AN INVESTIGATION OF POPULARITY AND
PERCEPTION OF POPULARITY AMONG
SCHOOLCHILDREN OF TEN AND ELEVEN YEARS

by

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ABSTRACT

This study set out to investigate those factors important for social acceptability among groups of Primary schoolchildren of ten and eleven years. An attempt was made to relate theoretical opinions about popular and unpopular children to actual choice behaviour and reputations of classmates. Additional information about self and ideal self was obtained in order to demonstrate that person perception takes place in a coherent framework of baseline values.

Results supported the suggestion that acceptable and unacceptable peers are judged and described in a manner congruent with expressed opinions. 'Types' of popular child could be tentatively described - the Good Scholar, the Good Fellow, the Good Looker. Unpopular children tended to represent the reverse of these types.

A more detailed examination of the sociometric patterns of popular, unpopular and intermediate children revealed differences in choice behaviour. A popular child characteristically expresses more choices and has one or more close reciprocal friendships. Within a mixed group, a popular child has more contacts with the opposite sex.

This study confirmed the virtual 'sex cleavage' typical of this age group in terms of spontaneous choice behaviour, but reputations are related to rejections and attributions of behavioural characteristics from both sexes and it was concluded that the mixed group is best treated as a single unit.
It was concluded that within the classroom situation approved children are those whose attitudes and behaviour towards teachers, classmates and schoolwork enhance the harmonious functioning and prestige of the group. Hence the boundaries between acceptability, friendship and popularity are not strictly drawn for this age group.
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I THEORETICAL INTRODUCTION
Theoretical Introduction: Review of Early Studies

Man is a social being and at all stages of his life he finds himself as one of a group of others. Why is it that some individuals are acceptable and sought after while others are rebuffed or neglected? The problem of defining social acceptance has been approached in three main ways:

1) by attempting to find measurable factors associated with acceptance or rejection

2) by examining the reasons people give for liking or disliking others

3) by studying pairs of 'friends' to discover any measurable similarities (or contrasts) which might account for their choosing to associate with each other.
The success of attempts to correlate acceptance and rejection with various attributes of the individual are limited by the measuring instruments available.

The most important contribution to the satisfactory measurement of 'social acceptance' itself was Moreno's development of sociometric techniques. In his book "Who shall survive?" Moreno (1953) presents his ideas within a theory, leading to a new method.

In the sociometric method of 'interpersonal measurement' every member of a group becomes a participant observer of all the others and of himself. The classic sociometric test requires an individual to choose his associates for any group of which he is or might become a member. For Moreno, a test can only be called "sociometric" which attempts to determine the feelings of individuals towards each other, and to determine these in respect to the same criterion. Procedures asking for statements of 'likes' and 'dislikes', unrelated to a specific criterion, can be called "near-sociometric".

What are the variables which may affect "sociometric status"? They have been classified by Lindzey and Borgatta (1954) as Demographic, Cultural, Intelligence and Performance, Attitude and Value, and Personality factors. Among the demographic variables which have been investigated are: socio-economic status, family size, religion, ethnic group, sex, physical proximity, level of education, and age.
Hardy (1937) made a survey of 'social recognition' at the Elementary School age (average age 9 years) over a period of four years. On the basis of the expressed 'companion preferences' of pupils and of teachers' reports he selected a 'popular' group (better liked than 80% of their associates) and an 'unpopular' group (less well liked than 80% of associates). He found that 'popular' pupils scored above the average (and 'unpopular' pupils below) on intelligence and school tests, general classroom behaviour, physical achievements, health condition, attractiveness of appearance, home conditions, and social adjustment. When size of family and sibling position were considered the findings were only suggestive, but popular individuals tended to be from smaller sized family units and were most often the first or second born. Having brothers as siblings rather than sisters also seemed conducive to popularity.

Burks (1938) attempted to determine some of the personality factors which contribute to the 'social success' of College students. The subjects were classified as 'successful' or 'unsuccessful' in personal social relations after ratings by ten judges. They were then given a battery of tests, including one of devising original solutions to social situations presented in stories, and one of self-assessment on interests and personality characteristics. From the results, Burks listed the following characteristics as associated with successful social relations: natural unforced humour, genuine sympathetic interest in people, vividness and originality of expression, constructive ideas,
sincerity and directness of expression, active sense of responsibility, adaptability. The opposed characteristics (forced humour or ridicule, self-absorption, etc.) were associated with lack of success. Burks noted that such factors seem to be relatively independent — the presence of some may compensate for lack of others in any particular individual.

Bonney (1943) in an extensive investigation of the personality traits associated with socially successful or unsuccessful children (9-10 years) used trait ratings by pupils and teachers. After obtaining weighted scores from sociometric choices on several criteria he examined the extreme quartiles of popular and unpopular children. He found that the following 'traits' were associated with popular children: leadership, enthusiasm, 'being active in recitations', friendly, welcomed by others, good looking, frequent laughter, happy, at ease with adults. Bonney stressed the importance of strong, positive traits in social acceptance, but friendly attitudes related to intimate personal contacts were also thought to be significant. Comparing self-ratings on the California test of Personality he found that the most popular children rated themselves more favourably than the less popular. In 1947 Bonney listed the following characteristics as associated with the popular child: general health and vigour, conformity, poise, initiative, adaptability, dependability, affection, consideration for others, originality.
Northway (1943) in a study of four year olds in a play situation noted that the children chose as companions those who talked more, contributed more to the task, took the initiative more often, and attempted to control the situation more frequently than they themselves. She concluded that "a child's social acceptability is related to the degree and direction of his outgoing energy".

Northway (1944) made a special study of children found to be least acceptable in their group. She identified three groups of 'out-siders':

1. recessive children, low in energy and drive,
2. socially disinterested children, not interested in approval, and
3. socially ineffective children, aggressive.

In a study with Wigdor (1947) she examined the Rorschach responses of children of differing sociometric status (subjects 12-14 years old). The highly accepted group showed greater participation, greater sensitivity, and conscious striving for the approval of others. Both 'high' and 'low' groups showed greater deviation from the 'normal' than the intermediate group, but the more serious disturbances were found in the unaccepted group.

Northway and Rocks (1955) suggested that 'creativity' arises out of social integration and hence there should be a positive correlation between creativity and high sociometric status. Using 30 nursery school children and a building task they distinguished 'copiers' (of an adult's pattern) and 'non-copiers' (creative).
They found no relationship between copying and intelligence, age or mental age, but a clear relationship to sociometric status: all the children with low sociometric scores were copiers, all those with high sociometric scores were non-copiers. Both copiers and non-copiers were found in the middle range.

Grossman and Wrighter (1948) obtained 'choice scores' for children of 11-12 years (on the basis of selection and rejection on sociometric questions) and found that in general children with the highest scores were more intelligent, had better reading ability, came from homes of higher socio-economic status, and had more normal personality adjustment than the others. On the California Personality test there was a significant difference between the most highly selected children and those least chosen (favouring the former). For intelligence the relationship was exponential – intelligence made a difference up to 'normal I.Q.' but beyond that it did not affect the selection score.

Neugarten (1946) classified the members of a community for social-class-status and investigated the effect of this variable on children's choices of friends. For 11 year olds she found that children chose friends from their own social class level and that there was mutual rejection between the highest and lowest classes. For 16 year olds, social class seemed to be operative in the selection of friends but not in rejection. On the basis of a "Guess-Who" test with pairs of traits (e.g. clean-dirty) she found
that the lower class child had a 'poor' reputation and the child of the upper class a good one, with 11 year olds. With the 16 year olds, the higher class group received most mentions, whether good or bad (i.e. they were most conspicuous) whereas the lowest groups were practically ignored.

Kuhlen and Lee (1943) also used a "Guess Who" test based on pairs of traits, with a sociometric test, for investigating personality characteristics and social acceptability in adolescents. They found that the most acceptable children were mentioned more frequently than the less acceptable as popular, cheerful, happy, enthusiastic, friendly, enjoy jokes, initiate games and activities. Kuhlen with Bretsch (1947) found that the unaccepted children had more personal problems (as identified on the Mooney Problems Check List) than the accepted, but the difference was not so much between the totals of problems 'sometimes' felt as of those checked as 'often' experienced.

Baron (1951) attempted to discover to what extent 10-12 year old girls of varying levels of sociometric status differed in personal-social characteristics. Responses to items on a "Mental Health Analysis" were compared for groups of high, low, and average sociometric status. He found that more 'unfavourable' responses were found in the 'low' group. These girls indicated the presence of adverse emotionality, sense of failure, difficulties in social relationships, and compared themselves unfavourably with their peers.
Thorpe (1955) made an investigation into possible correlates of sociometric status in English school classes (average age 12-13 years). He found that sociometric status was correlated with intelligence, age, neuroticism, and position in family. The child of higher sociometric status tended to be relatively older, more intelligent, a younger member of the family, and lacking neurotic symptoms. There was no correlation between sociometric status and the number of siblings. The relative age and intelligence of any School-Class group and the sex of its members did not affect the findings. However Thorpe (1953) concludes after discussing his results that all these variables are relatively unimportant for the description of sociometric status.

(ii) An alternative method of approaching the problem of 'Social' acceptance is to ask people whom they like and dislike among their acquaintances and then to ask for the reasons guiding their choice.

Moreno himself (1955) made a comprehensive survey for likes and dislikes ('motivations') from the Kindergarten to the 8th. Grade stage, and attempted to classify these. He particularly noted heterosexual and inter-racial attractions. At the 4-6 year old stage he found about a third of choices going to the opposite sex. Reasons for choice were poorly articulated but mostly classified as aesthetic and pre-social. At the 6-7 year
old stage heterosexual and inter-racial attractions were apparent and reasons became more social in character. At the 7-8 year old level verdicts on moral issues and work ability were apparent and rejections were more sharply defined. At the 8-9 year old stage there was an increase in same-sex attractions and a more critical attitude towards the opposite sex. Associates were chosen according to attributes necessary for joint pursuit of common aims with definite goals. The 9-10 year old group gave hardly any cross-sex choices. Choices were based on collective reasons related to co-operative group aims. In the Fifth grade (10-11 years) there was complete cleavage between boys and girls. Reasons for choice were based on similarities of traits ("like me") both physical and mental, social standing, and common interests. Rejections were based on physical and mental differences. At 11-12 years there was again complete dominance of same sex choices. Reasons for choice were again based on similarity of traits and common interests, but also showed recognition of others who possessed qualities which the chooser did not. In the 7th. and 8th. Grades intersexual choices began to re-appear, and reasons for choice became more sophisticated.

Perrin (1921) made a detailed study of 'physical attractiveness' among college students. He concluded that physical attractiveness is to be explained not so much in terms of 'static beauty' as in terms of behaviour.
As a basis for friendship, he found extent of acquaintance, pleasing expressive behaviour, affectionate disposition, individuality, and sincerity to rank higher than physical attractiveness as such. (Ethical ideals and intelligence ranked lower).

Flemming (1932) in studying what constitutes a 'pleasing personality', asked psychology students to rate each other on a like-dislike continuum ("Is my response to this individual pleasant or unpleasant?"), and then on the traits of emotional steadiness, emotional expressiveness and social adjustment. He found social adjustment to be correlated with popularity, and steadiness to be of some importance, but expressiveness not to be significant – a quiet individual might be liked as much as an enthusiastic one.

Thomas and Young (1938) asked College students (17-22 years) to list and rank names of persons they liked and disliked and to give reasons. (The reasons were classified as: Intellectual traits, attitudes towards others, physical appearance, attitudes towards life, attitudes towards self, personal habits, talents and activities). To some extent, traits leading to liking were the opposite of those causing disliking. The most important trait for liking was 'intelligence' (for men, 'beauty' was most important in women), and for disliking 'conceit' was most often mentioned.
Winslow and Frankel (1941) attempted to discover what physical and psychological characteristics were considered desirable and undesirable for the formation of a friendship between two adults of the same sex. The subjects (Jewish students) were asked to rank characteristics from a list prepared from the suggestions of students. They found that both men and women rated 'loyalty to friends' highest, followed by 'ability to be confided in', 'frankness', 'ability to take criticism', and 'being a good sport'. Men and women particularly disliked 'being thin-skinned and hyper-sensitive', 'garrulity', and 'bragging about conquests with the opposite sex'. There were some significant differences in the opinions of the two sexes and in general women tended to be stronger in their opinions. Winslow and Frankel conclude that the most important traits were "those which produce congeniality in face to face personal contacts". The less personal characteristics (beliefs, intelligence) were less important.

McKinney (1948) asked subjects (15-16 years) to express their attitude towards serving in a discussion group with each of the other members of their group. Where they chose any individual they were asked to select from a 'List of reasons for answering Yes', and similarly for a rejection to specify 'Reasons for answering No'. An example of a "highly accepted" individual shows that he was mentioned as: friendly, dependable, fair, nice appearance, and helpful. A "rejected" subject had most
mentions as: Thinks he is too smart, is a show-off, is a poor sport.

Austin and Thompson (1948) made a study of the bases on which children select or reject their best friends. Their subjects (10-16 years) were asked to name their three best friends (from the same school class) and to tell why they chose each child. Two weeks later they were again asked to name their friends and asked to explain any changes from the first list. Austin and Thompson found that 'frequent association' and 'similarity of interests' were the two most frequent reasons for choosing friends. Personality characteristics (e.g. cheerful, kind, generous, honest) accounted for over 50% of the responses, but the investigators were somewhat suspicious of these, because they seemed to refer to stereotyped and socially conventional attributes. They felt that the reasons for changing friends might yield more valid data. Most frequently mentioned here were lack of recent contact, or quarrels, but personality characteristics (often the opposites of those given as reasons for choice) accounted for 36.6% of these responses.
(iii) Studies of pairs of people who have chosen each other as close friends have looked for similarity or complementary trends between the attributes of the two individuals. The more controlled studies have included studies of 'enemies' or 'non friends' for comparison.

Wellman (1926) observed schoolchildren of 12-16 years to discover their closest companions and compared the pairs of friends for chronological age, mental age, intelligence quotient, school achievement, extroversion, height and physical-education achievement. She found that the pairs of girls were more alike in school achievement than in anything else. The pairs of boys were alike in height, intelligence and chronological age. As the members of each pair were always from the same school Grade, possible differences in the factors studied were reduced, but Wellman found the same tendencies when each grade was examined separately. The children in the study were all of above average intelligence which may have affected the significance of this factor.

Pintner, Forlano and Freedman (1937) attempted to assess cultural attitudes and personality by self-descriptive questionnaires and to compare the scores on these of a child and his friends. They also looked for correlations between friends on measures of mental age, intelligence, and popularity as well as chronological age. They found for their subjects (9-16 year old school children) that correlations between friends were higher for age and mental ability than for the other measures.
A child's friend was just as likely to differ from him as to resemble him on the personality measures attempted. These investigators also concluded that high scores on the personality tests (representing conventionally desirable traits) did not ensure popularity.

Flemming's study (op. cit.) of 'best friends' among College students found that 'birds of a feather flock together' as far as pleasingness of personality, adjustment, and social intelligence are concerned. For men, 'introverts' tended to associate with introverts and 'extroverts' with extroverts. For women, level of 'acquired intelligence' (Thorndike) was similar in friends. Men tended to choose friends with more pleasing personalities than their own and better adjustment and social intelligence.

Cattell (1934) in his study of 'friends and enemies' among College students used the tests of character and temperament which he had developed. He assessed the subjects on Will-character (W), Surgency (C), Perseveration (P), and Fluency (F). He found that friends tended to be more similar in the C, F, and W factors than enemies. Friends were either very nearly identical in P or else widely different. Cattell suggested that the most popular individuals would have moderately high surgency, very high will-character and very low perseveration. The most unpopular individuals would have high surgency, very low will-character and very high perseveration.
Van Dyne's study of friendship formation in adolescent girls (1940) found that girls tend to choose as friends other girls of similar age and a similar degree of dominance and sociability.

Smith (1944), studying a Senior High School class, found that individuals tended to choose as friends people who resemble themselves in terms of sex, residence, activities, religion and other details. He questioned whether selection grows out of recognition of such common characteristics or whether the findings were the result of common associations.

Donney (1946) made an extensive study of factors in mutual friendship at Elementary, Secondary, and College Levels. He found that academic achievement does not play much part in friendship formation, but that individuals of all ages are more likely to find satisfying friendships among those approximately equal to themselves in general intelligence. Measures of 'interests' showed that the mutual friends among the younger children were slightly more similar than the non-mutual pairs, but at the Secondary and College levels friendships were not formed with much reference to vocational interests except where these lead to more generalised attitudes. Groups of mutual friends were significantly more alike in home background (socio-economic status) than were non-mutual pairs. The mutual pairs were not more alike on two standard
Personality tests, but Bonney's own Scale "For measuring capacity to win friends" gave a high correlation when used for rating self and a friend. In his study of 4th Grade children (1945) Bonney compared trait similarities (measured by pupil and teacher ratings) for 'very mutual' pairs and 'very unreciprocated' friendships. The traits most associated with mutual friendship were: welcomed, friendly, enthusiastic, happy, laughter, active in recitations, daring, good-looking. Bonney states that he found it easier to describe traits important to general group acceptance than to isolate the traits which are essential in attracting one individual to another individual. In fact, his list here is almost identical with his list of traits associated with popularity. (See p.14).

