first positive choice, -3 if named as first negative choice. The second positive and negative choices were given 2 and -2 respectively and the third choices were given 1 and -1. By

adding up the positive and negative points received, a popularity score was obtained for each subject.

In ten cases, the sum of positive and negative scores was zero, and these subjects were termed "neutral". These "neutral" subjects were included in the analysis of data obtained from the studies which will be mentioned in later chapters, where popularity scores were correlated with the scores obtained from these studies. However they were excluded when comparisons were made between popular and unpopular children in terms of their mean score. The number of popular, unpopular and neutral subjects in each age and sex group are shown in table 3.1. For the distributions of popularity scores see appendix A.1.

Age	POPULAR		UNPOPULAR		NEUTRAL		Total
	Male	Female	Male	Female	Male	Female	
8.2	6	4	7	9	5	1	32
9.5	7	8	6	5	0	3	29
10.4	7	9	5	4	0	1	26
Total	20	21	18	18	5	5	
	41		36		10		87

Table 3.1. The number of popular, unpopular and neutral subjects in each age and sex group.

The reliability of the sociometric test was assessed by the "split-half" method. Since the split-half reliability of sociometric

measurements is concerned with how consistently the group members react to a particular member (Lindzey and Byrne 1968), and since three different groups were tested, the reliability of our measurement had to be assessed for each group separately. The forms used to measure popularity were randomly divided into two halves, and two popularity scores were obtained for each subject - one from each half; and these scores were correlated using the product-moment correlation. The correlations between the random halves were found to be +.76 for the 8 years old group, +.84 for the 9 years old group and +.78 for the 10 years old group, all being significant at the 0.001 level.

2. Procedure

Subjects were interviewed individually and asked to describe three children they liked and three children they disliked. The interviews which were designed to give the subjects maximum freedom in their descriptions were tape-recorded and later transcribed.

The subjects were first asked to name the children they liked, but it was stressed that they were not obliged to choose their classmates. This was considered necessary to ensure that the person described was real rather than imaginary. They were further reassured that the interviews were private and totally unconnected with the school administration.

Following this the subject was asked to describe the

first child he named. The instruction was "I want you to tell me about x. I do not expect you to say anything in particular, you can tell me anything you can think about him/her". When the subject stopped, the interviewer asked, "Is there anything else you can say, can you tell me any more" and this was repeated until it was not possible to elicit further response. The subject was then asked to describe the next child mentioned and this procedure was repeated until the descriptions of three liked children were obtained. At this point, the subject was asked to name and describe the three children he disliked.

The interviews were completely non-directive; any statement or gesture which might affect the descriptions was carefully avoided. Some subjects sought information about the type of description they should give, either by asking directly "What do you want me to tell you about him/her" or by asking indirect questions such as "Is it alright if I tell you what we do together?". In such cases the original instruction was repeated.

Some problems arose when eliciting descriptions of disliked children, for although the subjects were told that the children they were required to name did not have to be from their own class, most of them in fact described their classmates. This probably explains why, despite all reassurances, six subjects preferred not to give the names of the stimulus person, but they referred to them instead as person I, person II and person III. On the other hand

five subjects could not find any person they disliked, so they described only the three children they liked; eight subjects found only one child they disliked and 20 subjects described only two disliked persons. A total of 471 descriptions, 261 for liked and 210 for disliked stimulus persons, were obtained.

In the sociometric test, only one subject did not write any disliked name, 2 subjects wrote only one name and 4 subjects wrote 2 names. This difference in the number of subjects who did not mention any disliked names and who mentioned less than three names was attributed to the fact that in the case of the sociometric test subjects were not required to identify themselves.

II. CODING SYSTEM

1. Unit of analysis

The procedure of content analysis generally involves two steps. The first step is to divide the descriptions into their component units which are meaningful and can be reliably distinguished. The second step concerns classifying these units into a set of well defined categories.

The descriptions provided by our subjects were transcribed and then divided into their component sentences. Altogether there were 1698 sentences. One advantage of using the individual sentence as the basic unit for the purpose of analysis is that it can usually be defined objectively. However, inspection of these

particular sentences showed that a considerable number of them contained more than one idea concerning the stimulus person. For example, the sentence "He always goes around with his big brother and batters people" contains two ideas about the person being described. The first clause indicates a relationship between the stimulus person and one of his family members while the second implies that the stimulus person has an aggressive nature. Using sentences as the basic units of the analysis generally necessitates omitting certain elements embedded in them. So, since the intention of the present study was to identify all the different categories employed by children and to relate them to their social success with their peers, every single bit of information contained in a sentence may be of particular interest. For this reason, sentences did not seem to be appropriate basic units of analysis for the purpose of the present study. Therefore, despite their subjectivity we chose ideas as the basic units for the analysis and defined an "idea" operationally as an element referring directly or indirectly to a single characteristic or action of the stimulus person.

2. Reliability

Given the subjectivity of ideas, their validity as the basic unit in content analysis depends upon the extent to which the descriptions can be reliably coded as ideas. Most content analyses of free descriptions, using ideas as the basic unit, have neglected to examine this factor and emphasis has been placed upon the

reliability with which a given idea can be classified into one of the preselected categories (Yarrow and Campbell, 1963; Beach and Wertheimer, 1961; Dornbusch et al, 1965). This makes it necessary to examine the extent to which agreement exists between independent judges as to the number of ideas assigned to a given description.

The sentences found during the procedure of transcription were listed on a separate sheet for each subject and the number of ideas contained in each sentence was assessed independently by three judges which included the investigator. Here, the judges were concerned merely with the number of ideas contained in the sentences and not with the nature of the ideas or the categories to which they should be assigned.

Agreement between the judges was determined by two different methods: the first of which was concerned with the proportion of sentences to which the same number of ideas were assigned. The proportions of the sentences to which the same number of ideas were assigned by the investigator and judge I and judge II were 96.7% and 97.1%. The two independent judges assigned the same number of ideas to 95.3% of the sentences. The overall agreement between the three independent judges was 96.3%

The second method involved counting the number of ideas that each judge assigned to each sentence and computing product-moment correlations. This procedure yielded correlations of

+0.91 and +0.93 between the investigator's and the two judges' assessments, and +0.90 between the two independent judges' assessments.

However, this apparently high degree of agreement between the independent judges as to the number of ideas each sentence contained may be due to the fact that most of the descriptions of our subjects, probably because of their ages, consisted of simple sentences containing only one or two ideas. Therefore, it might not be possible to obtain as high a degree of agreement as we did between the independent judges when assigning ideas to descriptions provided by older subjects, whose descriptions are expected to be more complicated and detailed.

The reason for using independent judges was not merely to assess the reliability with which ideas could be assigned to sentences, but also to decide the number of ideas a particular sentence contained in cases of disagreements. In such cases, the number of ideas was assessed according to majority decision. In other words the number of ideas assigned by the investigator to a sentence about which there was disagreement was not necessarily the final number. At the end of this procedure 2671 ideas were found.

CHAPTER IV

CONTENT ANALYSIS I

1. Content categories:

In accordance with the expected differences between popular and unpopular children, the ideas were classified into one of the following three categories.

Dispositional ideas: Ideas which enable the perceiver to make predictions about the stimulus person under certain conditions. This category includes ideas referring to personality characteristics, behavioural characteristics, interests, abilities, likes and dislikes of stimulus persons. Evaluations of stimulus persons are also included in this category.

Objective ideas: Ideas which have no predictive value and are concerned with readily observable characteristics of stimulus persons and their surroundings. This category includes physical descriptions, spatial locations, information concerning age, sex, nationality, race, interpersonal relations, family relations, possessions and so on.

Personal involvement: Ideas in which the perceiver refers to himself in one way or another were classified in this category. Ideas of this type were characterised by the use of "I", "me", "we", "us". This category generally included ideas referring to things done together, interaction between the describer and the described, their attitudes and behaviour towards each other and so on.

There were 72 ideas which did not fit into any of the

above categories. These ideas were generally concerned with someone other than the stimulus person and they were classified as irrelevant.

At this stage of the content analysis we were concerned with classification of the ideas according to their nature regardless of the type of information given. For example, the ideas "she is generous" and "he bosses people around" were both coded into the category of dispositional ideas, though they refer to completely different qualities of the persons being described. However, they are both dispositional in nature, because they each refer to a quality of the stimulus person which is not limited to a specific context and which enables the describer to make predictions. Similarly, the ideas "She has got blonde hair" and "He goes to primary 5" were both coded into the category of objective ideas, because they both have no predictive value.

Since the unit of analysis was an idea and since a sentence might contain more than one idea, it was sometimes possible for a sentence to contain two ideas which had to be coded into two different categories. If we take the example given before "He always goes around with his big brother and batters people" it can be seen that the first idea is objective as it refers to a relationship with a family member; and the second idea is dispositional as it indicates the aggressive nature of the described. The categories were mutually exclusive and each idea was coded into only one of the three categories.

2. Reliability:

In order to test the reliability with which the ideas were classified into the categories of dispositional and objective ideas and personal involvement, the 2671 ideas found were independently coded by two judges and the experimenter, and their classifications were compared. Agreement between the investigator and each of the judges was 92.3% and 94.4% respectively. The agreement between the two independent judges was 91.7% and the overall agreement among the experimenter and the two judges being 92.8%. In other words, the investigator and the first judge classified 92.3% of the 2671 ideas into the same categories and 94.4% of the 2671 ideas were assigned to the same categories by the investigator and the second judge; 91.7% of the 2671 ideas were coded into the same categories by the two independent judges. As before, in cases of disagreement, ideas were assigned to categories according to majority decision.

Agreement among judges pertains to the reliability with which ideas can be assigned to a set of predefined categories. An equally important question, however, concerned the consistency with which subjects selected categories for describing the stimulus persons. If a subject's choice of category differs markedly from one occasion to another, it may be questioned whether he is consistent in the categories he employs in perceiving others. So, in order to examine the consistency of our subjects in their category usage, we first counted the frequency of occurrence of each category in their descriptions of the first and the third

stimulus persons, and then computed correlations between them. This was done separately for liked and disliked stimulus person groups, since previous research has shown that the affect relation between the describer and the described influences the type of categories used, and hence one would not expect to find consistency between the descriptions of liked and disliked stimulus persons. As we noted earlier, however, some subjects did not describe any disliked stimulus person, some described only one, while others described two disliked stimulus persons. Subjects who described only one or no disliked stimulus persons were naturally excluded from this examination of the consistency of category usage in the case of disliked stimulus persons. However subjects who described two disliked stimulus persons were included. Correlations between the frequency of occurrence of each category in subjects' descriptions of first and third stimulus persons are presented in table 4.1.

CATEGORIES	Liked stimulus persons	disliked stimulus persons
Dispositional	.75	.57
Objective	.73	.64
Personal involvement	.50	.51

Table 4.1. Correlation coefficient for frequency of occurrence of each category.

The results indicate that subjects are fairly consistent

in their use of categories. If the fact that the characteristics of stimulus persons also affect the types of categories used is taken into account, it may safely be concluded that these results support the findings of previous research, namely that each individual has a number of categories which he consistently employs in perceiving others. (Peevers and Secord, 1971; Richardson et al 1961; Beach and Wertheimer 1961).

3. Results

Eighty-seven subjects expressed a total of 2671 ideas in their descriptions of 471 stimulus persons; 1089 ideas were classified as dispositional (40.7%), 999 ideas as objective (37.4%), 511 ideas as personal involvement (19.1%) and 72 ideas as unclassifiable (2.6%). Table 4.2 shows the frequency and percentage of occurrence of each category in the descriptions given by each popularity, age and sex group.

The effect of popularity on the number of dispositional and objective ideas and on the number of ideas referring to personal involvement used was examined by means of three-way analyses of variance, since the findings would be of limited value if the data were analysed without taking into account such factors as age, sex and like/dislike for stimulus persons. Previous research has indicated some age and sex differences in category usage. It is therefore possible that the differences between popular and unpopular children may vary from one age or sex group to another or may interact with age and sex differences. On the other hand, like and dislike for the person being described has also been shown to affect the types of categories used. This raises the question of whether or not the differences between popular and unpopular children are consistent across different stimulus persons. Furthermore, to include such factors as age and sex of subjects and like/dislike for the stimulus person in the analysis provides further evidence about the effects of these factors on the types of categories employed in perceiving others.

The effect of popularity on the use of each type of idea was examined in a 3x2x2 (age x popularity x sex) factorial design for unequal cell frequencies using an unweighted-means analysis (Winer, 1962). This analysis was performed separately for each category three times: for the descriptions of all stimulus persons, for the descriptions of liked stimulus persons and for the descriptions of disliked stimulus persons. In addition, the overall effect of like/dislike for stimulus persons on the use of each category was examined separately, regardless of popularity, age and sex of subjects in one factor repeated measures analysis of variance.

There is the possibility, however, that any differences found in the number of dispositional and objective ideas and the ideas referring to personal involvement expressed by popular and unpopular children may be merely due to the differences in the total number of ideas they used in their descriptions. If popular and unpopular children really differ in the type of categories they use, this should be reflected not only in their use of the number of dispositional and objective ideas and the ideas referring to personal involvement, but also in the proportions of such ideas per description. This was examined by calculating the proportions of each type of idea in the descriptions given by popular children and also by unpopular children and then comparing these using the Mann-Whitney U test. This analysis was performed separately for the descriptions of all stimulus persons and liked and disliked stimulus persons.

The effects of sex and like/dislike for stimulus persons and the effect of age on the proportions of the three types of ideas were examined using the Mann-Whitney U test and the Kruskal-Wallis one-way analysis of variance respectively.

TABLE 4.2. Frequency and percentage (in brackets) of occurrence of each category in the descriptions given by popular, unpopular and neutral children and by children in each age and sex group.

CATEGORIES	POPULARITY			SEX		AGE		
	Popular	Unpop.	Neutral	Boys	Girls	8 yrs.	9 yrs.	10 yrs.
Dispositional	660 (52.8)	339 (29)	90 (36)	623 (46.8)	466 (34.8)	320 (33)	377 (42)	392 (48.6)
Objective	318 (25.3)	591 (50.5)	90 (36)	426 (31.9)	573 (42.8)	379 (39.3)	328 (36.7)	292 (36.4)
Personal Involvement	246 (19.6)	203 (17.6)	62 (24.8)	256 (19.2)	255 (19)	236 (24.3)	156 (17.3)	119 (14.7)
Unclassifiable	29 (2.3)	35 (2.9)	8 (3.2)	28 (2.1)	44 (3.4)	33 (3.4)	36 (4)	3 (0.3)

a. The effect of popularity on the use of dispositional ideas.

(i) All stimulus persons:

The mean number of dispositional ideas used by popular and unpopular children in each age and sex group is presented in Table 4.3.

TABLE 4.3. The mean number of dispositional ideas used by popular and unpopular children in each age and sex group to describe all stimulus persons.

Age	POPULAR		UNPOPULAR	
	Boys	Girls	Boys	Girls
8	19	7.25	8.42	6.68
9	15.75	15.62	15	6.60
10	20	15.88	12.80	7.75

As expected, the analysis of variance yielded a significant main effect for popularity. Popular children used significantly more dispositional ideas than did unpopular children. The results of the analysis of variance are summarised in Table 4.4. The effect of popularity on the proportion of dispositional ideas used was also significant ($z = 4.98$ $p < .001$). Popular children used a higher proportion of such ideas than did unpopular children.

TABLE 4.4. Summary of the analysis of variance for the effect of popularity, age and sex on the mean number of dispositional ideas used to describe all stimulus persons.

Source of Variation	SS	df	MS	F	p
A	179.74	2	89.87	2.50	n.s.
B	472.57	1	472.57	13.17	0.001
C	640.55	1	640.55	17.85	0.001
AxB	20.90	2	10.45	0.27	n.s.
AxC	26.82	2	13.41	0.35	n.s.
BxC	0.29	1	0.29	0.007	n.s.
AxBxC	263.26	2	131.63	3.66	0.05
SS	2331.67	65	35.87	-	

A = Age B = Sex C = Popularity

The analysis also yielded a significant main effect for sex. Boys used more dispositional ideas than did girls. The effect of sex on the proportion of dispositional ideas used was also significant ($z = 2.58$ $p < .004$).

The analysis did not yield a significant main effect for age. In other words the mean number of dispositional ideas used did not differ significantly from one age group to another. However, the result of the Kruskal-Wallis one-way analysis of variance suggests that the proportion of dispositional ideas per description increases significantly with age ($H = 9.21$ $p < .01$).

As it can be seen from Table 4.2, in addition to the main effects of popularity and sex, the analysis also revealed a three-way interaction of popularity x age x sex. This interaction is illustrated in figure 1.1.

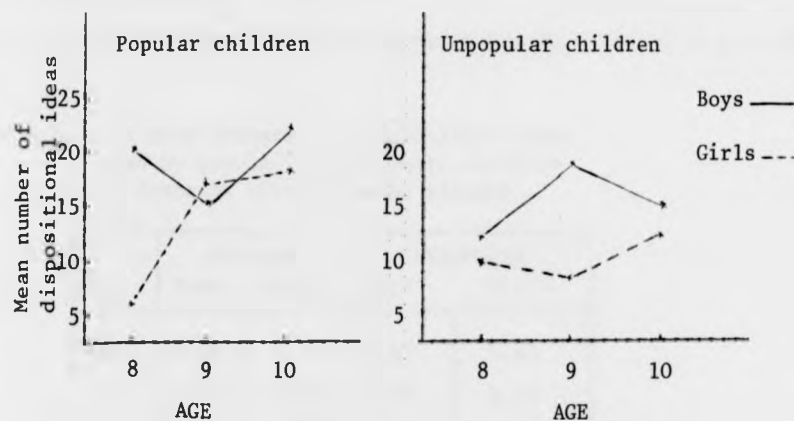


Figure 4.1. Popularity x sex x age interaction in the use of dispositional ideas found in the descriptions of all stimulus persons.

It appears that sex differences are greatest for unpopular 9 year old children and least for popular 9 year old children.

(ii) Liked stimulus persons:

Table 4.5 shows the mean number of dispositional ideas used by popular and unpopular children of each age and sex group to describe liked stimulus persons.

The effect of popularity on the mean number of dispositional ideas used to describe liked stimulus persons was significant. Popular children made use of such ideas in their descriptions

more than did unpopular children. The summary of the results of the analysis of variance is presented in Table 4.6. The analysis of the effect of popularity on the proportion of dispositional ideas showed that popular children also used a significantly higher proportion of such ideas than did unpopular children ($z = 5.14$ $p < .001$).

TABLE 4.5 The mean numbers of dispositional ideas used by popular and unpopular children to describe liked stimulus persons

Age	POPULAR		UNPOPULAR	
	Boys	Girls	Boys	Girls
8	7.66	4.3	3.57	1.33
9	7.28	10.25	6.50	3.20
10	11.57	8.88	7.60	1.75

TABLE 4.6 Summary of the analysis of variance for the effect of popularity, age and sex on the mean number of dispositional ideas used to describe liked stimulus persons.

Source of Variation	SS	df	MS	F	p
A	135.54	2	67.77	4.61	0.05
B	101.37	1	101.37	6.31	0.05
C	341.45	1	341.45	23.27	0.001
AxB	51.25	2	25.52	1.74	n.s.
AxC	12.84	2	6.42	0.43	n.s.
BxC	36.02	1	36.02	2.45	n.s.
AxBxC	38.88	2	19.44	1.32	n.s.
SS	953.80	65	14.67		

A = Age B = Sex C = Popularity

As it can be seen from Table 4.4 age and sex of subjects also had a significant effect on the mean number of dispositional ideas used. Boys used more dispositional ideas in their descriptions of liked stimulus person and the mean number of such ideas used increased with age. The analysis yielded no significant interaction effect.

The analysis of the effect of sex and age on the proportion of dispositional ideas per description also yielded significant results. Again, boys used a higher proportion of dispositional ideas in their descriptions than did girls ($z = 1.90 < .05$) and the proportion of such ideas increased with age ($H = 16.04 < .001$).

(iii) Disliked stimulus persons:

The mean numbers of disposition ideas used by popular and unpopular children of each age and sex group to describe disliked persons are presented in Table 4.7.

TABLE 4.7 The mean numbers of dispositional ideas used by popular and unpopular children to describe disliked stimulus persons.

Age	POPULAR		UNPOPULAR	
	Boys	Girls	Boys	Girls
8	11.33	2.75	4.85	5.55
9	3.66	6.14	8.5	4.25
10	9.83	7	6.5	6

The analysis, again, yielded a significant main effect for popularity. As in the cases of all stimulus persons and liked stimulus persons, popular children used significantly more

dispositional ideas in their descriptions of disliked stimulus persons. Table 4.8 shows the summary of the results of analysis of variance. The result of the Mann-Whitney U test showed that the proportion of dispositional ideas was also significantly higher in the descriptions given by popular children ($z = 2.11$ $p < .01$).

TABLE 4.8 Summary of the analysis of variance for the effect of popularity, age and sex on the mean number of dispositional ideas used to describe disliked stimulus persons.

Source of Variation	SS	df	MS	F	p
A	20.34	2	10.17	0.70	n.s.
B	180.12	1	180.12	12.41	0.001
C	61.14	1	61.14	4.21	0.05
AxB	20.20	2	10.11	0.67	n.s.
AxC	1.26	2	0.63	0.04	n.s.
BxC	59.22	1	59.22	4.08	0.05
AxBxC	78.90	2	39.45	2.71	n.s.
SS	871.08	60	14.51		

A = Age B = Sex C = Popularity

As it can be seen from Table 4.8, the effect of sex on the mean number of dispositional ideas used was also significant. As before, boys used more dispositional ideas than did girls. The result of the Mann-Whitney test showed that the sex of subjects affected the proportion of dispositional ideas per description significantly too. However, the effect on the proportion was not as great as the effect on the mean number ($z = 1.35$ $p < .05$).

Age of subjects affected neither the mean number of dispositional ideas used nor the proportion of such ideas per description significantly.

The effects of popularity and sex on the mean number of dispositional ideas used were not independent: the "popularity x sex" interaction was significant. As shown in figure 4.2, the difference between popular and unpopular children in the mean number of dispositional ideas they used was greater in the case of boys.

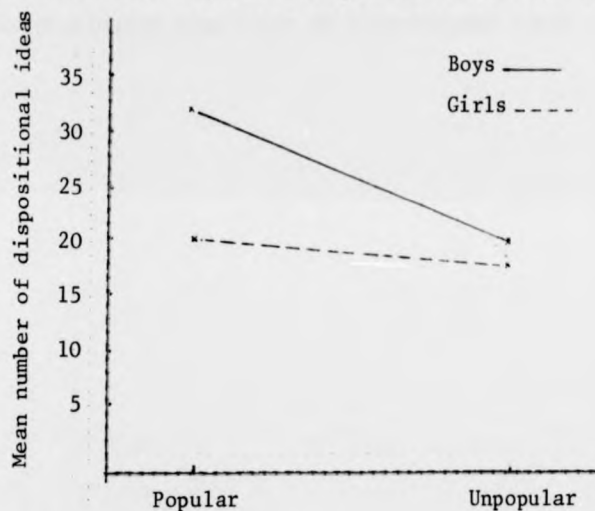


Figure 4.2 popularity x sex interaction in the use of dispositional ideas found in the description of disliked stimulus persons.

4. The effects of like/dislike for stimulus persons on the use of dispositional ideas.

The effects of like/dislike for stimulus person on the use of dispositional ideas was examined regardless of popularity, age and sex of subjects. Each subject's descriptions of liked and disliked stimulus person were compared using one factor repeated measures analysis of variance. Since the comparison was made purely in terms of the number of dispositional ideas, those subjects who

did not describe equal number of liked and disliked person were excluded from the analysis. The result showed that like/dislike for stimulus person did not have a significant effect on the number of dispositional ideas used.

The descriptions of liked and disliked stimulus persons were also compared in terms of the proportion of dispositional ideas they contained using the Mann-Whitney U test and it was found that the descriptions of disliked stimulus persons contained a significantly higher proportion of dispositional ideas ($z = 4.38$ $p < .001$).

b. The effect of popularity on the use of objective ideas:

(i) All stimulus persons:

The mean numbers of objective ideas used by popular and unpopular children in each age and sex group are shown in Table 4.9.

TABLE 4.9. The mean number of objective ideas used by popular and unpopular children to describe all stimulus persons.

Age	POPULAR		UNPOPULAR	
	Boys	Girls	Boys	Girls
8	5	6.25	11.42	20.88
9	8.28	7.75	15.50	16.80
10	8.42	9	12.20	21.25

The analysis yielded a significant main effect for popularity. Unpopular children used significantly more objective ideas than did popular children. The summary of the results of the analysis of variance is presented in Table 4.9. Unpopular children also used a significantly higher proportion of objective ideas than did popular children ($z = 5.10$ $p < .001$).

The effect of sex on the mean number of objective ideas used was also significant. Girls, as compared with boys, used more objective ideas in their descriptions. The result of the Mann-Whitney U test showed that the proportion of objective ideas was significantly higher in the descriptions given by girls ($z = 2.17$ $p < .01$).

TABLE 4.10 Summary of the analysis of variance for the effect of popularity, age and sex on the mean number of objective ideas used to describe all stimulus persons.

Source of Variation	SS	df	MS	F	p
A	42.21	2	20.60	0.41	n.s.
B	225.98	1	225.98	4.54	0.05
C	1416.84	1	1416.84	28.52	0.001
AxB	70.96	2	35.48	0.71	n.s.
AxC	203.58	2	101.79	2.04	n.s.
BxC	170.60	1	170.60	3.43	n.s.
AxBxC	60.03	2	30.01	0.60	n.s.
SS	3228.82	65	49.67		

A = Age B = Sex C = Popularity

Age of subjects had no significant effect on the mean number of objective ideas used nor was there any significant interactional effect. The analysis of the effect of age on the proportion of objective ideas showed that the proportions of such ideas did not vary significantly between the three age groups.

2. Liked stimulus persons:

Table 4.11 shows the mean number of objective ideas used by popular and unpopular children in each age and sex group.

As in the case of all stimulus persons, the analysis yielded significant main effects for popularity and sex. Unpopular children used more objective ideas than did popular children and girls made use of such ideas more than boys. Table

4.12 shows the summary of the results of the analysis of variance. The effects of popularity and sex on the proportion of objective ideas were also significant. The proportions of such ideas were significantly higher in the descriptions given by unpopular children ($z = 5.10$ $p < .001$) and girls ($z = 2.02$ $p < .01$).

TABLE 4.11 The mean number of objective ideas used by popular and unpopular children to describe liked stimulus persons

Age	POPULAR		UNPOPULAR	
	Boys	Girls	Boys	Girls
8	3.33	4.25	9.42	15.55
9	5.42	7	10.33	12.20
10	6.57	6.22	3.40	17.50

TABLE 4.12 Summary of the results of the analysis of variance for the effect of popularity, age and sex on the mean number of objective ideas used to describe liked stimulus persons.

Source of Variation	SS	df	MS	F	p
A	39.42	2	19.71	0.89	n.s.
B	165.77	1	165.77	7.54	0.01
C	861.88	1	861.88	39.21	0.001
AxB	15.94	2	7.97	0.36	n.s.
AxC	39.72	2	19.86	0.90	n.s.
BxC	96.89	1	96.89	4.40	0.05
AxBxC	50.35	2	25.17	1.14	n.s.
SS	1429.31	65	21.98		

A = Age B = Sex C = Popularity

As it can be seen from Table 5.4 the analysis also yielded a significant two way interaction of popularity x sex. This interaction is shown in Figure 4.3.

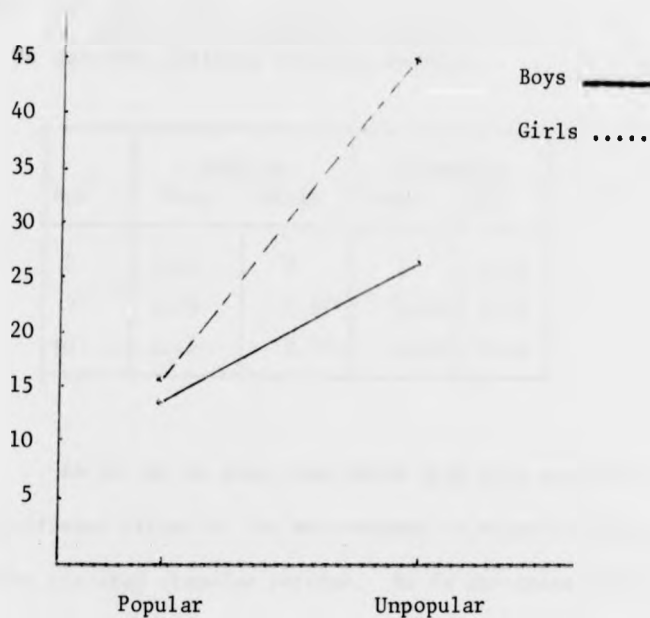


Figure 4.3. Popularity x sex interaction in the use of objective ideas found in the descriptions of liked stimulus persons.

It appears that although both unpopular boys and unpopular girls used more objective ideas than did their popular counterparts, the difference between popular and unpopular children is greater in the case of girls.

Neither the mean number nor the proportion of objective ideas varied significantly between the three age groups.

3. Disliked stimulus persons:

The mean number of objective ideas used by popular and unpopular children in each age and sex group is presented in Table 4.13.

TABLE 4.13 The mean number of objective ideas used by popular and unpopular children to describe disliked stimulus persons.

Age	POPULAR		UNPOPULAR	
	Boys	Girls	Boys	Girls
8	1.66	2	2	5.33
9	3.33	1.57	5.16	5.75
10	2.16	2.77	3.50	3.75

As it can be seen from Table 4.14 only popularity had a significant effect on the mean number of objective ideas used to describe disliked stimulus persons. As in the cases of all and liked stimulus persons, unpopular children used more objective ideas than did popular children.

TABLE 4.14 Summary of the results of the analysis of variance for the effects of popularity, age and sex on the mean number of objective ideas used to describe disliked stimulus persons.

Source of Variation	SS	df	MS	F	p
A	18.90	2	9.45	0.76	n. s.
B	5.64	1	5.64	0.45	n. s.
C	72	1	72	5.80	0.05
AxB	17.70	2	8.85	0.71	n. s.
AxC	10.44	2	5.22	0.42	n. s.
BxC	12.36	1	12.36	0.99	n. s.
AxBxC	9.54	2	4.77	0.38	n. s.
SS	744.65	60	12.41		

A = Age B = Sex C = Popularity

The analysis concerning the effects of popularity, age and sex on the proportion of objective ideas per description also yielded only one significant result. Unpopular children, as compared with popular children, used a significantly higher proportion of such ideas ($z = 4.04$ $p < .001$). However, the effect of popularity on the proportion of objective ideas was greater than its effect on the mean number of such ideas used.

4. The effect of like/dislike for stimulus person on the use of objective ideas:

The effect of like/dislike for stimulus person on the number of objective ideas used and on the proportion of such ideas per description were both significant. More objective ideas ($F = 16.7$ with 1 and 53 d.f; $p < .001$) and a higher proportion of such ideas were used to describe liked stimulus persons ($z = 3.77$ $p < .001$).

- c. The effect of popularity on the use of ideas referring to personal involvement:

1. All stimulus persons:

The mean number of ideas referring to personal involvement used by popular and unpopular children in each age group are presented in Table 4.15.

TABLE 4.15 The mean number of ideas referring to personal involvement used by popular and unpopular children to describe all stimulus persons.