Potashin (1946) compared pairs of friends and non-friends in classes of children from 9-15 years of age. In an analysis of 'objective characteristics' she found little difference between friend and non-friend pairs in chronological age, mental age, intelligence and academic status. Friends tended to be more alike in physical characteristics (height, weight) than non-friends. Neatness of residence and similarity of parents' occupational status seemed to be of greater importance. She concluded that these factors - especially the socio-economic ones - may act as 'limiting' but not definitive factors for friendship. Her analysis of social relationships showed that pairs of friends were also more similar in their social status in the classroom. Potashin attempted
to discover the 'meaning' of friendship in an experimental study where each pair of children was observed in a discussion situation. She found that the pairs of friends prolonged the discussion more, and indulged in exchange of humour, good-natured teasing and interchange of glances, in a free unrestricted atmosphere. In contrast, the atmosphere of the non-friendly pairs was tense and less interested and there were unsuccessful attempts at humour and 'showing off'.

Reader and English (1947) attempted to discover the personality factors relevant in adolescent female friendship formation. In interviews of friendly pairs they found that their students generally lacked understanding as to why they preferred certain individuals to others as friends. They described the 'friend' as having 'unique' qualities, but these were described in stereotyped terms (like 'sincere', 'intelligent'). Reader and English found similar religious, socio-economic and cultural backgrounds in the pairs of friends, as well as similarities in age and social and educational development. Each one of the pair admired or envied something in the friend and tended to see herself as less intelligent, popular and attractive than the other. When a personality questionnaire was given, friends were found to be more similar in personality characteristics than non-friends, but there were some stable friend pairs with high negative correlations between their scores. The investigators concluded that "the secret of friendship
lies not in the similarities of more or less fixed traits, but in the kinds of responses each person elicits from the other."

Hoffman (1958) attempted an experiment to discover whether similarity of personality was a determinant of interpersonal attraction. He tested students on a personality measure (Guilford - Zimmerman Temperament Survey) and using these results formed groups of a) similar personalities and b) dissimilar personalities. These four-person groups functioned throughout a semester as problem-solving discussion groups. All individuals were then asked for choices of three companions for a similar group situation in the future. The number of choices given to people from his own group was taken as a measure of the individual's attraction to his group. Hoffman found no greater in-group preference among members of the homogeneous groups than among the non-homogeneous groups.
(iv) The importance of 'group' factors has been recognised and studied by more recent investigators of social effectiveness.

With the growth of interest and experiment in social psychology, investigators have looked more closely at the factors important in the formation and functioning of groups, including those which arise from 'choice' behaviour.

(1) How do individuals perceive and categorise others?
(2) What factors, conscious or unconscious, underlie choice and rejection?
(3) What is the effect upon interpersonal behaviour, of the group values which develop?

(1) Tagiuri and Bruner were among those who extended Moreno's work in this field.

"Feelings of like and dislike are the common denominators of most interpersonal situations". (Tagiuri 1953).

Tagiuri set out to investigate these feelings, not only with respect to those whom an individual specifies as his 'choices' or 'rejections', but also to discover what the individual thinks about the feelings of others towards himself, and how far he can put himself in their place. Tagiuri, with Kogan and Bruner (1955) found that such interpersonal choices were to some extent 'transparent'. That the degree of 'transparency' observed was above chance, indicated to Tagiuri that choices must have observable manifestations, and that guessing here is a true discrimination. Tagiuri described the characteristics
of dyads in terms of mutuality (are the feelings of the pair mutual?), congruency (a tendency to perceive a person's feelings for you as congruent with your feelings for him), and accuracy (does an individual know by whom he is chosen and rejected?).

Gronlund (1955) found a positive relationship between sociometric status and the ability to perceive accurately the status of self and others (student subjects).

Ausubel (1953) defines this 'socioempathy' as a - "form of social perception which refers to an individual's awareness of his own or others' sociometric status in a given group of which he is a member." He suggests projection, identification, and realistic awareness as factors involved. Ausubel and Schiff (1955) found that an individual's sociometric status was essentially unrelated to his ability to perceive accurately his own or others' status. (High school children, 15-16 years old). However, ability to perceive the sociometric ratings received from others and the accuracy of perceiving the status of others was found to vary with the sociometric status of these others.

Borgatta (1954) states that "empathic ability corresponds closely to having 'conventional' or 'normal' patterns of response", because of the operation of projection.
Campbell and Yarrow (1961) set out to discover some of the perceptual and behavioural correlates of social effectiveness through the study of groups of children (6-12 years) during a summer camp. They attempted to compare the 'social perceptions' of children high and low in the esteem of their peers by analysing the particular descriptive categories they used in describing another child. They found little evidence of relationship between the contents of these descriptions and measures of social effectiveness, but the 'quality' of the descriptions was found to differ - the high-status children gave more organised descriptions and used inferences more. (It is not stated that IQ was controlled: if high status individuals had higher I.Q.'s, this might explain the differences).

(2) Bachman and Secord (1962) suggest that an individual strives to achieve and maintain 'congruency' and that this guides his interactions with others. An individual will avoid or move out of potentially incongruent relationships and will seek and maintain congruent ones. Congruency produces liking and incongruency leads to disliking. They found (subjects 30 College girls) that a subject perceives those whom she likes and with whom she interacts more frequently as having more congruent perceptions of her than those whom she dislikes and interacts with less. Also, the more a subject likes an individual and interacts with her, the more she will distort that individual's presumed perception of her in the direction of congruency.
Fiedler, Warrington and Blaisdell (1952) report a study (with 26 College students) which found that subjects perceived those they liked as more similar to themselves and to their 'ideal' than those they disliked. As the evidence did not reveal that these students were in fact more similar, the investigators concluded that unconscious attitudes are operative in sociometric choice.

Thompson and Nishimura (1951) hypothesised that friendship might be determined by a compatibility of 'ideals'. In their study, pairs of 'best friends' (17-27 years) rated a collection of traits describing personality (i) for their own personality (ii) for their ideal personality (iii) for their friend's personality and (iv) for a casual acquaintance. The investigators found a high correlation between the rating of an individual's ideal and his evaluation of his friend. There was also a high correlation between the ideals of pairs of friends. However, the sample of traits contained many stereotypes and there was therefore a degree of homogeneity for the ideals of all the subjects.

Datweiler and Northway (1955) in a similar study asked girls of 12-13 years to rate themselves, their friends and non-friends on a scale of personality qualities. They found that the children perceived their friends as embodying culturally desirable qualities to a greater extent than they themselves and non-friends as possessing such qualities to a lesser degree.
Lundy (1956) found that individuals (here, psychology students) tended to perceive themselves as more like their positive opposite-sex sociometric choices in a peer group than their negative sociometric choices. They also tended to describe their positive choices as more similar to acceptable self-descriptions than to unacceptable self-descriptions. (An 'acceptable' self-description refers to an item also indicated for the Ideal self).

(3) Richardson (1940) set out to discover whether 'community of values' was a factor in friendship formation. She tested her subjects (students and adults) on the Allport-Vernon scale of Values and compared the similarity of friend pairs and random pairs. The scores of friend pairs correlated highly for 'Religious' values and there was generally less disparity for the combination of values between the friend pairs than between control pairs. There were exceptions - propinquity and community of values did not lead to mutual friendship in all cases and some friend pairs showed large disparities in particular values.

Dahlke (1953) emphasises the importance of group norms and values in choice behaviour. In a study of Elementary schoolchildren (7-15 years) he suggests that the normative order of the school is the basic factor in determining sociometric relations, but this in turn is ordered by the social class structure of the community: "Social relations are ordered in terms of assessments or values that are linked to the various structural elements within and without the school". (Dahlke 1953, p.327).
Hallworth (1952, 53) seems to follow the same idea. He tries to relate the tendency of small groups to develop a hierarchical structure (assumed in the studies of Moreno and Homans) to the environment and values represented by school and classroom groups. He hypothesizes that each group developed within a class has its own value system, and that this is similar in greater or lesser degree to that of the school staff. Further, the values of the group will be personified in those individuals who are much chosen on a sociometric test. Thus, sociometric rank is a function not only of personality but also of group structure and development. Since value systems differ, individuals of high sociometric rank can not be expected to show any one personality pattern. Hallworth’s findings among grammar school children seemed to confirm his hypotheses: Sociometric status was found to be a function of both individual personality and group values. Those values were adopted by a group which would both satisfy the needs of the personalities in the group, and produce for the whole group the most exact balance of tensions with outgroups.
Supplement to Theoretical Introduction: Review of more
Recent Literature

(A) Applications of Social-psychological Approaches
to Childhood

Secord and Backman (1964) comment that much early
sociometric research was not guided by systematic theory.
Although several theories of 'interpersonal attraction'
have been developed within the context of social psychology
(e.g. Exchange Theory, Thibaut and Kelley 1959; Theory
of Complementary Needs, Winch 1958) these have been applied
and tested mainly in situations involving adults in short-
term social situations.

Secord and Peever (1974) have attempted to extend
work on Attribution Theory (Heider 1958) to the development
of person-concepts through childhood. In a study involving
subjects from Kindergarten to College level they collected
free descriptions of 'Self' and 'Other People' and compared
the kind and amount of information included at different
ages. Descriptions generally became more differentiated
and evaluative with increasing age. They noted differences
in the descriptions of Self and Others and suggested that
the Self-concept is not formed by the same process as
concepts of other persons. A similar but more exhaustive
study by Livesley and Bromley (1973) classified the state-
ments included by subjects between the ages of seven and
fifteen years in their written descriptions of Self and
Others. They recorded subject-differences associated with
age, sex and intelligence but also stress the importance

1 In Secord and Backman, 1964.
of stimulus-person effects. Different types of stimulus-
person - Child/Adult, Male/Female, Liked/Disliked - gave
rise to considerable differences in the contents of
impressions. Livesley and Bromley suggest that a
developmental change in impression formation occurs at
about seven to eight years when descriptions tend to
become more abstract and organised. They relate this
change in strategy to advances in general cognitive
development.

Lickona (1974) offers a "rough blueprint" for a
cognitive-developmental approach to interpersonal
attraction in which he suggests that many variables
which are believed to develop in relation to cognitive
stages might fruitfully be related to ongoing relation­
ships. Such variables, he suggests, might include role­
taking skill, moral reasoning ability, understanding of
causality and organisation of the Ego, including self­
concept.

(B) Significance of Sociometric approaches in the School
Situ­

The significance of sociometric approaches in the
classroom situation was stressed by Jennings (1959, p.vii
of Preface):

... it is appropriate and central to the educative
process that the teacher take more than a passing
interest in sociometric method.
Ceser's useful compilation brings together consideration of teachers, pupils and their tasks in the classroom (Ceser 1955). In particular, Ward's chapter on sociometry spells out in practical terms the importance of children's feelings towards each other within the group situation. Ward reiterates the point made earlier by Tryon (1939) and Neugarten (op. cit.) that it is the subjective estimate of children's attributes by their peers which is important:

... if the children perceive an individual as having undesirable attributes, he may be rejected or ignored regardless of class, intelligence, and other measurable characteristics (Ceser 1955, p.82).

Evans (1962) examines the importance of sociometry in British classroom groups. She discusses the different viewpoints of children and teachers and suggests that children may be better at judging each other than teachers are.

Coleman's study (1961) of American teenagers emphasizes the consequences of different status systems created by the home and school environment. The 'value system' created by a particular school seems to affect those qualities that are valued in pupils by their peers and hence determines which pupils achieve respect and popularity.

Jennings (1959, p.vii) suggests that "the way an individual feels about himself depends to a large extent upon the way others feel about him and he towards others".
Yamamoto (1972) has brought together a useful collection of views which explore these aspects of self-concept within the school situation. Davidson and Lang (cited in Yamamoto, p.65) reported a positive correlation between a child's perception of his teacher's feelings towards him and his own self-image. Yamamoto (1972, p.213) includes some interesting discussion relating sex-differences in children's behaviour to the expectations and values of teachers. Since most young children have female teachers, "The school is essentially a woman's world, governed by such characteristically female values as cleanliness, obedience, decorum and passivity". Boys are more likely to exhibit behaviours such as independence, aggression, restlessness, which are not valued or encouraged by the female teacher.

Katz and Zigler (1967) and Katz, Zigler and Zalk (1975) have looked for developmental changes in Self and Ideal-Self assessments. They found an increase in Real Self/Ideal Self disparity between the ages of ten and sixteen years. The measured disparity was accounted for both by changes in self-evaluation which became more negative (realistic) with increased age, and changes in the Ideal-Self which became more positive.
Lindsey and Byrne (1968) comment on the tendency — exemplified in the contributions included in the Journal "Sociometry" — for less distinction to be made between strictly 'sociometric' and other measures of interpersonal choice. In the analysis of such data there has also been a transition from descriptive procedures to quantification and statistical analysis.

Rating scales have been used to measure degree of attraction (e.g. Triandis 1964) although Evans (1962) considers them less suitable for use with children than with adult subjects.

Sociometric status continues to be assessed on the basis of raw number of choices received (e.g. Marshall 1958) and Lindsey and Byrne consider this simple procedure to be satisfactory as a basis for ranking, where the sociometric status of individuals in a given group is to be examined in relation to other criteria. Other workers (e.g. Norman 1953, Proctor and Loomis 1951) prefer to combine both positive and negative choices to obtain an index of social status. It has been suggested (Katz 1953) that the index should also take account of the social status of those who choose. Alexander (1963) has developed a method for weighting an individual's choice status in this way. Jennings (1950) has suggested that a more complete sociometric 'profile' can be built up by taking account of choices and rejections made and received,
and the extent of reciprocation. This system has been extended by Bjerstedt (1955).

Moreno's method of displaying sociometric choices within a group in diagrammatic form - The 'sociogram' - is still considered useful but matrix approaches have also been developed (Katz 1947), some employing electronic processing (Coleman and MacRae 1960) or computer programming (Borgatta and Stoltz 1963). The application of factor analysis to sociometric data has also been considered useful for identifying subgroups and cliques (MacRae 1960).

Where individuals are to be classified as 'high' or 'low' in choice status for comparison within or across groups various methods have been used. Jennings (1950) classified by quartiles while Marks (1954) selected the relative extremes of the choice-distribution as 'Acceptable' or 'Unacceptable'. Croft and Grygier (1956) assigned scores to subjects within different-sized groups according to their relative positions in the rank order. Bronfenbrenner (1944) devised an index based on deviation from chance expectancy which has 'uniform significance' regardless of size of group. However when Bronfenbrenner's model was applied to data on High, Low and Middle groups by Lemann and Solomon (1952) they found that the 'logically defensible principle was unworkable'. Bronfenbrenner's approach has also been criticized as 'misapplied' and 'making incorrect assumptions' (Loomis and Pepinsky 1948, Proctor and Loomis 1951).
Improving the Status of the Unaccepted

Moreno (1937) mentions three different aims in the application of sociometric procedures - to study the organisation of a group, to classify the positions of individuals in the group, and to help individuals or groups towards better adjustment. When individuals with low sociometric status have been identified the problem is posed as to how they might be helped to improve their position. Northway (1955) points out that 'unpopular' children are not all alike - some are disliked, some unliked and some unnoticed. Bronfenbrenner (1944) distinguished the 'rejected' who exhibited offensive or undesirable behaviour and the 'neglected' who were inconspicuous and overlooked.

Advice offered to teachers includes moving the unpopular children into a different group 'to which their characteristics seem better suited' or enlisting the help of those children to whom the unpopular direct their choices (Northway 1955) or attaching them to groups of well-accepted children who have not actively rejected them (Ward and Murphy in Geser 1955). However, Bonney (1943) found that a child's 'general social acceptance' tended to remain constant across time and changes of school, and he was not optimistic that a teacher's efforts to improve the status of individual children would prove successful. Perhaps a more promising approach would be to encourage the unpopular child to build one mutual friendship, since it has been suggested that such a
friendship is valuable in building a better self-concept (Yamamoto 1972, p.107) and in establishing a base from which to win wider acceptance (Potoshin 1946).

More recently, Ramirez (1967) also distinguished those who are well known by their peers and disliked and those who are disliked because unknown. In a subsequent study (Elain and Ramirez, 1963) subjects were given the opportunity to interact in small groups with classmates they did not know well. In the experimental condition the Investigators also dispensed reinforcement in the form of social rewards to the low-ranked child. Both these procedures led to subsequent improvement in the sociometric position of the low-ranked children. The presence of ‘reinforcement’ during the interaction also led to increased discriminability of these children’s names.
Discussion of Problems arising from Previous Studies

In the introductory section have been mentioned the contributions made by a variety of studies to the investigation of inter-personal and social interactions.

The older studies, although open to criticisms on the grounds of lack of precision and control, served to raise questions and suggest answers for more sophisticated experimentation. Findings from studies using adults or student subjects cannot be taken as directly relevant to the situations in which child subjects participate. The majority of child studies were carried out in countries other than England (chiefly America and Canada) and may be influenced by the different social and educational systems. English studies (such as Thorpe's in 1953) have however largely confirmed American and Canadian findings.

I. The Problem of Definition

Thorpe differentiates two problems in the study of social relationships among children:
(1) the search for correlates of sociometric status
(2) the search for factors associated with friendship formation.

Factors that have been found to be correlated with sociometric status are: good home background, and socio-economic status, intelligence, physical health, friendly attitudes, pleasing appearance. Relative age and smaller family units may also be relevant factors. Factors associated with friendship formation are:
propinquity, socio-economic status, similarity of age (more so for boys), similarity of mental age. Similarity of interests and ideals may be relevant.

How far is it necessary to separate (1) and (2)? How far are data on 'friend pairs' comparable to data on 'popular individuals'? Since friend pairs are usually identified from sociometric criteria similar or identical to those used for identifying 'popular' individuals, it might be argued that the popular child is simply the one who has many friends and is wanted by many as a friend.

However the situation is not so simple as that. The 'popular' child may be the object of admiration (perhaps because of some outstanding skill which brings classroom prestige) and chosen for this reason, especially by "climbers". (Northway 1954). His popularity may be due to the fact that he becomes the personification of the group value system (Hallworth 1953, Coleman 1961). Such a child, although the object of many choices (perhaps second or third choices), might nevertheless have no close reciprocal friendship. Should this child be regarded as better accepted or adjusted than another child with only one or two mutual friends?

Northway (1946) differentiates 'acceptance' and 'popularity'. She defines acceptance as, "being chosen as an associate for a realistic activity in a group of which one is a member and in which one is known personally".
Popularity she defines as "general admiration of or identification with an individual with whom one does not associate personally and whom one usually does not know in a face-to-face relationship". She raises the question of whether some individuals may have a great drive to achieve 'popularity' because the need for acceptance has not been satisfied.

Reader and English (1947) suggest that in choice of a friend, each one of a pair 'admires' the other, and sees qualities in her which she does not herself possess. Thus a kind of admiration based on a more intimate (if not particularly accurate) knowledge of the other individual may also operate in 'acceptance' for close friendships.

Potashin (1946) says that "a child who has a close personal relationship with another child is generally well-accepted by his classmates, but a child without a friend is not generally sought out as a companion". This view seems to imply that a reciprocal friendship is a pre-requisite to wider acceptance.

Donney has used the terms 'social success', 'social status', 'social recognition', and 'popularity' as equivalents (1942). He has employed a measure of 'general social acceptance' compiled from choices in several situations, including friendship and leadership. He says that sociometric scores measure 'preferences' rather than admiration, toleration, passive acceptance or sympathy (1943).
Jennings (1947) differentiates 'sociogroups' based on a 'work' criterion and 'psyche' groups based on a 'leisure' criterion. She suggests that prominent choice status in a sociogroup is a reflection of demonstrated capacities to affect favourably the social milieu of the group, whereas prominence in the psyche group represents capacities to accept the milieu of the group. In the sociogroups the little chosen individual often chooses members who have high choice status but in psyche groups he seldom does. Jennings claims that "even young children differentiate (i.e. between these two groups) when leisure and work choices are allowed". However, she says that if only one criterion is given, individuals must use this for expressing choices to secure all the associations they want. Furthermore, she says that with too much 'regimentation' in a sociogroup, individuals will bring psyche-choices into this, even with leisure choices allowed. Bearing in mind these reservations, it seems doubtful whether we can obtain pure psyche or socio choices in the classroom situation whatever criteria are used.

These examples serve to illustrate the difficulty of defining and using terms like 'accepted', 'adjusted', and 'status', in studies of group choices. However, many studies have found that the same individuals tend to emerge as outstandingly chosen or unchosen whatever the form of criterion and measure used. (e.g. Bronfenbrenner, 1944; Northway, 1946).
II. The Problem of Validity, Reliability, Usefulness

'Reliability' means the consistency with which a test measures what it sets out to measure. 'Validity' means the extent to which the test measures what it purports to measure (as expressed by Shukla, 1948).

Some workers claim that these terms are not applicable to the kind of data discussed, while others are confident that their strictures can be met.

It is not possible with sociometric and related techniques to expect perfect repetition of results over a period of time, because the social situation is always changing, and the relationships within it. Considerable consistency has been claimed (e.g. Jennings, 1947, quotes repeat reliability of between .93 and .95). Reliability has been found to be generally greater with adults than children, greater for the most salient choices than for the less important, and greater for long established groups than for those newly formed. (Lindzey and Borgatta, 1954).

Many workers in this field claim that 'face validity' is enough. "The feelings which one person expresses towards another are not an index to something else against which they must be validated. These feelings carry their own validity for the particular persons concerned". (Bonney, 1954). Such workers assume that the subjects are giving honest and sincere responses.
If we accept 'sociometric choices' as useful data, we should perhaps also consider the opinions and judgments of group members about each other as worthy of study. The most extensive study of this kind of material was undertaken by Tryon (1939). The data she gathered were in the form of 'classmates' opinions of ratings of each other on twenty personality traits. She used a modified form of the 'Guess-Who' technique invented by Hartshorne and May in their studies of character (1929). From this information she obtained a measure of each child's reputation in the group in which he functioned. Tryon found reliability (between scores, from two testings 10 days apart) to vary from 0.45 to 0.95.

Discussing validity, she suggested that it is better to think of the scores obtained not as measures of the personality of any child, but rather as measures of the environment of opinion in which he lives.

Neugarten, discussing her similar study of social class and friendship among schoolchildren (1946), expresses a similar view: "Since the research is concerned not with the child's actual friendships but with his statements about them, and not with a child's personality but with his reputation, validation of the data is unnecessary".

The opinion of an individual member of a group about himself may also be worthy of attention. Staines (1954) claims that many so-called personality tests are really 'self-tests'. He used a set of cards each containing a
descriptive word or phrase, which subjects (9-13 years) were asked to report as 'like me' or 'not like me'. Staines considers the items most often chosen by any group to be 'points of anchorage of the Self', indicating that these traits have become 'values' for its members.

Kuhlen and Lee (1943), using 'Guess Who' and socio-metric tests at different age levels, claim that such rating devices measure the raters as well as the ratees. They say that since a trait can have no great social significance unless associates can recognise it and respond to it, the differences found (at different ages) represent genuine personality differences between age groups, whether the characteristics are inherent in the rater or the ratee.
II EXPERIMENTAL INVESTIGATION
Any teacher who has dealings with groups of children soon discovers that individuals differ considerably in their acceptability to other members of the group. These differences become clearest whenever a "choosing" situation arises. In many of these cases the teacher may share the children's preferences and agree with their verdicts, but in others he may be puzzled. What is the basis on which children form their opinions and preferences? What attributes and characteristics are important to them? Are there any consistent attributes of the popular child, the unpopular child?

The research in this thesis has been designed to shed light on this problem area. Ideally, such an investigation might cover a wide age range - from the emergence of preferences in pre-school children to stable adult relationships - and a variety of work and leisure situations. In this study account is taken of relevant literature from the wider area, but experimental investigation is confined to a selected age-group within the school situation - pupils aged ten and eleven years, normally comprising the top class of an English Primary School.
A preliminary group of 28 subjects from a mixed class aged ten to eleven years were invited to write descriptive essays of four "imaginary" children of their own age - a popular boy, a popular girl, an unpopular boy, and an unpopular girl. (See Appendix 1 for Instructions and Examples). On the basis of the contents of these essays (and discussion with their writers) and after taking account of the existing literature, a list of forty items was compiled. Approximately half the items described apparently "favourable" attributes and the other half "unfavourable" attributes, but no attempt was made to present opposites and some items appeared to be ambiguous. This Checklist (with items in random order) became the basic tool in the research procedures. (See Appendix 2 for Checklist). It was used to investigate:

- items associated with imaginary popular and unpopular children (Tests 1, 2, 3, 4)
- items associated with 'Self' and 'Ideal Self' (Tests 6 and 8)
- items associated with actual named children in the class group (Test 7).

Footnote: No claim is made that this Checklist can be used to measure or assess personality - it is used only as a means through which subjects can express their opinions in relation to the selected experimental variables.
A sociometric test (Test 5) was employed to discover the pattern of acceptance and rejection existing in the class group and to identify popular and unpopular individuals. (See Appendix 3 for Test Programme and Instructions for Administration).
II Experimental Investigation

A. Basic Study

The programme of Tests was administered to two classes of children comprising the A and B streams of the ten to eleven year old age-group in school C (1963 sample, N = 56) and then repeated the following year with the equivalent A stream class only (1964 sample, N = 35).

For composition of Basic Sample see Appendix 4.
For description of School C see Appendix 5.


Methods of Scoring:

Each subject responded to the Checklist of 40 Items on 4 criteria:

1. Association with a Popular Boy
2. Association with a Popular Girl
3. Association with an Unpopular Girl
4. Association with an Unpopular Boy.

The total number of checks (ticks) given to any item on any test provided a simple score from which percentage response could be obtained and on the basis of which items could be ranked. Scores from Tests 1 and 2 could be combined to assess association with popularity and scores from Tests 3 and 4 could be combined to assess association with unpopularity. An overall score of Association with Popularity for each item was derived from responses to all four tests:
Derived Score of Association with Popularity = Total score for Test 1 + Test 2 minus Total Score for Test 3 + Test 4. On the basis of this Derived Score the items were placed on a continuum of rank order:

Rank 1 = most strongly associated with Popularity

Rank 40 = most strongly associated with Unpopularity.

(For note on Justification of use of Derived Score and Rank Ordering, see Appendix 6a).

Results

(a) 1963 Sample

Responses are presented in detail in Appendices 6b and 6c.

The items most clearly associated with popularity by both class-groups were Items 1, 2, 9, 12, 27, 29, 32, 36, 40. These items yield the following descriptive profile:

"The popular child is polite and helpful to teachers and takes pride in schoolwork. He is friendly to others, kind, thoughtful and generous. He is a good sport and loyal to friends. He is cheerful and amusing to be with and usually clean and tidy".

The items most clearly associated with unpopularity by both class-groups were Items 6, 21, 23, 31. These items yield the following descriptive profile:

"The unpopular child is careless about schoolwork and often cheats or copies. He lets the class or school down and also tells tales and lets others take the blame".
Discussion of Results

These items mainly reflect attitudes and behaviour towards teachers, classmates and schoolwork. Positive attitudes likely to enhance the harmonious functioning of the group and foster pleasant interpersonal relations are approved. Items related to ability (13, 15, 19, 24) are less important.

Are any items more strongly associated with popularity or unpopularity in one sex than in the other? Do boys and girls hold different opinions about which items are appropriate to a popular or unpopular child? Do the two class groups (differentiated by scholastic ability) differ in their attitudes to certain items? In fact, differences were slight, (see Appendices 6d and 6e) and overall comparisons between sub-groups yielded significant measures of agreement (Appendix 6f, comparisons of Rank Ordering using Spearman's Rank Order Coefficient of Correlation). However, indications of such differences provide a meaningful extension of the overall analysis and offer bases for comparison with further subject samples.

For example, to boys a girl's appearance is important for popularity. Boys especially in Class 12, see the popular girl as being attractive (5) and the unpopular girl as being rather scruffy and dirty (25).

To girls interruption of work (18) or games (33) is associated with an unpopular boy and they also associate spoiling games with an unpopular girl more than boys do.
Conclusions

1. Most items on the Checklist were decisively associated with either Popularity or Unpopularity.

2. Similar items tend to be related to a popular child and to an Unpopular child whether the example being considered describes a boy or a girl.

3. There was a considerable measure of agreement among the subjects in their responses to the Checklist. Response was similar for male and female subjects and for children from an A stream and a B stream of ability.

4. Differential responses related to sex and class variables were indicated in relation to about half the items, suggesting that the procedure might allow for some measure of discrimination response with larger samples.

(b) 1964 Sample, N = 35

Results
See Appendices 7a and 7b.
The results confirm that the following items are significantly associated with popularity and unpopularity respectively.

Popularity: Items 1, 2, 9, 12, 27, 29, 32, 36, 40
Unpopularity: Items 6, 21, 23, 31.
Discussion of Results and comparison with 1963 Sample

When the rank orders for the forty Items (based on Derived Scores) were compared for the two Year Groups, a Rank Correlation Coefficient of 0.93 was obtained, indicating a significant measure of agreement at 1% level.

In spite of the high level of overall agreement, the data from the two samples were examined for differential response to individual items. One possible indicator would be a disparity in rank position. This would indicate that one group responded to a particular item more strongly in relation to other items than the other group. "Ties" among tanks and the fact that a large number of items are ranked on the basis of sometimes small differences would lend caution to any conclusions based on slight disparity of rank. Another possible measure of comparison is the proportion (percentage) of possible mentions given to any item by the two groups. The value of this measure for any item is theoretically independent of the scores of other items but may be influenced by subject differences in liberality of responding.

An explanation for any differences would be sought in terms of subject - differences between the groups. In this case the 1963 sample was composed of two classes whereas the 1964 sample consisted only of the current A stream class, Class 13. The 1963 sample consisted of
equal number of boys and girls (in equal proportions from the two classes) whereas the 1964 sample contained more girls than boys. Another possible factor which might be expected to influence a group's response is the incidence of actual "living examples" of particular characteristics within the group. An indication of such individuals should become available from the "Guess-Who" data collected from the same subject groups (on Test 7). The amount and direction of any influence on the group's attitude would probably depend on the acceptability of the individual in question. This would be indicated on the sociometric test (Test 5).

Differential responses by the 1963 and 1964 samples were only indicated in relation to four Items:

"Being Naughty in School" (7) is more strongly associated with unpopularity by the 1964 sample in terms of rank position (40/30.5) and percentage response (97/77%).

"Being scruffy and dirty" (25) is associated less with unpopularity by the 1964 group, rank position 23.5 compared to 29 and percentage response 62% compared with 76%. "Being liked by teachers" (39) is more closely associated with a popular child by the 1964 group in terms of rank position (4/11) and percentage response (94/80%). "Being good at schoolwork" (19) is attributed to a popular child to a lesser extent by the 1964 group than the 1963 sample (Rank positions 13 and 15.5 and percentage response 58% and 72% respectively).
These differences are not readily attributable to any of the subject differences noted and must provisionally be related to availability of "living-examples".

Conclusions from 1964 Sample

1. Results from the additional sample confirm the typical profiles of popular and unpopular children obtained for the 1963 sample.

2. Conclusions 1 and 2 stated in relation to the 1963 sample are confirmed.

3. Overall agreement between the two samples was significant but some difference in response to particular items was indicated.

4. No confirmatory evidence was provided on differential responses related to sex and classroom variables.
Introduction

Moreno (1934)\(^1\) was the first to develop sociometric techniques for interpersonal measurement. A sociometric test requires an individual to choose associates for any group of which he is or might become a member. Moreno insisted that the 'true' sociometric test must attempt to determine the feelings of individuals towards each other in respect to a specific criterion (e.g. "to sit next to in class"). Procedures asking for statements of 'Likes' and 'Dislikes' he termed "near-sociometric". (This distinction is not strictly adhered to in later studies). The pattern of choices made and received in a group is commonly plotted on a "sociogram".

Scoring of choices will be affected by the number of choices permitted and whether negative as well as positive choices are included.

Moore and Updegraff (1964) examined earlier procedures and evaluated the effects of (a) using weighted rather than simple scores and (b) including negatives as well as positives. They found that weighted scores correlated highly with simple scores and concluded that there was little advantage in adopting the more complex treatment of data. They found that the inclusion of negative choices was important for gaining a true picture of the extent to which individuals were disliked and also gave more differentiation to individuals in the middle range of popularity.

\(^1\) In the first edition of "Who Shall Survive?"
The aim of the present study was to make an assessment of the Popularity of each child within the Classroom group, and to pick out the most-popular and least-popular individuals for further study.

(N.B. The problem of definition of 'Popularity' was discussed in the General Introduction. Here, the term is used to describe the Choice-status of individuals in comparison with their classmates).

The Test Instrument (see Appendix Jb, Test 5) was designed to provide as much information as possible about individual choice-status as well as the pattern of relationships within the group. Near-sociometric questions (A, B, F, G) were included as well as true sociometric questions (D, E). Question G was included to 'force' information about cross-sex feelings, since pilot work had indicated that children of this age tend to produce only same-sex choices spontaneously. Question C was included to provide for cross-class choices, since two separate classes were included and there had been some movement of children between them prior to the commencement of the study.

Since the Investigator was also interested in perception of popularity, questions H, I, J, K were added. These questions invited the subjects to predict which children would be best-liked by the group. Subjects were also invited to indicate by symbols – Y (Yes) or N (No) – whether they
thought the choices they made on A, B, F would be reciprocated (Question L).¹

The number of choices to be made on any question was not restricted, but subjects were instructed to indicate order of choice.