Age	POPULAR		UNPOPULAR	
	Boys	Girls	Boys	Girls
8	5.66	11	7	7.11
9	6.42	5.87	6.50	2.40
10	4.28	5.11	3.80	5

The results of the analysis of variance did not confirm the expectation that popular children involve themselves in their descriptions to a lesser extent. The mean numbers of such ideas used by popular and unpopular children did not differ significantly. Table 4.16 shows the summary of the results of the analysis of variance.

As Table 4.16 shows, the analysis yielded only one significant effect. The mean number of ideas referring to personal involvement showed a decrease with age.

The analysis of the effects of popularity, age and sex on the proportion of the ideas referring to personal involvement also

yielded only one significant result. The proportion of such ideas per description showed a decrease with age ($H = 7.23$ $p < .05$).

TABLE 4.16 Summary of the results of analysis of variance for the effect of popularity, age and sex on the use of the ideas referring to personal involvement

Source of Variation	SS	df	MS	F	p
A	128.97	2	64.48	3.22	0.05
B	4	1	4	0.2	n.s.
C	21.20	1	21.20	1.06	n.s.
AxB	61.58	2	30.79	1.53	n.s.
AxC	6.15	2	3.07	0.15	n.s.
BxC	35.24	1	35.24	1.76	n.s.
AxBxC	24.67	2	12.33	0.61	n.s.
SS	1300.47	65	20		

A = Age B = Sex C = Popularity

2. Liked stimulus person:

Table 4.17 shows the mean number of ideas referring to personal involvement found in the descriptions of liked stimulus persons given by popular and unpopular children in each age and sex group.

TABLE 4.17 The mean number of ideas referring to personal involvement found in the descriptions of liked stimulus persons given by popular and unpopular children

Age	POPULAR		UNPOPULAR	
	Boys	Girls	Boys	Girls
8	5	6.5	4.71	4.77
9	5.14	4.25	5.83	1.80
10	3.57	4	2.40	3

Neither popularity nor age and sex of subjects had a significant effect on the use of the ideas referring to personal involvement. Although as in the descriptions of all stimulus persons, the mean number of ideas referring to personal involvement showed a decrease with age, the effect was not statistically significant.

3. Disliked stimulus persons:

Table 4.18 shows the mean number of ideas referring to personal involvement found in the descriptions of disliked stimulus persons given by popular and unpopular children in each age and sex group.

TABLE 4.18 The mean number of ideas referring to personal involvement found in the descriptions of disliked stimulus persons given by popular and unpopular children.

Age	POPULAR		UNPOPULAR	
	Boys	Girls	Boys	Girls
8	0.66	4.5	2.28	2.33
9	1.50	1.85	0.66	0.75
10	0.83	1.11	1.76	2.75

As before, the results of analysis of variance showed that popularity did not have a significant effect on the mean number of ideas referring to personal involvement. The summary of the analysis of variance is presented in Table 4.19.

TABLE 4.19 Summary of the results of the analysis of variance for the effect of popularity, age and sex on the use of ideas referring to personal involvement with disliked stimulus persons.

Source of Variation	SS	df	MS	F	p
A	21.30	2	10.65	4.24	0.05
B	11.76	1	11.76	4.68	0.05
C	0.005	1	0.005	-	n.s.
AxB	11.64	2	5.82	2.31	n.s.
AxC	10.80	2	5.40	2.15	n.s.
BxC	8.40	1	8.40	3.34	n.s.
AxBxC	13.26	2	6.63	2.64	n.s.
SS	150.64	60	2.51		

A = Age B = Sex C = Popularity

The effects of age and sex on the use of the ideas referring to personal involvement were both significant. Girls, as compared with boys, used such ideas to a larger extent.

Since previous research has indicated no sex differences in the use of the personal involvement category and since no significant sex differences were obtained in the descriptions of all stimulus persons and liked stimulus persons, the differences between the treatment means were compared using Duncan's multiple comparison test. This procedure showed that the differences between boys and girls were significant only in the descriptions given by 8 year old children.

There was a curvilinear relationship between age and the mean number of personal involvement ideas used. The mean number of such ideas used by 8 year old children was noticeably higher than

those of 9 and 10 year old children. However, the mean number of ideas referring to personal involvement used by 10 year old children was slightly higher than the mean number of such ideas used by 9 year old children.

As to the effects of popularity, age and sex on the proportion of ideas referring to personal involvement, only that of age was significant ($H = 6.56$ $p < .05$). The proportion of such ideas per description showed a decrease with age.

4. The effect of like/dislike for stimulus persons on the use of ideas referring to personal involvement.

The effect of like/dislike for stimulus persons on the number and proportion of ideas referring to personal involvement was significant in both cases. More personal involvement ideas ($F = 18.16$ with 1 and 53 df; $p < .001$) and a higher proportion of such ideas ($z = 2.50$ $p < .01$) were used in the descriptions of liked stimulus persons.

d. Some additional comparisons between popular and unpopular children:

Popular and unpopular children did not differ greatly in terms of the number of ideas they used. Forty-one popular children used 1253 ideas to describe 219 stimulus persons, while 36 unpopular children used 1168 ideas to describe 198 stimulus persons. Ten neutral children used 250 ideas to describe 54 stimulus persons.

On average 5.67 ideas were used to describe each stimulus person. However while some subjects used only 2.8 ideas to describe each stimulus person, some others used as many as 9.5 ideas.

The average number of ideas used by popular and unpopular children to describe each stimulus person did not differ greatly. The average number of ideas used by popular children to describe each stimulus person was 5.72, while unpopular children used an average of 5.89 ideas.

Although there was a slight increase with age in the average number of ideas used to describe each stimulus person, this increase was not striking. The average number of ideas used by 8, 9 and 10 year old children were 5.29, 5.81, and 6.01. The difference between boys and girls was also not great. Boys used 5.65 ideas and girls used 5.68 ideas to describe each stimulus person.

Like/dislike for stimulus persons had the greatest effect on the average numbers of ideas used to describe each stimulus person. While an average of 6.44 ideas were used to describe liked stimulus persons, only 4.7 ideas were used for disliked stimulus persons.

4. Discussion

The results confirmed the predictions that popular children categorize others in terms of their perceived dispositional qualities and that unpopular children tend to employ categories concerning the external qualities of others. However, the prediction that popular children would involve themselves in their descriptions of others to a lesser extent was not confirmed by the results.

The analysis of the effect of popularity on the mean numbers of dispositional and objective ideas used and on the proportions of such ideas per description yielded mainly consistent results. The effect of popularity on the use of dispositional and objective ideas was significant in the descriptions of all types of stimulus persons. Popular children consistently employed more dispositional ideas and higher proportions of such ideas in their descriptions, while unpopular children showed a strong tendency to use more and higher proportions of objective ideas.

The fact that popularity was a significant factor in all of the analyses suggests a clear relationship between popularity and the categorizing of others in terms of dispositional, as opposed to objective, qualities. Our findings are contrary to Campbell and Yarrow's (1961) conclusion that "what the child selects out in his perception of others" does not seem to account for the link between perception and valuation by peers.

The relationship between social success with peers and the categorizing of them in terms of their dispositional, as opposed to their external, qualities, can be explained in terms of Kelly's (1955) concept of man the scientist, that is someone who actively tries to construe, anticipate and influence events in his environment. Implicit in Kelly's formulations is the idea that an individual's success in interpersonal relations rests upon his ability to establish a set of constructs that have descriptive and predictive potential when applied to the behaviour of others. A similar point was referred to by Heider (1958) when he noted that the basic goal of the perceiver is to comprehend the causes that underlie the behaviour of others and thus to enable himself to structure his social world so as to produce favourable outcomes. The perceiver's success in structuring his social world depends upon his ability to discern regularities in the apparently diverse actions of others and consequently to predict future events.

Dispositional qualities are relatively constant and stable features of individuals which describe and explain their tendency to act in certain ways under certain conditions. Consequently they are more descriptive and have more predictive potential when applied to the behaviour of others than external qualities which have little or no generality and poor predictive value. Therefore the perception of dispositional qualities is more likely than the perception of external qualities to enable the perceiver to understand and to predict the actions of others and thus to establish effective relations with them.

The greater use of dispositional ideas by popular children suggests that they are more concerned with the dispositional qualities of their peers than are unpopular children. This concern probably enables them to understand the unifying qualities and motives that tie their peers' behaviour together, to predict their actions in different situations and thus to form impressions of them which are not dominated by the salient features of their current behaviour. They can see the variations in their peers' behaviour in the context of the rest of their characteristics and possibly in the context of their circumstances and can assimilate these variations without major revision in their initial impressions. Consequently their behaviour toward their peers is likely to be more consistent and less dominated by immediate and concrete stimuli.

The perception of dispositional qualities is also likely to enable the popular children to adjust their interaction techniques according to the personal characteristics of their peers, to understand and appreciate their feelings, thoughts, needs, wants and abilities, and to take into account these characteristics and situational factors when forming expectations about their peers' actions.

The greater use of objective ideas by unpopular children, on the other hand, suggests that the impressions they form are dominated by the external qualities of their peers. Such impressions are likely to change with variations in the other person's behaviour,

since perception of external qualities does not enable the perceiver to understand why people behave as they do or how the perceiver would behave were he in the same situation. Thus variations in their peers' behaviour may lead to fundamental changes in unpopular childrens' impressions of them and consequently in their behaviour towards them. This instability may well affect the evaluations of unpopular children made by their peers in a negative direction.

This lack of concern with dispositional qualities may also mean that unpopular children are less aware of the dispositional qualities their peers possess and consequently that they may fail to understand their feelings, needs and wants, and to take their point of view. In fact, their behaviour towards their peers is likely to be dominated by their own needs, wants and feelings. Furthermore, unpopular children are likely to be less effective in their interaction with their peers, since effective social interaction depends upon the ability to see underlying differences between individuals and to adopt different interaction techniques when dealing with different persons (Argyle 1972).

However, the ability to infer the dispositional qualities of others from one's perceptions and to predict their behaviour in different situations, probably does not lead to effective relations unless it is accompanied by appropriate behaviour, since perception is a private experience and its impact on others can only be through the resultant behaviour. Although the present study does not provide evidence about the relationship between perception and behaviour,

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a consideration of the findings of studies concerned with behavioural correlates of popularity in the light of the present results suggest that the different behavioural patterns demonstrated by popular and unpopular children may well reflect differences in their perceptions.

Jennings (1950), in a study of four hundred girls, found that popular girls helped and protected their peers, encouraged them, made them feel accepted, controlled their own moods so as not to inflict anxiety and depression on others, were concerned with the needs and feelings of their peers, and won the confidence of a wide variety of people with different personalities. The unpopular girls, on the other hand, were boastful, aggressive, trying to get their peers to do things for them and demanding attention. Similar results have been reported by numerous investigators. (Hartup et al, 1967; Bonney, 1947).

A consideration of some of the behavioural patterns demonstrated by popular girls reveals that they require a certain degree of understanding of the dispositional qualities of their peers. For example; winning the confidence of people with different personalities requires an ability to understand the underlying differences between people and to adjust one's interaction technique according to the characteristics of the person concerned. Similarly, an understanding of needs, feelings, wants, and abilities is a prerequisite for helping behaviour. On the other hand, as we have pointed out, the lack of concern of

unpopular children with dispositional qualities might mean that their behaviour toward their peers is likely to be dominated by their own needs, thoughts, feelings and wants. Behavioural patterns such as "trying to get their peers to do things for them" or "demanding attention" demonstrated by Jennings' unpopular subjects may well be a good indication of such a tendency.

Mouton, Bell and Blake(1956), in a study of the relationship between popularity and "taking the role of others", have found that "good role players" have higher sociometric status than those who are less skilled in role taking activities. Again, popular children's superiority in role taking activities can be explained in terms of their emphasis on dispositional qualities of others when perceiving them, since taking the role of others requires a knowledge of the motives, beliefs and attitudes of the other person and on the ability to see the way in which they are affected by the stimulus situation (Sarbin and Allan 1967).

Taking the role of others is also a source of "altruism" and helping others (Argyle,1972). This probably explains why studies concerned with the correlates of popularity have consistently found that being helpful toward their peers is an attribute of popular children. Similarly, the perception of dispositional qualities and consequently of the underlying differences between individuals in terms of such qualities may well account for popular children's flexibility in their interactions with their peers and their tolerance towards them(Bonney,1947).

The analysis of the mean numbers of dispositional and objective ideas also yielded three significant interactional effects, two in the use of dispositional ideas and one in the use of objective ideas.

Popularity x age x sex interaction was significant in the analysis of the dispositional ideas used to describe all stimulus persons. The results showed that sex differences in the use of dispositional ideas was least in the descriptions of 9 year old popular children and greatest in the descriptions of 9 year old unpopular children.

The analysis of the dispositional ideas used to describe disliked stimulus persons yielded a significant popularity x sex interaction. The difference between popular and unpopular children was greater in boys' descriptions than it was in girls' descriptions. Popularity x sex interaction was also significant in the analysis of the objective ideas used to describe liked stimulus persons. But in this case the difference between popular and unpopular children was greater in the descriptions given by girls than it was in the descriptions given by boys.

Popularity x sex interactions in the use of dispositional and objective ideas can be explained in terms of boys' greater use of dispositional and girls' greater use of objective ideas. Although popular boys and popular girls always used more dispositional ideas than did their unpopular counterparts and in general popular girls

used more of such ideas than unpopular boys, when compared regardless of popularity, boys used more dispositional ideas than did girls. Probably this gave rise to the greater differences between popular and unpopular children in their use of dispositional ideas in the case of boys. Since popular and unpopular children differed in their use of dispositional ideas, the greater the use of such ideas the more pronounced became the differences. Similarly, the greater the use of objective ideas by girls gave rise to the greater differences between popular and unpopular children in their use of objective ideas in the case of girls.

The fact that the three way interaction of popularity x age x sex was obtained in only one analysis suggests the possibility that this interaction was due to chance. This could not be the case for popularity x sex interactions, since two analyses yielded significant results and in two other analyses the critical value of F was close to the significance level.

For the possible effect of popularity on the use of ideas referring to personal involvement, none of the analyses yielded a significant result. Popularity did not appear to have a significant effect either on the mean number of such ideas used or on their proportions. The number and proportion of ideas referring to personal involvement were relatively lower in general. Of the two thousand six hundred and seventy one ideas, only five hundred and eleven referred to personal involvement and four hundred and fifty of them were found in the descriptions given by popular and

unpopular children. Almost half of the four hundred and fifty such ideas (two hundred and seventeen) were actually concerned with mutual relations and interactions between the describer and the described which were characterized by the use of "we", "us", "our" (for example, "we get on well", "our friendship began last year"). The number and proportion of such statements found in the descriptions given by popular and unpopular children did not differ greatly; popular children made one hundred and thirteen and unpopular children one hundred and three statements. The absence of a significant popularity effect in the use of the personal involvement category may well be due to this lack of difference between popular and unpopular children in their use of statements referring to mutual relations and interactions, since such statements constituted a high proportion of the total number of personal involvement ideas in the descriptions given by both groups.

The fact that popular and unpopular children did not differ in their use of ideas referring to mutual relations and interactions is not really surprising, since previous research has consistently shown that this type of statement exists in descriptions given by individuals differing in age and sex but that age and sex have no significant effect on the use of such ideas. For example, Peevers and Secord (1973), in their study cited before, found no difference between age groups ranging from third grade to college level and between male and female subjects in their use of ideas referring to mutual relations, though they reported some age differences in the use of "egocentric" and "other oriented" ideas which were also

subdimensions of the category of personal involvement. Similar results were reported by Livesley and Bromley (1973). Considering the consistency of the literature as to age and sex differences in category usage, the absence of such differences in the use of ideas referring to mutual interactions and relations suggests the possibility that such ideas do not really indicate the perceptual categories individuals generally employ, but are rather used to take account of the type of relation the describer has with the person being described. If this is the case there is no logical reason for expecting why popular and unpopular children should differ in their use of such ideas.

As to the effects of age, sex and like/dislike for stimulus persons, the results obtained were congruent with the findings of previous research except for sex differences.

The effect of age on the mean number of dispositional ideas used was significant only in the descriptions of liked stimulus persons. However, the analysis concerning the effect of age on the proportion of dispositional ideas yielded significant results for the descriptions of all stimulus persons, and of liked stimulus persons taken alone. No significant age effect was found in the descriptions of disliked stimulus persons, probably because of the fact that fewer ideas were used to describe disliked stimulus persons in general and in all age groups, dispositional ideas constituted a high percentage of the total number of ideas used to describe disliked stimulus persons. Considering the facts that even in the analyses

where the effect of age was not significant there was an increase in the mean number and proportion of dispositional ideas with age, and that the age range in the present study was not wide, it may be concluded that the present results strongly confirm the findings of previous research that with growing age children use increasingly more ideas referring to abstract qualities of the person they describe (Scarlett et al, 1971; Peevers and Secord, 1973; Livesley and Bromley, 1973).

For the effect of age on the use of objective ideas, none of the analyses yielded significant results. Although research workers in the area of the development of person perception in children are quite clear about the increase in the use of dispositional ideas with age, they are not as clear as to whether this increase is at the expense of the use of objective ideas. In other words, there is no answer to the question as to whether the increase in the use of dispositional ideas is paralleled by a decrease in the use of objective ideas. From the present results it appears that there is no significant decrease in the use of objective ideas. However, as has already been noted, the age range used in the present study is not wide. Therefore any generalisation based on the present results, may be misleading.

Consistent with the findings of previous research, the results have shown that with growing age children involve themselves in their descriptions to a decreasing extent (Scarlett et al, 1971 ; Peevers and Secord, 1973). The effect of age on the mean number of

ideas referring to personal involvement and the proportion of such ideas per description was significant in the cases of all stimulus persons, and of disliked stimulus persons taken alone. No significant age effect was observed in the analysis concerning the descriptions of liked stimulus persons. The absence of any age effect in the case of liked stimulus persons can be explained in terms of the high frequency and percentage of occurrence of the ideas referring to mutual relations and interactions. In the descriptions of liked stimulus persons, most of the ideas referring to personal involvement were actually concerned with mutual relations. This was the case for all age groups. Since the number of personal involvement ideas was small in general, the high percentage of occurrence of the ideas referring to mutual interactions and relations in all age groups led the effect of age to be non-significant.

The effect of sex on the mean number and proportion of dispositional ideas used was significant in all analyses. Boys used consistently more dispositional ideas and a higher proportion of such ideas than did girls. This result contradicts the previous findings that girls make more reference to abstract or psychological qualities in their descriptions (Brierly, 1966, Livesley and Bromley 1967, 1973). A contributory factor to this conflicting result can be found in our definition of the category of dispositional descriptions. In previous research, the category of abstract or psychological qualities has generally been confined to those ideas or descriptions referring to personality traits. In the present

study, based on Heider's (1958) naive-analysis of actions, all the ideas referring to a permanent quality of the person being described were classified as dispositional. Thus, our category of dispositional descriptions included not only those ideas referring to personality traits, but also those concerned with the abilities, interests, likes and dislikes, aggression and behavioural characteristics of the stimulus person. As content analysis II will show, boys made more references to abilities and aggression. This probably gave rise to the significant sex differences which showed that boys use more dispositional ideas in their descriptions.

The analysis of the effect of sex on the use of objective ideas also yielded consistent results. Girls used significantly more and a higher proportion of such ideas in their descriptions of all stimulus persons and of liked stimulus persons taken alone. No significant sex effect was found in the descriptions of disliked persons. There has been no study directly concerned with sex differences in the use of objective ideas as such. However, there are some findings concerning sex differences in the use of some of the ideas which have been classified as objective in the present study. From these studies, it may be said that as far as the use of such ideas is concerned, the findings are diverse and conflicting. For example, Little (1968) has reported that girls use more physical constructs than do boys. Beach and Wertheimer (1961) found that their male subjects used more ideas referring to physical appearance and gave more information concerning the general status of the stimulus person. Livesley and Bromley (1973) reported no sex differences in

the use of statements referring to physical appearance and general status. In the absence of well established findings, it is difficult to evaluate the present results. However, since society puts more emphasis on beauty, dress etc. in females, it seems reasonable to expect girls to make more references to such qualities in their descriptions. This suggestion, in fact, is supported by our girl subjects' giving of more detailed information about hair colour, hair style, type of dress worn etc.

Consistent with the previous findings, the results showed that like/dislike for stimulus persons was a significant factor in determining the type of category used. Subjects used a significantly higher proportion of dispositional ideas to describe disliked stimulus persons, but the effect of like/dislike on the frequency with which such ideas were used was not significant. A contributory factor to the absence of any effect on the number of dispositional ideas can be found in the total numbers of ideas used to describe liked and disliked stimulus persons. In general, more ideas were used to describe liked stimulus persons and probably for this reason the number of dispositional ideas found in the descriptions of liked stimulus persons was high. Therefore when compared merely in terms of the number of dispositional ideas used, like/dislike for stimulus person did not seem to have a significant effect.

The fact that dispositional ideas constituted a very high proportion (58.6%) of the total number of ideas used to describe disliked stimulus persons suggests that subjects showed a strong

tendency to describe disliked persons in dispositional terms. The explanation for this may be found in the relative social desirability of like/dislike for others. In every society, the showing of positive feelings toward someone is a socially desirable attitude, while the feeling of dislike is not considered to be so. Therefore, when asked to describe someone disliked, subjects probably find it necessary to give their reasons for showing such feelings toward the person described. Such explanations generally contain ideas referring to socially undesirable personal and behavioural characteristics.

Significantly more objective ideas and a higher proportion of such ideas were used to describe liked stimulus persons. In general, this result can be accounted for by reference to the social desirability of positive feelings towards a person and to the frequency of interaction. It may be argued that, unlike their feelings toward disliked stimulus persons, because of the social acceptability of positive attitudes subjects did not find it so necessary to explain why they liked the persons they described but instead told everything they knew about them. Furthermore, liking leads to more frequent interaction which in turn increases the amount of information the interactors possess about each other. Therefore it was likely that subjects knew more about, for example, where the liked stimulus person lives, what he does regularly, what he is like, his relations with family members etc.; and when asked to describe a person they liked they reported such information as this, as well as the information they possessed about his

dispositional qualities. Since dislike leads to less frequent interaction, subjects were likely to know less of such information about disliked stimulus persons. This suggestion is supported by the fact that the number and proportion of objective ideas found in the descriptions of liked stimulus persons were only moderately high, but were very low in the descriptions disliked stimulus persons.

The effect of like/dislike for stimulus persons on the use of ideas referring to personal involvement was also significant. Subjects used more and a higher proportion of such ideas to describe liked stimulus persons. The effect was largely due to the ideas referring to mutual relations and interactions. As can be expected, such ideas were used frequently to describe liked stimulus persons, while they rarely occurred in the descriptions of disliked stimulus persons.

In summary, the results indicated that effectiveness in interpersonal relationships is strongly related to the categorizing of others in terms of dispositional, as opposed to objective, qualities in perceiving them, while describing others without reference to self did not seem to be an important factor in this respect. The results also supported the previous findings, concerning the effect of age and the stimulus person on category usage, while the sex differences obtained contradicted the reported results.

CHAPTER V

CONTENT ANALYSIS II

Although classification of the ideas into three broad categories throws revealing light on the relationship between the use of a certain category or categories and childrens' social success with their peers, such a broad categorization does not describe in sufficient detail the differences between popular and unpopular children in their use of different dimensions of these broad categories. Content analysis I was concerned with the classification of the ideas according to their nature, regardless of the dimensions involved or the qualities of the stimulus person they referred to. However as we have shown, with examples, dispositional and objective ideas, and ideas referring to personal involvement differ in kind and there may also be some relationship between the use of a particular kind of dispositional or objective idea, or of personal involvement and social success with peers. Furthermore, the fact that one group of subjects uses a certain broad category more frequently than does another group does not necessarily mean that all the variations within the category concerned are used more frequently. It is possible that some dimensions of the same category are used more frequently by the other group. For this reason, at this stage of content analysis, we were concerned with developing a suitable set of subcategories to cover all different variations in the three broad categories.

The results reported by Richardson et al (1961) and Campbell and Yarrow (1961) also indicate a need for dividing our three broad categories into some subcategories and comparing our

popular and unpopular subjects with reference to these subcategories as well as to the three broad categories. Although Campbell and Yarrow did not include descriptions referring to physical characteristics - because of their low frequency - they reported that descriptions concerning physical appearance, dressing etc., occurred more frequently among popular children, but not significantly so. This finding is contradictory to our expectation that categories referring to external qualities should be used less frequently by popular children. On the other hand, Richardson et al (1961) reported that unpopular children used more aggressive ideas, but since they did not report their findings in detail, it is not possible to know the nature of the aggressive ideas expressed by their unpopular children. However, if the ideas referred to the nature of the persons described, this would also contradict our expectation that unpopular children make use of dispositional categories less frequently. Dividing our three broad categories into subcategories would help to clarify this point.

1. Content categories:

The categories employed in content analysis II were developed inductively from an inspection of the data. All the ideas found during the procedure of content analysis I were written on separate pieces of paper and sorted according to the characteristics they referred to. In the beginning, the categories were kept as broad as possible. In other words, only those ideas referring to exactly the same type of characteristic of stimulus persons were grouped together. This procedure showed that 41

categories were necessary to classify all the dimensions used. However due to their low frequency some of the categories had to be combined. This regrouping was made on the basis of similarity in the nature of characteristics referred to. For example, ideas referring to the age, race, nationality, spatial location of stimulus persons were at first classified into different categories. However an inspection of the frequency of occurrence of each category showed that some categories do not occur frequently enough to permit statistical analysis, so all the categories mentioned above were regrouped into the category of "general information". The procedure of regrouping yielded 21 categories. The categories and their definitions are presented in table 5.1. To illustrate the procedure of content analysis two examples are also presented following table 5.1.

Table 5.1 Content categories and their definitions

I. Dispositional Descriptions

- | | |
|--------------------------------|---|
| 1. Behavioural characteristics | Ideas referring to characteristic behavioural habits, characteristic reactions to others, characteristic reactions to specific situations. For example: "He keeps annoying everybody". "He is always showing off". "He keeps talking". "She gets angry when she loses". |
| 2. Aggression | Ideas referring to verbal or physical aggression. This category includes any mention of fighting, hitting, kicking, pushing, shouting, calling names etc. |
| 3. Personality characteristics | Ideas referring to general personality characteristics without any specific reference |

Table 5.1 continued

	to self or others. For example "honest", "friendly", "kind", "bad tempered" but not "kind to me" or "friendly with"
4. Evaluation	Evaluations of stimulus persons without any specific reference. This category includes both evaluations made against social norms and the describer's personal evaluation of the described. For example; "nice", "good", "horrible", "clean", "dirty" but not "nice to me" or "nice to x".
5. Intellectual abilities	Ideas referring to mental skill and school achievements "he is brainy", "she is clever", "she is good at sums".
6. Physical abilities	Ideas referring to physical skills and achievements for example; "He can jump highest". "She is a very good swimmer", "He is good at football".
7. Interests, preferences	Ideas referring to interests, preferences, likes and dislikes of the described; "She likes animals", "He is interested in writing stories", "He likes ball games".
II. Objective Descriptions.	
8. Physical descriptions	Ideas referring to appearance, clothing, physical conditions. "He is tall", "She has got blue eyes", "He is strong", "He doesn't wear school uniform".
9. General information	Ideas referring to spatial locations, age, race, nationality, religion. For example, "He is 8". "She is Italian", "He goes to primary 3", "He lives at ...", "She sits next to me", "She is in my class".
10. Interpersonal relations	Ideas referring to friends, playmates of the described,

Table 5.1 continued

	Behaviour and attitudes of other people towards the described person. Others' opinion of him. The effects and consequences of the described behaviour on other people. For example; "He plays with x", "x doesn't like her", "Her best friend is x", "He gets everybody into trouble".
11. Interpersonal skill	Ideas referring to the attitude of others toward the described in general. "He is popular", "Everybody likes him", "Nobody really likes him".
12. Relation with family	Any mention of brother, sister, parents, relatives. For example; "He has got a wee brother", "His brother is always with him", "She often goes to see her grannies", "Her father takes us to the Safari Park".
13. Routine activities	Ideas referring to regular activities. For example; "He plays tennis every Saturday", "She goes to London every summer", "He buys his comical book every week".
14. Possessions	Ideas referring to possessions of the described. For example; "She has got lots of toys", "He has got lots of pets", "He has got a railway set".
15. Actual incidences	Ideas referring to things which have actually happened or have been said or done. For example; "He went to see a Rangers' game last week", "She said she is not having a party".
16. Comparison of the described with self and others	Ideas comparing the described with self and others. For example; "He is taller than me", "She is not as nice as x", "He is the fastest runner in class".
17. The described's opinion of himself	Ideas referring to what the persons being described say about themselves. For example; "He says he can beat everybody", "She says she is a nice person".

Table 5.1 continued

III. Personal Involvements

- | | |
|---|---|
| 18. The described's attitudes and behaviour towards, and their opinions of the described | Ideas referring to what the persons being described think of the describer; how they behave towards the describer. For example; "She shares things with me", "He is always nice to me". "He thinks I am a fool". |
| 19. The describer's attitudes and behaviour towards and their opinions of the persons being described | Ideas referring to what the describer thinks of the described. The attitudes and behaviour of the describer towards the described. For example; "I like him", "She is my best friend", "I am always nice to her". |
| 20. Relationship and interaction between the describer and the described. | Ideas referring to activities engaged in together, types and frequency of interaction, "We play together", "He always comes to my house and I always go to his", "She invites me to her birthday party". |

IV. Unclassifiable Descriptions

- | | |
|--------------------------|---|
| 21. Unclassifiable ideas | Ideas which cannot be classified to any of the categories or ideas referring to somebody or something other than the described. |
|--------------------------|---|

Examples:

Descriptions of one liked and one disliked child provided
by a 10 year old boy:

	<u>Categories</u>
I like him	19
because he is nice	4

Examples continued

	<u>Categories</u>
He is kind and	3
He is not greedy	3
He is just a good friend	19
We always play football together	20
and he sits next to me in class	9
he also lives across the street from me	9
I don't like him because	19
he talks too much	1
he is always talking	1
you cannot get on with your work	10

Descriptions of one liked and one disliked child provided by a 10 year old girl:

She is in primary 2	9
She has got blue eyes	8
and her skin is kind of reddish	8
I've been to her party	20
All the girls in the class were there	10
I am going to invite her to my party	20
because she is always nice to me	18

I don't like her because	19
She is not nice	4
She shouts at you and	2
She kicks you and that	2
She sometimes calls you names	2

2. Reliability

The reliability with which ideas could be assigned to one of the 21 categories was assessed by comparing the categorizations of the investigator and two independent judges, who were not the same as those who took part in content analysis I. The ideas found during the procedure of content analysis I were listed on a separate sheet for each subject and categorized independently by the investigator and the two new judges. The agreement found between the investigator and each of the judges was 88.8% and 90.6% respectively. The agreement between the two independent judges was 87.5%, overall agreement among the three independent categorizations being 88.9%. In other words, the investigator and one judge classified 88.8% of the 2671 ideas into the same categories, while 90.6% of the 2691 ideas were classified into the same categories by the investigator and judge II. 87.5% of the 2671 ideas were classified into the same categories by the two independent judges. The number of ideas coded into different categories by the investigator and judge I and judge II were 238 and 251; and 321 ideas were categorized differently by the two independent judges.

As in the case of content analysis I, the categories to which ideas were assigned in cases of disagreement were decided according to

majority decision. Since a very high proportion - 98.2%-of the ideas were assigned to the same categories by at least two of the three judges, there were few occasions on which difficulty was experienced in reaching a majority decision. However, 46 ideas were coded into three different categories by the three coders, so a fourth opinion was sought. The fourth judge was asked to choose one of the three categories suggested by the other judges and his decision was considered final.