In Class 12 only, the first two questions of the Test (A and B) were repeated after an interval of six weeks to assess repeat-reliability and stability of choice.

Results and Treatment of Results

1. Responses were tabulated to show choices for each child in terms of:
   i) Total number of mentions
   ii) Number of mentions as First Choice
   iii) Weighted Score (Weighting 4 for a First Choice, 3 for a Second Choice, 2 for a Third Choice, 1 for a Fourth or subsequent choice)
   iv) Mentions from same and opposite sex.

2. A corrected choice score (Total mentions on A minus total mentions on B) was calculated for each child, and each group was ranked on the basis of these scores. For comparison, the groups were also ranked on the basis of (a) simple choice scores on A and (b) weighted choice scores on A (see Appendix 8a).

¹ In the event it proved possible to include these Perception Questions only with Class 12.
The rank orders resulting from the different measures were compared, using Spearman's Rank Order Coefficient of Correlations: Rank order based on total choices on A/Ranks based on weighted score on A: Coefficient = 0.902 for Class 12 and 0.875 for Class 11.

Rank order based on total choices on A/Ranks based on corrected choice score: Coefficient = 0.954 for Class 12 and 0.702 for Class 11.

3. Spread of corrected choice scores was as follows:
   In Class 12, from +12 to -18 (Range = 30, Median = 3, Mean = 2.7).
   In Class 11, from +11 to -6 (Range = 17, Median = 1.5, Mean = 1.7).

   There is one boy in Class 12 with an extreme negative score (-18), but otherwise the range and size of scores are similar in both classes. (See Histogram, Appendix 8b). In both classes, more boys than girls have negative or zero scores, but boys are as likely as girls to be among the high positive scorers. The most popular and least popular individuals within each group, selected on the basis of corrected choice scores, are listed in Appendix 8c.

4. By inspection, the information derived from D, E, F was almost identical with that derived from A and therefore separate rank-orderings based on each criterion were not calculated.

* Values of Coefficient, with df of 28 and 24, significant at 1% level.
5. Opposite-sex choices (G) tended to be concentrated on a small number of children, so again rank-orderings based on this criterion were not calculated.

6. Responses on G were too few and various to permit numerical analysis.

7. For H and I, (Class 12 only), two names were put forward by the boys, who differentiated clearly between the two criteria, naming for H (78.5%) and for I (100%). Girls named the same two boys as equally probable for H (35.7%) but also nominated decisively for I (85.7%). Although a total of nine girls received some mention, the same girl (13th%) emerged as most probable for both J and K: is named by 71.4% of boys and 50% of girls for J by 64.2% of boys and 42.8% of girls for K.

8. Predictions of reciprocity on A, B, F (from Class 12 only) were as follows:

On A, boys made 53 predictions, with 67.9% accuracy girls made 61 predictions, with 72.0% accuracy
On B, boys made 15 predictions, with 33.0% accuracy girls made 15 predictions, with 20.0% accuracy
On F, boys made 20 predictions, with 45.0% accuracy girls made 14 predictions, with 64.0% accuracy.

* To preserve anonymity, names and initials have been replaced by coded numbers.
9. Results of the Test/Re-test comparisons in Class 12 were as follows:

Rank Orders based on simple total on A,
Coefficient = 0.85 (Boys) and 0.83 (Girls)

Rank Orders based on Weighted scores on A,
Coefficient = 0.78 (Boys) and 0.37* (Girls)

Rank Orders based on Corrected scores,
Coefficient = 0.86 (Boys and Girls together).

(All values of the Coefficient significant at 5% and 1% level, with the exception of *).
Discussion of Results

The children responded readily to the questions, although a few were reluctant to name anyone for B ("Don't Like"). Average number of choices made on A was 5, on B, 2.7.

There was little discrimination of choice over the various positive criteria - responses from any particular subject were almost identical on A, D, E, F. This is perhaps to be expected in view of the age of the subjects and the similarity of association implied by the criteria (see Jennings 1959, pp. 90-92).

On A, no first choices and less than 5% of all choices were directed to the opposite sex. This is a common finding with children of this age. Moreno (1953) presents figures based on a large population of American schoolchildren which agree surprisingly well with those obtained here:

Moreno, % Choices between boys and girls at 5th-6th Grade:

2.6 - 4.7%

Present study, Class 12, % of Choices between boys and girls, 10 - 11 years: 4.7%

Very few children are unchosen at all on A, with no restriction on number of choices. If only First and Second Choices are counted, figures can again be compared with Moreno, % Unchosen Children, 5th-6th Grade: 17.5 - 13.0%

Present Study, Class 12, Unchosen Children, 10-11 yrs: 23.3%.
Most children have one or more choice reciprocated. When only first and second choices are counted, there is still a high proportion of "Mutual Choice Pairs" here, in comparison with Moreno's figures:

Moreno, % Mutual Choice Pairs, 5th and 6th Grade: 19.0%
Present study, % Mutual Choice Pairs, Class 12 (Boys) 85.7%
Class 12 (Girls) 84.3%
Class 11 (Boys) 46.1%
Class 11 (Girls) 61.5%

On B, rejections are directed to members of both sexes. Girls direct more of their rejections to boys than to other girls (77% in Class 12 and 87.5% in Class 11). Boys in Class 12 direct few of their rejections to girls (only 16%), while in Class 11 about half the rejections made by boys are to girls (53%). Some subjects emphasize the cross-sex hostility by inserting "All the Boys" or "Most of the Girls". About 25% of children receive no rejections at all. There is some suggestion that Absent children are more readily named as rejections than those present in the classroom at the time of the test. (Thorpe, 1953, made a similar observation, with Secondary Schoolchildren).

On C, children from various classes were named — including siblings and friend's siblings. The majority of children named by Class 12 were members of Class 11, and a still greater proportion of those named by Class 11 were members of Class 12. This was understandable as the two classes were integrated for certain lessons.

*Jennings, 1959, regards this as a sign of a healthy group (see also p. 124)*
and some children from Class 11 (the B stream) had recently been 'promoted' to Class 12 (the A stream). This probably accounts for the fact that a few children relatively unchosen within their Class group were named here.

On D and E subjects tend to name the same children as on A, although the order of choice may be varied. 'E' ('To Play With') appears to be the most 'open' criterion, with more choices made, including members of the opposite sex.

On F, there is a tendency to restrict choices to one or two. The first-named child on F is always named on A also, usually as first choice. A child of the same sex is invariably named as first choice for "Best friend", but members of the opposite sex may be mentioned as subsequent choices.

Opposite-sex choices (on G) tend to be concentrated on a small proportion of children.

In Class 12, 90% of total choices from boys go to the same 6 girls (123, 129, 130, 122).

70% of total choices from girls go to the same 4 boys (107, 104, 112, 106).

In Class 11, 81% of total choices from boys go to the same 3 girls (118, 149, 152).

75% of total choices from girls go to the same 3 boys (138, 139, 132).
On the whole, it is those children who are popular with their own sex who are chosen by the opposite sex. Since the children named on H, I, J, K are ranked 1, 2, 3 on overall Choice Status (from A and B) we can conclude that the subjects have accurately perceived group opinion. The popularity of J's and J's with both boys and girls is born out by the choices made on A, B and G. However, J's reputation for being better-liked by girls than J is not supported, as J takes Rank 1 and J takes Rank 2 on choices made on G. Data from the questions A, B, G supports the prediction that J is the most popular girl with other girls, but in fact she takes third place after J and J on the choices made by boys.

Not all subjects volunteered the predictions invited on L, indicating that this was a more difficult task than naming choices. On the whole subjects were fairly accurate in their predictions of reciprocity, but they appear to find it easier to predict reciprocity of positive choices than of rejections. By inspection, subjects of high or average choice-status appeared to be more accurate in their perception than those of low choice-status.

The results of the Re-Test on Questions A and B indicates the stability of the comparative standing of individuals within the group over an interval. An interval of six weeks is regarded by Jennings (1959) as the minimum to allow for change in structure of a group at this age-level.

Jennings (1959) p.45.
However, she is concerned with a situation in which a definite intervention has been made to modify the group-structure as indicated on the first test. No such intervention was made or feedback given in the present study and the length of the interval was dictated by circumstances. (The first test was given in early December and it was not feasible to administer a repeat test until the group had reassembled and settled down after the separation of the Christmas Vacation). It is therefore considered justified to interpret the findings as indicating an adequate repeat-reliability for the measures. The lower repeat-reliability of the weighted measure within the girls' group reflects the fact that their order of choice often differed on the second test, although not the actual children chosen.

General Conclusions

1. The Corrected Score (Total mentions on A minus Total mentions on B) was selected as the most appropriate basis for overall assessment of the popularity of each child within the Classroom group. Results confirmed the suggestions of Moore and Updegraff (1964) that (a) the simple score correlates highly with a weighted measure and (b) that the inclusion of negative choices provides more differentiation of intermediate individuals. It was concluded that the Near-sociometric questions (A and B) were satisfactory for eliciting choices since they provided essentially the same information as the True-sociometric questions (D and E).
The continued use of the test questions with further groups appeared to be justified on the basis of Test/Re-test comparisons which indicated adequate reliability of the simple and corrected scores.

2. It appeared to be worthwhile to carry out a more detailed study of selected children - of High, Low and Intermediate popularity - using additional data from the Sociometric study.
"Guess-Who" Study.

(Note: This report is presented before that on Test 6, because of the close link between Test 5 and Test 7).

Introduction

In order to relate the children's expressed opinions on 'theoretical' children (Tests 1-4) to their opinions about real-life classmates it was decided to use a form of "Guess-Who" technique. This technique was developed by Tryon (1939) from the original study by Hartshorne and May (1929) and provides information about any child's reputation in the group in which he functions. Tryon sought the opinion of each child in a group on every other child, while Bonney (1943) asked each child to express opinions only about his own particular choices and rejections and those individuals discovered to be popular or unpopular within the group. The former method was rejected here since it would have involved a great deal of labour for the subjects unless a very simplified test were used, and the latter because it might be expected to accentuate any 'halo' effect and would result in some children being assessed by no-one. In any case, the idea of asking subjects to assess only particular named children was felt to be undesirable and likely to be regarded as such by the teachers whose cooperation was sought.
In order to include all the children as potential choices, and to obtain further information on the items used in the first part of the study, it was decided to use the original check-list as the basis of the assessments and to ask each subject to name the child or children he thought to be 'most like' each item. Subjects were encouraged to name both a boy and a girl where possible. (See Instructions to Test 7, Appendix 3b).

It was predicted that there would be a positive correlation between sociometric status and Guess-Who reputation - the more popular children would have a more favourable reputation than the less popular.

Procedure

The test was administered in each class separately (See Instructions, Appendix 3b). The mentions made of each child on each item were recorded. Items were classified as "Favourable" if they had been found to be positively associated with popularity (on Tests 1-4) and "Unfavourable" if they had been negatively associated with popularity (see Appendix 6b). Where an item referred to a measurable attribute (e.g., good at schoolwork) the children's opinions were compared with marks and grades previously supplied by teachers.

The Class Teachers were also requested to complete a partial "Guess-Who" test using those items on which a particular child received a high number of mentions from classmates, to see whether they agreed that those children were particularly noticeable.
Results and Treatment of Results

Generally, the children with the highest number of overall mentions were those classified as 'Popular' on the sociometric test. Some of the children classified as 'Unpopular' also had a high number of mentions. By inspection, the more popular children had a high number of favourable mentions and few unfavourable mentions, while the unpopular children had many unfavourable mentions and few favourable mentions (see Appendix 9a).

The children in each class group were ranked on the number of favourable mentions received and those ranks were compared with ranks given for Sociometric Choice Status (on A). Using Spearman's Rank Correlation, the following coefficients were obtained:

\[ P = 0.63 \text{ (Class 12)} \text{ and } 0.59 \text{ (Class 11)} \]

Both are significant at 1% level.

Ranks based on corrected Guess-Who scores (Number of favourable mentions minus Number of unfavourable mentions) were also compared with ranks for Corrected Sociometric Choice Status (A - B). Correlation coefficients were obtained as follows:

\[ P = 0.77 \text{ (Class 12)} \text{ and } 0.62 \text{ (Class 11)} \]

Both significant at 1% level.

From the number and kind of mentions received, a descriptive profile was prepared for selected individuals already picked out as Popular or Unpopular on Test 5. (See Appendix 9b).
Children indicated as outstanding on measurable attributes (work and games ability) were similarly graded by the Teachers. To a large extent children who were outstanding on other items were also named by Teachers.

Discussion and Conclusions

On the whole, the results of the "Guess-Who" Test agreed with the results of the Tests of Opinions about Popularity (1-4) and the Sociometric test (5). Hence, they might be considered to validate each other.

The possible 'halo' effects with this kind of test cannot be ignored, but the fact that subjects were not required to examine one particular child on each item in turn, but rather to examine each item and then find a child to fit, should have helped to overcome such tendencies, especially as the serial order of the list did not place all desirable or undesirable items together.

Most children were not described in completely 'black' or 'white' terms which seems to indicate that subjects were expressing their true opinions and not merely attributing all favourable or unfavourable items according to their likes and dislikes of individual children. The subjects seemed to take the task seriously and went out of their way to be fair. (e.g. "5 naming "6 on Item 23 "Steals or tells lies", modifies his response with the remark "only tells lies, doesn't steal").
Not unexpectedly, the test revealed no clear picture of a 'typical' popular or unpopular child. However a few general 'factors' and 'types' are suggested by the data, and will be discussed briefly.

(i) The general characteristic of 'noticeable-ness' is important if a child is to gain recognition. This factor ensures a high number of mentions, increasing the potential circle of choosers, but also of rejectors. It may be related more to leadership than to popularity as such. In the groups studied here, this factor only led to approval when occurring in conjunction with characteristics leading to classroom harmony. (e.g. 'Polite and helpful to teachers', 'Brings honour to the class or school'). So, one type of Popular child can be characterised as "Active and lively, if this is related to a good attitude to the school and reasonably unselfish personal attributes". Such a child is likely to gain many choices but also some rejections from jealous or resentful critics.

(ii) Another "type" which emerges as popular is the quiet, kindly child who is usually tidy and careful but also friendly and generous with no obvious faults. Such a child attracts less choices than the more active child, but is likely to have few, if any, rejections.

(iii) One extremely strong attribute - like good looks or athletic ability, or an attribute with novelty-value - like being new to the school or more mature than others - may lead to popularity if allied to fairly pleasant personal characteristics. Such popularity may be more
It is even more difficult to generalise about the unpopular child. In the two class-groups studied, extremely unpopular children were not so apparent as extremely popular ones. In fact there were only two children who could be considered rejected to the same extent that the most popular were approved. This may be because the classes were, as they seemed, well integrated, with a generally accepting atmosphere. However it must be recalled that the children were somewhat reluctant to state adverse opinions.

Unpopular children tend to be described as negative versions of the popular 'types'. They are seen as 'letting the class down', having a poor attitude to schoolwork and performing badly in schoolwork and athletic activities. They may also display unpleasant interpersonal behaviours like bullying. The unpopular child may also be seen as withdrawn and remote - seeming to be a cissy, liking to be alone.
Basic Study: Repeat of Tests 5 (Sociometric Study) and 7 (Guess-Who Study) with 1964 Sample (Class 13, N=35).

(Since procedure was the same as reported for Classes 11 and 12 (1963), a summary of Results only is presented here).

1. Pattern of Popularity in Class 13

Corrected choice-scores were as follows:

From -24 to +10 (Range = 34, Median = 2.0, Mean = 0.94).

80% of the children have positive choice scores and 54% receive no rejections. Two children (a boy and a girl) are extremely unpopular, being rejected by 70.6% of their classmates. (See Appendix III for Distribution of Choice Scores). Average number of choices made on A was 3.7. Average number of rejections made on B was 2.7.

Only 6% of choices on A were directed to the opposite sex, with no first choices.

Only 1 child is completely unchosen on A, with unrestricted choices. If only first and second choices are counted, then 11.4% are unchosen. 52.5% of all rejections are directed to the opposite sex.

Girls direct more of their rejections to boys than to other girls (56%), while boys direct nearly half of their rejections to girls (47.6%).

On the whole, the same children emerged as popular with both sexes.

The group was placed in Rank-order on the basis of (a) single choice score on A and (b) corrected choice score, A-B.
The most popular and least-popular children in this group are listed below:

<table>
<thead>
<tr>
<th>Popular Children</th>
<th>Choice Score (A-B)</th>
<th>Rank on A-B</th>
<th>Choice Score on A</th>
<th>Rank on A</th>
</tr>
</thead>
<tbody>
<tr>
<td>157</td>
<td>+10</td>
<td>1.5</td>
<td>10</td>
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<tr>
<td>158</td>
<td>+10</td>
<td>1.5</td>
<td>10</td>
<td>1.5</td>
</tr>
<tr>
<td>159</td>
<td>+9</td>
<td>3</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>160</td>
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<td>+6</td>
<td>6.5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unpopular Children</th>
<th>Choice Score (A-B)</th>
<th>Rank on A-B</th>
<th>Choice Score on A</th>
<th>Rank on A</th>
</tr>
</thead>
<tbody>
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<td>164</td>
<td>-24</td>
<td>34.5</td>
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<tr>
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</tr>
<tr>
<td>169</td>
<td>-1</td>
<td>30.5</td>
<td>1</td>
<td>31.5</td>
</tr>
</tbody>
</table>

2. Guess-Who Descriptions in Class 13

The highest number of mentions on Guess-Who were received by a boy and girl classified as Popular on sociometric scores. The least popular boy and girl in the group received the next highest number of mentions. As predicted, popular children were described in terms of favourably-regarded items, while unpopular children were attributed unfavourable descriptions (see Table below).
Ranks based on number of favourable mentions were compared with ranks for choices on Sociometric question A. Using Spearman's Rank Correlation Coefficient, a value of 0.76 was obtained (significant at 1% level).

Ranks based on corrected scores for Guess-Who (number of favourable mentions minus number of unfavourable mentions) were compared with ranks for corrected sociometric choice scores (A - B). A Coefficient of 0.80 was obtained (significant at 1% level).

Descriptions of individual children derived from Guess-Who naming agreed well with school grades on work and games and fairly well with the class teacher's opinions.

Profiles of popular and unpopular individuals were prepared on the basis of Guess-Who mentions (Appendix 9c). These corresponded reasonably well with the 'types' suggested by the 1963 data, but the most popular boy here does not seem to be adequately described to account for his extreme acceptability. The two most outstanding children on Guess-Who represent the 'Ideal Scholar' and the fact that they are well accepted by classmates again indicates congruence between the opinions of the children and the expectations of teachers.

The two least-acceptable children exemplify the opposite of these approved attributes.
The pattern of Sociometric and Guess-Who scores in this group is probably distorted by two factors:

i) the proportion of girls is greater than boys
   (20 girls/15 boys)

ii) there is a relatively high proportion of newcomers
to the group (6/35 have joined the group at the
beginning of the current school year).

Since positive choices are directed almost entirely
to the same sex, but rejections more equally to both
sexes, it is inevitable that girls will tend to score
higher than boys when the group is treated as a whole.
This raises the question of whether it is better to treat
mixed classes as two separate sub-groups. However the
present investigator decided that it was preferable to
study the total group opinion, since this was the natural
setting in which each child functioned, acquired his
reputation, and found acceptance.

Limitations of the Guess-Who method as used in the
study are highlighted by the fact that some of the highly
chosen children on the sociometric test are not clearly
described. Once a boy and girl come to mind for a
particular description, the subject need not consider any
additional exemplars. (See Instructions to Test 7,
Appendix 3b). For example, since 142, 153, and 157
are mentioned as "good at schoolwork" by more than half
of the potential choosers, other children like 153...
receive only a few mentions. Nonetheless, the use of Guess-Who in conjunction with sociometric choices should ensure that the outstanding and influential individuals are identified.

Caution must be exercised in claiming that a particular child is liked because of the attributes he is seen as possessing. Although the corroboration of findings from one test to another suggest this, the nature of the data do not allow causal conclusions to be drawn.

The Guess-Who descriptions of girls and boys from the three classes so far studied were examined to see whether the "living examples" reflected the slight variations in response to the "theoretical examples" of tests 1-4. However no clear confirmatory evidence was found for the sex and class differences previously indicated.

Conclusions

1. The Guess-Who descriptions of children who emerged as popular and unpopular in this classroom group confirmed the suggestions made in relation to the previous groups about the type of child who is likely to be acceptable.

2. Popular classmates are described in terms of items attributed to the theoretical examples of popular children and unpopular classmates are attributed unfavourable descriptions.

e.g. Class 13 had associated 'being naughty' more strongly with an unpopular child.
Basic Study:

(iv) Study of Opinions about Self (Test 6) and Ideal Self (Test 8), 1963 Sample.

Introduction

It has been suggested that the impression a person has of himself can be expected to influence his perception of others (Livesley and Bromley, 1973, p.50). Etaines, 1954, postulated that those items most often chosen for self-description indicate the principal values of the group to which the individual belongs.

The 'Self' as seen by the individual may or may not correspond with the way he is seen by others. Amatora, 1955 (in Evans 1962, p.97) found considerable agreement between ratings of self and ratings given by peers for children between nine and thirteen years.

Reese, 1961, suggested that a 'moderate' self-concept (rather than 'High' or 'Low') was conducive to popularity in middle childhood. Bonney, 1943b, found that the most popular children in a group rated themselves more favourably than the less popular (subjects nine to ten years old). Gronlund 1955, using student subjects, found a positive relationship between sociometric status and the ability to perceive accurately the status of self and others. However this finding was not confirmed by Ausubel and Schiff 1955 in their study of schoolchildren aged fifteen to sixteen years. Similarly, Campbell and Yarrow 1961 found no clear relationship between accurate 'social perception' and 'social effectiveness' with subjects between eight and twelve years.
Katz and Zigler 1967 found an increase in Real Self/Ideal Self disparity with age, between ten and sixteen years. Coopersmith, 1959, reported a complex relationship between evaluation of self, evaluation and acceptance by others, and discrepancy between self and ideal, with subjects aged ten and eleven years.

The main aims of the present study were to establish the pictures of (a) Self and (b) Ideal Self held by the subjects already used in previous tests, and to compare these pictures with that already established for a popular child. Subsidiary aims were to test two hypotheses generated by the literature, relating opinions about Self and Ideal Self to popularity:

(1) that the more popular child will be more realistic in his self-assessment than the less popular
(2) that the more popular child will be closer to the opinion of the group than the less popular.

To provide evidence for or against these hypotheses, the following 4 comparisons were planned:

(i) compare a child's "Self" image with the picture held by his classmates (as revealed on "Guess Who" test) and to relate this to his sociometric status
(ii) compare a child's "Self" image with his "ideal self" and to relate the discrepancy to his sociometric status
(iii) compare a child's "ideal" with the group "ideal" and to relate this discrepancy to sociometric status
(iv) compare a child's "ideal" with the group picture of a popular child and to relate this discrepancy to his sociometric status.

Procedure

Using the original Checklist, subjects in the two classes were instructed:
(a) to indicate which items applied to themselves and which did not (see Instructions for Self-image, Test 6, Appendix 3b).
(b) to indicate which items they would like to have associated with themselves (see Instructions for Ideal Self, Test 8, Appendix 3b).

Results and Treatment of Results

(a) "Self"

"Self" pictures were on the whole favourable (see Appendix 10a). Only 38.6% of subjects claimed any unfavourable items for the "Self". 94% of subjects described themselves as clean and tidy (1), loyal to friends (12), well-behaved (30), friendly (32), kind and thoughtful (36) and generous (40). 75% describe themselves as polite and helpful (2), a good sport (9), having good ideas (20) and taking pride in work (27). 50% or more describe themselves as average at work (3), brave (14), good at P.E. and games (24), cheerful and amusing (29), sometimes doing what others want (17) and liked by teachers (39).

No child describes himself as no good at schoolwork (15) or careless and untidy (31), or as liking to be alone (11) or liking to show-off (16).
Using $x^2$, items 1, 12, 30, 32, 36, 40, 2, 9, 20, 27 are significantly associated with Self Image (5% level of probability).

(ii) Individual papers were examined and Results tabulated in terms of number of items ticked, crossed, left unchecked or added. By inspection, little difference between class and sex groups is indicated on this aspect of the task:

Table 4. Self-Description: Number of Items Selected -
Range and Average Values for Boys and Girls in each class

<table>
<thead>
<tr>
<th></th>
<th>CLASS 11</th>
<th></th>
<th>CLASS 12</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RANGE</td>
<td>BOYS</td>
<td>GIRLS</td>
<td>TOTAL</td>
<td>BOYS</td>
</tr>
<tr>
<td>$\sqrt{\cdot}$</td>
<td>10-23</td>
<td>11-13</td>
<td>10-23</td>
<td>13-16</td>
</tr>
<tr>
<td>$\times$</td>
<td>0-24</td>
<td>3-23</td>
<td>0-24</td>
<td>4-22</td>
</tr>
<tr>
<td>Unchecked</td>
<td>0-28</td>
<td>0-22</td>
<td>0-28</td>
<td>0-22</td>
</tr>
<tr>
<td>Added</td>
<td>0-2</td>
<td>0-1</td>
<td>0-2</td>
<td>0-3</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>15</td>
<td>15</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>$\sqrt{\cdot}$</td>
<td>13</td>
<td>14</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>Unchecked</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

(iii) Sex and Class differences in contents of self-description are slight. Some variation is indicated in relation to Items 2, 3, 9, 14, 24, 34. Only the differences in relation to Items 9 and 34 are significant ($x^2$, 5% level):

1 Only 26.4% of the subjects added items to the list (5 children from Class 11, 9 children from Class 12). These referred mainly to specific school subjects which were liked or disliked, or to particular interests or hobbies (see Appendix 10b).
Boys choose Item 9 ("A good sport") more frequently than girls, and children in Class 11 describe themselves as "A good leader" (Item 34) more frequently than children in Class 12.

(iv) An examination of the papers of ten Popular and seven Unpopular children, drawn from both classes, indicated no obvious differences in pattern of response between the two groups.

Table 5. Self-Description: Number of Items Selected - Range and Average values for Popular and Unpopular groups

<table>
<thead>
<tr>
<th></th>
<th>POPULAR GROUP (N=10)</th>
<th>UNPOPULAR GROUP (N=7)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RANGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>√</td>
<td>10 - 19</td>
<td>14 - 20</td>
</tr>
<tr>
<td>x</td>
<td>2 - 23</td>
<td>4 - 22</td>
</tr>
<tr>
<td>Unchecked</td>
<td>0 - 28</td>
<td>0 - 22</td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>√</td>
<td>15</td>
<td>16.5</td>
</tr>
<tr>
<td>x</td>
<td>16.4</td>
<td>17.8</td>
</tr>
<tr>
<td>Unchecked</td>
<td>8.6</td>
<td>5.5</td>
</tr>
</tbody>
</table>

(v) Qualitatively, the self-pictures of popular and unpopular children do not appear to differ. In both groups predominantly favourable items are claimed. The average number of favourable items claimed are 14.2 and 14.1 respectively. Of the 33.6% of the total group who included unfavourable items in their self-descriptions, 11.3% are classified as popular, 11.3% as unpopular and 16.0% as intermediate in popularity.
(vi) Since the group as a whole evaluated themselves predominantly in favourable terms, a comparison was made between the ranks of favourable items for association with Self and for association with the theoretical Popular child. Using Spearman's Rank Order Correlation, a value of 0.70 was obtained. (Significant at the 1% level).

(b) "Ideal-Self"

It was immediately obvious from an examination of the papers, (see Appendix 10c), that the group picture of Ideal-Self was very similar to that of the theoretical Popular child. As 18 of the 40 Items were included by 85% or more of the subjects for their Ideal, ranking of items on the basis of 'number of mentions' was not considered meaningful here, and no calculation of extent of correlation with the Popular child was attempted. Some items appear to be more strongly associated with the Ideal than with the Popular child. (Items 24, 5, 14 and 19 differ by 18% or more). Sex and Class differences are slight. Whereas both class groups choose 'Good at Work' (Item 19) strongly, Class 11 also mention 'Average at school work' (Item 3) more often than Class 12. Although 'wearing fancy and expensive clothes' (Item 35) is not very important to any group, it is more important in Class 11 than Class 12, and more important to girls than to boys. (Differences tested with $\chi^2$, significant at 5% level). Only three subjects, from Class 12, added items to the list.1

1 'Liked by everybody' (twice), 'helps others to get on' and 'wears not too fancy clothes'.
Comparisons relating to Hypotheses

(i) For each child, in each class separately, a comparison was made between the number of Favourable items claimed for self, and the number of Favourable mentions accorded by class-mates on Guess-Who Test. Using Spearman's Rank Order Correlation coefficients, a value of 0.18 was obtained in each Class. This was not significant at 5% level. In addition, a more detailed comparison was made between Self and 'Guess-Who' pictures of children selected as Popular (N = 10) and Unpopular (N = 7). The number of points of agreement and disagreement between the two pictures of each subject was noted and expressed as a ratio:

\[
\text{No. of items on which the 2 pictures agree} \quad \frac{\text{No. of items on which the 2 pictures differ}}{8} \quad \frac{\text{Popular children, and was less than 1 for } \frac{7}{7} \text{ of the Unpopular group. (This difference was examined using } \chi^2 \text{, and found to be significant at 5% level).}
\]

The two exceptions in the Popular group were due to these children failing to claim for 'Self' favourable items attributed to them by the class on 'Guess Who'.

(ii) The number of items on which any individual Self/Ideal assessment differed ranged from 1-11 (Average = 6.5 items in Class 12, 5.6 items in Class 11). Examination of those with extreme differences indicated no clear relationship between popularity and disparity. Of twenty children with the largest differences (7+) six are classified as popular, three as unpopular and eleven as intermediate. Of seventeen children with the smallest differences (5-) three are classified as popular, four as unpopular and ten as intermediate.
(iii) Since there was such a large measure of agreement among the subjects about the 'Ideal', no comparison of individual 'Ideals' with the 'Group Ideal' was attempted.

(iv) Similarly, no comparison of individual 'Ideal' with group picture of Popular child was made.

Discussion

(a) Since the subjects appeared to assess others realistically in terms of favourable and unfavourable items (on "Guess-Who" test) it was somewhat unexpected that their self-pictures were predominantly favourable. However, it has been observed that people generally over-estimate themselves on self-ratings (see Wolff 1943, quoted in Staines 1954) and at least one previous investigator has been surprised by the glowing self-pictures produced by his subjects (see Hudson 1968).

Certain favourable items are more strongly associated with self than other items and it is meaningful to pick these out as constituting 'points of anchorage of the self' or 'baseline values' (following Staines 1954).

Although there is no evidence that the Popular children in the group rated themselves more favourably than the less popular (as Bonney, 1943b, suggested) they seem to be more realistic in that their self pictures agree better with classmates' assessments on Guess-Who. Some individuals

1Hudson (Frames of Mind 1968, p.54) comments that his 15-16 year old schoolboys produced a 'catalogue of pure virtue' on self-ratings, with a close resemblance between self-picture and the ideal 'Good Male'.
evaluated themselves far more favourably than their Guess-Who descriptions, while others evaluated themselves less favourably. The operation of modesty and conceit as well as deliberate distortion may affect self-judgements, but the nature of the data do not justify a firm conclusion as to whether the child's own picture or that of his classmates is more accurate.

The instructions allowed subjects to tick, cross, or leave items unchecked and it was surmised that the inclusion of the neutral category might provide a 'loop-hole', giving subjects a chance to ignore their failings without actually denying them. There was no evidence that the Unpopular children (who have more unfavourable items attributed to them on Guess-Who) took greater advantage of this category.

It was observed that children identified as "active and noticeable" on Guess-Who tended to assess themselves more unequivocally, in terms of number of items ticked or crossed rather than ignored.

Few items were added to the list, indicating that it was found adequate for expressing the self-image of the subjects. Additions referred mainly to interests and hobbies and it may be that children of this age describe themselves as readily in these terms as in terms of personality characteristics.¹

¹ Livesley and Bromley 1975, p.235, observed that reference to interests and hobbies figured more prominently in the self-descriptions of their older subjects.
(b) Although it was to be expected that the subjects would see the category of 'Ideal-Self' as an inclusive one, the gross selection of favourable items here makes individual comparisons difficult. The problem of homogeneity of Ideals is apparent here as in previous studies (e.g. Thompson and Nishimura, 1951).

However, the evidence of items differing in relative importance for 'Ideal' and 'Popular Child' seems to indicate that the children are discriminating to some extent. Although they want desirable "objective" qualities for their Ideal ('good at work', 'attractive', 'good at games') they attach more importance to interpersonal characteristics ('friendly', 'generous') in assessing others.

There seem to be two possible explanations - not mutually exclusive - as to why the 'Ideal' and 'Picture of a Popular Child' should largely correspond:

1. The children aspire to be popular and so name for their Ideal those qualities they judge to be conducive to popularity. (This view is lent some support by two additions to the list of items for Ideal of the phrase "liked by everybody").

2. They ascribe to the Popular Child those qualities they judge to be 'Ideal'. This would imply that in real-life situations they choose and admire children who seem to possess qualities to which they themselves aspire. (This tendency has been indicated in several previous studies e.g. Fiedler et al. 1952, Thompson and Nishimura 1951, Detweiler and Northway 1955).
The fact that so few additions were made to the list of items for Ideal may be taken as an indication that it was found adequate by the subjects for expressing their aspirations.

Conclusions

1. The picture of self held by this group of subjects is as follows:
"Usually clean and tidy, loyal to friends - can be trusted, usually well-behaved in school, friendly - joins in, kind and thoughtful to people and animals, generous - shares things, polite and helpful to teachers, a good sport - plays fair, has good ideas for things to do and play, takes pride in schoolwork - tries hard."
This may be taken to indicate the values important to the group.