3. Results

In content analysis II, the relationship between category usage and social success with peers was examined by nonparametric methods, because the distributions of some of the content categories were skewed. The frequency of occurrence of each category in the descriptions by popular and unpopular children were compared using the Mann-Whitney U Test.

However, since the results of content analysis I revealed some age and sex differences in category usage and some differences in the type of categories used to describe liked and disliked stimulus persons, it was necessary to examine the effect of popularity upon frequency of usage of each category in different age and sex groups and across different stimulus persons. For this reason in addition to general comparisons between popular and unpopular children, the following comparisons were also made using the Mann-Whitney U Test: separate comparisons between popular and unpopular children for their descriptions of liked and disliked stimulus persons, comparisons between popular and unpopular children in each age group, comparisons between popular and unpopular boys; and between popular and unpopular girls.

In addition to the comparisons between popular and unpopular children, the effects of age, sex and like/dislike for the stimulus person on the use of each category were examined independently of popularity. These analyses were performed, as in the case of content analysis I, to provide further evidence about the effects of these factors on category usages. The frequency of occurrence of each category in the descriptions of boys and girls regardless of their popularity and age; and the frequency of occurrence of each

category in the descriptions of liked and disliked stimulus persons regardless of subjects' age, sex and popularity were compared using the Mann-Whitney U Test. The effect of age on the use of each category was examined using the Kruskal-Wallis one way analysis of variance - see Siegel, 1956.

Analysis of the effect of popularity, sex, age, and like/dislike for stimulus persons on 21 content categories and additional comparisons between popular and unpopular children for each content category involved altogether 441 separate nonparametric tests. There was a danger, therefore, that a number of significant differences might be obtained by chance. One possible way to reduce this type of error to a minimum was to specify a stringent level of significance before the analysis was attempted. Specifying a significance level beforehand, however, could lead to the rejection of null hypotheses when there were constant but statistically lower significant differences between popular and unpopular children in their use of certain categories. A further problem associated with examining the effects of popularity, age and sex by means of separate nonparametric tests was the dependency of the results as the different comparisons were based on reanalyses of the same data. However as these data were not suitable for parametric analyses this problem was largely inevitable. The results should be examined bearing these problems in mind.

a. The effect of popularity on the frequency of usage of content¹⁰⁶.
categories:

Overall effect of popularity on category usage:

The effect of popularity upon frequency of usage of each category was first examined regardless of age and sex of subjects. Table 5.2 shows the frequency of occurrence of each category for all, for liked and for disliked stimulus persons.

1. All stimulus persons

Popularity had a significant effect on the frequencies of usage of nine categories. Four categories by popular and five categories by unpopular children were used more frequently.

Categories used more frequently by popular children

Categories	Value of z	Significance level
Behavioural characteristics	3.04	0.001
Personality characteristics	4.18	0.001
Evaluations	4.10	0.001
Interests, Preferences, likes and dislikes	3.74	0.001

Categories used more frequently by unpopular children

Physical descriptions	3.08	0.001
General information	2.49	0.01
Relationships with family members and relatives	2.38	0.01
Aggression	2.50	0.01
Actual incidents	1.73	0.05

The categories used more frequently by popular children were all subcategories of dispositional descriptions. Four out of five categories used significantly more frequently by unpopular children were subcategories of objective descriptions. Only one

dispositional category (aggression) was used more frequently by unpopular children. No subcategory of personal involvement was used significantly more frequently by either of the group.

Table 5.2 Frequency of occurrence of each content category in the descriptions of popular and unpopular children.

Stimulus Persons Described:	Liked (N =123) (107)		Disliked (N = 96) (91)		All (N =219) (198)	
Children describing the SPs	Pop. (N = 41)	Unpop. (N= 46)	Pop. (N = 38)	Unpop. (N = 34)	Pop. (N = 41)	Unpop. (N = 36)
Categories:						
I. <u>Dispositional descriptions</u>						
1. Behavioural characteristics.	73**	25	112***	41	185***	66
2. Aggression	3	12	92	134**	95	146**
3. Personality characteristics	100***	17	24***	2	124***	19
4. Evaluations	55***	14	55***	13	110***	27
5. Interests, preferences, likes and dislikes	74***	20	4	1	78***	21
6. Intellectual abilities	31	19	9	5	40	24
7. Physical abilities	22	29	6	7	28	36
II. <u>Objective descriptions</u>						
8. General information	53	127***	20	31	73	158***
9. Physical descriptions	70	155***	15	41	85	196***
10. Interpersonal Relations	27	25	12	12	39	37

Table 5.2 continued

CATEGORIES	LIKED		DISLIKED		ALL STIMULUS PERS.	
	Popular	Unpop.	Popular	Unpop.	Popular	Unpopular
11. Interpersonal skill	19	5	7	2	27	7
12. Relationships with family members and relatives	11	48**	1	20*	12	68**
13. Routine activities	17	21	7	9	24	30
14. Possessions	4	13*	1	1	5	14
15. Actual incidences	16	44*	9	9	25	53*
16. Comparisons of stimulus persons with self and others	14	18	8	10	22	28
17. The described's opinion of himself/herself	-	-	7	-	7	-
III. Personal involvement						
18. Attitudes and opinions of stimulus person toward the describer	32	34	28	27	60	61
19. Attitudes and opinions of the describer toward the described	50**	24	24	15	73	39

Table 5.2 continued

CATEGORIES	LIKED		DISLIKED		ALL STIMULUS PERS.	
	Popular	Unpop.	Popular	Unpop.	Popular	Unpopular
20. Relationships and interactions between the describer and the described	105	84	8	19	113	103
IV. Unclassified ideas	19	22	10	13	29	35

(*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$).

2. Liked stimulus persons

Popularity had a significant effect on the frequency of usage of 10 categories in the descriptions of liked stimulus persons. Each group used 5 categories significantly more frequently than the other.

Categories used more frequently by popular children.

Categories	Value of z	Significance level
Personality characteristics	3.93	0.001
Evaluations	3.08	0.001
Interests, preferences, likes and dislikes	2.94	0.001
Behavioural characteristics	2.41	0.01
Attitudes and opinions of the describer toward the described	2.07	0.01

Categories used significantly more frequently by unpopular children

Physical descriptions	3.13	0.001
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Categories	Value of z	Significance level
General information	3.76	0.001
Relationship with family members and relatives	2.39	0.01
Actual incidents	1.88	0.05
Possession	1.71	0.05

All the categories used more frequently by unpopular children were subcategories of objective descriptions. 4 out of 5 categories used more frequently by popular children were subcategories of dispositional descriptions. One category (attitude and opinion of the describer toward the described) was a subcategory of personal involvement.

3. Disliked stimulus persons:

Popularity had a significant effect on the use of 5 categories. Popular children used 3 categories more frequently and 2 categories were used more frequently by unpopular children.

The categories used more frequently by popular children.

Categories	Value of z	Significance level
General personality characteristics	3.75	0.001
Evaluation	3.36	0.001
Behavioural characteristics	3.15	0.001

The categories used more frequently by unpopular children

Aggression	2.10	0.01
Relationship with family members and relatives	1.70	0.05

All the categories used by popular children were subcategories of dispositional descriptions. Unpopular children used one dispositional and one subjective subcategory more frequently.

(b) Popular boys v. unpopular boys:

Here we were concerned with comparing popular and unpopular boys in their use of each of the content categories. The frequency of occurrence of each category in the descriptions of popular and unpopular boys is presented in table 5.3.

1. All stimulus persons.

Popular boys used four categories significantly more frequently. However no category was used significantly more frequently by unpopular boys.

The categories used more frequently by popular boys

Categories	Value of U	Significance level
Personality characteristics	72	0.002
Behavioural characteristics	93	0.02
Evaluation	67	0.002
Interests, preferences, likes and dislikes	112	0.5

All the categories used by popular boys were sub-categories of dispositional descriptions. Although unpopular boys used no category significantly more frequently. The values of U obtained for the categories of "General information", "Aggression", "Attitudes and opinions of stimulus person toward the described" were very close to the 0.05 level of significance.

Table 5.3 The frequency of occurrence of each category in the descriptions of popular and unpopular boys.

CATEGORIES	LIKED		DISLIKED		ALL STIMULUS PERS.	
	Popular	Unpop.	Popular	Unpop.	Popular	Unpopular
1	29	16	72*	19	101**	35
2	-	11	56	78	56	89
3	49**	7	13**	-	62***	7
4	21	9	28***	4	49***	13
5	34	15	1	1	35*	16
6	25	15	9	3	34	18
7	20	28	6	7	26	35
8	18	45	9	14	27	59
9	24	52	5	11	29	63
10	11	16	9	10	20	26
11	14	5	3	1	17	6
12	4	8	1	4	5	12
13	14	13	5	5	19	18
14	2	5	1	-	3	5
15	8	19	4	6	12	25
16	9	14	4	6	13	20
17	-	-	2	-	11	-
18	9	21	5	13*	14	34
19	27	15	10	7	37	22
20	55	42	3	9	58	51
21	6	10	2	7	8	17

(*** p < .002 ** p < .02 * p < 05)

2. Liked stimulus persons

Popularity had a significant effect on the use of only one category. Popular boys used the category of "Personality characteristics" significantly more frequently than did unpopular boys ($U = 83$ $p < .02$).

However the effect of popularity on the use of the categories of "Evaluations," "Interests, preferences, likes and dislikes" and "General information" was almost significant. The first two categories tended to be used more frequently by popular boys, while the last category was used more frequently by unpopular boys.

3. Disliked stimulus persons

Three categories by popular and one category by unpopular boys were used significantly more frequently.

The categories used more frequently by popular boys

Categories	Value of U	Significance level
Evaluations	57.5	0.002
Personality characteristics	76.5	0.02
Behavioural characteristics	93	0.05

The category used more frequently by unpopular boys

Attitudes and opinions of stimulus

person toward the described	93	0.05
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All the categories used more frequently by popular boys were all subcategories of dispositional descriptions. The category used more frequently by unpopular boys was a subcategory of personal involvement.

(c) Popular Girls v. unpopular Girls.

Here, we were concerned with the differences between popular and unpopular girls in their use of the content categories. The frequency of occurrence of each of the content categories in the descriptions of popular and unpopular girls is presented in table 5.4.

1. All stimulus persons.

Popularity had a significant effect on the use of ten categories. Four categories by popular and six categories by unpopular girls were used significantly more frequently.

The categories used more frequently by popular girls

Categories	Value of z	Significance level
Personality characteristics	2.99	0.001
Behavioural characteristics	3.18	0.001
Evaluations	3.18	0.001
Interests, preferences likes and dislikes	3.75	0.001

The categories used more frequently by unpopular girls

General information	3.65	0.001
Relations with family members and relatives	3.26	0.001
Aggression	3.05	0.001
Physical descriptions	3.03	0.001
Actual incidences	2.01	0.05
Possessions	1.88	0.05

Table 5.4. The frequency of occurrence of each category in the descriptions of popular and unpopular girls.

CATEGORIES	LIKED		DISLIKED		ALL STIMULUS PERS.	
	Popular	Unpop.	Popular	Unpop.	Popular	Unpopular
1	44**	9	40	22	84***	31
2	3	1	36	57	39	58***
3	51***	10	11*	2	62***	12
4	34**	5	27*	9	61***	14
5	40***	5	3	-	43***	5
6	6	4	-	1	6	5
7	2	1	-	-	2	1
8	35	82***	11	17	46	99***
9	46	103***	10	30	56	133***
10	16	9	3	2	19	11
11	5	-	4	1	9	1
12	7	40***	-	16	7	56***
13	3	8	2	4	5	12
14	2	8*	-	1	2	9*
15	8	25	5	3	13	28*
16	5	4	4	4	9	8
17	-	-	5	-	5	-
18	23	13	23	14	46	27
19	23	9	13	8	36	17
20	50	42	5	10	55	52
21	10	10	8	6	18	16

(*** p < .001 ** p < .01 * p < .05)

All the categories used by popular girls were subcategories of dispositional descriptions; and all the categories, except one (aggression) used by unpopular girls were subcategories of objective descriptions.

2. Liked stimulus persons.

Four categories by popular and four categories by unpopular girls were used significantly more frequently.

The categories used more frequently by popular girls

Categories	Value of z	Significance level
Personality characteristics	3.05	0.001
Interests, preferences, likes and dislikes	3.54	0.001
Behavioural characteristics	2.86	0.01
Evaluations	2.47	0.01

The categories used more frequently by unpopular girls

General information	3.60	0.001
Relations with family members and relatives	3.12	0.001
Physical descriptions	3.07	0.001
Possessions	1.88	0.05

The categories used more frequently by popular girls were all subcategories of dispositional descriptions and the categories used by unpopular girls were all subcategories of objective descriptions.

3. Disliked stimulus persons

Popularity had a significant effect on the use of two categories. Popular girls used the categories of "Personality characteristics" ($U = 102$ $p < .05$) and "Evaluations" ($U = 104$ $p < .05$), significantly more frequently than did unpopular girls.

None of the categories was used significantly more frequently by unpopular girls. However, the value of U obtained for the category of "Relations with family members and relatives" was close to the 0.05 level of significance.

(d) Differences between popular and unpopular children of the same age in their category usage:

Here, we examined the differences between popular and unpopular children in their category usage for each age group separately.

8 year old children

Table 5.5. shows the frequency of occurrence of each content category in the descriptions of 8 year old popular and unpopular children.

1. All stimulus persons:

Popularity had a significant effect on the use of two categories. Popular children used the category of "Evaluations" more frequently than did unpopular children ($U = 42$ $p < .05$). The category of "General information" was used more frequently by unpopular children ($U = 40$ $p < .05$).

Popularity had almost a significant effect on the use of the categories of "personality characteristics" and "physical descriptions". Popular children tended to use the former, while unpopular children tended to use the latter category.

2. Liked stimulus persons.

Popularity affected the use of the same two categories. The category of "Evaluation" was used more frequently by popular children ($U = 35$ $p < .02$) and unpopular children used the category of "General information" more frequently ($U = 39.5$ $p < .05$).

Table 5.5. The frequency of occurrence of each category in the descriptions of popular and unpopular 8 year old children.

CATEGORIES	LIKED		DISLIKED		ALL STIMULUS PERS.	
	Popular	Unpop.	Popular	Unpop.	Popular	Unpopular
1	4	11	34	18	38	29
2	-	3	26	59	26	62
3	14	5	2	-	16	5
4	12**	6	11	6	23*	12
5	15	7	-	-	15	7
6	8	1	6	1	14	2
7	11	5	-	-	11	-
8	13	66	2	18	15	84*
9	8*	60	1	22	9	82
10	2	7	6	7	8	14
11	-	-	-	1	-	1
12	-	20	-	3	-	23
13	7	15	-	2	7	17
14	2	8	-	-	2	8
15	5	27	4	4	9	31
16	-	3	4	5	4	8
17	-	-	1	-	1	-
18	12	18	10	22	22	40
19	8	13	7	8	15	21
20	36	44	5	7	41	51
21	2	14	3	6	5	20

(** $p < .02$ $p < .05$)

3. Disliked stimulus persons.

Popularity did not have a significant effect on the use of any of the categories. However, the values of U obtained for the categories of "Behavioural characteristics" and "Aggression" were close to the 0.05 level of significance. The category of "Behavioural characteristics" tended to be used more frequently by popular children. Unpopular children tended to use the category of "Aggression" more frequently.

9 year old children

Table 5.6 shows the frequency of occurrence of each category in the descriptions of popular and unpopular 9 year old children.

1. All stimulus persons

The effect of popularity was significant on the use of five categories. Three categories by popular and two categories by unpopular children were used significantly more frequently.

The categories used more frequently by popular children

Categories	Value of U	Significance level
Evaluations	32.5	0.02
Personality characteristics	34	0.05
Behavioural characteristics	40.5	0.05

Table 5.6. The frequency of occurrence of each category in the descriptions of popular and unpopular 9 year old children.

CATEGORIES	LIKED		DISLIKED		ALL STIMULUS PERS.	
	Popular	Unpop.	Popular	Unpop.	Popular	Unpopular
1	34	14	28	9	62*	23
2	3	4	43	46	46	50
3	36**	5	10**	-	46*	5
4	28*	3	19	4	47**	7
5	22	8	-	-	22	8
6	9	11	1	1	10	12
7	1	15	-	1	1	16
8	13	26**	11	10	24	36**
9	26	44**	3	11	29	55*
10	20	8	2	6	22	14
11	3	5	-	1	3	6
12	7	12	1	10	8	22
13	5	3	5	5	10	8
14	1	4	1	1	2	5
15	8	10	4	4	12	14
16	10	11	4	4	14	15
17	-	-	-	-	-	-
18	12	13	14	3	26	16
19	25	6	5	1	30	7
20	33	25	3	5	36	30
21	14	4	6	7	20	11

(** p < .02 * p < .05)

The categories used more frequently by unpopular children

Physical descriptions	29,5	0.02
General information	38	0.05

Popularity almost had a significant effect on the use of the category of "Interests, preferences, likes and dislikes". The value of U obtained was very close to 0.05 level of significance.

2. Liked stimulus persons.

Popularity affected the use of four categories. Two categories by popular and two categories by unpopular children were used more frequently.

The categories used more frequently by popular children

Categories	Value of U	Significance level
Personality characteristics	36	0.02
Evaluations	39.5	0.05

The categories used more frequently by unpopular children

General information	34.5	0.02
Physical descriptions	36.5	0.02

The categories of "Behavioural characteristics" and "Interests, preferences, likes and dislikes" were also used noticeably more frequently by popular children. However, the effect of popularity on the use of these categories was not statistically significant.

3. Disliked stimulus persons

Popularity had a significant effect on the use of only one category. The category of "Personality characteristics" was used significantly more frequently by popular children ($U = 32$ $p < .02$).

10 year old children

Table 5.7 shows the frequency of occurrence of each category in the descriptions of 10 year old popular and unpopular children.

1. All stimulus persons:

Popularity had a significant effect on the use of six categories. Popular children used five categories more frequently than did unpopular children and one category was used more frequently by unpopular children.

The categories used more frequently by popular children

Categories	Value of U	Significance level
Interests, preferences, likes and dislikes	27	0.02
Personality characteristics	27	0.02
Behavioural characteristics	28	0.02
Evaluations	36	0.05
Interpersonal skill	37	0.05

Table 5.7 The frequency of occurrence of each category in the descriptions of 10 year old popular and unpopular children.

CATEGORIES	LIKED		DISLIKED		ALL STIMULUS PERS.	
	Popular	Unpop.	Popular	Unpop.	Popular	Unpopular
1	35*	5	50*	9	85**	14
2	-	5	23**	28	23	33*
3	50**	8	12*	-	62**	8
4	15	5	25**	3	40*	8
5	37**	5	4	1	41**	6
6	14	7	2	3	16	10
7	10	10	6	6	16	16
8	27	36	7	3	34	39
9	37*	50	11	8	48	58
10	5	2	4	7	9	9
11	16	1	7	-	23*	-
12	4	16	0	7	4	23
13	5	1	2	2	7	3
14	1	1	-	-	1	1
15	3	7	1	1	4	8
16	4	4	-	1	4	5
17	-	-	6	-	6	-
18	8	3	4	2	12	5
19	11	5	17	6	28	11
20	36	16	-	7	36	23
21	-	2	1	-	1	2

The categories used more frequently by unpopular children

Aggression	24.5	0.02
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Popular children used four dispositional and one objective subcategories more frequently. The category used by unpopular children was a subcategory of dispositional descriptions.

2. Liked stimulus persons:

Popularity had a significant effect on five categories. Three categories by popular and one category by unpopular children were used significantly more frequently.

The categories used more frequently by popular children

Categories	Value of U	Significance level
Interests, preferences, likes and dislikes	25.5	0.02
Personality characteristics	29	0.02
Behavioural characteristics	31.5	0.05

The category used more frequently by unpopular children

Physical descriptions	37	0.05
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The categories used more frequently by popular children were all subcategories of dispositional descriptions and the category used by unpopular children was a subcategory of objective descriptions.

3. Disliked stimulus persons:

The frequency of usage of four categories was affected by popularity. Three of the four categories were used more frequently by popular children and unpopular children used one category more frequently.

The categories used more frequently by popular children

Categories	Value of U	Significance level
Evaluations	21	0.02
Behavioural characteristics	26	0.05

The category used more frequently by unpopular children

Aggression	23	0.02
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All of the four categories on which popularity had a significant effect were subcategories of dispositional descriptions.

- e. The effect of age, sex and like/dislike for stimulus persons on category usage

Table 5.8 shows the frequency of occurrence of each category in the description given by different age and sex groups and in the descriptions of liked and disliked stimulus persons.

1. Age differences in category usage.

The effect of age of subjects upon frequency of usage of the categories was examined using the Kruskal Wallis one way analysis of variance.

Age of subjects had a significant effect on six of the twenty-one content categories. Three categories increased, two categories decreased and one category showed a curvilinear relation with age.

Categories showing an increase with age

Categories	H	d.f.	Significance level
Personality characteristics	13.93	2	0.001
Interests, preferences, likes and dislikes	7.69	2	0.05
Interpersonal skill	7.46	2	0.05

Categories showing a decrease with age

Attitudes and opinions of the stimulus person toward the described	14.97	2	0.001
Actual incidents	13	2	0.01

The category showing a curvilinear relationship with age

Unclassifiable ideas	10.2	2	0.01
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Two of the three categories showing an increase with age were subcategories of dispositional descriptions and one category (interpersonal skill) was a subcategory of objective descriptions. One objective and one personal involvement subcategory showed a decrease with age. The relationship between

Table 5.8. The frequency of occurrence of each category in each age and sex groups and in the descriptions of liked and disliked stimulus persons.

CATEGORIES	AGE			SEX		LIKE/DISLIKE	
	8 yrs.	9 yrs.	10 yrs.	Boys	Girls	Liked	Disliked
1	77	92	102	143	128	100	171***
2	107	97	57	163*	98	14	247***
3	24	58	72***	70	84	124***	30
4	38	56	50	65	79	73	71
5	28	33	50*	54	57	99***	12
6	22	24	27	54*	19	56*	17
7	24	17	34	70***	5	59*	16
8	111	67	73	99	152**	196***	55
9	98	98	112	100	208**	244***	64
10	24	37	18	47	32	45	34
11	2	9	24*	25	10	24	11
12	25	31	27	18	65*	59	24
13	28	17	10	38*	17	40	15
14	12	7	2	9	12	19*	2
15	58	29	12**	50	49	71*	28
16	18	33	9	38	22	39	21
17	1	1	6	2	6	0	6
18	97	47	19***	76	87	97	66
19	46	44	41	69	62	84*	47
20	96	62	58	110	106	190***	26
21	33	36	3**	28	44	45	27

(*** p < .001 ** p < .01 * p < .05)

the category of unclassifiable ideas and age was curvilinear. Nine year old children used this category more frequently than the other two groups. However there was a noticeable difference between 10 year old and 8 and 9 year old children.

(2) Sex difference in category usage

Seven of the twenty-one categories showed significant sex differences. Four categories by boys and three categories by girls were used significantly more frequently.

The categories used more frequently by boys

Categories	Value of z	Significance level
Physical abilities	3.14	0.001
Intellectual abilities	1.94	0.05
Aggression	1.86	0.05
Routine activities	1.88	0.05

The categories used more frequently by girls

General information	2.15	0.01
Physical descriptions	2.10	0.01
Relations with family members and relatives	1.94	0.05

The categories used more frequently by girls were all subcategories of objective descriptions, while boys used one objective and three dispositional subcategories more frequently.

(3) The effect of like/dislike for stimulus person on category usage.

The effect of relations between the describer and the described showed the largest effect as regards the frequency of

usage of differential categories. Ten categories were used more frequently in the descriptions of liked stimulus persons and two categories appeared significantly more frequently in the descriptions of disliked stimulus persons.

The categories used more frequently in the descriptions of liked stimulus persons

Categories	Value of z	Significance level
Relationship and interactions between the describer and the described	6.16	0.001
General information	5.13	0.001
Interests, Preferences, likes and dislikes	4.47	0.001
Physical descriptions	3.78	0.001
Personality characteristics	3.19	0.001
Physical abilities	1.97	0.05
Intellectual abilities	1.92	0.05
Possessions	1.79	0.05
Attitudes and opinions of the describer toward the described	1.86	0.05
Actual incidents	1.97	0.05

The categories used more frequently in the descriptions of disliked stimulus persons.

Aggression	8.48	0.001
Behavioural characteristics	3.23	0.001

4. DISCUSSION

Although the results generally confirmed the findings of content analysis I as predicted, content analysis II added some new dimensions to the relationship between social success with peers and the perceptual categories used in perceiving them. Firstly, the results have shown that popularity is positively related to the use of some dispositional categories, but not to some others. In other words, while some dispositional categories were used significantly more frequently by popular children, popular and unpopular children did not differ in their use of all dispositional categories. Secondly, the use of one of the dispositional categories (aggression), was in fact, negatively rather than positively related to popularity. Thirdly, although unpopular children used some objective categories in general significantly more frequently than did popular children, unpopularity with peers did not seem to be constantly related to the use of any particular objective category.

Popular children showed a rather constant tendency to use four of the seven dispositional categories more frequently than did unpopular children. These categories were "Personality characteristics", "Behavioural characteristics", "Evaluations" and "Interests, preferences, likes and dislikes". With two noticeable exceptions, the effect of popularity on the use of these categories was significant in most analyses. The first exception was that eight year old popular children used only the category of "Evaluations" more frequently than did their unpopular age-mates. Secondly, popular children did not use the

category of "interests, preferences, likes and dislikes" significantly more frequently in any of the analyses concerning the descriptions of disliked stimulus persons.

Since the effect of popularity was examined in different age and sex groups and across the descriptions of different stimulus persons, there were, of course, slight variations in the results obtained depending on the age and sex group in question and from the descriptions of one stimulus person group to another. However, popular children used these four categories more frequently in most cases and the variations were generally on the same level of significance and sometimes in the form of the absence of significant results rather than in the form of differing results. None of the analyses concerning the use of the categories of "Physical abilities" and "Intellectual abilities" yielded significant results.

The finding that popularity is positively related to the use of only some of the dispositional categories provides further support to the suggestion that the relationship between perception and effectiveness in interpersonal relations lies in the ability or inability of the individual in perceiving those qualities of others which have descriptive and predictive potential when applied to their behaviour. Although perception of dispositional qualities, in general, enables the perceiver to understand the actions of others, as far as their predictive potential is concerned, some dispositional qualities have limited value. This probably explains

why popularity was not related to the perception of abilities.

Heider (1958) argued that in order to understand the actions of others and thus to predict future events, the perceiver refers actions to relatively invariant underlying characteristics of the actor. In Heider's analysis of action, "ability" is a permanent quality of the actor and a necessary condition for purposeful action. However, Heider argues that "ability" is a necessary but not a sufficient condition for action and unless it is supported by some other condition, such as intention or environmental forces, its existence does not guarantee an action outcome. Thus it can be argued that while abilities have descriptive potential, their predictive value is limited. Since effective interpersonal relations depend upon the prediction of those qualities which have predictive as well as descriptive potential, it is not surprising that popular and unpopular children did not differ in their use of the categories of "Physical abilities" and "Intellectual abilities".

"Personality characteristics", "Behavioural characteristics", "Interests, preferences likes and dislikes" of individuals, on the other hand, are permanent qualities which predispose them to act in certain ways under certain conditions. Perception of such qualities enables the perceiver to see underlying similarities, regularities and consistencies in superficially diverse actions of others and thus to predict their actions in different situations.

It should be noted, however, that except for those ideas referring to personality characteristics, the dispositional ideas used by our subjects were generally at a low level of abstraction. Even the personality terms used were extremely global ones, such as "kind", "good", "good tempered". The other dispositional ideas used were generally closely tied to concrete behaviour; for example - "He keeps talking in class", "She likes going out for a walk". This is not surprising since previous research has shown that it is not before adolescence that children become capable of using more abstract and better articulated dispositional terms. Nevertheless, the results have clearly demonstrated that within the limits of inferential skill imposed by their age, popular children refer to the dispositional qualities of their peers more frequently than unpopular children.

The finding that, among the dispositional categories, only "Evaluations" was used more frequently by eight year old popular children may be explained in terms of the inferential skill children possess at the age of eight. A number of studies of the Piagetian type have demonstrated that the transition from egocentric to socialised thinking takes place between seven and eight years and that egocentric thinking, at least to some extent, still prevails at the age of eight. Egocentric orientation limits the ability to comprehend the permanent dispositional qualities of others and therefore ideas referring to such qualities occur less frequently in the descriptions given by younger children. This trend was also observed in the descriptions given by our eight year old

subjects and probably for this reason, despite the fact that popular children used all dispositional categories more frequently, no other statistically significant result was obtained.

Egocentric orientation, on the other hand, makes the child more inclined to categorize other people into those he likes and those he does not and to apply vague generalized evaluations such as nice, clean, dirty (Livesley and Bromley 1973). Therefore, as shown by the present results, such ideas are likely to occur more frequently in the descriptions given by younger children. Livesley and Bromley (1973) argue that such "moralistic" evaluations are the origins of many dispositional terms used later in childhood. This suggests that, as the results indicated, eight year old popular children are more likely than their unpopular age-mates to perceive dispositional qualities later in their childhood. However, at their present age they use such qualities in their descriptions to the extent that their inferential skills allow them.

Popular children used the category of "Interests, preferences, likes and dislikes" significantly more frequently in their descriptions of liked stimulus persons, but not in their descriptions of disliked stimulus persons. The significant results obtained in the analysis concerning all stimulus persons were also largely due to the popular children's frequent use of such ideas in their descriptions of liked stimulus persons. The fact that the

relationship between popularity and the use of such ideas was significant only in the case of liked stimulus peers suggests that perception of such qualities is especially important in sustaining existing relations. The effect of perception of interests, preferences, likes, dislikes, on sustaining existing relations may be seen in terms of exchange theories (Thibaut and Kelley, 1959; Homans, 1961). Briefly, exchange theories suggest that all interpersonal relations are like economic bargains or the exchange of gifts. The relationship continues as long as both sides receive enough reward from it. An awareness of interests, preferences, likes and dislikes of their friends on the part of popular children probably enables them to take these factors into account when interacting with them or when organising activities, and thus to make the relations more rewarding for their peers. Unpopular children, on the other hand, are likely to be less rewarding in their relations with their friends, since they are less aware of their interests, preferences, likes and dislikes. Instead, they are more likely to interact on the basis of their own preferences. The following statements which were found frequently in the descriptions of unpopular children given by our subjects show this attitude very clearly. "He wants us to play whatever he wants to play". "She talks about things I am not interested in". Probably it is this attitude which makes unpopular children less efficient in sustaining their friendship relations.

The general comparisons between popular and unpopular children showed that unpopular children used six categories more

frequently than did popular children. These categories were "Physical descriptions", "General information", "Relationship with family members and relatives", "Aggression", "Actual incidents" and "Possessions". As predicted, all the categories, except one (aggression) used by unpopular children were objective categories. The use of the categories of "Physical descriptions" and "General information" showed the most consistent relationship to unpopularity. Most of the analyses concerning the use of these two categories yielded significant results.

However, the additional comparisons made between popular and unpopular children in each age and sex group did not yield consistently significant results for the six categories. The number of categories for which significant results were obtained varied considerably from one age group to another and from one sex group to the other. For example; while unpopular girls used all six categories significantly more frequently than did popular girls, none of these categories was used significantly more frequently by unpopular boys. Nevertheless, in all age and sex groups, these six categories occurred more frequently in the descriptions given by unpopular children, though not always significantly so.

There was not a consistent relationship between the use of any particular objective category and unpopularity with peers as there was between popularity and the use of certain dispositional categories. These findings suggest that the perception of objective qualities itself does not account for unpopular children's

ineffectiveness in their relations with their peers. Probably it is their perceptual insensitivity to dispositional qualities which makes them less successful in their social relations.

Some positive relations were found between the use of certain objective categories and unpopularity with peers. However, this does not necessarily mean that perception of such qualities makes a child unpopular, since a knowledge of what a person is like, where he lives, what he possesses, is unlikely to affect the perceiver's behaviour towards him and consequently the other person's attitude towards the perceiver. It seems more logical to assume that unpopular children use some objective categories more frequently in their descriptions, because they do not know anything else about their peers.

A number of analyses concerning the use of the category of "aggression" have also yielded significant results indicating that this category is used more frequently by unpopular children. Although this result is congruent with the findings of Richardson et al (1961), it contradicts our expectation that dispositional categories would be used more frequently by popular children.

A number of factors may contribute to this unpredicted result. One possible factor is unpopular children's perceptual readiness to perceive aggression. A number of investigators have argued and in fact provided empirical evidence that persons who tend to behave aggressively tend to perceive aggression more

readily than do relatively non-aggressive persons (Shelley and Toch, 1968). Significant correlations reported by many investigators between observational measurements of aggressive behaviour and peer rejection suggest that unpopular children behave in a more aggressive manner than popular children (Hartup et al, 1967; Lasser, 1959. Winder and Rau, 1962; Bonney and Powell, 1953; Jennings, 1950). Therefore it is possible to argue that unpopular children are more inclined to perceive the aggressive side of their peers and consequently use the category of "aggression" more frequently when they are asked to report their impressions.

Unpopular children's more frequent use of the category of aggression may also be seen in terms of their tendency to over-attribute aggression to the behaviour of their peers. Aggressiveness on the part of the perceiver has been shown to affect the impressions he forms of others. Murstein (1966) reported that aggressive persons were significantly more likely to over-attribute hostility to others. Leary (1957) found that individuals who were described as hostile by others tended to attribute hostility more than non-hostile persons. It is therefore plausible to assume that unpopular children do not in fact perceive aggression as a dispositional quality of their peers, but they over-attribute aggression as a result of their own tendency and hence talk about aggression more frequently. As far as interpersonal consequences are concerned the attribution of aggression should differ from the perception of aggression as a dispositional quality. While the perception of aggression as a dispositional quality enables the

perceiver to understand and predict the behaviour of others, the attribution of aggression as a result of one's own tendency may have a detrimental effect on interpersonal relations. It should be noted, however, that from the present results it is difficult to conclude whether unpopular children perceive aggression as a dispositional quality or over-attribute aggression to the behaviour of their peers as a result of their own tendency, since the free response method is concerned only with the frequency of occurrence of each category in the descriptions.

The analyses concerning the use of personal involvement categories also yielded two significant results. Popular children as a group expressed their opinion about stimulus persons (category 19) more frequently than did unpopular children in their descriptions of liked peers; and unpopular boys made more references to the stimulus person's attitude toward themselves (category 18) in their descriptions of disliked peers. These statistically significant results are likely to have been obtained by chance, since in eighteen analyses carried out for each of these two categories only one analysis yielded a significant result and since content analysis I did not indicate any difference between popular and unpopular children in their use of the broad category of personal involvement.

In summary, the results of content analysis II indicated that the use of certain dispositional categories in perceiving others accounts for the relationship between perception and

social success with peers, while the use of objective categories itself is not particularly related to ineffective interpersonal relations.

The results of content analysis II concerning the effects of age, sex and like/dislike for stimulus person, with one or two exceptions, are congruent with the findings of previous research.

Age of subjects had a significant effect on the use of five categories. The use of three categories increased, that of two categories decreased, and the use of one category showed a curvilinear relation with age.

The categories showing an increase of use with age were "Personality characteristics", "Interests, preferences, likes and dislikes" and "Interpersonal skill". Two of the three categories showing an increase of use with age were dispositional which provides further support for the developmental shift in person perception observed by a number of investigators. Although the third category (interpersonal skill) is an objective category this result is also congruent with the findings of Livesley and Bromley (1973) that the categories concerning interpersonal behaviour show an increase of use with age. Livesley and Bromley (1973) argue that as children grow older they become more and more interested in social relationships and this concern is reflected in the increasing use of the categories referring to the social relations of the person being described.

One objective (Actual incident) and one personal involvement category (Attitudes and opinions of the stimulus person toward the describer) showed a decrease in use with age which again confirms the developmental changes observed by a number of investigators (Scarlett et al, 1971; Peevers and Secord, 1973; Livesley and Bromley, 1973).

The use of the category of "Unclassifiable ideas" showed a curvilinear relationship with age. The number of such ideas was highest in the descriptions given by nine year old children and was lowest in the descriptions given by ten year old children. However, the fact that the number of such ideas found in the descriptions given by eight and nine year old children (33 and 36) was considerably higher than the number of such ideas found in the descriptions given by ten year old children (3) suggests that the use of this category might have shown a significant decrease with age, had a wider range been used. This category included ideas referring to characteristics of somebody or something other than the stimulus person. For example; "Her mummy is nice", "There is a big garden in front of his house". The frequent use of such ideas may indicate that younger children tend to see their peers in terms of their human and physical environmental rather than as unique individuals. Peevers and Secord (1973) argue that increasing age brings about a sharper differentiation between people and their environment. If this is the case it is plausible to assume that such ideas would be used less frequently by older subjects.

Sex of subjects had a significant effect on the use of seven categories. The categories used more frequently by boys were "Physical abilities", "Intellectual abilities", "Aggression" and "Routine activities". With one exception (Routine activities) for which there is no previous evidence available, the categories used by boys have been shown to be the categories which males characteristically use in their descriptions (Dornbush et al, 1965; Yarrow and Campbell, 1963).

The category of "Routine activities" contained ideas referring to things done regularly by the stimulus person, such as "He gets his comical book every week", "She plays tennis every Saturday" and so on. There seems to be no logical reason why such ideas should be used more frequently by boys or indeed why there should be any sex differences in the use of this category. As has been indicated at the beginning of this section, because of the number of non-parametric tests involved in the analysis some statistically significant differences might be obtained by chance. For this reason, to attribute the statistically significant sex differences obtained for the category of "Routine activities" to the chance factor seems to be a logical conclusion.

Girls used the categories of "Physical descriptions", "General information" and "Relationships with family members and relatives" more frequently than did boys. These results are consistent with the findings of content analysis I that girls use more objective ideas than do boys. However, the findings of

previous research concerning the effect of sex on the use of the above categories do not present a consistent picture. While some investigators have reported that girls use more ideas referring to physical characteristics (Little, 1968) and kinship relations (Livesley and Bromley, 1973) some others obtained opposite results (Beach and Wertheimer, 1961). This is also the case for the category of "General information". Beach and Wertheimer (1961) have found that boys use this category more frequently, while other investigators have reported sex differences in the use of the category of "General information". The results obtained from the present study seem to support those studies in which girls were found to use ideas referring to physical appearance and kinship relations more frequently. However these diverse and often conflicting results indicate a need for more detailed investigations of this issue.

The effect of like/dislike for stimulus person was significant in the use of 12 categories. 10 categories in the descriptions of liked stimulus persons and 2 categories in the descriptions of disliked stimulus persons were used more frequently. The categories used more frequently in the descriptions of liked stimulus persons were "Interests, preferences, likes and dislikes", "Personality characteristics", "General information", "Physical descriptions", "Relationships and interactions between the describer and the described", "Physical abilities", "Intellectual abilities", "Possessions", "Actual incidents", "Attitudes and opinions of the describer toward the described". The categories used more frequently to describe disliked stimulus persons were "Behavioural

characteristics" and "Aggression".

Studies in which the number of content categories employed is as large as in the present study, are rare. However, the results obtained from the present study seem to be congruent with the findings of studies which employed one or two categories similar to those we employed (Peevles and Secord, 1973; Yarrow and Campbell, 1963; Livesley and Bromley, 1973).

In conclusion let us recapitulate that the results regarding the effects of age, sex and like and dislike for stimulus persons, in general confirmed the previous findings. However, some results, especially those regarding sex differences in the use of objective categories, indicated that more detailed studies are required to clarify this issue.

PART II

THE RELATIONSHIP BETWEEN CHILDREN'S TENDENCIES TO
ATTRIBUTE POSITIVE OR NEGATIVE INTENTIONS TO THE
ACTION OF OTHERS AND THEIR POPULARITY WITH PEERS.

CHAPTER VI

I. INTRODUCTION

The study reported in Part I was concerned with the relationship between popularity and the cognitive categories children use in perceiving their peers. The study reported in this section is an attempt to establish whether there is a relationship between a child's tendency to attribute positive and negative intentions to the actions of others and his popularity with peers.

In the early stages of an investigation a careful description of the problem can be of great value. However, such descriptions generally require at least a general theoretical orientation. In the present study, Heider's (1958) formalisation of the "naive" understanding of actions, which has come to be known as attribution theory, is used to conceptualize the possible differences between popular and unpopular children in their attribution tendencies.

Heider suggested that man attempts to bring order and meaning to his world by referring transient and variable actions and events to their relatively invariant underlying conditions. These relatively invariant underlying conditions are called dispositional properties, that is, properties "that dispose objects and events to manifest themselves in certain ways under certain conditions. Dispositional properties are the invariances

that make possible a more or less stable, predictable controllable world" (p. 80). Instances of these relatively stable underlying conditions are such object properties as the brightness (of glass), solubility (of salt), strength (of steel), magnetic properties (of iron) etc. and such person properties as intelligence, ability, character, intentions, motives etc. If a child learns quickly and solves problems rapidly, it may be inferred that he is intelligent. Problem solving and learning are momentary events which become understandable when they are related to a more permanent quality called intelligence and it may then safely be predicted that, other conditions being normal, he will be a successful student.

When people observe the actions of others, therefore, they attempt to understand their actions by referring them to certain dispositional properties. Central to Heider's theoretical position is the contention that man perceives actions as being caused. Thus the perceiver engages in searching for sufficient reasons for the occurrence of any action for which he does not already have a sufficient explanation and this search terminates only when the perceiver finds, at least to his own satisfaction, the causal antecedents of that action. There are two broad classes of causal sources - "persons", and their "environments". According to Heider whether the source of an action is located in the person or in the environment crucially affects the way the perceiver behaves toward the actor as well as what he expects from him.

According to Heider central to the analysis of action made by the man in the street is the distinction between internal and external causality and the distinction between personal and impersonal causality. The outcome of an action is perceived as the product of two independent factors - personal forces and environmental forces. The relationship between these two independent factors is an additive one which means that the outcome can still occur when the effect of one of them is zero. Effective environmental forces can work against the personal forces and reduce their effectiveness or they can work toward the same end and thus increase the effectiveness of the personal forces.

The effective personal force is also analysed into two factors; a power (ability) factor and trying. The relationship between these two factors is multiplicative which means that when one of them is zero, the effective personal forces will be zero too.

Heider argues that in the analysis of action the man in the street takes into account the strength of personal and environmental forces and according to their relative strength he holds either the environmental (external causality) or the person (internal causality) responsible for the action outcome.

According to Heider the man in the street demarcates the constituents of an action-power, environmental forces and

trying-further by regrouping them in such a way that power factors and environmental factors are combined under the concept of "can". Thus the outcome of an action is perceived as the resultant of "can" and "trying". "Can" and "trying" are necessary conditions of an action and the absence of one of them means that there will be no outcome.

"Can" is a dispositional property which refers to a relatively stable relationship between ability and the strength of environmental forces. Thus "can" has two components; an internal component (ability) and an external component (environmental forces). The relationship between these components is such that when the environmental obstacles are greater than "the ability of p" we conclude that "p cannot do x".

"Trying" is the other necessary condition for the action outcome. "Trying" has two components, "exertion" and "intention". Exertion is the quantitative aspect of "trying" which refers to how hard the person tries to produce the outcome. "Intention" is the directional aspect which refers to what the person wants to do. In perceiving "intention" the perceiver's task is to decide what effect the actor intends to produce by observing his actions. Some possible differences between popular and unpopular children in their perception of the "intention" component of "trying" is one of the problems with which the present study is concerned.

According to Heider one other central distinction made by the man in the street in perceiving causality is between personal and impersonal causality. In Heider's model "personal causality" is an aspect of perceived "internal causality" and encompasses only those events in which "p intentionally produces x". "Impersonal causality" consists not only of externally produced outcomes, but also of outcomes which were caused by the other person but which he did not intend to produce. Thus the intentions of others are central to the attribution of causality. One can talk about personal causality only when an intention ties together the cause-effect relation. The perceiver's task in perceiving causality is to decide whether or not the outcome of an action was intentionally produced.

The distinction between personal and impersonal causality is a crucial one in attributing dispositional properties to a person and consequently in determining the perceiver's behaviour and attitudes toward him. According to Heider intentions are dispositional properties of individuals and only intentionally produced outcomes of their actions reveal something about their inner characteristics and thus enable the perceiver to predict future events. Accidental or unforeseen consequences of actions tell us little or nothing about the enduring dispositional properties of the actor. "Of course, the fact that after effects of the action were not intended by the person does not mean that we can neglect them

have generally followed different lines of inquiry. Studies of the attribution process in adults have generally been concerned with the factors which determine where in the total environment the perceiver locates causality and many factors have been shown to affect the direction of causal and intentional attribution. The main focus of studies of the attribution process in children, on the other hand, has generally been the developmental changes in perception of causality and intention. However, in neither of these orientations has direct research attention been given to the perceiver's own attribution tendency as a factor which might influence the direction of causal and intentional attributions and the relationship between a particular attribution tendency and effectiveness in interpersonal relations, with the exception of locus of control studies (Cf. Rotter, 1975). However, these are concerned with the tendency of individuals to make internal or external attributions whilst the present investigation is concerned with the tendency to make positive or negative attributions. A few studies of some importance from the present investigation's point of view are discussed below.

1. Studies of the developmental aspect of the attribution process

On the basis of Piaget's findings that younger children over-attribute causality, Heider (1958) hypothesized that the tendency to attribute responsibility to the person decreases and the tendency to attribute responsibility to the environment increases with age. Heider distinguishes five developmental levels. These levels have been named by Shaw and Sulzer (1964) as follows: "Association" is the most primitive level. At this developmental level the child sees another person as responsible for any effect connected with him in any way

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in the analysis of action, or that they are irrelevant for psychological processes. The person himself and the other person will react to these effects in a specific way which will derive precisely from the fact that they are not intended" (p.100). However, the attribution of personal causality to the action outcomes of others has a more dramatic effect on the perceiver's evaluation of the action and consequently his behaviour and attitudes toward the perceiver. Some possible differences between popular and unpopular children in their attribution of personal or impersonal causality to the actions of others is another problem with which the present study is concerned.

The present status of attribution theory can be summed up as follows: Man desires to control his environment by understanding the underlying causes of events. Therefore any event that does not already have an explanation will engage the attribution process. This process is essentially a search for underlying causes and it is terminated only when the perceiver finds the causal antecedents of the event. The basic question with which research workers in this area are concerned is, given that the perceiver is searching for the causes of an event, what factors determine where in the total environment he will locate that causality.

II. A REVIEW OF RESEARCH

Studies of the attribution process in adults and children

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irrespective of any causal relationship. An example of this level of attribution is the tendency to blame another child for what his brother did. "Causality" is the second developmental level. At this level people are held responsible for effects resulting from their actions regardless of their intentions. Here what the person did is a necessary condition for the occurrence of the event, but neither his intention nor the fact that the event could not have been foreseen is taken into account in attributing responsibility. Then comes the stage of "foreseeability" at which the actors are held responsible only for the after-effects they could foresee. Here what the person did is also a necessary condition for the occurrence of the event, but neither his intention nor his motivation is taken into account. Instead, the perceiver judges that the actor could have foreseen the occurrence of the event. For example, "p" is held responsible for causing an accident if he was not driving carefully. The next developmental level is "intentionality" at which people are held responsible only for the effects they intended to produce. This level of attribution corresponds to "personal causality" in the "naive" analysis of action. The last developmental level is "justifiability". At this stage people are not held entirely responsible even for the effects they intended to produce, the motives that underlie the action being seen as having their sources in the environment.

Heider's hypothesis about the development of the

attribution of responsibility has been directly tested by Shaw and Sulzer (1964). Two successive experiments were conducted to test the hypothesis. 41 boys and girls from 6 to 9 years old and 41 adults males and females from 19 to 36 years old acted as subjects in experiment I. The subjects were presented with 20 stories, 4 stories for each of the 5 levels; 2 with positive and 2 with negative outcomes. The central character of the stories was a boy. At a given level each story included only the minimum factors required to elicit the attribution of responsibility for an individual at that level of sophistication. In other words the stories were composed on a structure which related the central character to outcomes by his friendship with the actor or his ownership of the object involved (level I), by unforeseeable outcomes (level II) by foreseeable outcomes (level III) by intentions (level IV) and justifying circumstances (level V).

The second experiment was essentially a replication of the first experiment in terms of general method and experimental design and was conducted to test the stability of the results of experiment I. However the contents and subjects of the stories were different. This time the central character of the stories was an adult.

The combined results of the two experiments generally supported Heider's developmental levels. Children made more responsibility attribution than did adults at the first and second levels. However, the expectation that adults would attribute

less responsibility at the fifth level was not generally supported. Although there was a slight tendency to reduce the attribution of responsibility when the actor was provoked, this tendency was no greater for adults than for children.

A number of other investigators also reported results providing general support to Heider's hypothesis about the developmental levels of the attribution of responsibility. However, these studies have also indicated that children of the same age differ considerably in the levels at which they make responsibility attributions (Garcia-Esteve and Shaw, 1968; Shaw and Schneider, 1967).

King (1971) studied the development of the ability to distinguish intentionally produced outcomes from accidentally produced outcomes in children. On the basis of Piaget's findings that children's moral judgements show a developmental shift from association with event-outcome seriousness to association with the motives of the actor and that this shift begins between age 4 and 6, becoming well established by age 9, it was hypothesized that the development of the ability to distinguish intentions from accidents would show a similar pattern.

Pre-school, kindergarten and third grade children of both sex were shown four motion picture sequences which differed from each other in terms of the intentions portrayed

and the seriousness of the outcome. In two sequences the outcomes were clearly accidental, in one of them the outcome being serious and in the other not. In the remaining two conditions the outcomes were clearly intentional but they differed in seriousness. A significant increase with age was found in the ability to distinguish accident from intention. Seriousness of outcome scores did not differ significantly over age level.

Whiteman (1967) studied the development of children's ability to identify unconscious intentions underlying the actions of others. Subjects were presented with stories representing the classic defence mechanisms. The results indicated that at the age of 8 or 9 children show some understanding of unconscious intentions in others' behaviour. At the age of 5 or 6 children's ability to identify such intentions was almost zero.

Rule and Duker (1973) investigated the effects of positive and negative intentions and seriousness on children's evaluations of aggression. Forty-eight 8 year old and forty-eight 12 year old boys participated in the experiment. The subjects were presented with 12 short stories which described a boy transgressing against another boy in different circumstances. The second boy responds to the transgression in an aggressive way either to teach him not to do it again (good intention) or to hurt him (bad intention). The aggression results in either serious or not serious harm.

It was hypothesized that the judgements of younger children would rely more on the consequences of the action regardless of the intention and older subjects would take into account the intention of the aggressor in their judgements more than would younger subjects. The results supported only the first part of the hypothesis. However expected differences between younger and older subjects in terms of their reliance on the intention of the aggressor were not found. Both younger and older children judged the act more negatively when the aggressor's intention was bad.

The findings of the studies concerned with the developmental aspect of the attribution process can be summarized as follows: (1) As children grow older their tendency to attribute responsibility to the person decreases and the tendency to attribute responsibility to the environment increases, (2) Although the development of the attribution of responsibility shows this general pattern, children of the same age differ in the levels at which they attribute responsibility (3) The ability to distinguish intentionally produced outcomes from accidentally produced outcomes begins to develop early and becomes well established by the age of 8 or 9.

2. Studies of the attribution process and interpersonal attraction

There have been a few studies investigating the relationship between the attribution process and interpersonal attraction.

However the purposes of these studies were different from those of the present investigation in that they were concerned with the effect of like/dislike for the actor on the direction of causal and intentional attribution and the relationship between perceived intentionality or causality behind a given action and the actor's attractiveness to the perceiver rather than the relationship between a person's attribution tendency and his popularity with others. In other words the main concern of these studies was the actor rather than the perceiver. Nevertheless in order to demonstrate how attribution of causality and intentionality may affect the relationship between the perceiver and the actor it would be useful to mention some of these studies here.

Pepitone (1958) cites a series of studies investigating the effects of such variables as justifiability of an action, perceived responsibility and perceived intentionality upon interpersonal attraction.

A study carried out by Pepitone and Sherberg (1957) tested the hypothesis that a person's attractiveness to another varies depending on the intentionality behind a given positive and negative action. The student subjects were presented with recordings of supposedly authentic conversations held among students in which one student insults another; and the effect of intentionality on interpersonal attraction was tested in four conditions:(1) Own responsibility bad intention; a student

insults another student by disparaging his intelligence (2) Own responsibility-good intention; a student insults another student in order to get him to work hard (3) Induced responsibility-bad intention; the student is instructed to insult another student by someone who wants to disparage his intelligence (4) Induced responsibility-good intention; the student is instructed to insult the other by someone who wants to get him to work hard. The results confirmed the hypothesis. The student was less disliked when he insulted the other in order to get him to work hard. However, no significant differences were found between the subjects' evaluations of the student in "own responsibility" and "induced responsibility" conditions.

In another study Pepitone and Wallace (1955) have demonstrated that when an actor's action results in negative outcomes, his attractiveness to others varies with the justifiability of his action.

Imamoğlu (1976) studied the effect of like/dislike for the actor on attribution of intentionality in children. Three groups of children, half of them boys and half of them girls with mean ages of 5.5, 7.5 and 9.5 were presented with two stories in the form of pictures. One of the stories always had a positive outcome and the other always had a bad outcome, though it was not clear in either case whether the outcome was intentionally produced. The effect of like/dislike for the actor on the attribution of intentionality was examined

in four conditions: (1) Induced liking-good outcome; the central character in the story is introduced to the subjects as a nice and likeable person whose action results in a good outcome (2) Induced liking-bad outcome; the action of the likeable actor results in a bad outcome (3) Induced dislike-good outcome; the central character in the story introduced to the subjects as a bad and unlikeable person whose action results in a good outcome (4) Induced dislike-bad outcome; the action of the unlikeable actor results in a bad outcome. After each story the subjects were asked to indicate whether or not the central character produced the outcome intentionally. Subjects showed a strong tendency to interpret the bad outcome caused by the liked actor as being accidental and that caused by the disliked actor as being intentional. On the other hand, the good outcome caused by the disliked actor was interpreted as being accidental, while that caused by the liked actor was interpreted as intentional.

III. IMPLICATIONS FOR THE STUDY

Since Heider's initial statements many theorists have suggested different approaches toward understanding the mechanism of the attribution process. Some theorists have proposed that in attempting to find the cause of an event the perceiver acts like a scientist; he eliminates all possible causal factors except those uniquely associated with the event to be explained (Heider, 1958; Jones and Davis, 1965; Kelley, 1967). Some others have suggested that the focus of attention determines

where the perceiver locates causality (Jones and Nisbett, 1971; Duval and Wicklund, 1972). All of these approaches have been supported by a number of empirical studies. On the other hand, in order to find an answer to the question of what factors determine where the perceiver will locate causality in his total environment, different investigators have emphasised different factors and many factors have been shown to affect the direction of causal attribution.

All of these approaches give a general explanation of the attribution process and the factors which have been shown to affect the direction of causal and intentional attributions are regarded as being important in all situations. However it is possible that in any particular situation the location of causality and attribution of intentions are not determined by these factors alone, but also depend on the perceiver's interpretation of the situation.

The factors influencing the direction of causal and intentional attribution have generally been studied in carefully designed experimental studies. In these types of studies, one factor is generally held stable and the effect of it on the attribution of causality and intentionality is studied. Furthermore, the subjects, in these studies, are generally provided with information about the factors which may influence the actions of stimulus persons. This enables the subjects to know the

circumstances under which the action of the stimulus person has taken place. Although such conditions can be produced in the laboratory, they are hardly encountered in real life settings. Far from being provided with knowledge of the factors which may affect the action of others, the perceiver attempts to gather such information without any outside assistance. For example, in order to study the effect of an existing external pressure on the attribution of causality for a behaviour change on the part of an actor, the investigator provides the subjects with information about the existence or absence of such pressure and then asks them to make causal attribution for the behavioural change. Here the major task confronted by the subjects is by considering the existence or absence or strength of the external pressure, to decide what factor caused the actor to change his behaviour. On the other hand, in real life settings, it is hardly possible for the perceiver to know all the relevant factors which may cause behavioural changes on the part of others. In most cases the perceiver has to make inferences about the actions of others by putting together the bits and pieces of information available to him.

Jones and Nisbett (1971) argue that there are stable differences between the actor and the observer in the causal attributions they make and these differences stem from the differences in the information available to them. While the actor tends to attribute the action outcomes to external sources,

the perceiver is more inclined to make internal attributions. Although their argument is not concerned with the differences between individuals in the ways they interpret the actions of others, it provides support for our suggestion that the information available to the perceiver about the causes of, and the intentions behind, the actions of others is not always complete. They divide the data available for the attribution process into two categories; effect data and cause data. There are three types of effect data: "Data about the nature of the act itself (what was done), data about environmental outcomes (success, failure, reactions) and data about the actor's experience (pleasure, embarrassment etc.)". Cause data are of two types: environmental causes and intention data.

Jones and Nisbett argue that in the case of effect data the observer may have information about the nature of the act (what was done) and about the environmental outcomes. However, in the case of the actor's experience, although it is sometimes possible to make some inferences from expressive behaviours, because of individual differences in expressive style, the observer may often be wrong in his inferences. On the other hand, in many circumstances actors are motivated to conceal their inner feelings.

Sometimes the perceiver may have some information about environmental causes of an action, though it is unlikely in most cases. For example; the perceiver may know that an

event (x) had stimulated the actor to act as he did. However even in such cases the information available to the perceiver is not complete because of the likelihood that the actor is responding to an event more extended in time than his actual perception of it. The perceiver has to work with the data from one slice of time when he makes his attributions.

Intentional data is the area where the perceiver is least likely to have complete information. The perceiver has to infer the intentions of the actor from his expressive behaviour or from situational clues. However, because of "equivifinality", which in Heider's model refers to the existence of more than one way to the same goal, the intention of the actor is not immediately apparent. On the other hand, by a given action an actor usually produces several effects and it is not easy for the perceiver to decide which of the effects was intended.

Briefly, it can be argued that there is often not enough information for the perceiver to make accurate causal attributions and to make accurate inferences about the intentions behind the actions of others. He has to base his causal attributions and his inferences of intentions of others upon the partial information available to him.

Studies of impression formation have demonstrated that even when the information about the stimulus person is very

little and diverse, the impression formed by the perceiver is organized and generally contains qualities for which he has no information (Asch, 1946; Bruner, Shapiro and Tagiuri, 1958). The perceiver does not merely record the information available to him, but tries to organize it so as to make sense of it by "going beyond the information given" and probably by doing so enable himself to create a meaningful world.

As has already been pointed out, attribution theory assumes that in order to predict and control their world people refer actions and events to underlying dispositional properties by which they explain these actions and events. In view of this it can be argued that when the information about the actions of others is not complete, the perceiver, as in the case of forming impressions of others, tends to go "beyond the information given" in making causal and intentional attribution and thus enables himself to predict future events. It is assumed that in such circumstances the perceiver's assumptions and expectations about people play an important role in determining the direction of causal attributions and the inferences made about intentions. Although there is no empirical evidence to support this proposition, a number of investigators have pointed to this possibility. Kelley (1972) argued that a central concern of attribution theory is with "an analysis of the assumptions and expectations the attributor brings to his task of causal understanding. These assumptions and expectations

shape the attribution process by filling gaps in information, relating behavioural data to comparative standards, and effecting shifts in attention or emphasis" (p.IX). Flavell (1968) referred to a similar point when he noted that the role-taker's estimate of another's intention is a synthesis of information from two sources: "(a) his knowledge of people and their behaviour in various situations..(b) perceptual input from the overt behaviour of the other or from other cue sources in the immediate situation" (p.5).

Bruner and Tagiuri (1954) suggested that in forming organized and meaningful impressions based on relatively little and diverse information, the individual utilizes an implicit personality theory. They argue that each individual has his own private theory about what traits go together. So when an individual learns something about another, for instance that he is lazy or intelligent he feels able to draw references about other qualities that person possesses. Cronbach (1955) extended the meaning of implicit personality theory by suggesting and by actually providing evidence that implicit personality theories of individuals provide them with relatively fixed response biases. Some people seem to have a tendency to rate others consistently higher on positive traits, while others seem to be more negative in their judgements and therefore the impressions they form from a standard set of stimuli differ in a constant direction, e.g. in positivity or negativity. A number of other investigators have also found

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subjects to have characteristic ways of judging people, labelling these tendencies as "global dispositions" (Gage and Cronbach, 1955), "lay conception of personality" (Bruner, Shapiro and Tagiuri, 1958), "positivity bias" (Zajonc and Brunstein, 1965), "response dispositions" (Kaplan 1971, 1976). Whatever term is used, these studies all seem to point to a preexisting constant tendency to evaluate others in a positive or negative direction. Probably these different tendencies reflect such differences in perceivers' general views concerning other people as have been developed through their experience with them (Secord and Backman, 1964; Kaplan 1976). Kaplan (1976) argues that such tendencies exist prior to acquaintance with any given stimulus person and are independent of any specific stimulus information. Their effects on the judgements made decrease as the amount of information about the stimulus person and the stimulus situation increase.

Although most studies in this area have used adult subjects, there is some evidence that similar tendencies can also be observed in children. Klaus (1959), in his study cited earlier, (cf.p.22-24) found that popular children were more inclined to ascribe positive traits to their classmates, while the traits unpopular children attributed were rather negative. This implies that the tendency to judge others in a more positive or more negative direction begins to develop during childhood.

In the light of these findings the present study was designed to investigate whether similar positive and negative tendencies are also observed in the attribution of causality and intention to the actions of others and if they are to what extent such tendencies are related to children's popularity with their peers.

Despite the fact that perceivers have been shown to differ in their tendencies to judge others in a more positive or more negative direction, no study, to our knowledge, has examined the effects of such tendencies on interpersonal relations. In the absence of empirical evidence and a theory which systematically explains the implications of a tendency to judge others in a more positive or more negative direction for interpersonal relations, it is difficult to put forward a specific hypothesis concerning the relationship between a child's attribution tendency (if there is such a tendency) and his popularity with his peers. However some tentative predictions can be made based on the findings of studies concerned with the development of the attribution process in children.

Studies of the development of the attribution process indicate that as children grow older they take increasingly more factors into account when attributing responsibility for the undesirable outcomes of the actions of others and consequently the number of situations in which they attribute

responsibility to the person decreases. Although this developmental shift tells us nothing about positive or negative attribution tendencies, younger children's inclinations to attribute responsibility to the person regardless of any cause-effect connection may be regarded as analagous to a negative attribution tendency. Probably younger children's inability to establish sustaining relations with their peers is partly a result of their tendency to overattribute responsibility. Attributing responsibility to the person for an undesirable outcome affects the perceiver's subsequent behaviour toward the actor. This behaviour may vary from aggression to avoiding contact depending on the characteristics of the perceiver. A generalised tendency to attribute responsibility to the person on the part of the young child may well result in aggressive behaviour or may cause him to withdraw in any situation, both of which reactions are likely to cause an erosion in the existing bonds of friendship. The child's developing ability for establishing enduring relations with his peers paralleled with the observed developmental shift from internal to external attributions for undesirable outcomes on the other hand, suggests that taking into account other factors in attributing responsibility, which may be regarded as analagous to a positive attribution tendency, leads to better interpersonal relations. In view of this argument, one might speculate that children who are more inclined to make positive causal and intentional attributions to the actions of others may be more popular with their peers than age mates who tend to be more negative in their attributions.