2. The self picture of the group is similar to the group picture of a Popular child.

3. Subjects of this age tend to assess themselves more generously and less realistically than they judge others.

4. There is no evidence that the more popular children assess themselves differently from the less popular.

5. There is some indication that the most popular children assess themselves more realistically than the least popular.

6. The group picture of Ideal Self is very similar to the group picture of a popular child, although subjects appear to discriminate between the relative importance of certain items for the two criteria.
7. There is no evidence that popular and unpopular children differ in terms of their Ideal selves.

8. The study provided no evidence that the more popular child was closer to the opinion of the group than the less popular.
Since the 1963 study had indicated limitations in the usefulness of this data for individual comparisons - due to relative homogeneity of the results - the results from the 1964 sample are presented in summary only.

(a) The self-picture for all members of the group was predominantly favourable. Only 31% of subjects claimed any unfavourable items. (3% classified as Popular, 11% as Unpopular, 17% as Intermediate in popularity). Only four items were added to the list. 94% of subjects described themselves in terms of Items 1, 27, 30, 32, 40. 50% or more described themselves in terms of Items 2, 3, 9, 12, 14, 20, 24, 29, 36.

Using $X^2$, items 1, 2, 3, 9, 12, 14, 20, 24, 27, 29, 30, 32, 36, 40 are significantly associated with Self-Image (5% level of probability).

Comparison of ranking of favourable items for Self and Popular child yielded a correlation coefficient of 0.42. (This was not significant at 5% level, although Table Value of 0.437 was approached).

Sex differences were slight. More girls than boys claim items 5, 17, 34, 39.

Agreement with 1963 Sample is good. Comparison of rank order of Items for association with Self in the two year groups gives a coefficient of 0.22 (significant at 1% level).

1 'Likes football', 'Has lots of friends', 'Keeps tropical fish', 'Good at History'.
Both groups agree in associating ten items clearly with self (Items 1, 2, 9, 12, 20, 27, 30, 32, 36, 40). (i.e. The self-picture as described for the 1963 sample is confirmed). No significant sex-differences are established.

(b) The Ideal Self again resembles the Popular Child. 85% of the group mention eighteen items (including 100% mentioning items 12, 14, 20, 32, 40). Sex differences are slight. Item 17 is more often checked by girls. The number of items on which any individual differed for Self/Ideal picture ranged from 1-14 (Average = 6.0). Of 7 children with large differences (9+), 1 is classed as Unpopular, 1 as Popular and 5 as Intermediate in popularity. Of 7 children with the smallest differences (3-), 4 are classed as Unpopular and 3 as Intermediate.

Conclusions

1. The picture of "Self" established by the 1963 group was confirmed.
2. The picture of "Self" was similar to the picture of a popular child, although the correspondence of rank orders did not quite reach a significant level.
3. This group of subjects again assessed themselves generously.
4. There was no clear indication that the more popular children assessed themselves differently from the less popular, although unfavourable items were more often checked by less popular individuals.
5. The group picture of "Ideal Self" was similar to that found in 1963 and again was similar to the picture of a Popular child. The differentiation of items designated as "objective" or "inter-personal" for the two criteria was not so apparent in this group as in 1963.

6. There was no indication of a difference between popular and unpopular children on Ideal Self.

7. There was some indication that a low disparity between self and ideal self was associated with less popular children.
In their discussion of the study of peer relationships, Williams and Stith (1974, Chapter 5) examine the usefulness of various approaches, including sociometric and 'Guess-who'. They conclude with the comment:

Used in conjunction with a ranking of qualities the same group deems good or bad in their peers, these designations would be more meaningful (page 157).

This is precisely what the present investigator has attempted to do. It has been demonstrated that the child of ten or eleven years is capable of making coherent judgements of peers, whether these be imaginary characters or familiar classmates. He does seem to possess a set of 'baseline values' which guide his opinions and make for consistency. Real children are judged and described in a manner which is congruent with opinions expressed in a hypothetical context. Although 'self description' is far less critical than 'other description' it is also organised around valued characteristics, with the 'ideal self' reflecting a more inclusive picture.

Livesley and Bromley (1973, Chapter 4) review various research methods in the area of 'person perception' and stress the value of 'fairly natural and unstructured situations' (page 67). Although they come out in favour of 'free description' rather than the use of ratings and
checklists, it may be argued that the compilation of a checklist from descriptive essays overcomes objections of artificiality and experimenter preconceptions.

Oppenheim (1966, Chapter 9) discusses the problems of quantification of questionnaire data and the boundaries between 'qualitative' and 'quantitative' data. For variables that have ordinal properties - like sociometric results, ranking data and measures of prestige - he considers the use of rank correlation coefficients, chi-squared and non-parametric techniques appropriate. The present investigator regarded the measurement of degree of rank correlation as suitable for comparing response by the same individuals to different criteria or response to the same criterion by different groups of individuals. Chi-squared technique was selected as a test of difference in proportion (frequency) of response to items under various conditions. As the use of the same checklist in different contexts formed an integral part of the design, results from the different tests cannot be regarded as completely independent. This means that caution must be exercised in interpreting statistical significance at its face value. The Mann-Whitney test was used to compare values of sociometric measurements in the study of selected popular and unpopular children (Section C).

A further problem with this kind of study is the comparability of findings across groups. It has become customary to compare 'sociometrically high' and 'socio-
metrically low' children, selecting examples from several natural groups (e.g. Bonney and Powell 1953, Croft and Grygier 1956). The justifiability of this practice has been discussed in some detail by Lindzey and Byrne (1968). They conclude that, providing the responses have been made under comparable conditions, 'the combination of data from different groups or the comparison of results from divergent samples probably does not involve an appreciable distortion of reality' (page 467). It seems to the present investigator that 'popular children' and 'unpopular children' form meaningful categories, and that it is justifiable to compare those falling into these categories within similar groupings, in order to find some basis for possible intervention. No claim is made that sociometric scores or ranks are directly comparable from one group to another and extreme caution is necessary in using mathematical values of such scores in statistical analysis. The present investigator believes with Northway (1954) that a useful study of this area must regard the 'evolution of a child's sociometric pattern' as more significant than his 'statistical status'.

B. Introduction to Repeat Studies

It was considered desirable to repeat the procedures in different Schools to confirm the generality of findings among samples of the same age-group.

In addition, it was hoped that the effect of differing 'social climates' would become apparent. Dahlke (1953, 1958) emphasised the importance of group norms and values in choice behaviour in school. Hallworth (1952, 1953) suggested that each group developed its own value system related to that of school staff. Coleman (1961) found that the value system created by a particular school seemed to influence the qualities valued by pupils in their peers.

'Social climate' was interpreted by the present Investigator in terms of the following variables:

- Home background of pupils - socioeconomic class of parents in relation to occupation, residence and education.
- School Ethos - atmosphere fostered by Head and other Teachers in terms of general behaviour and academic/athletic aspirations.
- Basis of Classroom Groupings - segregation by sex, segregation by measured academic ability (streaming).

However, the selection of schools was limited by practical considerations of willingness to participate and accessibility. In the event the classes used represented only limited contrasts in terms of home background (mainly working class, mainly middle class), streaming
(unstreamed, A stream, C stream) and sex-segregation (mixed, all-boys, all-girls). School ethos was not measured objectively, but a general assessment was made based on personal observation and information supplied by Head and Class Teachers.
B. Association of Items with Popularity (Tests 1-4): Repeat Studies in Other Schools.

The basic procedures (Tests 1-4) were repeated in five separate classes in four different schools (described in Appendix 11a) to confirm the generality of findings and to note any influence of differing 'school-climate' on the children's responses.

Sample from Other Schools (Total N = 174)

<table>
<thead>
<tr>
<th>School</th>
<th>Number of Classes</th>
<th>Gender Composition</th>
<th>N</th>
<th>Mean Age at Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>School B</td>
<td>One mixed class</td>
<td>12 Girls + 14 Boys</td>
<td>26</td>
<td>11 yrs. 1 month</td>
</tr>
<tr>
<td>School B</td>
<td>One mixed class</td>
<td>17 Girls + 18 Boys</td>
<td>35</td>
<td>10 yrs. 11 months</td>
</tr>
<tr>
<td>School W</td>
<td>One mixed class</td>
<td>19 Girls + 21 Boys</td>
<td>40</td>
<td>10 yrs. 9 months</td>
</tr>
<tr>
<td>School F</td>
<td>Two separate classes</td>
<td>All Girls</td>
<td>34</td>
<td>10 yrs. 9 months</td>
</tr>
<tr>
<td>School F</td>
<td>Two separate classes</td>
<td>All Boys</td>
<td>39</td>
<td>11 yrs. 0 months</td>
</tr>
</tbody>
</table>

Findings

There was generally good agreement among the different school groups on responses to Tests 1, 2, 3 and 4. On the whole items were more unequivocally associated with popularity than with unpopularity.  

There were unusual results from School B, unusual for their lack of consistency across the four tests. This seems to be largely related to the unusual response of the boys to Tests 2 and 3: boys in School B associate many unfavourable items with the popular girl as well as the unpopular girl.
Ten items were clearly associated with popularity and ten items with unpopularity in each of the class-groups studied. ($\chi^2$, 1½ level).

Items associated with **Popularity**: 1, 2, 9, 12, 20, 29, 30, 32, 36, 40.

Items associated with **Unpopularity**: 6, 7, 10, 16, 18, 21, 23, 26, 31, 33.

Items 3, 17, 22, 35 were relatively unimportant or ambiguous for discriminating between popularity and unpopularity.

The forty items were ranked for association with popularity (on the basis of derived scores) in each class-group separately. Comparing these rank orderings with that obtained in Class 12 (School C, 1963), the following coefficients were obtained:

- School C, $\rho = 0.95$
- School B, $\rho = 0.94$
- School W, $\rho = 0.93$
- School E, $\rho = 0.96$
- School E, $\rho = 0.94$

All these values were significant at 1½ level.

Differences between the Class-groups in response to particular items were slight. The attitude to school-work in School B seems to differ from that found in the other groups. School B attaches less importance to Item 27 ('Takes pride in schoolwork') and ranks 'Average at school work' (3) equal with 'Good at school work' (19).
Item 15 ("Not good at school work") is associated strongly with unpopularity in terms of rank (Rank 33 overall) although percentage response is similar to that found in the other groups.

The response of the groups to Item 1 ("Usually clean and tidy") varies, with School B ranking it highest in importance for popularity (Rank 2) and E_2 lowest (Rank 16.5). 'Naughtiness' (Item 7) is associated particularly strongly with unpopularity (in comparison to other items) by Groups B, E_2 and E_3, although response to Item 30 ("Usually well-behaved in school") is similar in all groups.

Differences between boys and girls within each class group are few. In Group E, girls associate being poor at P.E. and games (13) more strongly with unpopularity than boys do, especially in a boy. In Group W, boys associate ability at P.E. and games (24) more strongly with popularity than girls do.

There is good agreement between the all-boys and all-girls classes in School E. Only responses to Item 15 differ. Boys associate 'being poor at schoolwork' more strongly with unpopularity than girls do.

There are also few consistent sex differences in response across groups. Boys tend to associate Item 5 ("Attractive appearance, nice-looking") more with a popular girl than a popular boy, and Item 25 ("Rather scruffy and dirty") more with an unpopular girl than girls do. A comparison of rank-orders of items (based
on Derived Scores) for the sub-groups indicates that the following items are most consistently associated strongly with a Popular girl:

**By Boys** 1, 2, 5, 9

**By Girls** 2, 12, 32

The following items are consistently associated strongly with a Popular boy:

**By Boys** 29

**By Girls** 2

Similarly, the following items are consistently associated strongly with an Unpopular girl:

**By Boys** 23, 31

**By Girls** 6, 10, 23, 33

The following items are consistently associated strongly with an Unpopular boy:

**By Boys** 6, 7, 10, 16, 21, 23

**By Girls** 7, 13, 21, 26.

**Conclusions**

1) The repeat studies confirm that certain items are consistently associated with Popularity and with Unpopularity by subjects of this age group.

2) The profile of a Popular child derived from the common responses of all groups is as follows:
"He is polite and helpful to teachers and usually well-behaved in school. He is friendly to others, kind, thoughtful and generous. He is a good sport and loyal to friends. He has good ideas for things to do and play and is cheerful and amusing to be with. He is usually clean and tidy". (He/She)

The profile of an Unpopular Child is as follows:
"He is naughty in school, careless about schoolwork and often interrupts or spoils others' work. He often cheats or copies. He lets the class or school down. He likes to show-off and is bossy. He sometimes spoils games, argues or sulks. He tells tales and lets others take the blame, sometimes bullies others or is spiteful". (He/She)

3) There are few consistent sex-differences in response. Boys and girls at this age tend to approve and disapprove the same characteristics in both sexes.

4) No significant differences between the different school groups in response to the items on the checklist were established.

5) The repeat studies confirm that subjects of this age-group approve behaviour usually fostered by teachers, and disapprove of behaviour which disrupts or threatens an harmonious classroom atmosphere.

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1 See p.55 for Profiles derived from original study, and p.110-111 for comparison.
The Item Checklist proved to be a useful instrument for establishing the association of particular characteristics with popularity or unpopularity within class groups but it was not sensitive enough to reveal clear differences between sex or class groups. Although overall ranking of items could be established, no information was provided about the strength of feeling of individual subjects about chosen and unchosen items.

It was somewhat surprising that the 'all-boys' and 'all-girls' classes did not differ significantly from the mixed groups. It was expected that these single-sex classes would highlight the sex differences suggested by the original study. However, the repeat studies as a whole did confirm the findings of the 1963 study to the extent that certain items were consistently associated with popular or unpopular children of one sex or the other. Both boys and girls associate 'being polite and helpful to teachers' (2) strongly with popularity, but boys associate it more with a girl than a boy. Attractive appearance (5), being clean and tidy (1) and being a good sport (9) are important to boys in a popular girl. Boys expect a popular boy to be 'cheerful and amusing' (29). 'Cheating or copying' (23) is consistently associated with an unpopular girl, while an unpopular boy is likely to be naughty (7), and to tell tales (21). Girls consistently associate interrupting or spoiling work (13) and being bossy (26) with an unpopular boy, while boys consistently
mention bullying or spitefulness (10), showing off or boasting (16) and stealing or telling lies (28).

On the whole the children's response is consistent when positive and negative aspects of a characteristic are included. For example, Item 30 ('Usually well behaved in school') is significantly associated with popularity, Item 7 ('Naughty in school') with unpopularity. However Item 1 ('Usually clean and tidy') and Item 2 ('Polite and helpful to teachers') are strongly associated with popularity, while Item 25 ('Rather scruffy and dirty') and Item 37 ('Rude and cheeky to teachers') are not so strongly associated with unpopularity. In considering these variations in response it must be recognised that response to an item may be related to several factors, including the incidence of 'living examples' in the class group.

The repeat studies confirmed the 1963 finding that the children associated teacher-approved behaviours with popularity. It was therefore surprising that Items 19 ('Good at schoolwork') and 24 ('Good at P.E. and games') were not among the items most closely associated with popularity by any of the groups. This seems to indicate that the subjects can differentiate between what a child is and what he does. Although ability at work and games are approved, and lack of such ability (Items 15 and 13) associated with unpopularity, favourable attitudes and co-operative behaviour are considered more important.
Repeat Studies

Test 5 (Sociometric Questions) and Test 7 (Guess Who?) were administered in each of the five classes comprising the Repeat Sample. The main aims were:

(i) to make an assessment of the acceptability of each child within his classroom group and to obtain a Rank-Order within each group based on choice-status.

(ii) to select a sample of popular and unpopular individuals for more detailed study.

(iii) to relate choice-status to Guess-Who status and to confirm the correlation between them found in the original study.

(iv) to confirm the findings of the basic study concerning the reputational characteristics of popular and unpopular individuals.

(v) to specify the Sociometric situation within each class-group and to make comparisons between them, and with the original groups.

Results and Treatment of Results

(i) Corrected choice-scores were calculated as described in the original study i.e. Number of choices on A minus number of rejections on B. (For Distribution of Choice-scores in each group, see Appendix 12a-c). Since this method of scoring gave only a limited range of scores in some groups, an alternative
Inclusive choice-score was also calculated i.e.
number of choices on A, D, E, F, minus number of
rejections on B. This gave a wider range of scores,
and the Rank-ordering within each group was based
on these scores for the purpose of correlation with
Guess-Who scores.

(ii) In each group a small number of individuals emerged
clearly as most and least acceptable. Popular
children in the mixed groups tended to be acceptable
to both sexes. The three top-scorers (Inclusive
choice-scores) in each Class group were selected for
the 'Popular' sample and the three lowest-scorers
for the 'Unpopular' sample. A further three children
of intermediate acceptability were selected as the
'Middle' sample. This group would form a Control
group and provide additional information about any
trends in the distribution of variables between the
extreme groups.

An additional criterion for inclusion in the selected
sample was added for practical reasons – each individual
selected must have been present for the complete Test
programme. (N.B. This detailed study is reported in
Section C).

(iii) Guess-Who status for each child within his group was
based on the number of favourable and unfavourable
mentions received on Test 7. Rank order based on

Although individual rank ordering varied slightly according
to the method of scoring, a check was made to ensure that
selected individuals fell into the appropriate Quartile
when the original corrected choice-score was used as the
basis for ordering the group.
this measure was compared with rank order based on sociometric choice-score, using Spearman's Rank Correlation Coefficient.

The following coefficients were obtained:

- School S, \( \rho = 0.84 \)
- School B, \( \rho = 0.76 \)
- School W, \( \rho = 0.84 \)
- School \( E_g \) (girls), \( \rho = 0.52 \)
- School \( E_b \) (boys), \( \rho = 0.50 \)

(All these values of the Correlation coefficient are significant at 1% level).

(iv) a. Popular children had a high number of overall mentions on the Guess-Who Test, with a majority of mentions on favourable items. Unpopular children might also have many mentions on the Guess-Who test but these were predominantly on unfavourable items.

Table 6

<table>
<thead>
<tr>
<th></th>
<th>Total Range of Indiv. scores</th>
<th>Sub-total Range of Indiv. scores</th>
<th>Sub-total Range of Indiv. scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Popular</td>
<td>1235 48-151</td>
<td>1140 42-151</td>
<td>95 0-45</td>
</tr>
<tr>
<td>Middle</td>
<td>344 4-40</td>
<td>256 3-37</td>
<td>83 0-22</td>
</tr>
<tr>
<td>Unpopular</td>
<td>790 13-125</td>
<td>116 1-24</td>
<td>674 6-122</td>
</tr>
</tbody>
</table>
Mann-Whitney tests indicated significant differences between the total mentions for Popular children and both Unpopular and Intermediate groups, and between number of favourable mentions for Popular children compared to both Unpopular and Intermediate groups. Unpopular children had significantly more mentions on unfavourable items than Popular and Intermediate groups, but Popular and Intermediate groups did not differ significantly on number of unfavourable mentions (Significance Level 1%).

b. Popular children were named by a large number of classmates on particular favourable items (Appendix 12f). At least 25% of their classmates named particular popular children for the following items: 1, 2, 3, 5, 8, 14, 19, 24, 27, 30, 32, 34, 39, 40.

Including the 1964 School C group with the Repeat Sample, one third of Popular children are described as being "usually clean and tidy" (1) and "good at schoolwork" (19). One quarter are described as attractive (5), bringing honour to the class or school (8), good at P.E. and games (24) and a good leader (34).

c. Particular unpopular children were named by at least 25% of their classmates on the unfavourable items 4, 6, 7, 10, 13, 15, 16, 21, 23, 25, 26, 31, 32. (See Appendix 12g). One quarter of unpopular individuals are described as "letting the class or school down" (6) and "not good at school work" (15).
d. Profiles of individual popular children were examined to see whether they fitted the 'types' suggested by the basic studies. Most of the popular children could be assigned to one of three basic types — the Good Scholar (Z), the Good Fellow (X), or the Good Looker (Y). However, their reputations often included elements from more than one category. So the evidence from the Repeat studies modifies the suggestion that X, Y and Z represent three distinct types of child, and postulates three clusters of characteristics which are likely to be found to a greater or lesser extent in any popular child of this age. (Appendix 12h).

e. Profiles of unpopular children were examined to see whether they represented the opposites of the suggested popular types. Their reputational profiles tended to be less clear-cut than those of the popular children, but they all included negative aspects of X, Y or Z, with the exception of one individual who was largely ignored on the Guess-Who test. 16 out of 13 profiles included negative aspects of Type Z ("The Good Scholar") although these were combined with negative aspects of X and Y.

Four types of characteristics were distinguished — the Poor Scholar (W), the Bad Mixer (U), the Bad Lot (T), and the Odd Man Out (V). (See Appendix 12h).
The sociometric situation within each classroom-group is summarized in Appendix 121. The characteristics of each group are described briefly for comparison:

**Group B**
All children receive some choices and 61.5% have positive choice scores (i.e. they receive more choices than rejections). More boys than girls have negative choice scores. 30.7% of the group receive no rejections at all.

**Group B**
Two children receive no choices at all on any criterion and one boy is strongly rejected. Only 17.1% of the group receive no rejections. 63.5% of the group have positive choice-scores, with boys over-represented among top-scorers. This is the only group in which boys have a higher average choice-score than girls.

**Group W**
80% of the group have positive choice-scores and 40% receive no rejections. One boy is strongly rejected and he is the only child to receive no choices at all.

**Group E**
All the girls receive some choices and 58.8% receive no rejections. 73.5% have positive choice-scores. The top three girls share the same circle of choosers being the centre of a group of seven popular individuals.
These three girls each receive some mentions from boys in $E_B$ (on Question G) but choose no boys themselves.

Group $E_B$
All except one boy receive some choices and 46.1% receive no rejections. 69.2% have positive choice-scores. Two boys are strongly rejected.

Group C, Class 12
76.6% have positive choice-scores and 30% have no rejections. The girls have a higher average choice-score than the boys. One boy is strongly rejected.

Group C, Class 11
57.6% have positive choice scores, but only 19.2% receive no rejections. Choice scores are evenly distributed among boys and girls in this group.

Group C, Class 13
80% have positive choice scores and 54.2% receive no rejections. There are two extremely unpopular children in the group (one boy and one girl) who are rejected by 71% of their classmates. The sociometric-status of girls is better than that of boys in this group.

The general characteristics of the mixed groups studied can be summarized as follows:

(a) Few children receive no choices at all.

(b) The majority have positive choice scores (i.e. they receive more choices than rejections).

(c) Many children receive some rejections, even the most chosen individuals.
(d) Free choices are directed almost exclusively at members of the same sex, but rejections are directed to both sexes.

(e) The most popular children are likely to have links with the opposite sex.

(f) In a mixed group girls are likely to have higher choice-scores than boys.

(g) Rejections may be concentrated on one or two members of the group.

The limited data on single-sex groups indicates that they do not differ markedly in basic characteristics from the mixed groups, except that a greater proportion of children receive no rejections. This is partially predictable from the elimination of opposite-sex classmates as potential rejectors.

Discussion

A. Characteristics of Popular and Unpopular Children

The present studies confirm the conclusion reached by Northway (1955) that no single characteristic is a 'common denominator' of popularity.

Northway stressed the importance of a child directing his energies 'towards those goals which the group values', characterising the popular child as one who 'joins in projects, is conscientious about schoolwork, shows considerable class and school spirit, and is often helpful to other children'.
Livesley and Bromley (1973) state that ability and achievement seem to be important values for children. Hardy (1937) reported an association between popularity and success in school and playground activities. All these characteristics of the "good scholar" have been associated with popular children in the present study.

Williams and Stith (1974) emphasise the interpersonal qualities of the popular child, who they suggest is usually rated as cheerful, generous, friendly, co-operative, honest, even-tempered, a good sport and having a sense of humour. They also mention that attractiveness is important in popularity. These qualities of the "good fellow" and the "good looker" were also found relevant for popularity in the present study.

Bonney (1943a) distinguished two syndromes characteristic of popular children, one consisting of 'strong aggressive traits' and the other - less definite - of 'traits that count most in direct interpersonal contacts'. Bonney's distinction between the 'Active' and the 'Friendly' child has been noted in the present study, although Bonney agrees with the present writer that individual children tend to have features from both syndromes.
In order to become popular a child must be 'noticeable' - as reflected in a large number of mentions on Guess-Who - but his activity must be expressed in behaviours regarded favourably by classmates. Bonney suggests a reciprocal relationship between 'Activity and Achievement' and 'Friendliness':

The person who senses that he possesses some kind of superiority (competence) in a group is certainly in a much better frame of mind to learn friendly attitudes and techniques ... It is also true that those who are friendly in their group contacts are the ones who are most likely to be helped by others to attain abilities and leadership positions. (Bonney, 1943a, page 466).

Some writers (e.g. Tryon, 1939) suggest that a distinction should be made between popularity and prestige. Rubin (1973) concluded that there are two fundamental dimensions of liking - 'affection' based on the way another person relates to you personally and 'respect' based on an individual's admirable characteristics or actions in spheres other than personal relations. Tuddenham (1951) suggests that young children do not differentiate between the children they personally like best and the ones 'everybody likes'. The present study indicates that prestige and popularity are intricately related for subjects of ten to eleven years. Liked individuals may be evaluated favourably, and an individual with a favourable reputation becomes more likely to be chosen.
Searcy and Fevers (1974) have suggested a difference between reasons for liking and reasons for disliking peers:

Children dislike because of some specific and striking pattern of behaviour like bullying or acting smart. Liked peers do not possess such obvious qualities and are described in terms of other categories. (page 123).

Moreno (1953) stated that rejections are based on perception of differences — physical and mental — in the disliked person. In the present study some unpopular children were seen by classmates as bullying (10) or showing-off (16), but the most frequent reputational characteristics were ‘letting the class down’ (6) and being poor at schoolwork (15). It must be noted that children with low choice-scores may not form an homogeneous group, and may be subdivided into those ignored, unliked or actively disliked. (Northway 1955).

B. Characteristics of the Groups

On the basis of the Toronto Studies, Northway (1955) makes several statements about the general characteristics of groups of children. She observed that sociometric scores vary widely in any group, with few very popular individuals. Even the most popular individual is rarely chosen by everyone and few children are unchosen by somebody. Moreno (1953) and Jennings (1959) stress the
'sexual-cleavage' in mixed groups of the age-range studied by the present writer. Developmentally, this is regarded as a period when cross-sex choices are few, percentage of unchosen children is low, and percentage of mutual pairs is increasing (Jenning 1959).

The analysis of sociometric data in the present study confirms Northway's general characteristics, but also emphasises the emergence of 'scapegoats'. The 'sex-cleavage' was not found to be as complete as Moreno and Jennings suggested since rejections are directed to both sexes in the mixed groups.

It appears that girls may achieve better sociometric status than boys within a mixed group, although this generalisation may be affected by the proportion of boys to girls and the relative willingness of boys and girls to express choices and rejections. The present study indicates that popular children are beginning to establish the cross-sex links which become more numerous with increasing age (Moreno, 1953).

J. S. Coleman (1961) has observed that in mixed adolescent groups 'the values of the girls' culture are moulded by the presence of boys' and he suggests that a girl who is popular with boys achieves a special position of status. It seems unwise to treat boys or girls as independent sub-groups even at lower age levels, although some investigators have reported studies of this kind.¹

¹ See Cunningham 1943, a study of ten year old boys from a mixed class.
Ward (1955) considers that the sociometric test is a valuable tool for detecting signs of social 'ill-health'—which may be revealed in large numbers of active rejections, formation of tight 'cliques', and scape-goating or isolating of certain children. Signs of better social health would include the disappearance of isolates, a decrease in the number of rejections, less confinement of choices within cliques, and the appearance of cross-sex choices. Jennings (1959) implies that a healthy—or more mature—group is one where all the members feel free to make choices, choices tend to be reciprocated, choices are 'open' rather than confined to closed groups, and there are cross-sex links. None of the groups in the present study are in the unhealthy condition where individuals do not feel free to express any choices at all, but the mixed groups suffer from a deficiency of cross-sex choices. On the criterion of number of rejections, groups E_G, W_4, C_64, and E_B would appear to be the most healthy, since they have a high proportion of children with positive choice-scores and a high proportion with no rejections at all.

On the basis of all the sociometric information available in the present study, the most healthy group would appear to be E_G. In this group all the children make and receive some choices, a high percentage receive no rejections, a high percentage have positive choice scores and there are no children with extremely low scores.
However, in the school situation a healthy position must involve not only a satisfactory social situation among the children in a class-group but also a good relationship between the children and the Teacher. Also, where 'scape-goats' are found (as in $C_{G_4}$) the group can hardly be regarded as a healthy environment for those rejected children although the position of the majority may appear favourable.

Conclusions

1. A positive correlation was demonstrated between choice-status based on sociometric questions and reputational status based on Guess Who technique. A child with a high choice score can be expected to receive a high number of favourable mentions on Guess-Who, while a child with low choice-status will receive few favourable mentions and/or many unfavourable mentions.

2. Each child has a unique reputational profile, but certain characteristics are likely to be associated with popular and unpopular individuals. Popular children are often described as clean and tidy, good at schoolwork, attractive, bringing honour to the class or school, good at P.E. and games, and a good leader. Unpopular children are often described as letting the class or school down and not being good at schoolwork.
3. Three clusters of items have been identified which tend to characterise popular children. These have been designated as 'The Good Scholar', 'The Good Fellow', and 'The Good Looker'.

4. The reputational profiles of unpopular children tend to be less clear-cut than those of popular individuals, but they include negative aspects of those attributes found in popular children, particularly those defining 'The Good Scholar'. It seems justifiable to distinguish the 'Bad Mixer' from the 'Bad Lot'.

5. The present study confirms some of the general characteristics of children's groups suggested by other investigators.

6. No definite conclusions concerning the relative characteristics of Mixed and Single-sex groups could be drawn from the limited sample available, but it was suggested that boys and girls comprising a mixed group should be regarded as an integral social unit since sex-cleavage is not complete.

7. The groups studied could be classified as more or less 'healthy' on the basis of the sociometric characteristics quantified, but some doubt must be expressed about the validity of these judgements in the absence of more complete sociometric analysis and further information about relationships between the groups and the teachers.
Tests 6 (Self) and 8 (Ideal) were repeated in five further classes in four different schools (described in Appendix 11a), to confirm generality of basic findings.

Findings

1. Self-pictures for each group were similar, and predominantly favourable. Nine items were associated with Self in each group - Items 1, 2, 9, 12, 27, 30, 32, 36, 40 ($\chi^2$, 5% level).

Few unfavourable items are claimed for Self. The most commonly admitted fault is "No good at P.E. and games" (13), claimed by 17.02% of the total repeat sample. No child admits to "stealing or telling lies" (23).

The highest proportion of unfavourable items was claimed by School B (Average 1.5 per subject) and the lowest by School E (Average 0.5 per subject).

Few items were added to the list for self description. Those that were added could be classified as either modifications of existing items, Interests or hobbies, or idiosyncratic.

2. There is some variation across the groups in response to specific items. "Attractive appearance" (5) is claimed by only 15% of School S, all boys, compared to 54% in E and 51% in B. This group also claim to be "polite and helpful" (2) less frequently than the other groups. A higher proportion of children (60%) in School B and E claim to be "a good leader" (34) compared to the other groups.
There are some indications of sex-differences within schools, but these are not consistent across the total sample. There is most variation between girls and boys in Schools B and E. In both these schools a higher proportion of boys describe themselves as "good at P.E. and games" (24) and "a good leader" (34).

(iii) Eight items are significantly associated with both a popular child and self-image by each group of subjects.

(iv) The findings of the repeat study are substantially the same as those found in the Basic study (School C, 1963 and 1964).

Taking a more stringent criterion, seven items are associated with Self in all eight separate class groups included:

Items 1, 12, 27, 30, 32, 36, 40 ($x^2$, 13 level).

(Appendix 13a).

b. The Ideal-Self was described in terms of eighteen favourable items: 1, 2, 5, 8, 9, 12, 14, 19, 20, 24, 27, 29, 30, 32, 34, 36, 39, 40 ($x^2$, 5% level).

All these items were found to be associated with popularity rather than unpopularity and the list includes all the items significantly associated with a popular child on Tests 1-4.

Few items were added to the checklist. These could be classified as either modifications of existing items, references to acceptability, or idiosyncratic.
Sex differences and group differences are inconsistent and occur in relation to items of marginal importance for Ideal or Popular child (Items 3, 17, 35).

Item 17 ("sometimes does what others want") is significantly associated with the Ideal only in $E_B$ group. Using a more stringent criterion, ($\chi^2$, 1% level) seventeen items are associated with the Ideal in each separate class-group including the School C samples. (Item 39 is significantly associated with the Ideal in every group except Class 11, School C.) (Appendix 13b).

Discussion

It seems justifiable to conclude that those items chosen by all five groups for their self-description involve basic values for this age-group. The majority of these items are concerned with pleasant personal characteristics leading to congenial interaction. The inclusion of items 27 ('takes pride in school work, tries hard') and 30 ('usually well-behaved in school') confirms the impression gained from the basic study that children of this age tend to accept teacher-approved standards relating to classroom behaviour.

The repeat sample confirms that children of this age tend to have a predominantly favourable self-picture. It may be that testing within the school context tends to accentuate the child's inclination to evaluate himself
favourably and to maintain his self-esteem. Reluctance to acknowledge faults was most marked in the all-boys group where competition and rivalry were accentuated.

Livesley and Bromley (1973) suggest that admission of unfavourable attributes increases with age — between 7 and 15 years — although Hudson (1968) did not observe this development in his 15-16 year olds.