A perceiver's attribution tendency would be expected to affect the causal and intentional attributions he makes regardless of the desirability or undesirability of the action outcomes. In other words, if the causal and intentional attributions are partly affected by the perceiver's general attribution tendency, a person who tends to see undesirable outcomes as unintentionally caused would also be expected to see desirable outcomes as intentionally caused. However, it is possible that a person's attribution tendency would reveal itself more when he attempts to attribute causality to the undesirable effects of actions and when he tries to impute intentions to the ongoing actions of others. Jones and Davis (1965) argue that when the effects of an action are desirable the perceiver does not attempt to relate the action to dispositional qualities of the actor. In other words, a desirable outcome, unless it deviates markedly from what the average person would do, does not engage the attribution process, because such an action already has an explanation; that is, the actor is like most other people and is acting as expected. However, when the action produces undesirable outcomes, the perceiver tries to infer more about the dispositional qualities of the actor and probably when doing so reveals more about his own attribution tendency. A study carried out by Shaw and Sulzer (1964) provides support for this argument though it was designed to test a different hypothesis. Their results showed that subjects tended to attribute more responsibility to an actor whose actions

resulted in negative outcomes than to one whose actions resulted in positive outcomes.

A number of investigators on the other hand, argue that intentions are generally imputed to the actions of others before the actions are completed (From, 1960, 1971; Livesley and Bromley 1973). If this is the case, a person's tendency to attribute positive or negative intentions can best be studied when he attempts to assign intentions to the ongoing actions of others. As we noted before, because of the fact that the same action may lead to different goals, in an ambiguous situation the possible intentions one can assign to a given action are open to interpretation. Therefore in such situations the intentions the perceiver attributes to the actor may well reflect his own attribution tendency.

This mode of thinking has led us to investigate the differences between the attribution tendencies of popular and unpopular children in two conditions: (a) differences between the causal attributions made to undesirable outcomes of the actions of others (b) differences between the intentions attributed to the ongoing actions of others. In specific terms, subjects were presented with pictures which depicted undesirable outcomes and ongoing actions and asked to make up stories about these pictures.

In conclusion, we have argued that children may differ

in their tendencies to make positive and negative attributions to the actions of others and such tendencies may affect their relations with peers. It was further argued that such tendencies may best be studied in instances of negative outcomes and incompleting actions. To a large extent the present investigation is mapping almost totally unworked territory; hence when the results are presented and explanations are put forward they should be regarded as tentative and subject to corroboration by further investigations. However, as we have seen, some tentative predictions can be made on the basis of the findings of the studies concerned with the development of the attribution process, so that the present study may be regarded as testing the specific hypothesis that popular children as compared with unpopular children are inclined to make causal and intentional attributions in a more positive direction.

CHAPTER VII

PILOT STUDIES

Before conducting the main study we felt it necessary to answer the following questions:

1. Is it possible to investigate the attribution tendencies of children by using pictured situations designed to be ambiguous and asking them to make up stories about the pictures?
2. If it is possible, to what extent do popular and unpopular children differ in the intentional and causal attributions they make in their social stories?

In order to investigate these questions twenty ambiguous situations were depicted according to Heider's two basic concepts - perception of intentions and perception of personal and impersonal causality.

Ten of the pictures were ambiguous in that the characters appearing in them were engaged in certain activities the purposes of which were unclear; in other words, the pictures were designed in such a way that both positive and negative intentions could be attributed to the actors. In the remaining ten pictures, which were designed to investigate the tendency to attribute personal-impersonal causality to negative outcomes of the actions of others, there was always an undesirable outcome, but it was not clear whether

it was intentionally produced.

It was assumed, in accordance with the basic assumption of projective techniques, that when asked to interpret the pictures or make up stories about them the subjects would attribute intentions to the characters and causality to outcomes which would reflect their own attribution tendencies.

Three pilot studies were conducted. The first was to determine whether or not the pictures were sufficiently ambiguous. The second study was concerned with the following questions: firstly, will children be able to make up stories about the pictures when they are asked to do so and secondly, if they do, to what extent will they interpret the pictures in terms of intentions and causality. However, the second study also involved the question of ambiguity, for if an overwhelming majority of subjects interpreted a certain picture exactly in the same way then this picture would be considered not to be sufficiently ambiguous and should therefore be excluded. The third study explored the extent to which popular and unpopular children differed in the intentional and causal attributions they made.

In the first study thirty adults, all members of the psychology department of Stirling University, acted as judges. The judges were presented with the pictures and asked to rate each of them on a three point scale - for the actual form used for this

purpose see appendix B. For the pictures concerned with perception of intentions the scales ranged from negative intention through ambiguous to positive intention and for the pictures concerned with perception of personal-impersonal causality from intentional through ambiguous to accidental. Obviously a two point scale ranging from ambiguous to not ambiguous could also be used. However the three point scales were preferred in order to determine in what direction a picture was likely to be interpreted if it was not ambiguous.

In order to be able to identify a certain picture as sufficiently ambiguous with a high degree of reliability, a stringent level of agreement between the judges was specified before the analysis was attempted: only those pictures which were rated as ambiguous by over 90% of the judges were accepted as sufficiently ambiguous and those pictures whose ratings were agreed upon by less than 60% of the judges were excluded. In cases where the role of agreement was between 60% and 90% the pictures were modified after consultation with the judges.

Analysis of the results showed that three pictures were rated as ambiguous by over 90% of the judges: five pictures were rated as ambiguous by less than 60% of the judges. The remaining twelve pictures were rated as ambiguous by percentages varying between 64 and 81 and were modified accordingly.

Fifteen children, nine girls and six boys, aged from eight

this reason, it was decided that the primary instruction should be to make up stories and the second instruction should be a last resort only.

The third study was conducted in a primary school in the Stirling area. Three classes, with mean ages of 8.6, 9.3 and 10.1, were given a sociometric test and on the basis of the results the classes were divided into two groups as popular and unpopular. Four popular and four unpopular children from each class were chosen as representatives of popular and unpopular groups. However, these four popular and four unpopular children were not chosen in a completely random manner: from the popular group the most popular child, the least popular child and two moderately popular children were chosen for the study. The same procedure was followed for the unpopular group. Thus, there were altogether twenty four subjects - twelve popular and twelve unpopular.

The subjects were tested individually and first asked to make up a story about each picture. If they were unable to follow the primary instruction they were asked to describe what was happening in the picture. Such flexibility of instruction is justifiable, for the aim of the study is to explore the direction of attributions made and both types of instruction allow subjects to interpret the pictures as they see them without influencing their choices in any way.

All the interviews were tape recorded, transcribed and

purpose see appendix B. For the pictures concerned with perception of intentions the scales ranged from negative intention through ambiguous to positive intention and for the pictures concerned with perception of personal-impersonal causality from intentional through ambiguous to accidental. Obviously a two point scale ranging from ambiguous to not ambiguous could also be used. However the three point scales were preferred in order to determine in what direction a picture was likely to be interpreted if it was not ambiguous.

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Analysis of the results showed that three pictures were rated as ambiguous by over 90% of the judges: five pictures were rated as ambiguous by less than 60% of the judges. The remaining twelve pictures were rated as ambiguous by percentages varying between 64 and 81 and were modified accordingly.

Fifteen children, nine girls and six boys, aged from eight

to twelve years acted as subjects in the second study. They were tested individually and asked to make up a story about each picture. However, after a pause, some subjects replied that they could not think of any story. When the instruction was changed to "tell me what is going on in this picture" all subjects were able to provide an explanation. This indicated, therefore, that the picture technique could be used with children providing the instruction was flexible.

All the interviews were tape recorded, transcribed and later analysed. The results showed that the pictures were generally interpreted in terms of intentions and causality. In other words, subjects attributed intentions to the characters appearing in the pictures and causality to the action outcomes in their stories or explanations. The results also showed that four pictures were interpreted in exactly the same way by an overwhelming majority of subjects ranging from 10 to 13. These pictures were also considered to be not sufficiently ambiguous and were excluded. This left eleven pictures suitable for use in the third study.

After the interviews the subjects who had not been able to make up stories were asked why they could not do so. It became apparent from their answers that they had received the impression that essay type structured stories including the names of people and places were required and they found this too difficult. However, those subjects who could interpret the pictures in a story form were more inclined to make intentional and causal attributions. For

this reason, it was decided that the primary instruction should be to make up stories and the second instruction should be a last resort only.

The third study was conducted in a primary school in the Stirling area. Three classes, with mean ages of 8.6, 9.3 and 10.1, were given a sociometric test and on the basis of the results the classes were divided into two groups as popular and unpopular. Four popular and four unpopular children from each class were chosen as representatives of popular and unpopular groups. However, these four popular and four unpopular children were not chosen in a completely random manner: from the popular group the most popular child, the least popular child and two moderately popular children were chosen for the study. The same procedure was followed for the unpopular group. Thus, there were altogether twenty four subjects - twelve popular and twelve unpopular.

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All the interviews were tape recorded, transcribed and

analysed using a three point scale ranging from +1 to -1. The stories or explanations indicating positive intentions and impersonal causality were given +1. The stories or explanations indicating negative intentions and personal causality were given -1; and the stories or explanations which did not indicate any type of intention or causality were termed as "neutral" and were given (0). By adding up positive and negative points received, an attribution tendency score was obtained for each child.

The effect of popularity on the type of attributions made was examined using two different methods. First, the mean number of attribution scores of popular and unpopular children were compared using t test for independent samples and secondly popularity scores and attribution tendency scores of subjects were correlated using product moment correlation.

The results indicated neither a significant difference between mean attribution tendency scores nor a significant correlation between attribution tendency scores and popularity. However in both cases the results were close to 0.05 level of significance. ($t = 1.96$ and $r = .37$).

The effects of age and sex on the type of attributions made were also examined using the Kruskal-Wallis one way analysis of variance and t test for independent samples, respectively. No significant age effect was obtained. The mean attribution tendency scores of boys and girls differed significantly ($t = 2.07$ with

23 d.f. $p < .05$). Girls were relatively more negative in the attributions they made. However, this difference between boys and girls might well be due to the fact that all the characters in the pictures were boys. If the girls are more inclined to make negative intentional and causal attributions, this fact might also influence the results regarding the effect of popularity on the type of attributions made.

Concerning the ambiguity issue, it was found that no picture was interpreted in the same way by an overwhelming majority of subjects.

The following conclusions are based on the results of the pilot studies:

1. Eleven of the twenty pictures drawn to investigate the attribution tendencies were sufficiently ambiguous to allow various interpretations and therefore the intentional and causal attributions made by subjects in their interpretations of these pictures can be regarded as reflecting their own attribution tendencies.
2. Children can provide verbal explanations of the pictures containing intentional and causal attributions if a flexible instruction is given.
3. The fact that both the difference between the mean attribution scores of popular and unpopular children, and the correlation between the popularity and attribution tendency scores are close to significance level suggests that popular and unpopular children

may differ in their attribution tendencies and that our ambiguous pictures may detect these differences.

4. The fact that all the characters in the pictures were boys, might have caused the sex differences in the attributions made and consequently influenced the results concerning the differences between popular and unpopular children. We found it necessary, therefore, to draw pictured situations involving girls.

5. The results of the pilot studies were sufficiently interesting to justify a larger investigation.

CHAPTER VIII

MAIN INVESTIGATION

I. METHOD

1. Subjects.

The eighty seven primary school children who took part in the investigation reported in part I also acted as subjects in this study (for the means of specification of popular and unpopular children, and the number of popular and unpopular children in each age and sex group, see Chapter III (pp 43-45).

2. Material.

Eleven pictures, based upon the eleven used in the third pilot study, were used to investigate the attribution tendencies of popular and unpopular children.

Four of the pictures were designed to investigate the tendency to attribute personal or impersonal causality to undesirable outcomes of the actions of others. These pictures always depicted undesirable outcomes without making it clear whether or not they were intentionally produced. Five of the pictures were designed to investigate the tendency to attribute positive or negative intentions to uncompleted actions of others. People appearing in these pictures were engaged in certain activities, but it was not clear what they were trying to do.

Two of the eleven pictures were designed so as to investigate both the tendency to attribute positive or negative intentions and the tendency to attribute personal or impersonal causality. Thus, there were altogether thirteen situations, seven to investigate perception of intention and six for perception of personal-impersonal causality.

Five of the eleven pictures were identical for both boys and girls. For the remaining six pictures boys received pictures in which boys were depicted while girls received almost identical pictures in which girls replaced boys. For the actual pictures used see appendices C, D and E.

3. Procedure.

Subjects were tested individually in a room provided by the school. The experiment was conducted in two sessions. In the first session, the children were shown the pictures and asked to make up stories about them. Three weeks later they were shown the same pictures but this time they were asked to complete a questionnaire which contained a directive question and a number of possible answers for each of the pictures. These two different techniques were used for two different reasons. First, we wanted to assess the stability of the subjects' responses. It was thought that, to ask subjects to make up stories again about the same pictures would give them the impression that the stories they had invented the first time were not suitable and that consequently they would tend to change their stories. The second reason for

using a questionnaire was to see if there would be any difference between the attributions by popular and unpopular children in a more or less forced-choice situation.

In the first session, after a few minutes of unstructured conversation to relax the subjects, the instruction was given: "I am going to show you some pictures. All I want you to do is to look at the pictures carefully, and to make up a story about each of them. There is no good or bad, or correct or wrong story. I am not trying to find out how good you are at making up stories; any story you make up will be alright, so, look at the pictures carefully and tell me a story about what you see".

In order to ensure that the instruction was understood correctly it was repeated and then the subjects were asked to tell what they were supposed to do. Once it was ascertained that the subjects understood the task correctly, the first picture was presented. Each time they stopped speaking the interviewers asked "Have you finished?" If the answer was "yes" the next picture was presented, and this procedure was followed until the subjects had made up stories about all the pictures. All the stories were tape-recorded. There was no time limit: the subjects talked about each picture as long as they wanted. Although the time needed to complete all the stories varied from one subject to another most of the interviews lasted approximately 45-50 minutes.

As expected, some subjects were not able to make up stories.

In such cases attempts were made to encourage them to make up stories, but when all attempts failed, the interviewer resorted to the second instruction "Alright, just tell me what you see in the picture, tell me what is going on in these pictures". All of the subjects who were not able to make up stories responded to the second instruction.

Most, but not all of the subjects, interpreted the pictures in terms of causality or intentions, for example: a nine year old boy made up the following story for picture 3: "One day four boys decided to go to the park. They went there and three of them started playing football. One of them did not play and sat down on the bench". The same picture was explained by an eight year old boy as follows: "In this picture there are four boys. Three of them are playing football, one of them is not playing and he is sitting on the bench". It is clear that in these examples no intention is attributed to the persons in the pictures. In such cases, it was necessary to ask questions which would encourage the subjects to see the pictures in intentional or causal terms. For example: "Why do you think three of them started playing football and one of them did not?" or "Why do you think this boy is not playing with them?" However any question which might influence the direction of causal or intentional attribution was particularly avoided.

In the second session, subjects were again tested individually and asked to complete a questionnaire which contained a directive question and a number of possible answers for each picture.

(For the actual form used see appendix F). The pictures were presented to the subjects and they were asked to look at the pictures first, and then to read carefully the question and the answers pertaining to the picture and, finally to choose the most appropriate answer. Since the procedure was rather complicated, it was thought that a strictly structured written or verbal instruction might be difficult to understand. Therefore, the interviewer explained the task to subjects with examples rather than giving them a formal instruction. The task was explained to all subjects in more or less the following form: "Do you remember some time ago I showed you some pictures and asked you to make up stories? I am going to show you the same pictures again but this time I will not ask you to make up stories. Instead I will give you this form (the interviewers produce the form). As you can see there are some questions and some answers. There is one question for each picture. I will show you the pictures one at a time. Look at the picture carefully. Then I will show you the question and the answers. Read the question and the answers carefully and look at the picture again then choose the answer which you think is the most suitable one for the question and put a circle around the number in front of the answer you have chosen. Remember all the answers are correct. I just want to know your opinion about which answer suits the question best. So, choose the answer which you think is the best one." The interviewer helped the subject to understand the task by indicating the questions and answers as he spoke of them. Following the instruction the subjects were asked as before, to repeat the task as a test of their comprehension. In cases where the subjects failed to understand the

task, the instruction was explained again. Only when the subjects fully understood the task did the experiment continue. Once again, there was no time limit imposed and most subjects completed the task in 25-30 minutes.

There were two matters of concern regarding the multiple choice questionnaire technique. Firstly, there was the possibility that the subjects were making choices on a random basis and secondly, the interviewer received the subjective impression from the outset of the study that some responses were made with little conviction. In order to minimize random responses and maximize the possibility of subjects making the most considered choice, after they completed the questionnaire subjects were asked for verbal explanations of their decisions. We were aware of the fact, however, that this procedure did not completely rule out the possibility of random choice, since the subjects' verbal explanations might simply be a rationalization of what they had done. In others words, there was no guarantee that the verbal explanations would reflect the reasons for which a certain answer were chosen. It might well have been that the subjects first chose an answer and then attempted to justify their decision. Nevertheless, asking subjects to provide verbal explanations was the only alternative open to us for testing whether or not the answers were chosen on a random basis.

Bearing this in mind, the results indicated that most of the subjects were making their choices after a consideration of

the pictures and the answers. However, it became apparent that some of the explanations of the two negative answers concerning two particular pictures were in effect justifications of positive responses. These pictures were picture three and picture six. For example, the question and the negative answer concerning picture six were "why do you think the girl in the picture is walking behind the other three girls?" and "she doesn't want to talk with them". When the subjects who had chosen this answer were asked for a verbal explanation it became apparent that while some explanations were indeed negative, others were not negative at all. An example of a positive explanation is "she wanted to be alone for a wee while, she'll join them soon". An example of a negative explanation is "she doesn't like them, they are bad girls and she is trying to find out what they are up to". This unexpected result indicated that although the two answers concerning picture three and picture six were designed to indicate negative attribution tendencies they were sometimes chosen as a result of positive interpretation of the situations. For this reason in the cases of these two answers it was positivity or negativity of the elaborated explanations that was used for the analysis. In the cases of other answers the elaborated explanations always corresponded to the answers in terms of positivity or negativity.

II. METHOD OF ANALYSING STORIES AND QUESTIONNAIRES

A three point scale ranging from -1 to +1 was used to analyse stories and questionnaires. The stories and the answers

indicating positive intentions (for the pictures designed to investigate the tendency to attribute positive or negative intentions to uncompleted actions of others) and impersonal causality (for the pictures designed to investigate the tendency to attribute personal-impersonal causality to undesirable outcomes of the actions of others) were given (+1). The stories and the answers indicating negative intentions and personal causality were given (-1); and the neutral stories and the answers were given (0). By adding up positive and negative points three scores were obtained for each subject: 1. The tendency to attribute personal or impersonal causality score. This score will be referred to as perception of personal-impersonal causality score; 2. The tendency to attribute positive or negative intention score. This score will be referred to as perception of intention score; and 3. The general attribution tendency score which was the sum of the first two scores.

For example, if a subject attributed impersonal causality to the outcomes in four pictures and personal causality in two pictures his perception of personal-impersonal causality score was 2. If the same subject attributed positive intentions to the persons appearing in four pictures and negative intentions in three pictures his perception of intention score was 1 and his general attribution tendency score was $(1 + 2) = +3$. Since there were thirteen situations, six for perception of personal-impersonal causality and seven for perception of intention, the maximum general attribution tendency score obtainable was +13, the

maximum perception of personal-impersonal causality and perception of intention scores being $\bar{+6}$ and $\bar{+7}$. Some examples of positive, negative and neutral interpretations of the pictures are presented below:

Example 1. Two positive and two negative interpretations of picture two which was designed to investigate perception of personal-impersonal causality

(a) A story made by a 9 year old boy: One day three boys were having a game. While they were playing one of the boys fell down and hurt himself (impersonal causality). Another boy went to help him. They must take him home.

(b) An explanation of the same picture made by a 10 year old girl: There are three girls playing in the play ground. One of the girls fell over and hurt her leg (impersonal causality). I think one of the girls is running to get somebody to help her.

(c) A story made up by an 8 year old boy: One day in the play ground boys were having a game. Some other boys came over and started fighting with them. One of the boys pushed another boy and he is on the ground (personal causality). The one who pushed him is running away.

(d) An explanation of the picture made by a 9 year old girl: There is five girls coming out from the school. I think a girl saw another girl she did not like and tripped her up. (personal causality).

Example 2. Two positive and two negative interpretations of picture eight which was designed to investigate perception of intention.

(a) A story made up by a 10 year old boy: Three boys were sitting on the wall and two boys were going to play football and they decided to ask the boys sitting on the wall if they would like to have a game of football (good intention).

(b) A story made up by an 8 year old girl: Three girls were sitting on the bench and two girls were taking a walk. They decided to make friends with them (good intention).

(c) An explanation made by a 9 year old boy: There are three boys sitting on the wall and talking. I think these boys are talking about the other two boys, about how stupid they are (bad intention).

(d) A story made up by a 10 year old girl: Three girls were sitting and talking on a bench and the other two girls walked by and heard what they were talking about. They did not agree with them and started quarreling (bad intention).

Example 3. Neutral interpretations of pictures two and eight.

(a) A story made up by an 8 year old girl: There was about 5 ladies. 3 of them were going away and one of them was staying.

(b) An explanation made by a 9 year old boy: There are three boys in this picture. They are sitting on a wall and talking. These two boys are walking past.

One final comment about these scores is necessary. The general attribution tendency scores were obtained by combining the perception of intention scores and the perception of personal-impersonal causality scores. Positive intentions and impersonal causality were both given positive value and summed. This was done because when a subject saw a situation of negative outcome as impersonally caused he was seen as having a positive attribution tendency. However, it must be recognised that the perception of personal-impersonal causality scores were obtained from the attributions made to pictures with negative outcomes and strictly speaking these scores only indicate the subjects' attribution tendencies in such situations, but say nothing about their attributions in positive outcome situations. In such situations it would not be appropriate to sum these two scores because, for instance, a subject who perceived a positive outcome situation in an impersonal manner might be seen as having a negative attribution tendency.

III. RELIABILITY

There were three matters of concern regarding the reliability question: the reliability of the measurements, over-time consistency and coding reliability of the responses.

1. Reliability of the measurements.

The reliability of the measurements were assessed by correlating the perception of intention scores and the perception of personal-impersonal causality scores. This was a kind of 'split-half' reliability. It was assumed that if attribution of positive or negative intentions and attribution of personal or impersonal causality are the results of the same general attribution tendency, the perception of intention scores and the perception of personal-impersonal causality scores should be significantly correlated. The correlations between these two types of scores were computed using product-moment correlation. This procedure yielded correlation coefficients of +.51 and +.73 for the story scores and the questionnaire scores respectively, both being statistically significant at .001 level.

Although the correlations between the perception of intention scores and the perception of personal-impersonal causality scores were highly significant in both cases, the results indicated a higher reliability for the questionnaire technique. A contributory factor to these results can be found in the availability of the answers in the case of the questionnaire technique. In the pictures concerning perception of personal-impersonal causality there was

always an outcome to be explained, thus, as a consequence, the subjects were more inclined to make causal attributions in their stories. As there was no outcome to be explained in the pictures designed to investigate perception of intentions, the subjects tended to account for these pictures in neutral terms. Probably this gave rise to a gap between the perception of intention scores and the perception of personal-impersonal causality scores.

The questionnaire, on the other hand, provided subjects with answers for both types of pictures. As the answers were available, the subjects spontaneously prepared themselves to see the pictures concerning perception of intentions in intentional terms. If we assume that the direction of the attribution of intentions and causality is the product of the same general tendency, subjects who assigned personal (or impersonal) causality to undesirable outcomes also tended to attribute negative (or positive) intentions to uncompleted actions. This in turn increased the correspondence between the perception of intention scores and the perception of personal impersonal causality scores.

2. Over-time consistency of the responses.

The over-time consistency of the responses was examined by computing product-moment correlations between the perception of intention scores, the perception of personal-impersonal causality scores and the general attribution tendency scores obtained from subjects' responses to the stories and questionnaires. The results

indicated a relatively high degree of over-time consistency. The correlation coefficients obtained were $+0.71$ for the perception of intention scores, $+0.79$ for the perception of personal-impersonal causality scores and $+0.85$ for the general attribution tendency scores.

3. Coding reliability of the responses.

The coding reliability of the responses pertains to the question of how reliably subjects can be said to be assigning positive or negative intentions to the characters and personal or impersonal causality to the outcomes in their stories. One possible way to assess coding reliability was to use independent judges to rate the stories on the three point scales used to analyse them. However an inspection of the stories showed that, as can be seen from the examples given, the attributions made by subjects were clear enough not to permit any kind of experimenter bias. The stories were rather simple and the attributions made were either clearly positive or clearly negative rather than indirect attributions which could be rated differently by different judges. For this reason, to examine the coding reliability of the responses was not considered to be necessary.

As to the coding reliability of the questionnaire technique, since the questionnaires consisted of a list of possible answers which were obviously indicating positive or negative intentions and personal or impersonal causality, interjudge agreement would not depart from unity unless there was a human error in recording the responses.

IV RESULTS

Although the scores obtained from the stories and the questionnaires were highly correlated, the fact that these correlations were not perfect suggests that the intentional and causal attributions made by subjects may vary depending on the technique used. In order to examine the effect of popularity on the attribution scores obtained from different techniques, we found it necessary to analyse the data obtained from the stories and the questionnaires separately, and the results will therefore be presented separately.

The relationship between popularity and (1) the tendency to attribute positive or negative intentions to uncompleted actions of others, and (2) the tendency to attribute personal or impersonal causality to undesirable outcomes of the actions of others, and (3) the general attribution tendency, were examined separately using two different methods. The first method involved a three factor analysis of variance. Since individual differences in the attribution process had not been investigated before, we were interested in testing the effects of age and sex, as well as that of popularity on perception of intentions and causality. We were also interested in possible interactions between popularity, age and sex. Although the effect of each independent variable (popularity, age, sex) on perception of intentions and causality could be tested in isolation, an analysis of this nature would not enable the interaction effects to be studied. Given that the data are normally

distributed, the analysis of variance is an ideal method for this purpose, since it enables us to study the main effects associated with popularity, age and sex as well as the interactions between them.

The second method involved computing correlations between popularity scores and (1) the perception of intention scores, and (2) the perception of personal impersonal causality scores, and (3) the general attribution tendency scores using product-moment correlation.

1. The relationship between popularity and the general attribution tendency

The mean general attribution tendency scores of popular and unpopular children in each age and sex group obtained from the stories and the questionnaires are presented in table 8.1.

a. Stories

The results of analysis of variance indicated that, as predicted, the effect of popularity on the mean general attribution tendency scores was significant. Popular children, as compared with unpopular children, were more inclined to make positive attributions in their stories.

As the summary table 8.2 indicates, the analysis yielded no significant age or sex effect nor was there a significant interaction between popularity and age and sex.

TABLE 8.1. Mean general attribution tendency scores of popular and unpopular children in each age and sex group obtained from the stories and the questionnaires.

Age	STORIES				QUESTIONNAIRES			
	Popular		Unpopular		Popular		Unpopular	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
8	5.33	5.50	1	1	6.50	7.75	0.71	2.11
9	5.57	3.87	-0.83	0.80	6	5.75	-1.5	-1.80
10	4.71	3.11	-0.20	-0.25	4.85	0.88	-0.60	0.25

TABLE 8.2. Summary of the analysis of variance for the effects of popularity, age and sex on the mean general attribution tendency scores obtained from the stories.

Source of variation	SS	d.f.	MS	F	P
A	22.71	2	11.35	0.73	n.s.
B	1.20	1	1.20	0.07	n.s.
C	351.81	1	351.81	22.54	.001
AxB	2.84	2	1.42	0.09	n.s.
AxC	1.09	2	0.55	0.03	n.s.
BxC	11.07	1	11.07	0.71	n.s.
AxBxC	9.17	2	4.59	0.29	n.s.
SS w.cell	1014.44	65	15.60		

A = Age B = Sex C = Popularity

The correlation between popularity scores and the general attribution tendency scores was significant ($r = +.44$ $p < 0.01$). The correlation between popularity scores and the general attribution tendency scores were also computed for each age group separately. This procedure yielded correlation coefficients of $+0.54$ ($p < .001$), $+0.37$ ($p < .05$) and $+0.50$ ($p < .001$) for 10, 9 and 8 year old groups respectively.

b. Questionnaires

The effect of popularity on the mean general attribution tendency scores obtained from the questionnaire was also significant. The mean general attribution tendency scores of popular children in each age and sex group were higher than those of unpopular children in the same age and sex group which indicates that

popular children were more inclined to make positive attributions.

The summary of the results of the analysis of variance is presented in table 8.3.

Table 8.3. Summary of the analysis of variance for the effects of popularity, age and sex on the mean general attribution tendency scores obtained from the questionnaires

Source of variation	SS	d.f.	MS	F	P
A	103.63	2	54.81	2.23	n.s.
B	0.49	1	0.49	0.01	n.s.
C	527.47	1	527.47	21.47	0.001
AxB	7.46	2	3.73	0.15	n.s.
AxC	61.11	2	30.55	1.24	n.s.
BxC	12.54	1	12.54	0.51	n.s.
AxBxC	39.84	2	19.92	0.81	n.s.
SS w.cell	1596.06	65	24.55		

A = Age B = Sex C = Popularity

The effects of age and sex were again not significant and there was no significant interaction effect.

The computed correlation coefficient indicated a statistically significant correlation between popularity scores and the general attribution tendency scores ($r = +.45$ $p < .001$). The correlations between popularity scores and the general attribution tendency scores were $+0.49$ ($p < .001$) for the 10 year old group, $+0.42$ ($p < .01$) for the 9 year old group and $+0.52$ ($p < .001$) for the 8 year

old group.

2. The relationship between popularity and the tendency to attribute personal or impersonal causality to undesirable outcomes of the action of others

Table 8.4 shows the mean perception of personal-impersonal causality scores of popular and unpopular children in each age and sex group obtained from the stories and the questionnaires.

a. Stories

As the summary table 8.5 indicates the analysis yielded a significant main effect for popularity. Popular children were more inclined to assign impersonal causality to negative outcomes in their stories, while unpopular children tended to attribute personal causality to such outcomes shown in the pictures.

Table 8.5. Summary of the analysis of variance for the effect of popularity, age and sex on the mean perception of personal-impersonal causality scores obtained from the stories.

Source of variation	SS	d.f.	MS	F	P
A	10.51	2	5.25	0.76	n.s.
B	2.80	1	2.80	0.49	n.s.
C	112.60	1	112.60	16.27	0.001
AxB	3.38	2	1.69	0.24	n.s.
AxC	0.95	2	0.47	0.06	n.s.
BxC	8.18	1	8.18	1.18	n.s.
AxBxC	2.38	2	1.18	0.17	n.s.
SS w.cell	449.60	65	6.91		

A = Age B = Sex C = Popularity

TABLE 8.4. Mean perception of personal-impersonal causality scores of popular and unpopular children in each age and sex group obtained from the stories and the questionnaires.

Age	STORIES				QUESTIONNAIRES			
	Popular		Unpopular		Popular		Unpopular	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
8	2.66	2.50	0	0.66	2.66	4	0.14	0.55
9	2.71	1.50	-0.33	-0.40	2.42	2.75	-0.16	-1.60
10	2.85	1	-1	-0.85	2.57	0.11	0	-0.75

As before the analysis yielded no other significant main or interaction effect.

The correlation between popularity scores and the perception of personal-impersonal causality score was also significant ($r = +.39$ $p < .001$). Although the correlations between popularity scores and the perception of personal-impersonal causality scores of 10 year and 8 year old groups were significant ($r = +.62$ $p < .001$ and $r = +.47$ $p < .001$), the result indicated no significant correlation between popularity scores and the perception of personal-impersonal causality scores of 9 year old children ($r = +.22$).

b. Questionnaires

As in the analysis of the effects of popularity, age and sex on the scores obtained from the stories, the analysis concerning the effects of these variables on the mean perception of personal-impersonal causality scores obtained from the questionnaires yielded a significant main effect only for popularity. Popular children, as compared with unpopular children, were more inclined to choose the answers indicating impersonal causality. The analysis yielded no significant interaction effect.

The results indicated a significant correlation between popularity scores and the perception of personal-impersonal causality scores ($r = +.39$ $p < .001$). However when computed for each age group separately, as in the case of the story scores, significant

correlations were found only for the 10 and 8 year old groups ($r = +.62$ $p < .001$ and $r = +.47$ $p < .001$). The correlation between popularity scores and the perception of personal-impersonal causality scores of 9 year old children, as before, was not significant ($r = +.27$).

Table 8.6 . Summary of the analysis of variance for the effects of popularity, age and sex on the mean perception of personal-impersonal causality scores obtained from the questionnaires.

Source of variation	SS	d.f.	MS	F	P
A	23.53	2	11.76	1.27	n.s.
B	3.28	1	3.28	0.35	n.s.
C	132.65	1	132.65	14.35	0.001
AxB	18.51	2	9.26	1.00	n.s.
AxC	10.09	2	5.04	0.55	n.s.
BxC	0.72	1	0.72	0.07	n.s.
AxBxC	9.50	2	4.75	0.51	n.s.
SS w.cell	600.73	65	9.24		

A = Age B = Sex C = Popularity

3. The relationship between popularity and the tendency to attribute positive or negative intentions to uncompleted actions of others

The mean perception of intention scores of popular and unpopular children in each age and sex group obtained from the stories and the questionnaires are presented in table 8.7.

TABLE 8.7. Mean perception of intention scores of popular and unpopular children in each age and sex group obtained from the stories and the questionnaires.

Age	STORIES				QUESTIONNAIRES			
	Popular		Unpopular		Popular		Unpopular	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
8	2.66	3	1	1.66	3.83	3.75	0.57	1.55
9	2.85	2.37	-0.50	1.20	3.28	3	-1.33	-0.20
10	1.85	2.11	0.80	0.50	2.28	0.77	-0.60	1

a. Stories

The analysis of the effects of popularity, age and sex on the mean perception of intention scores, obtained from the questionnaire, yielded a significant main effect for popularity. In the stories they gave, popular children were more inclined to attribute positive intentions to the characters appearing in the pictures. As the summary table shows the analysis yielded no other significant main or interaction effect.

Table 8.8. Summary of the analysis of variance for the effects of popularity, age and sex on the mean perception of intention scores obtained from the questionnaire

Source of variation	SS	d.f.	MS	F	P
A	7.77	2	3.88	1.16	n.s.
B	2.35	1	2.35	0.71	n.s.
C	51.79	1	51.79	15.59	0.001
AxB	1.37	2	0.69	0.20	n.s.
AxC	2.98	2	1.49	0.45	n.s.
BxC	1.97	1	1.97	0.59	n.s.
AxBxC	5.73	2	2.86	0.86	n.s.
SS w.cell	215.92	65	3.32		

A = Age B = Sex C = Popularity

Although the correlation between popularity and the perception of intention scores was significant when computed regardless of the age of the subjects, ($r = +.37$ $p < .001$), the correlation coefficients obtained between these two scores for

different age groups showed that popularity scores and the perception of intention scores of 10 year old children did not correlate significantly. However the correlations were significant in the cases of 8 and 9 year old children ($r = +.40$ $p < .001$ and $r = +.42$ $p < .02$).

b. Questionnaires

The analysis of the effect of popularity, age and sex on the mean perception of intention scores yielded a significant main effect for popularity and age. Popular children tended to choose the answers indicating positive intentions more frequently than did unpopular children and the tendency to attribute negative intentions to uncompleted actions of others showed an increase with age. The analysis yielded no significant interaction effect. The results of the analysis of variance are summarized in table 16.3.

Multiple comparisons between the age means, using an extension of Duncan's Multiple Range Test for unequal cell frequencies (Kramer, 1956) shed further light on the relationship between age and the tendency to attribute negative intentions to uncompleted action of others. The mean perception of intention scores of 8 year old group was significantly higher than those of 9 and 10 year old children; but the mean perception of intention scores of 9 and 10 year old groups did not significantly differ from each other. It should be noted in this context that this tendency was observed in most of the analysis. However, only in

the case of perception of intention scores obtained from the questionnaire was the effect statistically significant.

Table 8.9. . Summary of the analysis of variance for the effects of popularity, age and sex on the mean perception of intention scores obtained from the questionnaires.

Source of variation	SS	d.f.	MS	F	P
A	32.47	2	16.23	3.15	0.05
B	1.68	1	1.68	0.35	n.s.
C	126.48	1	126.48	24.52	0.001
AxB	0.61	2	0.31	0.05	n.s.
AxC	19.83	2	9.94	1.92	n.s.
BxC	15.58	1	15.58	3.02	n.s.
AxBxC	3.52	2	1.76	0.34	n.s.
SS w.cell	335.27	65	5.15		

A = Age B = Sex C = Popularity

As to the correlation between popularity and the perception of intention scores the results showed that these two scores were significantly correlated ($r = +.47$ $p < .001$). The correlations between popularity scores and the perception of intention scores were also significant in all age groups. The correlation coefficients obtained were $r = +.42$ ($p < .05$) for 10 year old group, $r = +.52$ ($p < .001$) for 9 year old group and $r = +.49$ ($p < .001$) for 8 year old group.

V. DISCUSSION

The results of the study confirmed our prediction regarding the relationship between popularity and attribution tendencies. In accordance with our expectation popular children showed a significant tendency to interpret the pictures in a more positive direction than did unpopular children.

Popularity was, without exception, a significant factor in all analyses. The mean perception of intention scores, the mean perception of personal-impersonal causality scores and the mean general attribution scores of popular children were significantly higher than those of unpopular children both in cases of the scores obtained from the stories and of the scores obtained from the questionnaires. The effect of popularity did not seem to interact with the effect of age or sex which means that popular children regardless of their age and sex are more inclined to make positive attributions in ambiguous situations.

Popularity scores were also significantly correlated to all three types of attribution scores when computed regardless of age of subjects. However the correlation between popularity scores and the perception of personal-impersonal causality scores of 9 year old children was significant neither in the case of scores obtained from the stories nor in the case of scores obtained from the questionnaires. This was also the case for popularity and the perception of intention scores of 10 year old children obtained from the stories. Nevertheless

even in these three cases there were positive correlations between popularity scores and the attribution scores, though they were not statistically significant. These results indicate that popularity in children's groups is strongly associated with the interpretation of the actions and the action outcomes produced by others in a positive or negative direction.

The relationship between popularity and the tendency to interpret the actions and the action outcomes of others in a positive or negative direction may be seen in terms of the basic assumption of attribution theory that the intentional and causal attributions the perceiver makes concerning the actions of others have important implications for his subsequent relations with them. The effects of perceived cause or intentions on the relationship between the perceiver and the actor probably stem from the evaluation of the actor made by the perceiver following his attributions. A number of investigators have pointed to the fact that attribution of causes and intentions to the actions does not merely enable the perceiver to make predictions about future events on a logical basis, but also results in an evaluation of the person concerned (Warr and Knopper, 1968; Heider, 1958; Jones and Davis, 1965). This evaluation is such that if the outcome is positive and it is perceived as intentionally produced the actor is evaluated positively; and if the outcome is negative and it is perceived as intentionally produced the actor is evaluated negatively. Evaluation of the actor becomes even inevitable when the outcome somehow affects the perceiver.

Jones and Davis (1965) in their analysis of the attribution process introduce the terms "hedonic relevance" and "personalism". They use the term "hedonic relevance" to refer to a condition in which an action either gratifies or offends the perceiver. "Personalism" refers to the conditions in which the perceiver believes that he is the intended target of the actions. Jones and Davis argue that perceived "hedonic relevance" and "personalism" should have a dramatic effect on the perceiver's evaluation of the actor. A condition of personalism and negative relevance would guarantee negative evaluation of the actor. Similarly personalism and positive relevance should increase positive evaluation of the actor.

People also respond to positively and negatively evaluated persons in certain emotional ways. Responses to positively evaluated persons may involve attraction, liking, respect, sympathy and so on, while responses to negatively evaluated persons may be of fear, hostility, withdrawal, animosity and so on (Warr and Knapper, 1968). Support for this proposition comes from Pepitone and Sherberg's (1957) study in which it was demonstrated that a person's attractiveness to another varies depending on the perceived intentionality behind a given action. Since the actor is also a perceiver, the negative or positive behaviour demonstrated by the perceiver would elicit negative or positive response from the actor, which in turn would affect the relationship between the perceiver and the actor.

Since the causal and intentional attributions a person makes concerning the actions of a particular other affect his relations with him, it is plausible to assume that a generalised tendency to make positive or negative attributions to the actions of others may affect a person's interpersonal relations in general. It is also plausible to assume that the effect of a positive or negative attribution tendency on a person's relations with his group members would be even more dramatic, because the actions of a group member usually affect the other members of the group in one way or another. In Jones and Davis' terms an action of a group member is likely to have "hedonic relevance" for the other members.

A child's attribution tendency may affect his popularity with peers in a number of ways. Firstly, a positive or negative attribution tendency may simply cause an increase or decrease in the total number of peers towards whom the child behaves in a friendly manner. Since the evaluation of the actor and consequently the perceiver's behaviour are partly determined by the perceived cause or intention behind a given action, a tendency to see undesirable outcomes as personally caused and to assign negative intentions to the actions over time may result in a decrease in the total number of peers toward whom the child behaves in a friendly way. This in turn may cause an increase in the total number of peers who evaluate the child negatively or at least in the total number of peers who do not want to engage in relations with him. Although the present data does not provide information about the

relationship between a particular attribution tendency and a particular behaviour pattern, aggressive and hostile behaviour of unpopular children observed by numerous investigators (e.g. Hartup et al 1967, Lasser 1959) may partly stem from their generalized negative attribution tendencies. The following statement which was found in the description of an unpopular child given by one of the subjects in study I illustrates this point clearly: "When you think you are doing something good, he doesn't think it is good and starts bashing you".

When undesirable effects are perceived as impersonally caused, the perceiver's evaluation of the actor is likely to remain neutral or unchanged. Therefore the tendency to see undesirable effects as impersonally caused does not necessarily affect the number of negatively evaluated peers. However, the tendency to assign positive intentions to the actions of others demonstrated by unpopular children is likely to cause an increase in the total number of positively evaluated peers. Furthermore, if it is assumed that a person's attribution tendency is a result of his general beliefs concerning other people, popular children are also expected to attribute personal causality to desirable outcomes of the actions of others. Such a tendency would certainly affect the number of positively evaluated peers and consequently the number of persons toward whom the child behaves in a friendly manner.

Secondly, a negative attribution tendency may result in unstable behaviour patterns toward existing friends, since

undesirable effects of their actions tend to be perceived as personally caused or negative intentions tend to be assigned to their actions. A number of studies have demonstrated that an anticipation or assumption of being liked produces liking for another person and determines the continuation of the existing relations to a large extent (Walster and Walster, 1963; McWhirter and Jeckner, 1967). An assumption of this kind can best be checked out by the other person's behaviour toward oneself in different situations. The unstable behaviour patterns resulting from the negative attribution tendency are likely to puzzle the existing friends as to whether they are liked or not and over time this may result in an erosion of the existing bonds of friendship.

A tendency to see undesirable outcomes of the actions of existing friends and to attribute positive intentions to their actions, on the other hand, is likely to lead to a stable behavioural pattern toward them and consequently the friendship relations continue. It may also be added that attribution theory assumes that people want to predict and control their world and to structure it so as to produce favourable outcomes. If this is the case, individuals are likely to avoid a person whose behaviour is unpredictable, because some of his unpredictable actions may have bad consequences for them.

Thirdly, an important feature of intentional and causal attributions is that once they are made they tend to produce behaviour on the part of the perceiver that will guarantee that expectations about the actor resulting from the attributions are fulfilled

(Shaver, 1975; Hastorf, Schneider and Polefka, 1970). This tendency has been termed by Merton (1967) as "self-fulfilling prophecy". Merton notes that "The self-fulfilling prophecy is, in the beginning, a false definition of the situation evoking a new behaviour which makes the originally false conception come true. The specious validity of the self-fulfilling prophecy perpetuates a reign of error. For the prophet will cite the actual course of events as proof that he was right from the very beginning" (p. 423). The way in which the "self-fulfilling prophecy" may operate can be demonstrated by the following examples: a child perceives a negative outcome resulting from another child's action as intentionally produced and attributes hostility to him and as a result of this attribution begins to behave in a hostile way to the other child. The other child, who in turn perceives hostility and is angered by it begins to react in a hostile way. The first child perceives the second child's hostility and still becomes more convinced than he was before that the other child is a hostile one. Or a child perceives a good intention behind the action of another child and he attributes friendliness to him and as a consequence he begins to behave in a friendly way toward him. The second child perceives this and behaves in a friendly fashion toward the first child making him more convinced that he is a friendly person. If we apply these examples to a large number of others, it becomes even clearer how a child's attribution tendency affects his relations with peers. It may also be argued that if we assume that a person's attribution tendency is a result of his general belief concerning other people, attributions made as a result of such a tendency would create

evidence that makes the person's existing belief still stronger thus affecting his attributions and consequently interpersonal relations more strongly . It should be noted immediately, however, that we do not argue that a child with a negative attribution tendency, in Merton's terms, always makes a false definition of the situation or a child with a positive attribution tendency always makes a correct definition of the situation. It is possible, for example, that a child with a positive attribution tendency may make erroneous attributions, i.e. he may perceive an intentionally produced negative outcome as impersonally caused or the negative attributions made by a child with a negative attribution tendency may sometimes be correct. All we suggest is that a positive attribution tendency is more likely to lead to better interpersonal relations.

None of the analyses yielded a significant sex effect which suggests that positive or negative attribution tendencies exist independent of the sex of individuals. This result also confirms our conclusion that the sex differences found in the pilot study might be due to the fact that all the characters appearing in the pictures were boys.

The effect of age was significant in one analysis. The analysis of the perception of intention scores obtained from the questionnaires has indicated that the tendency to attribute negative intentions to the actions of others shows an increase with age.

Although the effect was statistically significant in only one analysis, this tendency was observed in most of the scores. This suggests the possibility that there might be a developmental shift from positive to negative attributions. No study to date has examined the effect of a positive or negative attribution tendency on the causal and intentional attributions made and the developmental changes in such tendencies. Therefore there is no empirical evidence with which the present results can be compared. However there is empirical evidence suggesting that children's evaluations of others become more negative as they grow older. For example, Kohn and Fiedler (1961) using the semantic differential test have demonstrated that with increasing age children become more critical of themselves and others. Moore (1966) observed a statistically significant increase with age in the amount of violence perceived. Similar results have been reported by other investigators (Taylor and Thompson, 1966; Fiedler and Hoffman, 1962). Although these studies do not provide support for our findings concerning the developmental changes in attribution tendencies they seem to provide evidence for our suggestion that a person's attribution tendency is a result of his general beliefs concerning other people, since the increasing negativity in the evaluation of others is paralleled with an increasing tendency to make more negative attributions.

There seems to be no apparent reason why children should become more negative in their attributions as they grow older. One plausible explanation may be found in children's expanding social

worlds. Probably a child's first impressions concerning other people are those of his parents and close relatives who normally show affection and gratify his needs. As the child becomes more mature, his social world begins to broaden, expanding beyond the boundaries of his home into the neighbourhood and school where he establishes new relations. It is likely that the attitudes of the new people encountered toward the child vary to different degrees from positive to negative thus affecting his evaluations in a negative direction. It is also possible that as the child's ability to see inner qualities of others increases, he becomes more aware of their weaknesses, deficiencies, undesirable motives and behaviours, as well as of course, their positive sides, and this in turn may give rise to a change in his initially positive impressions. It is important to note, however, that our results concerning the developmental changes in attribution tendencies should be regarded with caution, since the age effect indicated by the analysis lacked consistency.

In conclusion, let us reiterate that our prediction regarding the relationship between popularity and attribution tendencies was confirmed. As for the effect of age the results indicated a slight developmental shift from positive to negative attributions. One difficulty in interpreting the present results is whether the subjects' attributions reflect what they really think or what they think are the appropriate responses. However, for the present purpose this is not a crucial problem. The important implication is that the attributions made by children are partly

affected by their own tendencies and such tendencies effect their relations with peers to an important degree.

Finally, it should also be noted that for the present purpose we may seem to exaggerate the role of a perceiver's attribution tendency in determining the causal and intentional attributions he makes. For this reason we should like to emphasize that we do not suggest that a perceiver's attribution tendency is the only factor which determines his attributions. In many situations, the actions of others and other situational factors are clear enough not to permit any kind of bias in attributions. Therefore, our argument is that a perceiver's tendency affects his attributions to the extent that the actions of others and the situational factor allows him.

CHAPTER IX

SUMMARY AND IMPLICATIONS

The main aim of this study has been to investigate the role of perceptual factors in determining children's social success with their peers. More specifically, we have examined the cognitive categories which popular and unpopular children typically employ in perceiving their peers and the characteristic ways in which they attribute causality and intentionality to the actions of others. The research strategies and theoretical considerations which have guided this research have been derived from critical examination of the developmental studies of person perception and the literature on impression formation, attribution theory and the development of the attribution processes.

The cognitive categories which popular and unpopular children employ in perceiving their peers were determined by the analysis of the contents of free descriptions provided by them. The evidence from this analysis suggested that popular children tend to emphasise dispositional qualities of their peers, while unpopular children make more use of the peers' objective qualities in describing them. However, further analysis of the free descriptions revealed that popularity is positively related to the use of only those dispositional categories which have predictive and descriptive potential, while none of the objective categories used showed a consistent relation with unpopularity. It was concluded that the

relationship between perception of peers and social success with them lies in children's perceptual sensitivity or insensitivity to those qualities which have predictive and descriptive value when applied to the behaviour of others. Apart from revealing some differences between popular and unpopular children, the content analysis of free descriptions provided data on the effects of age, sex and like/dislike for stimulus persons on the type of categories used. Although the results in general are congruent with the findings that have emerged from previous studies, they have added some new dimensions that point the direction for further research.

A picture technique was developed for the investigation of attribution tendencies of popular and unpopular children. The children were asked to make up stories about some pictures which were designed to be ambiguous and then to complete a questionnaire which contained a directive question and a number of possible answers for these pictures. The analyses of the stories and questionnaires have shown that popular children tend to interpret the actions and the action outcomes of others much more positively than unpopular children. Based on the assumption of attribution theory that the causal and intentional attributions people make affect their subsequent behaviour to an important degree, we have suggested that a behaviour pattern which results from a positive or negative attribution tendency may account for the link between social success with peers and such attribution tendencies. In addition to the differences found between popular and unpopular children, the results have

indicated a possible developmental shift from a tendency to make positive attributions towards a tendency to make negative attributions. This result suggests a new avenue for the research into the development of attribution processes in children. Investigations of the developmental changes in attribution tendencies and of the factors influencing such changes, if there are any, are obvious directions for future research.

Putting together the results obtained from these two different studies concerned with two different aspects of person perception, it can be safely concluded that perceptual factors play an important role in children's social success with their peers.

The value of the research we have reported lies not only in the fact that it demonstrates that popular and unpopular children employ different cognitive categories in perceiving their peers and that they interpret the action of others differently, but also in the fact that it provides some evidence about the nature of interaction between perception of others and interpersonal relations. This interaction between perception of others and interpersonal relations has been recognised by social psychologists for some time. However, despite the considerable anecdotal evidence for the nature of this relation, there has been surprisingly little research with the specific goal of determining what kind of perceptual style leads to what kind of interpersonal relationship. The present

results seem to throw some light on the issue since they suggest that a perceptual style which lays emphasis upon those qualities of others which have predictive and descriptive potential leads to a type of interpersonal relation which satisfies both the perceiver and the perceived. The results also suggest that interpreting the perceived action of others in a positive direction is a prerequisite for effective interpersonal relationships.

However, the present study is not without its limitations. One important question to which the present data cannot provide an answer is: which comes first - popularity or perception? To put the question another way, is a child popular because he perceives the dispositional qualities of his peers and interprets their actions in a positive direction or does he come to develop these positive tendencies as a result of his status in his peer group? This is a question which deserves a careful investigation. However, it may be speculated that the perceptual tendencies are not a function of a single factor, but a result of a complex interaction between factors which have their locus in child-caring practices, the environment in which the child develops and his present status in his peer group. For example, a study reported by Sechrest (1962) has demonstrated that individuals who describe others as "nice", "friendly", "agreeable" tend to be similar to each other with respect to such factors as family background, socio-economic level, than are individuals who do not use such terms

of generalised approval. In another study, Sechrest and Jackson (1961) have found that subjects who use a large number of constructs had a relatively more complex childhood environment than those who use a relatively small number of constructs in describing others. These studies indicate the importance of the family background and social environment in determining which perceptual style a child develops. A child's status, on the other hand, may also affect his perceptions and attributions. A popular child is more likely than an unpopular child to interact with a higher number of peers and consequently gains more experience with a variety of people. As a result of this, perhaps without being aware of it, he may come to learn which perceived qualities enable him to establish more effective relations. Furthermore, as we have already suggested, and repeatedly implied, a person's general beliefs concerning other people, which in turn affect his attribution tendencies, are partly shaped by other people's behaviour towards him. The attitudes and behaviour of his peers toward a popular child are likely to be positive. This in turn may affect the child's belief about people, and consequently his attributions, in a positive way. These are all interesting speculations, but only carefully designed investigations can establish their validity.

Although the present study does not provide evidence for an antecedent-consequent relations between popularity and perception, it clearly shows that the characteristic ways in which children perceive their peers and the actions of others

crucially affect their social success with peers. For whatever reason a child comes to develop a tendency to perceive the objective rather than the dispositional qualities of his peers and to attribute negative intentions to their actions, such tendencies seem to trigger off a series of resultant behaviour which have important consequences for his interpersonal relations. Once a child establishes a bad reputation by virtue of his behaviour resulting from his perceptions, he is likely to be avoided and consequently denied the opportunity to correct his perceptions of his peers and his peers' perception of him.

In many ways, the problem of unpopular children is analogous to the problem which stigmatised persons have to face. "Stigma" may be defined as a characteristic which is negatively evaluated by a large number of people. Physical handicap, skin colour and mental illness are examples of such characteristics (Hastorf et al, 1970). Goffman (1963) notes that the behaviour of people towards stigmatised others is that of avoidance and discrimination which reduce the chances of stigmatised persons to experience successful interpersonal relationships. However, the negative attitudes of their peers toward unpopular children, unlike people's negative attitudes toward stigmatised persons, partly stem from unpopular children's own negative behaviour toward their peers. Therefore, unpopular children would certainly benefit from interventions aimed at modifying their behaviour. How can

this be done? This is a whole topic in its own right which cannot be adequately dealt with here, but the results of the present investigation strongly suggest that a research design aiming to improve the interpersonal relationships of unpopular children should focus on modifying the ways in which they perceive their peers and interpret their actions.

APPENDICES

APPENDIX A

1. THE FORM USED FOR THE SPECIFICATION OF POPULAR
AND UNPOPULAR CHILDREN

Name:.....

Age:

A. These are the three people in the class whom I most like
to be with

1.

2.

3.

B. These are the three people in the class whom I least like
to be with

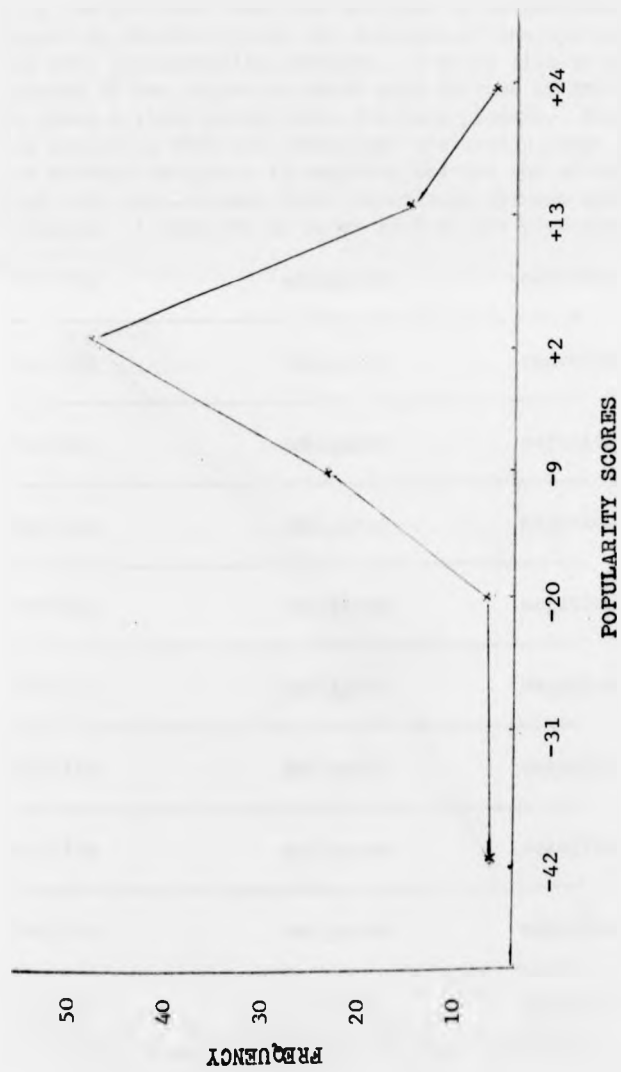
1.

2.

3.

APPENDIX A

2. THE DISTRIBUTION OF POPULARITY SCORES



APPENDIX BTHE FORM USED IN THE PILOT STUDY TO ASSESS THE
LEVEL OF AMBIGUITY OF THE PICTURES.

Name:

I am going to show you twenty pictures. Ten of these pictures have been designed to be ambiguous with regard to the intentions of the persons appearing in them. In other words these pictures were designed in a way that both positive or negative intentions can be attributed to the characters. The remaining ten pictures have been designed to be ambiguous with regard to whether or not the outcomes of the actions depicted were intentionally produced. I would like to have your opinion of the degree to which each picture is ambiguous. You are given a three point scale for each picture. For the pictures concerned with the intentions the scales range from positive through ambiguous to negative and for the pictures concerned with the outcomes from intentional through ambiguous to accidental. I want you to score each of the pictures on the scale.

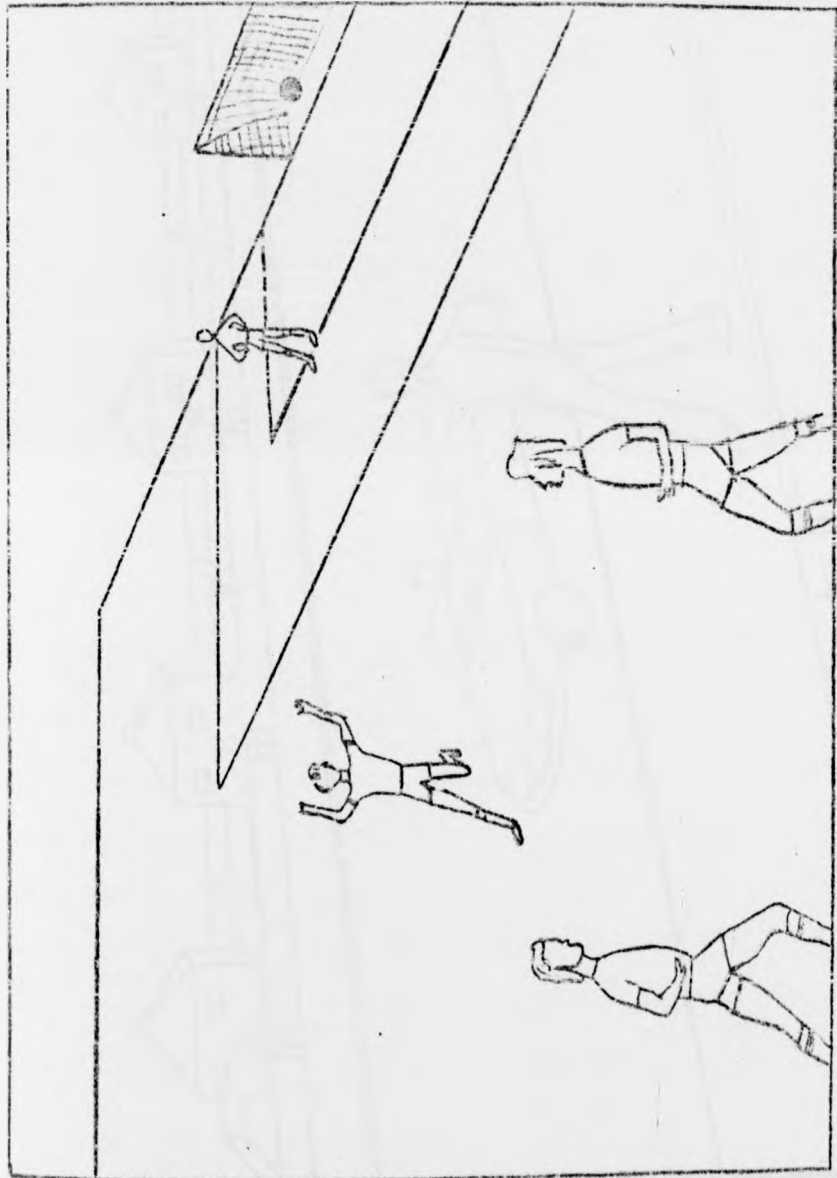
- | | Positive | ambiguous | negative |
|-----|----------|-----------|----------|
| 1. | _____ | | |
| 2. | _____ | | |
| 3. | _____ | | |
| 4. | _____ | | |
| 5. | _____ | | |
| 6. | _____ | | |
| 7. | _____ | | |
| 8. | _____ | | |
| 9. | _____ | | |
| 10. | _____ | | |

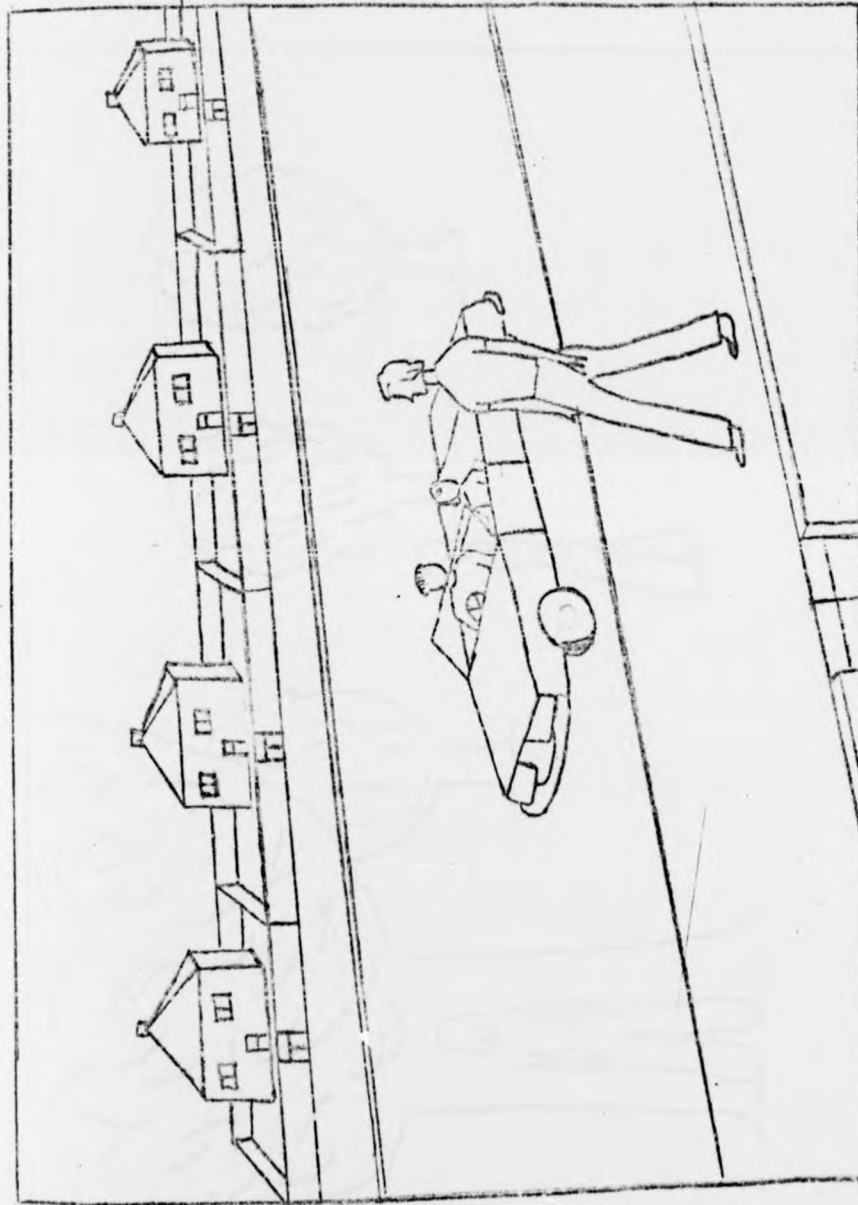
APPENDIX B

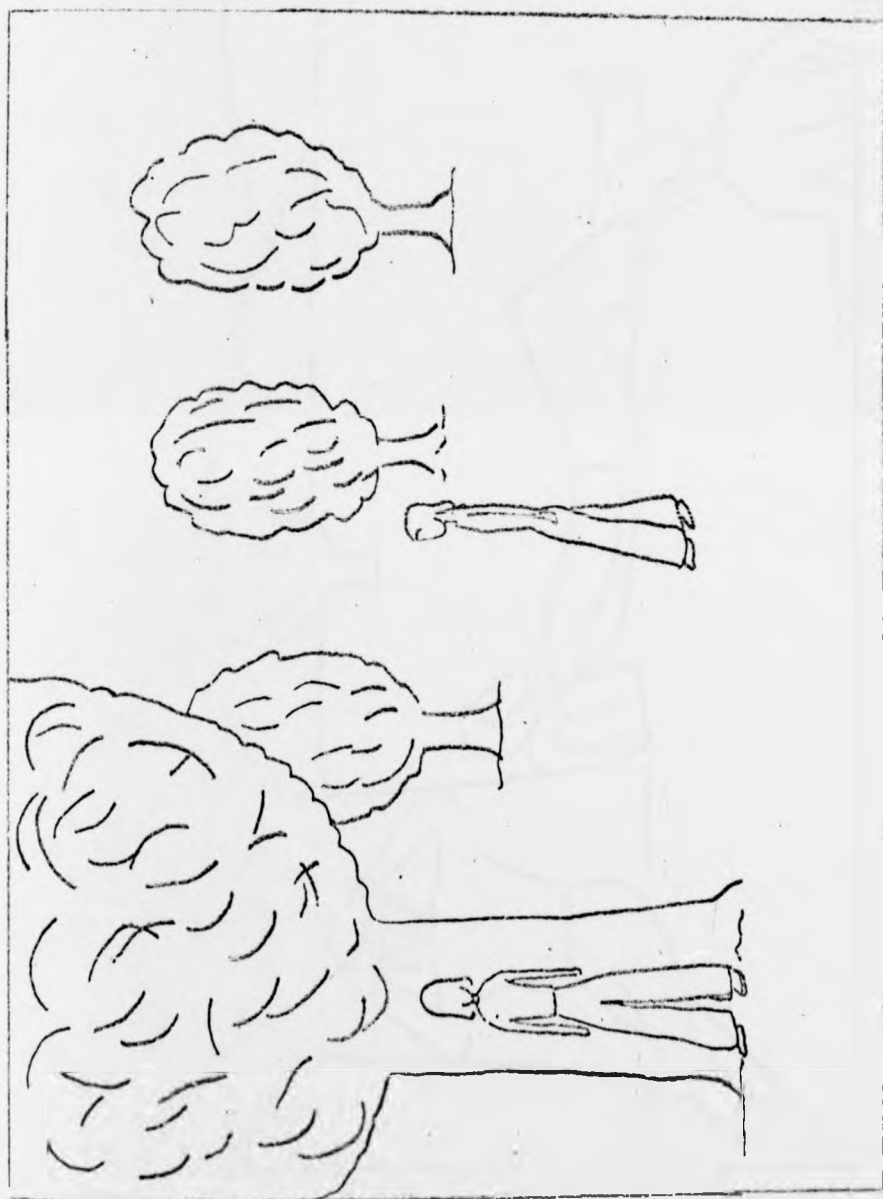
- | | | | |
|-----|-------------|-----------|------------|
| 1. | intentional | ambiguous | accidental |
| 2. | intentional | ambiguous | accidental |
| 3. | intentional | ambiguous | accidental |
| 4. | intentional | ambiguous | accidental |
| 5. | intentional | ambiguous | accidental |
| 6. | intentional | ambiguous | accidental |
| 7. | intentional | ambiguous | accidental |
| 8. | intentional | ambiguous | accidental |
| 9. | intentional | ambiguous | accidental |
| 10. | intentional | ambiguous | accidental |

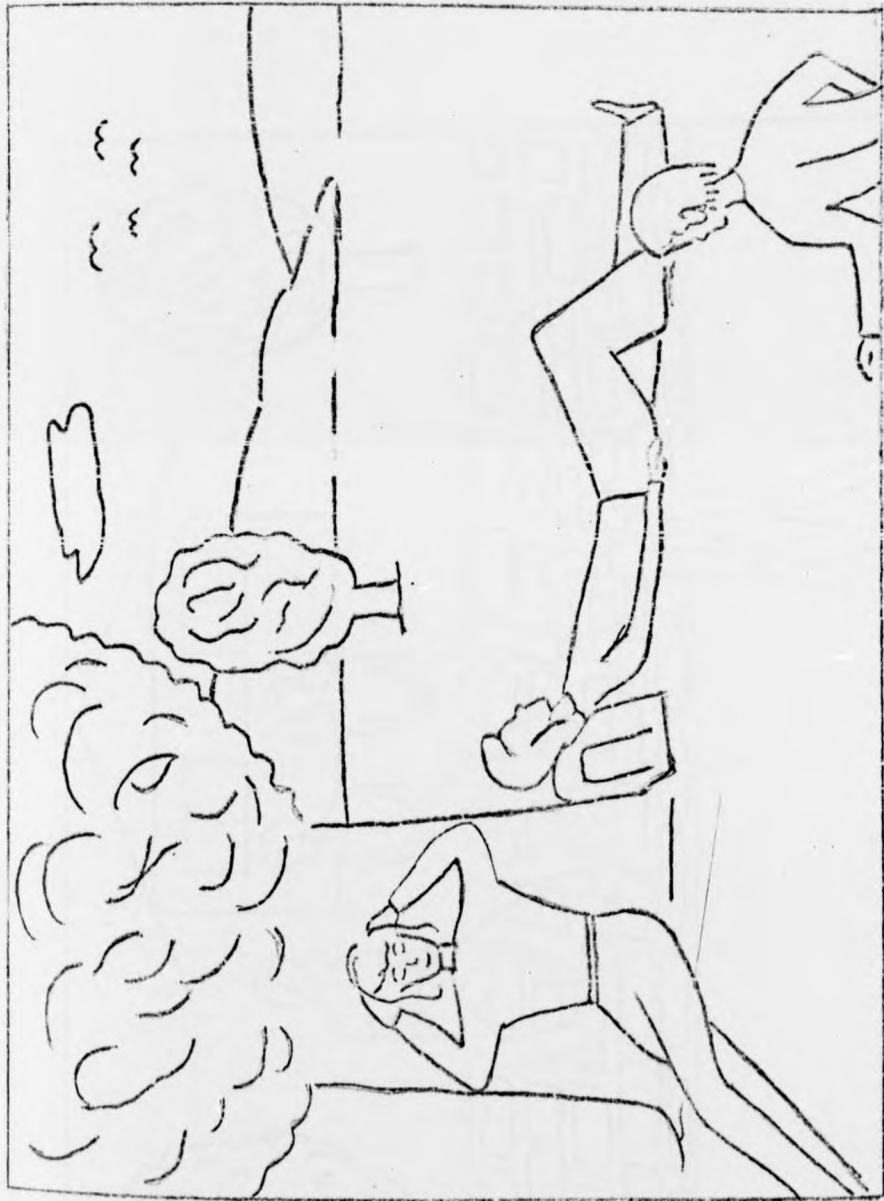
APPENDIX C

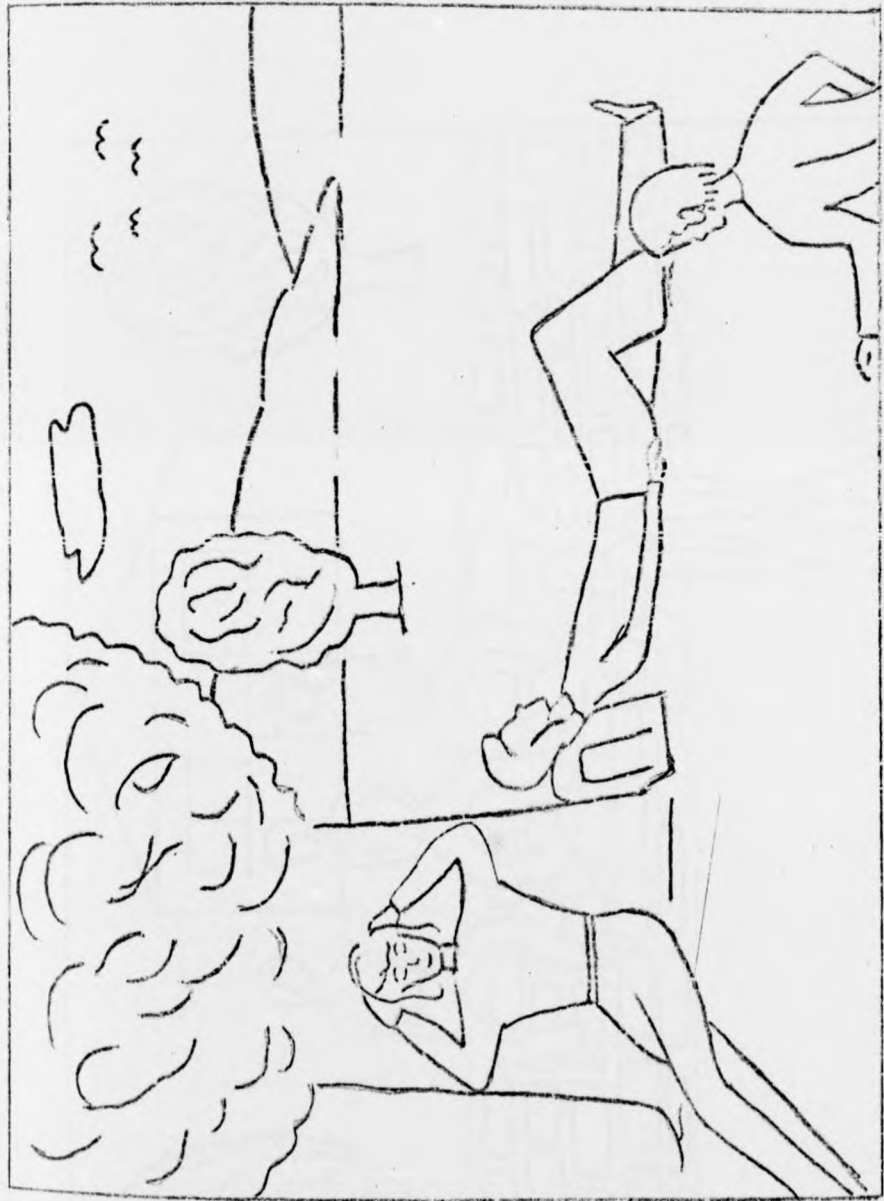
THE PICTURES USED TO INVESTIGATE PERCEPTION OF INTENTIONS
(The first four pictures were used both for boys and girls).

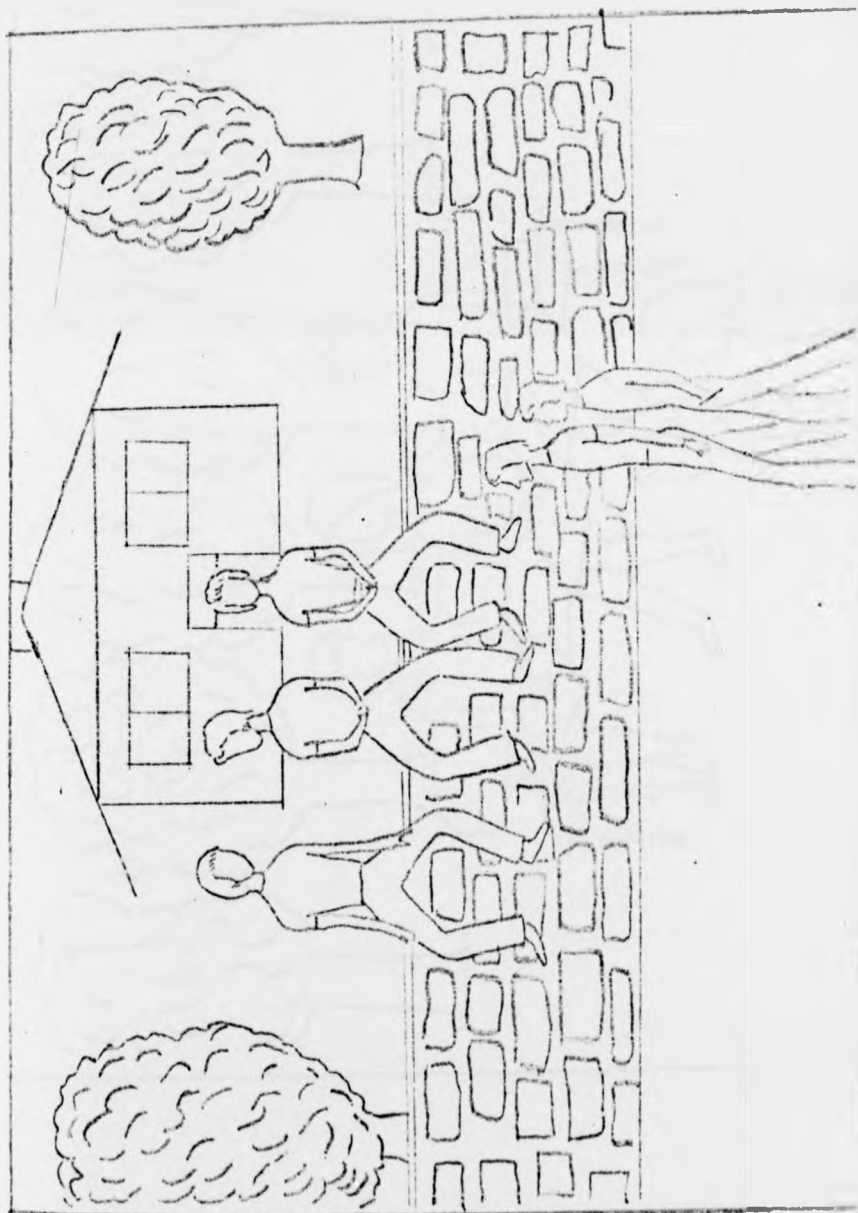


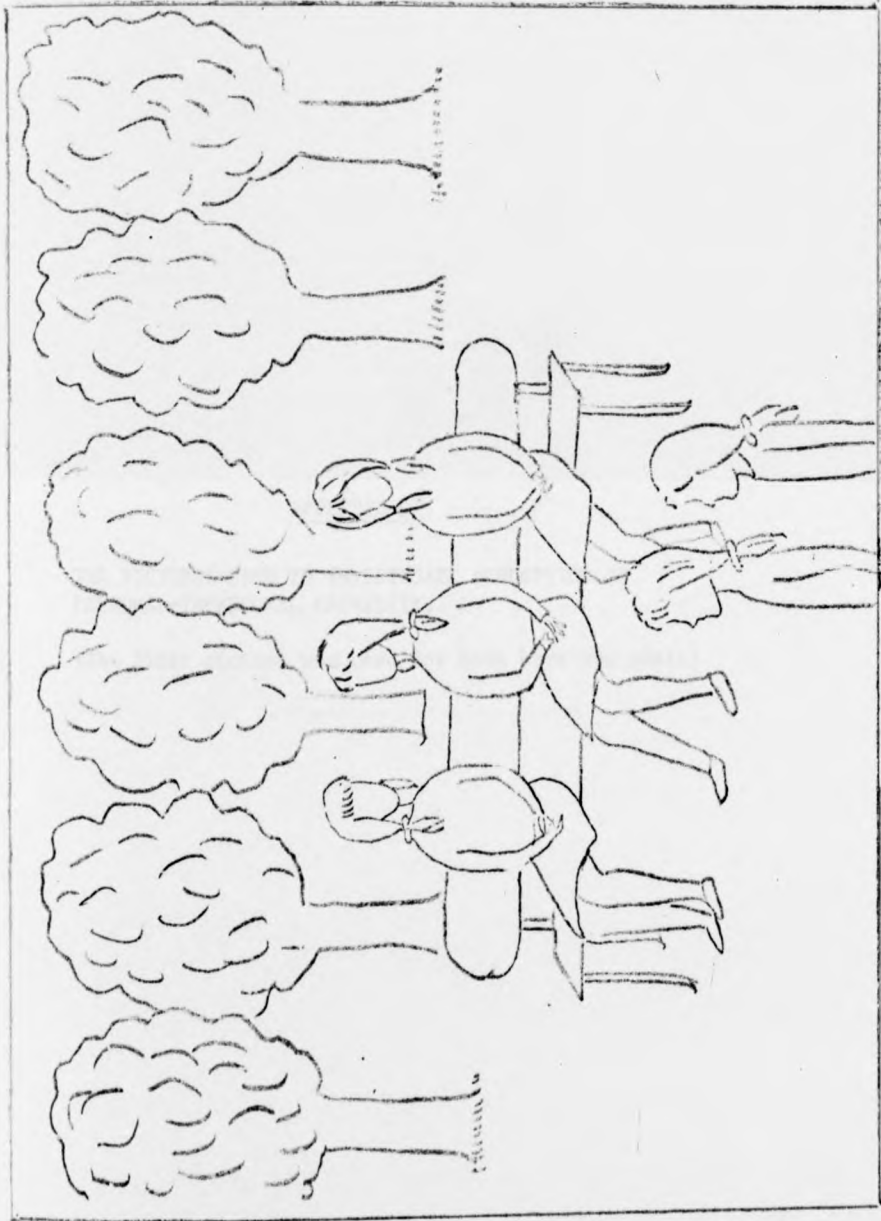








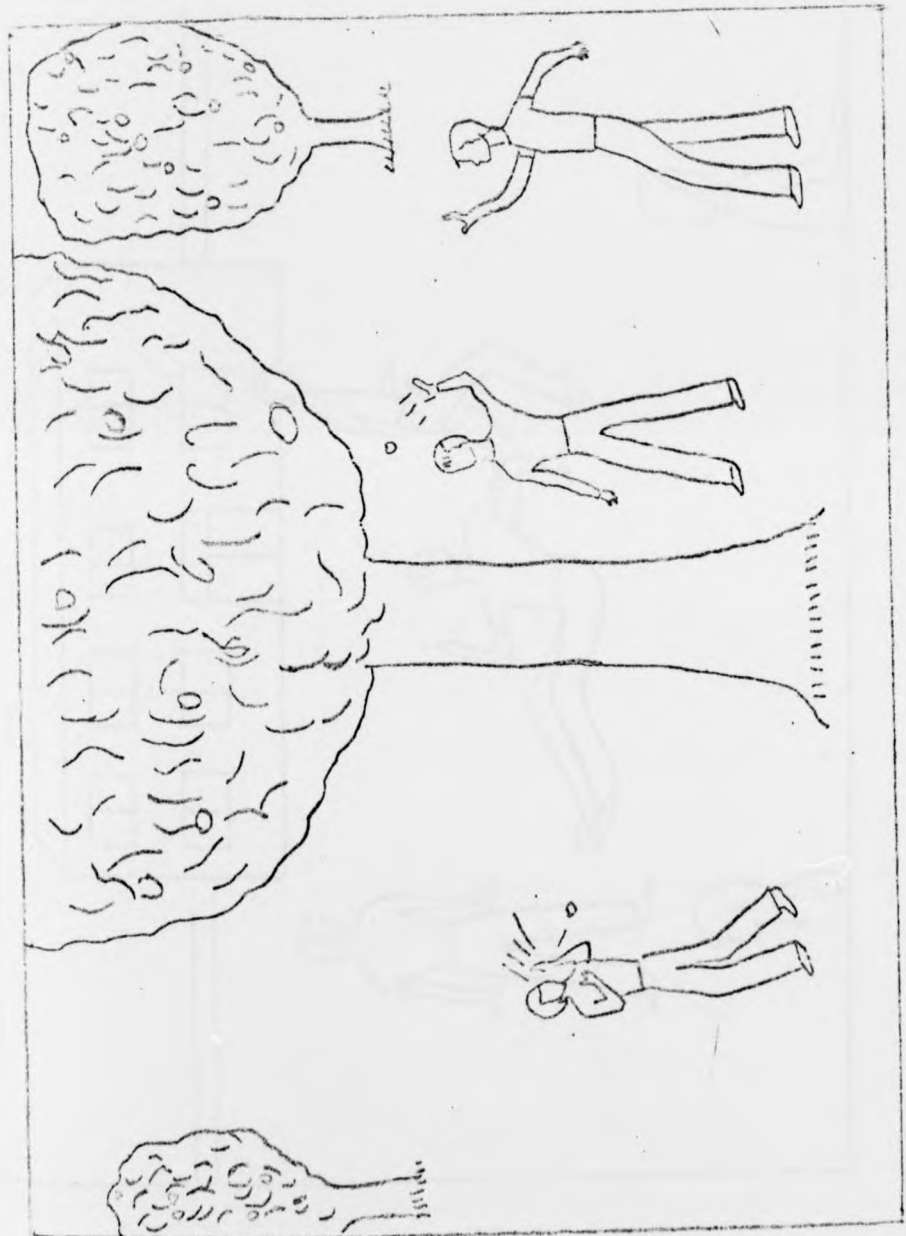


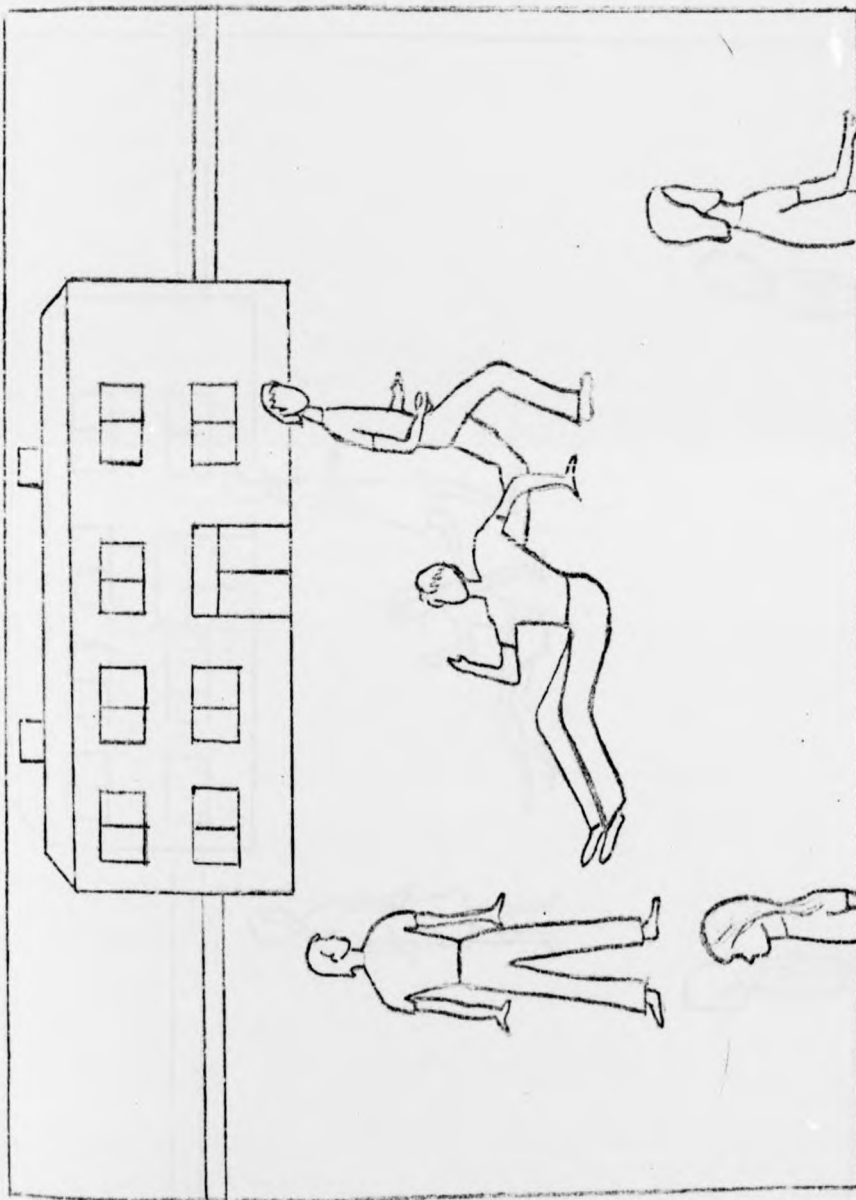


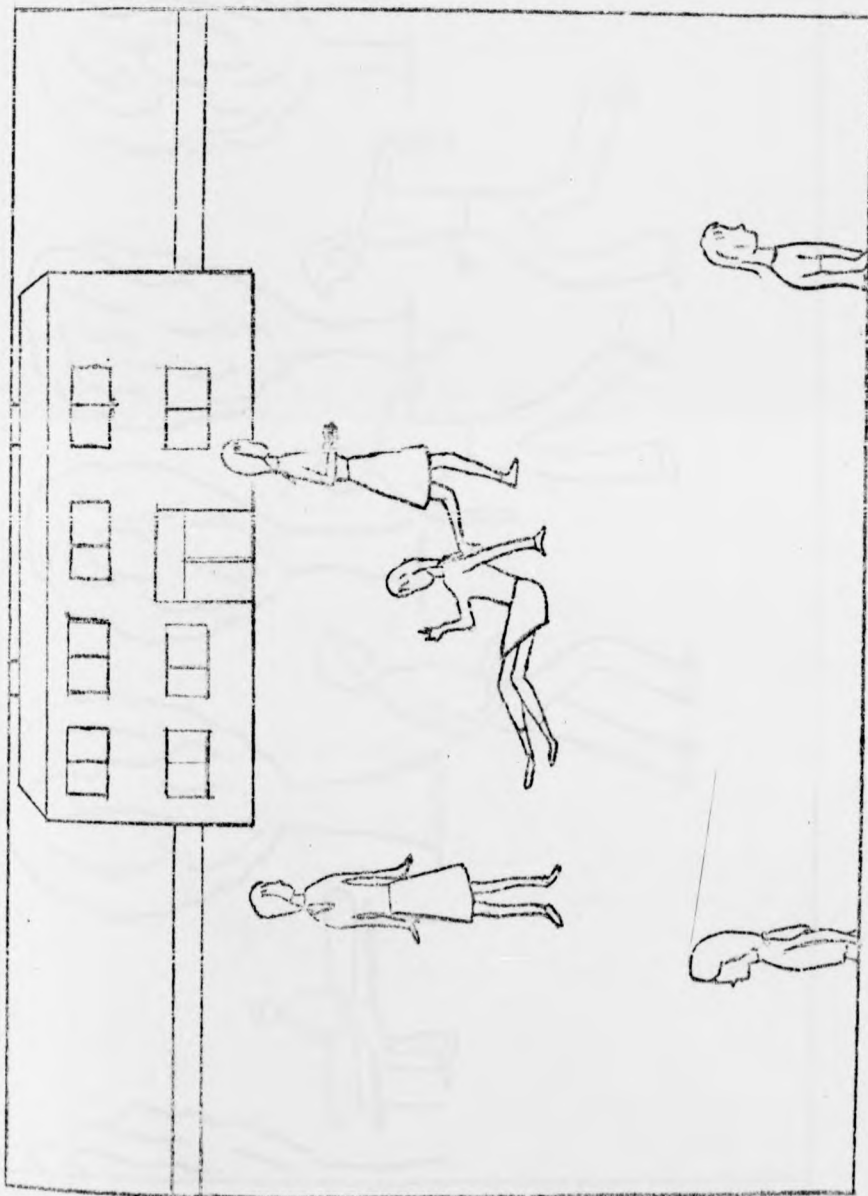
APPENDIX D

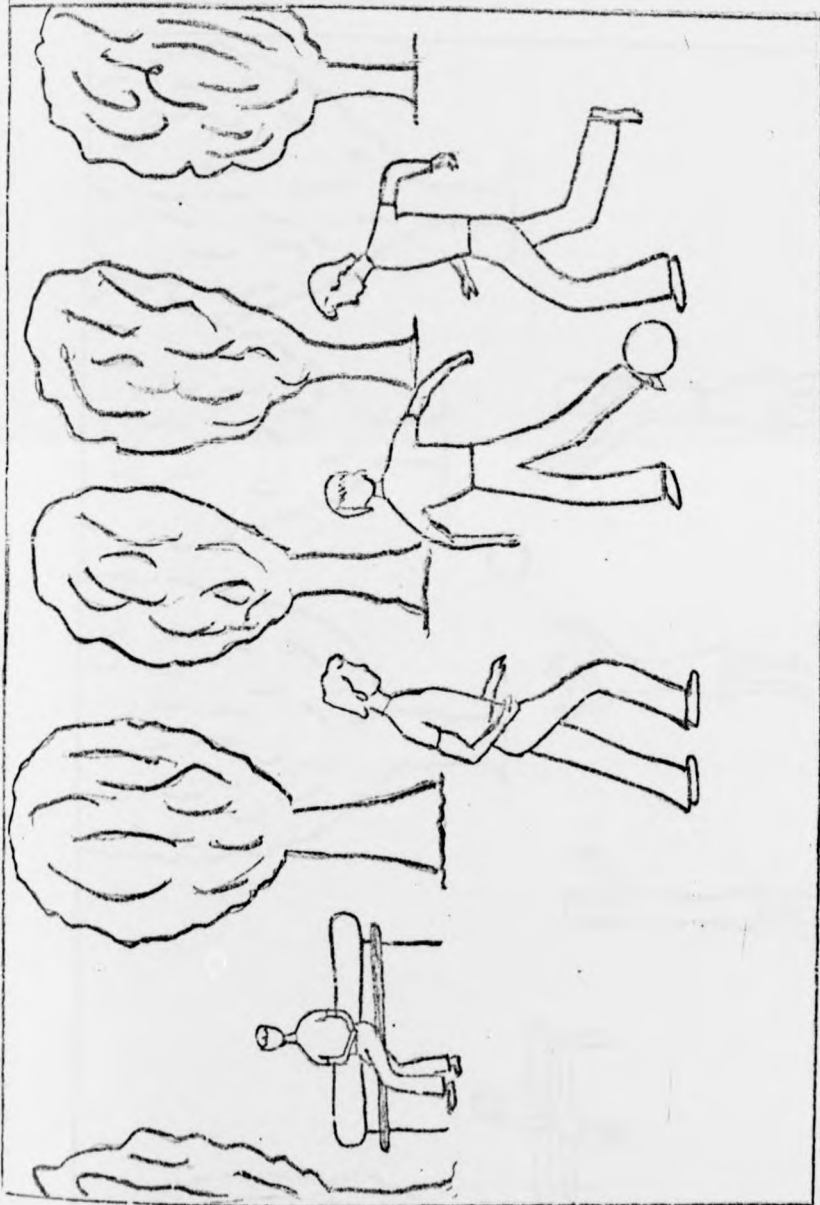
THE PICTURES USED TO INVESTIGATE PERCEPTION OF
PERSONAL-IMPERSONAL CAUSALITY.

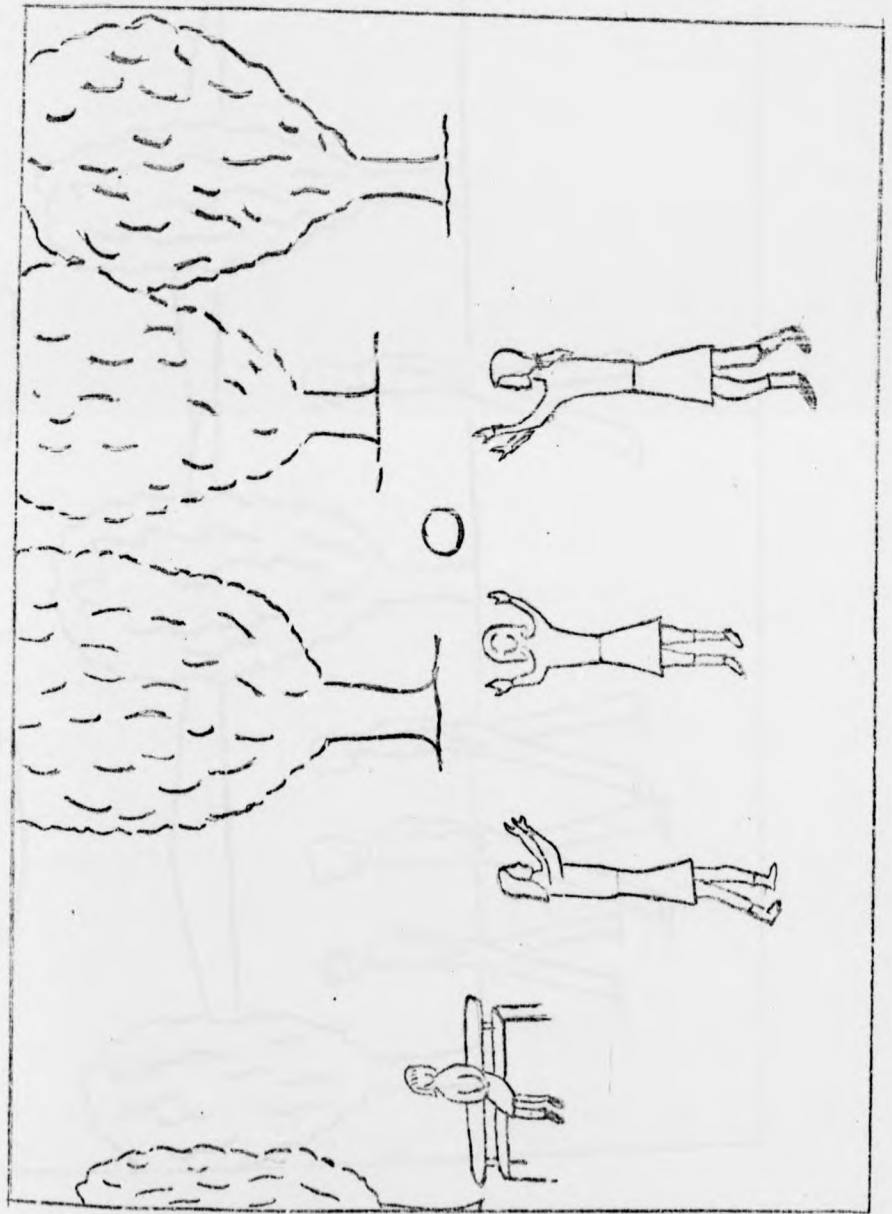
(The first picture was used for both boys and girls)

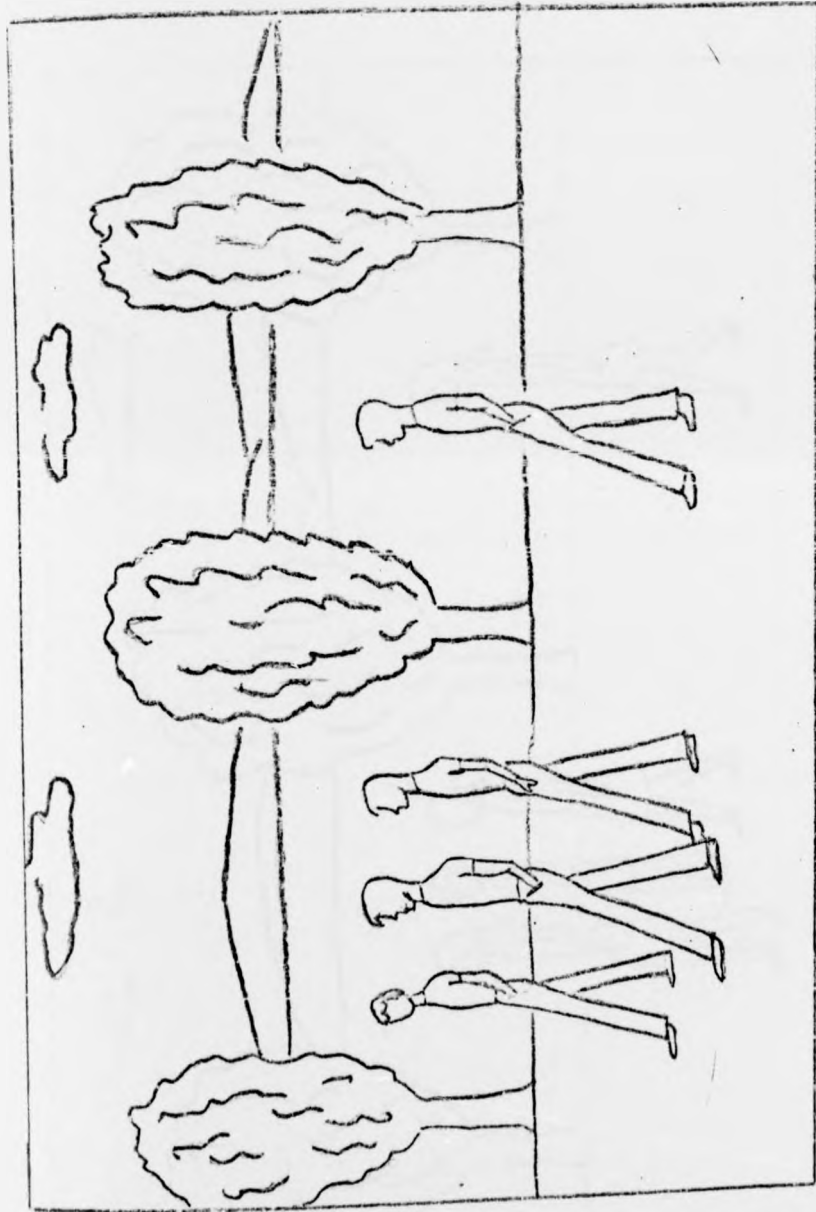


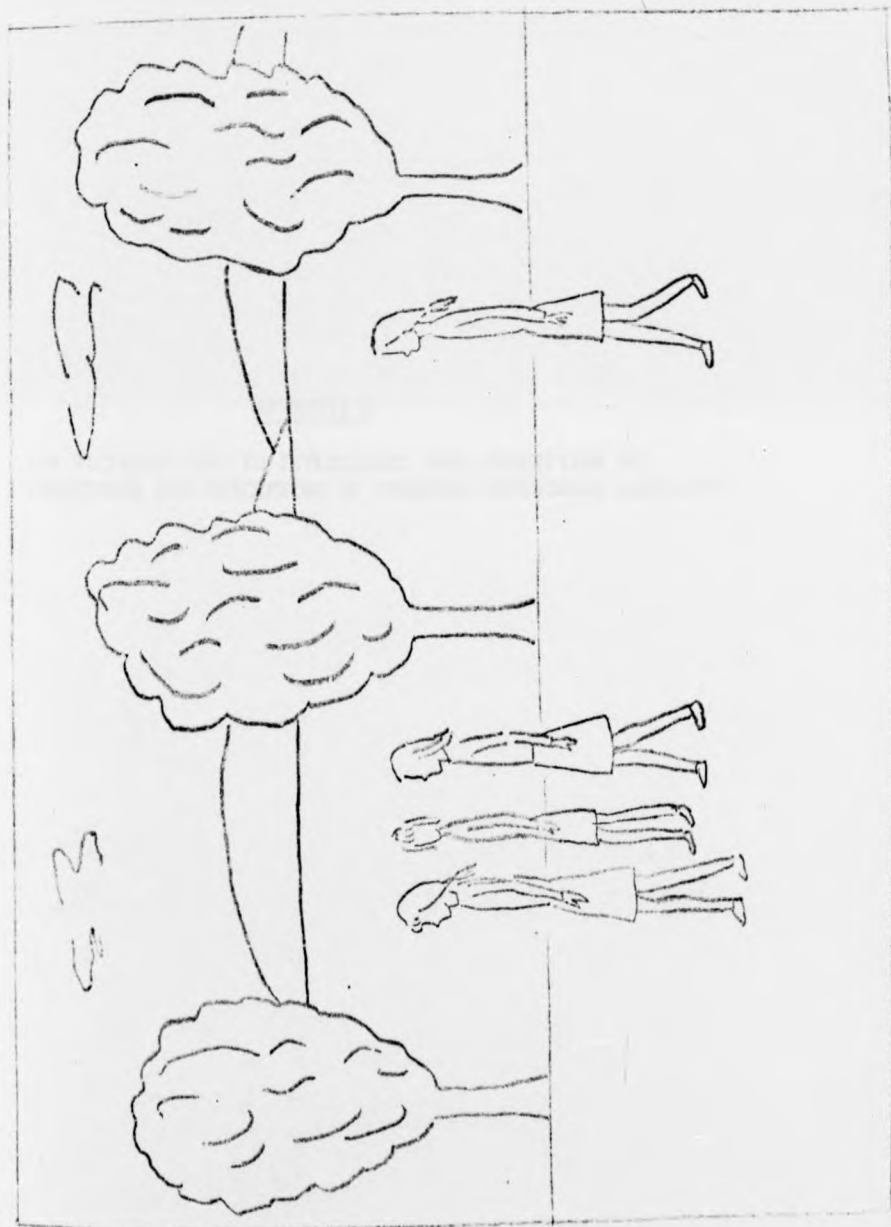






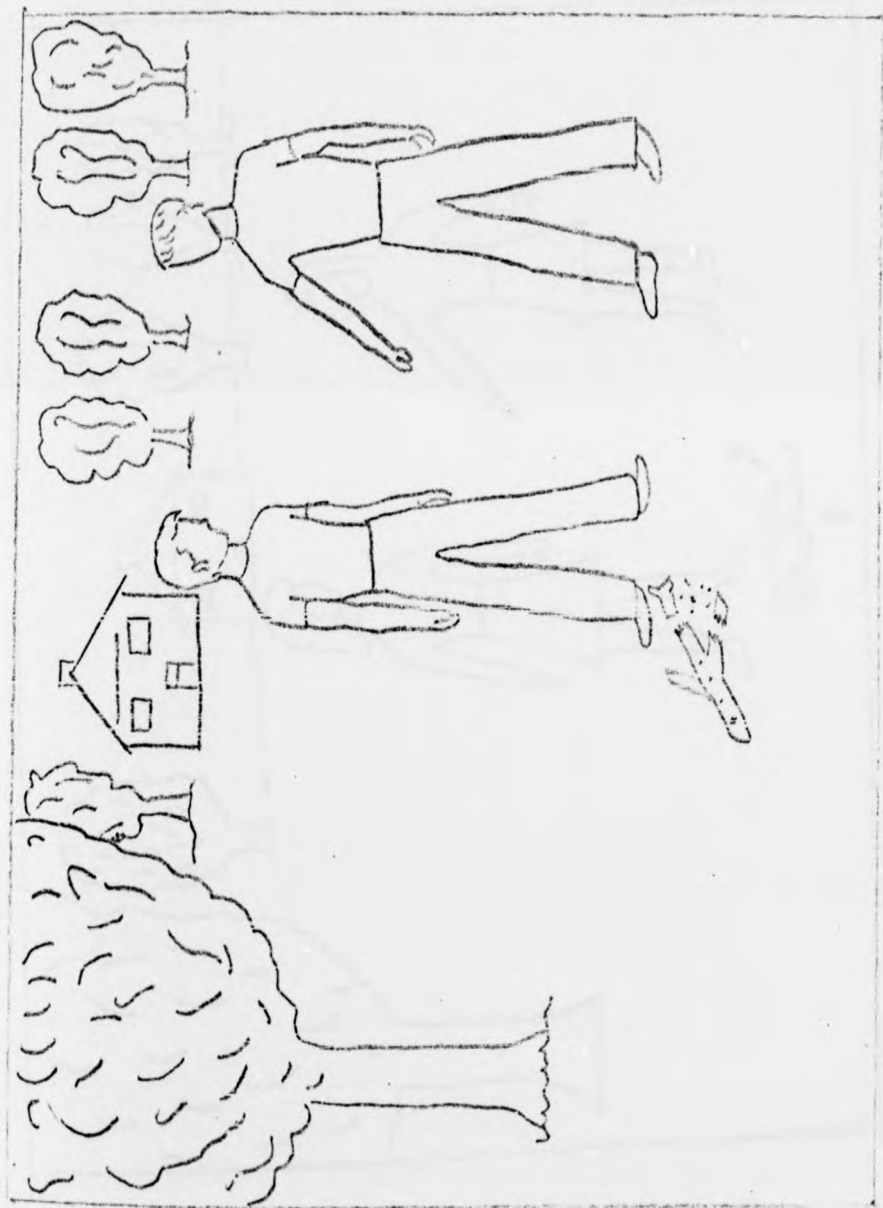


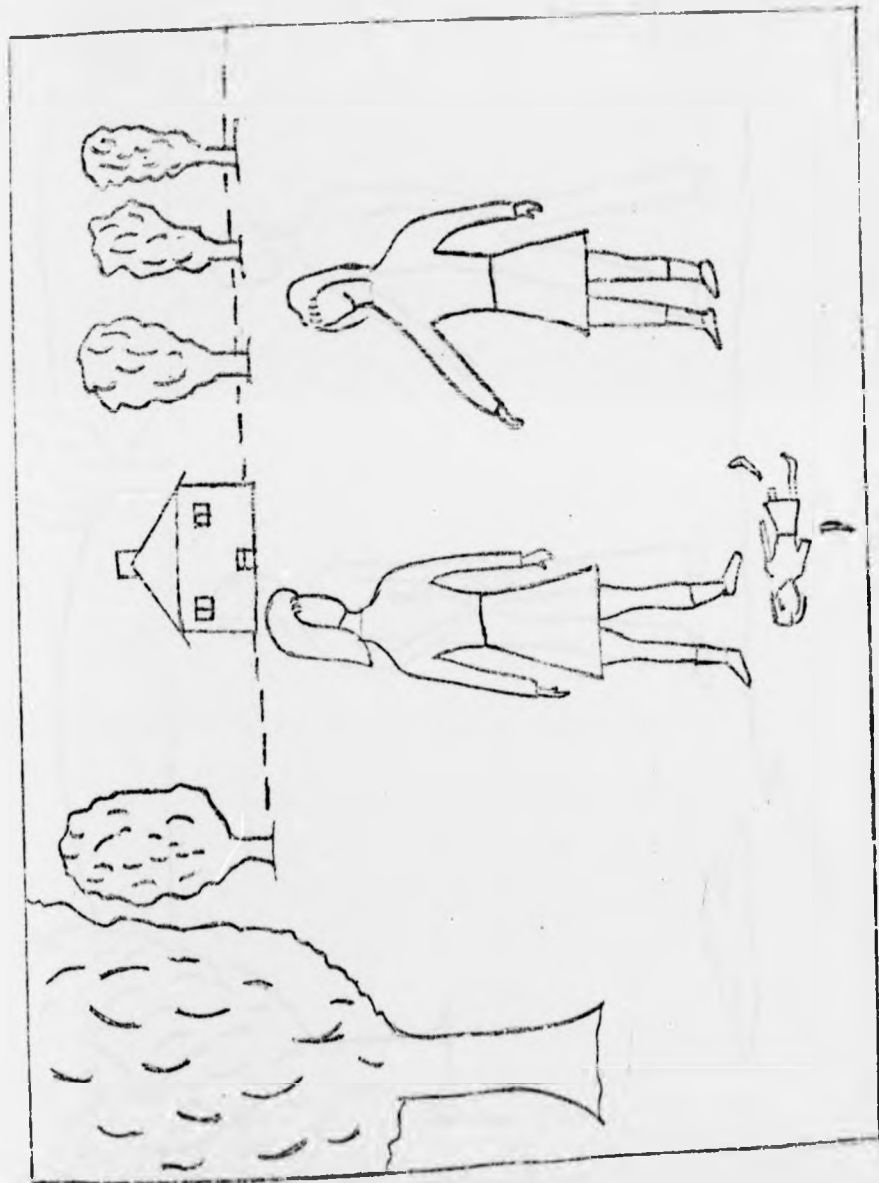


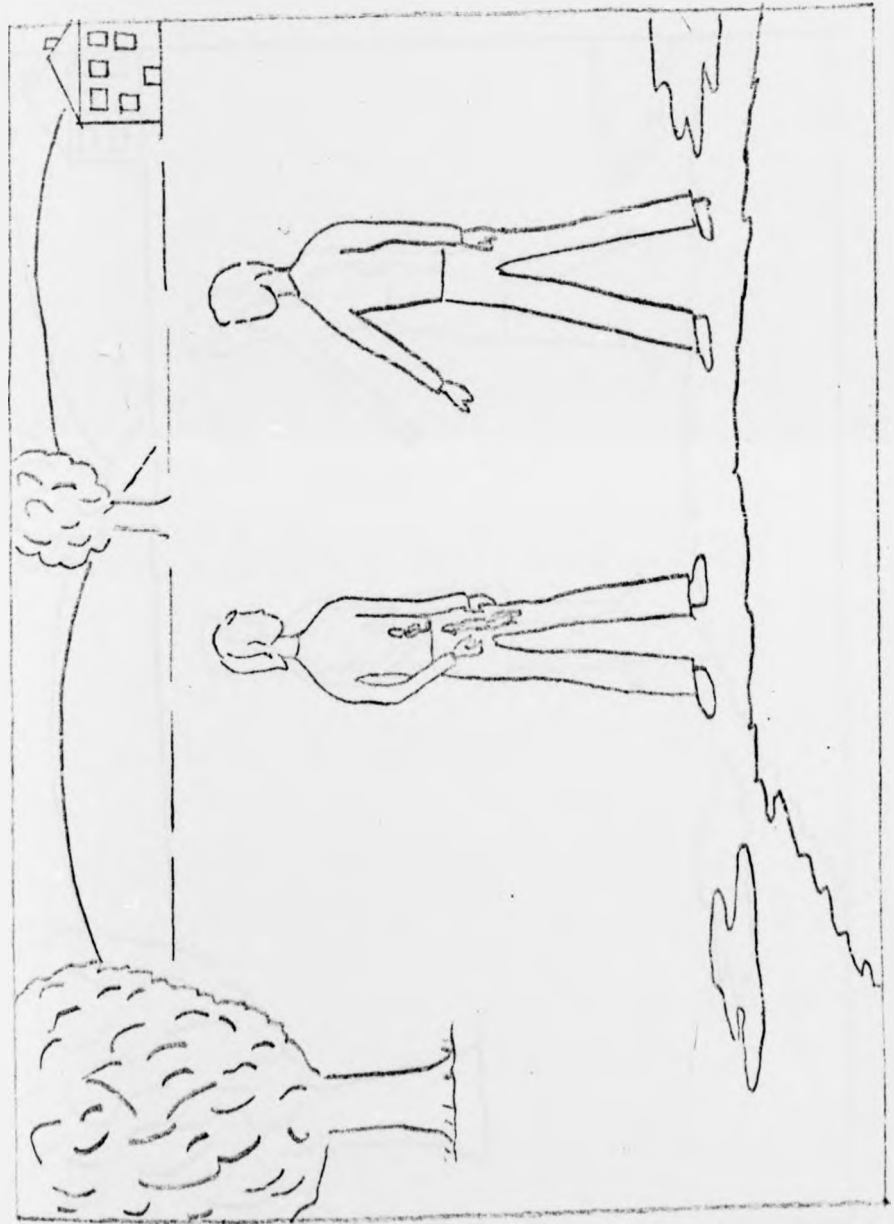


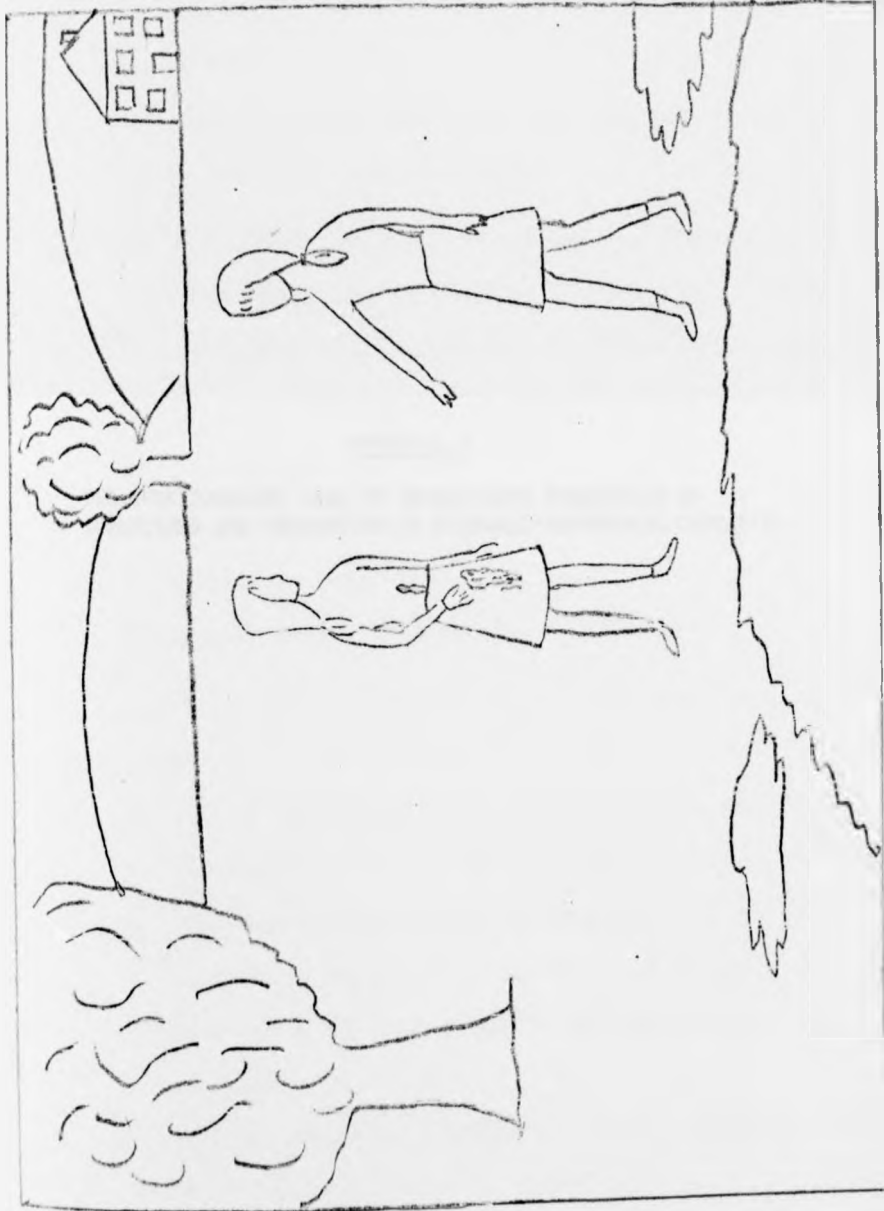
APPENDIX E

THE PICTURES USED TO INVESTIGATE BOTH PERCEPTION OF
INTENTIONS AND PERCEPTION OF PERSONAL-IMPERSONAL CAUSALITY









APPENDIX F

THE QUESTIONNAIRE USED TO INVESTIGATE PERCEPTION OF
INTENTIONS AND PERCEPTION OF PERSONAL-IMPERSONAL CAUSALITY

APPENDIX F 1. THE QUESTIONNAIRE USED FOR BOYS

Name:

Age:

1. Why do you think the boy in the picture has been hit?
 - a. Because the other two boys were deliberately aiming at him.
 - b. He has been hit accidentally while they were trying to get the apples with the stone.

2. Why do you think the boy in the picture has fallen down?
 - a. He was tripped up accidentally by the boy who is running.
 - b. He was tripped up deliberately by the boy who is running.

3. Why do you think the boy who is sitting is not playing with the other boys?
 - a. They do not want him to play with them.
 - b. He does not want to play with them.
 - c. He was late for the kick off.

4. A goal has just been scored. What are the two players in front doing?
 - a. They are in the same team and they are going to congratulate each other.
 - b. They are on opposite sides and they are about to fight.
 - c. They are in the same team and their team has just lost the goal and one of them is complaining about the other one's bad play.
 - d. They are going back to their own position for the kick off.

APPENDIX F

5. A) How do you think the aeroplane was broken?
 - a. One of the boys has broken it intentionally.
 - b. The aeroplane was broken accidentally while they were playing.
- B) What is happening now?
 - a. They are fighting.
 - b. The owner of the aeroplane is telling the other boy he should have been careful.
 - c. The one who broke it is saying he is sorry.
 - d. The owner of the aeroplane is telling the other boy not to worry.
6. Why do you think the boy in the picture is walking behind the other boys?
 - a. He does not want to walk with them.
 - b. They do not want him in their group.
 - c. He started walking later than the others.
7. What is happening in this picture?
 - a. The ones in the car are saying something nasty to the one who is standing.
 - b. The ones in the car are asking for directions.
 - c. The ones in the car are waiting for the other one to call in at a friend's home.
 - d. The one who is standing is saying something nasty to them.

APPENDIX F

8. What is happening in this picture?
 - a. The boys who are sitting on the wall are asking the ones who are walking to play with them.
 - b. The boys who are sitting are planning to attack the boys who are walking.
 - c. They are just sitting and they have nothing to do with the other two boys.
 - d. They are saying something nasty to the other boys.

9. What is happening in this picture?
 - a. The boys are playing hide and seek.
 - b. The boy who is walking is looking for the one behind the tree to do harm to him.
 - c. The boys have nothing to do with each other.
 - d. The boy behind the tree means to do harm to the other boy.

10. How do you think the boy got mud on his trousers?
 - a. The other boy splashed him accidentally.
 - b. The other boy threw mud at him on purpose.

B) What is happening now?

 - a. They are fighting.
 - b. The one with dirty trousers is telling the other boy he should have been careful.
 - c. The one who splashed mud is saying he is sorry.
 - d. The one with dirty trousers is telling the other boy not to worry.

APPENDIX F

11. What is heppning in this picture?
- a. The boy on the corner of the picture is going to steal something from the ones who are sleeping.
 - b. He is going to wake them up as it is getting late and they must go home.
 - c. He means to do harm in some way.
 - d. He wants to wake them up so they will play with him.

APPENDIX F

2. THE QUESTIONNAIRE USED FOR GIRLS.

Name:

Age:

1. Why do you think the person in the picture has been hit?
 - a. Because the other two persons were deliberately aiming at that person.
 - b. That person has been hit while they were trying to get the apples with the stone.

2. Why do you think the girl in the picture has fallen down?
 - a. She was tripped up accidentally by the girl who is running.
 - b. She was tripped up deliberately by the girl who is running.

3. Why do you think the girl who is sitting is not playing with the other girls?
 - a. They do not want her to play with them.
 - b. She does not want to play with them.
 - c. She arrived after the beginning of the game.

4. A goal has just been scored. What are the two players in front doing?
 - a. They are in the same team and they are going to congratulate each other.
 - b. They are on opposite sides and they are about to fight.
 - c. They are in the same team and their team has just lost the goal and one of them is complaining about the other one's bad play.
 - d. They are going back to their own position for the kick off.

APPENDIX F

5. A) How do you think the doll was broken?
- a. One of the girls has broken it intentionally.
 - b. The doll was broken accidentally while they were playing.
- B) What are they doing now?
- a. They are quarreling.
 - b. The owner of the doll is telling the other girl she should have been careful.
 - c. The one who broke it is saying she is sorry.
 - d. The owner of the doll is telling the other girl not to worry.
6. Why do you think the girl in the picture is walking behind the other girls?
- a. She does not want to walk with them.
 - b. They do not want her in their group.
 - c. She started later than the others.
7. What is happening in this picture?
- a. The ones in the car are saying something nasty to the one who is standing.
 - b. The ones in the car are asking for directions.
 - c. The ones in the car are waiting for the other one to call in at a friend's home.
 - d. The one who is standing is saying something nasty to them.

APPENDIX F

8. What is happening in this picture?
- The girls who are sitting are asking the ones who are walking to play with them.
 - The girls who are sitting are shouting names at the girls who are walking.
 - They are just sitting and they have nothing to do with the other two girls.
 - They are gossiping about the two girls who are walking.
9. What is happening in this picture?
- The persons in the picture are playing hide and seek.
 - The one who is walking is looking for the one behind the tree to do harm in some way.
 - They have nothing to do with each other.
 - The one behind the tree means to do harm to the one who is walking.
10. How do you think the girl got mud on her skirt?
- The other girl splashed her accidentally.
 - The other girl threw mud at her on purpose.
- What are they doing now?
- They are quarreling.
 - The one with dirty skirt is telling the other girl she should have been careful.
 - The one who splashed mud is saying she is sorry.
 - The one with dirty skirt is telling the other girl not to worry.

APPENDIX F

11. What is happening in this picture?
- a. The person on the corner of the picture is going to steal something from the ones who are sleeping.
 - b. He is going to wake them up as it is getting late and they must go home.
 - c. He means to do harm in some way.
 - d. He wants to wake them up so they will play with him.

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