Conclusions

1. The Self-picture established by the original samples was substantially confirmed. The group as a whole describe themselves in the following terms:
   "Usually clean and tidy, loyal to friends, taking pride in schoolwork, usually well-behaved, friendly, kind and thoughtful, generous."

2. Subjects of this age assess themselves favourably and did not usually include unfavourable items in their self-picture.

3. The items chosen for self-picture are all associated with popularity rather than unpopularity, and eight items are common to both self-picture and picture of a popular child (Items 1, 2, 9, 12, 30, 32, 35, 40).

4. No consistent sex or group differences were established in relation to self-assessment.

5. The repeat studies substantially confirm the picture of Ideal self established by the School C studies.
The following items were associated with the Ideal Self by each of the groups studied: 1, 2, 5, 8, 9, 12, 14, 19, 20, 24, 27, 29, 30, 32, 34, 36, 40.

6. The group picture of Ideal Self was similar to the picture of a popular child, but was more inclusive.

7. No consistent sex or group differences were established in relation to the Ideal Self.
Since presentation of the findings from the Basic (1963 + 1964) and Repeat (1965) studies was delayed, it was considered desirable to carry out an additional study in 1973.

Tests 1-4 (Association of items with Popularity and Unpopularity) were administered to a sample in School T (described in Appendix 14a).

School T, One mixed class, N = 31 (15 Girls + 16 Boys), Mean Age at Testing 10 years 11 months.

Results are summarised in Appendix 14b.

Comparison of Rank Order of Items for Association with Popularity, using Spearman's Rank Order Coefficient of Correlation, between 1973 sample and the original sample, yielded a coefficient of 0.867 (Significant at 1% Level). Hence, it was concluded that the passage of time did not in itself cast doubt on the usefulness of the main findings.
C. The Characteristics of Popular and Unpopular Children: Patterns of Sociometric choice.

Introduction

Examination of the sociometric choices and rejections expressed on Test 5 indicated that there might be interesting differences in the pattern of choices given and received by individuals of differing choice-status.

This kind of analysis has rarely been reported in the Literature. Northway (1954) suggested that information about various patterns of sociometric interaction should be gathered, and illustrated her suggestion with selected case studies (Northway 1955 p.24-26). These reveal that individuals with equivalent overall choice-scores may differ in component variables such as strength of choice, circle of choosers, reciprocation of choices and sex distribution of choices. Northway has not systematically compared popular and unpopular children in terms of these patterns.

Potashin (1946) compared the choice behaviour of pairs of friends and non-friends defining as 'friends' those with a mutual first choice on a sociometric test. She noted that a child who had a close personal friend was generally well accepted by his classmates, but a child without a friend was not generally sought as a companion. This seems to imply that a reciprocal friendship is a pre-requisite to wider acceptance.
The general hypothesis formulated by the present investigator was that there would be differences in the choice patterns associated with popular and unpopular children. A specific hypothesis (derived from Potashin) was that popular children would be more likely to have a reciprocal first choice than children of intermediate or low choice status.

The examination of group data for individual differences is extremely time-consuming. It has therefore become a convention in sociometric studies to extract groups of 'sociometrically high' and 'sociometrically low' individuals for more detailed comparisons (see for example, Bonney and Powell 1953). The present investigator included a 'middle' group to form a Control group and to reveal more clearly the direction of trends in the distribution of variables over the group as a whole.

Procedure

Subjects were selected for the 'Top', 'Middle' and 'Bottom' groups on the basis of their corrected choice-scores. With eight Class-groups included in the study, a total of 72 children were involved, 24 in each of the three categories. No attempt was made to control the sex-composition of the total sample and boys were slightly over-represented.

¹ See previous report on Sociometric and Guess-Who Studies, for details.
Responses to Test 5 (Sociometric Questions) were examined and those choices and rejections made for and by the selected subjects were tabulated. (See Appendix 15 for comprehensive charts).

Where appropriate, differences between the groups were examined for statistical significance, using chi-squared or Mann-Whitney tests.

Findings

1. Members of the Top group express more choices than the Bottom group on the sociometric questions. (Difference significant at 1% level, Mann-Whitney Test). They also tend to name a larger number of different individuals, but this difference is not statistically significant.
   
   An index of concentration of choices made (Total choices given + Number of different individuals chosen, for each subject) indicates that members of the Top group are more consistent in those they choose across criteria than the Bottom group. (Difference significant at 5% level, Mann-Whitney test).

   There is no difference between the three groups on the number of rejections given.

2. The Top group tend to receive more First-choices on the sociometric questions than the other groups. In particular, they more frequently have a reciprocal First-choice on Question A ("Like-best") than the other groups. (Comparison of Top/Bottom and Top/Middle
groups using 2 x 2 chi-squared tests, indicates a significant difference at 1% level in both cases.)

3. The Top group receive no rejections from children they choose and have more of their positive choices reciprocated than the Bottom or Middle groups. (Differences significant at 1% level on Mann-Whitney test, in both cases).

4. Rejections made by the Bottom group are likely to be reciprocated - this is rare in the other two groups. Individuals in the Top group may actually be chosen by those they reject - this is not found in the other groups.

Comparison of the number of subjects with at least one reciprocal rejection in Top/Bottom and Middle/Bottom groups indicates higher frequency in the Bottom group (2 x 2 chi-squared tests, significant at 1% level).

5. As already reported, members of the opposite sex are rarely named spontaneously, but cross-sex choices were requested on Question G for the Mixed groups. The Top group tended to make more choices here than the other groups. (Differences not statistically significant).

Members of the Top group more frequently have a reciprocal choice with a member of the opposite sex than the Bottom group. ($X^2$, significant at 1% level). The difference between the Top and Middle groups is not statistically significant.
There is no difference between the three groups in terms of the number of rejections directed to children of the opposite sex, but only those made by the Bottom group are reciprocated.

6. In the Mixed Classes, choices for girls in the Top group come mainly from other girls (66% of their choosers are of the same sex). The circle of choosers for popular boys is made up of 45% girls and 55% boys. In fact, half the boys in the Top group have more female than male choosers. Only one girl in the Top group had more male than female choosers.

Choices for the Middle and Bottom groups came predominately from members of the same sex.
Previous studies have suggested that popular children show better social adjustment than less popular. (Hardy 1957, Grossmann and Wrighter 1948). The present findings support the supposition that popular children are more confident and outgoing in their social relationships than their peers. They also show greater maturity in their readiness to extend their choices to members of the opposite sex and to develop reciprocal relationships with them. In the present study of ten to eleven year olds it was the girls in particular who directed choices to the opposite sex. Bonney's study of choice behaviour between the sexes (1954) indicated that boys chose girls more readily at younger ages but by 7th Grade (approx. 12 years) girls chose boys more. Within the mixed groups studied here it could be argued that girls control the social structure to a greater extent than boys in initiating the breakdown of sex-cleavage by directing choices at prestigeful boys.

Popular children are not simply more accepting of others than their peers since they do not differ in the number and kind of rejections made. They appear to be more sensitive in their perception of the feelings of others towards them and to choose more realistically. The limited data on prediction of reciprocity from the original sociometric study suggested a tendency for subjects of high or average choice-status to be more accurate in their predictions than those of low status.
Comparison of Top/Middle/Bottom groups here demonstrates that popular children receive no rejections from children they choose and frequently have their choices reciprocated. This 'interpersonal skill' is difficult to pinpoint objectively as it may be confounded by differences in intellectual ability. Lack of control of this variable weakens Campbell and Yarrow's study of perceptual and behavioural correlates of social effectiveness (1961) in which they found that more socially effective children gave more organised and insightful accounts of their experience of others.

Popular children more frequently have a close reciprocal friendship. Often the reciprocal friend is an individual of similar sociometric and Guess-who status, a tendency noted in previous studies of friend-pairs. (Van Dyne 1940, Potashin 1946). The ability to form and maintain a close reciprocal relationship may be another indicator of social maturity. Perhaps the presence of a friend and ally gives a child a sense of security from which to build his acceptance in the group. Jennings (1959 p.89) stresses the special significance of first choices:

The chooser makes his greatest psychological investment in his first choice ... the implications of crucial needs lie chiefly in first choices. Yamamoto (1972) has also argued that the possession of a mutual friend is vital for the building of a positive self-concept.
Unpopular children are less expansive and less realistic in their choices. Their experience of rejection appears to lead to hostility towards and rejection of others. Lack of positive reciprocal interaction is compensated by reciprocal rejection. Efforts to improve the status of an unpopular child might be directed to encouraging the formation of one reciprocal friendship with a member of the group who does not actively reject him.

Conclusions

The choice patterns of children differ according to their level of acceptability within their group:

(i) Popular children express more choices but at the same time are more consistent in those they choose.
(ii) They more frequently have a reciprocal friend.
(iii) They receive more first choices from classmates, have more of their positive choices reciprocated and are not rejected by those they choose.
(iv) They are more likely to have a reciprocal relationship with a member of the opposite sex.
(v) Unpopular children express less choices and are less consistent in those they choose.
(vi) They more frequently have a reciprocal enemy.
(vii) They have fewer of their positive choices reciprocated and are less likely to have a reciprocal first choice.
(viii) They may be rejected by those they choose.
The present study indicates that preference, prestige and popularity are intricately related. Within the classroom situation children do not differentiate clearly between friendship and popularity. Rather, Potashin's view is supported - a child who can form a close, reciprocal friendship is also likely to find wider acceptance.

Certain attributes are conducive to initial acceptance or rejection. The attractive, neat child has a headstart, while the scruffy child has to overcome his negative impact. The study is in agreement with Livesley and Bromley's suggestion that competence and excellence are important values for children of this age. Teacher-approved behaviours, abilities manifested in the school situation and activities bringing prestige to the group are strongly associated with popular children. Interpersonal skills are also important and the ineffectual or disruptive mixer is not acceptable.

The study has not found any significant sex differences in opinions about popularity. To a large extent there are stereotypes of the popular boy and girl and these are accepted and perpetuated by both sexes.

It was surprising to find that the child who makes sophisticated judgements about others is so undiscriminating in evaluating himself. Subjects assessed themselves favourably, regardless of their reputation in the group.
The self-picture is essentially the same as that of the hypothetical popular child. Again, the present study is in agreement with Livesley and Bromley's finding of similarity between self-description and descriptions of liked-others. It seems that 'self-image' is still so precarious at ten to eleven years that the child must defend self-esteem by magnifying his assets. It also seems reasonable to assume that attributes chosen for self and ideal-self constitute basic values for this age-group.

The present study confirms observations reported by Northway about the characteristics of children's groups. Even the most popular individuals are not approved by everyone, and few children are unchosen at all. Children with low choice scores do not form an homogeneous group and may be subdivided into those ignored, unliked, or actively disliked. However, the study emphasises the emergence of 'scapegoats' who form the focus of negative feelings and values. Also, 'sex-cleavage' may not be so complete as previous studies suggest, especially if rejections are taken into account. This study indicates that those children who are beginning to establish the cross-sex links more typical of older groups are the ones likely to be popular with their own sex.

While the basic findings reported in this study have been largely corroborated by repeat studies, caution must be exercised in over-generalising the conclusions, especially in view of the multi-racial composition of
It is suggested that a detailed study of 'newcomers' and their integration into an existing group would be a useful line of further investigation. Such a study would clarify the findings about popularity and un-popularity reported here, and further challenge Duck's assertion that we still do not know what causes people to like each other or to choose their friends.
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REFERENCES


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IV APPENDICES
APPENDIX 1a.

Instructions for Descriptive Essays on Imaginary Children
(Preliminary Study)

(A) JACOB is a very popular boy. Everyone likes him.
The others are glad when he comes to play with them.
They would like to sit next to him in school.
Describe him.

(B) TANYA is a very popular girl. Everyone likes her.
The others are glad when she comes to play with them.
They would like to sit next to her in school.
Describe her.

(C) HEIDI is a very unpopular girl. No one likes her.
No one wants to sit by her or to play with her.
Describe her.

(D) RUFUS is a very unpopular boy. No one likes him.
No one wants to sit by him or to play with him.
Describe him.
Examples from Essays

**JACOB**

*By a boy:* Jacob is a tall sturdy boy with black hair. He is very good at sports and P.T. The reason why he is liked so much is because he is very fair and never starts a quarrel. Jacob rarely gets into trouble and is always getting other people out of it.

*By a girl:* Jacob is the leader of the gang but he is not bossy. He is not very good at schoolwork but he is very good at sport. He is liked because he will join adventures.

**TANYA**

*By a boy:* Tanya is a bundle of fun and not cruel. She is not bossy like most girls but a nice pal who believes in give and take.

*By a girl:* Tanya is very popular because she is unselfish and has a nice personality. People like to sit next to her because she is helpful and shares her things with her friends. She has fair hair and blue eyes and always looks neat. Tanya is top of the class in games and the people in the team that Tanya is in are proud to have her.
HEIDI

By a boy: Heidi is a very naughty girl. She pinches people's things, writes all over their books and she tells lies. She doesn't do anything at all at playtime. She is scared to play rough games.

By a girl: No one wants Heidi to join in with their games or sit by her because she smells and she wears nasty clothes. Heidi does very poor work and she never gets any marks or stars. She always gets the cane because she is cheeky.

RUFUS

By a boy: Rufus was a rough sort of boy. He was selfish and unkind to pets. He always was a bad sportsman and a bully.

By a girl: Rufus is unpopular because he is nasty and hits little children. His hair is black and always dirty. He wears scruffy shoes and clothes and never looks tidy. Sometimes because he can't play with other children he goes and ruins their games. At school he doesn't seem to care about his work and he is often taken to the Head for misbehaving.
CHECKLIST

1. Usually clean and tidy. 1.
2. Polite and helpful to teachers. 2.
3. Average at school work. 3.
4. Seems to be a coward or cissy, scared of things. 4.
5. Attractive appearance, nice-looking. 5.
6. Lets the class or school down. 6.
7. Naughtly in school. 7.
8. Brings honour to the class or school. 8.
9. A good sport, plays fair. 9.
10. Sometimes bullies others or is spiteful. 10.
11. Likes to be alone, seems stuck up. 11.
12. Loyal to friends, can be trusted. 12.
15. Not good at school work. 15.
16. Likes to show-off and boast. 16.
17. Sometimes does what others want. 17.
18. Often interrupts or spoils others work. 18.
19. Good at school work. 19.
20. Has good ideas for things to do and play. 20.
21. Tells tales, lets others take the blame. 21.
22. Seems to be sad or lonely. 22.
23. Often cheats or copies. 23.
25. Rather scruffy and dirty. 25.
27. Takes pride in school work, tries hard. 27.
28. Steals or tells lies. 28.
29. Cheerful and amusing, fun to be with. 29.
30. Usually well behaved in school. 30.
31. Doesn't bother or care about school-work, careless and untidy. 31.
32. Friendly, joins in. 32.
33. Sometimes spoils games, argues or sulks. 33.
34. A good leader. 34.
35. Wears fancy and expensive clothes. 35.
36. Kind and thoughtful to people and animals. 36.
37. Rude and cheeky to teachers. 37.
38. Often late for school or lessons. 38.
39. Liked by most teachers. 39.
40. Generous, shares things. 40.
APPENDIX 3a.

Instructions to Administrator (Basic Study) Popularity Tests

1. The series of tests must be given in the correct order. Each test must be separated from the next by at least a play or dinner break or another teaching period. Longer intervals are permissible, so long as the programme is completed within three weeks. The following timetable is suggested:

<table>
<thead>
<tr>
<th>DAY</th>
<th>Test I and II</th>
<th>Approx. Time</th>
<th>30 min. + 30 min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAY 2</td>
<td>Test III and IV</td>
<td>Approx. Time</td>
<td>20 min. + 20 min.</td>
</tr>
<tr>
<td>DAY 3</td>
<td>Test V and VI</td>
<td>Approx. Time</td>
<td>30 min. + 20 min.</td>
</tr>
<tr>
<td>DAY 4</td>
<td>Test VII</td>
<td>Approx. Time</td>
<td>60 min.</td>
</tr>
<tr>
<td>DAY 5</td>
<td>Test VIII</td>
<td>Approx. Time</td>
<td>20 min.</td>
</tr>
</tbody>
</table>

2. The instructions for each test (1-8) are to be given orally to the class.

3. The tests are designed to obtain a record of children's "expressed opinions". The most important requisite is for each child to do the tasks carefully and with the minimum of influence from others. Take the usual precautions against 'copying'. Aim to get the children's 'serious co-operation' but to eliminate fears that they are being assessed by their responses.

4. The list of items 1-40 may be read aloud to the class before starting any test. It should not be necessary to explain the meanings of the items (except possibly items 3, 8). Give any additional explanation you feel necessary before a test, so long as the basic instructions are followed.
5. The descriptions of "imaginary children" in tests I-IV must be read as set, except that you should change the name used if it should correspond with a child in the group.

6. When the children are naming classmates (Tests V and VII) spelling accuracy is unimportant so long as individuals can be identified. When a child is absent during these tests his name must be written clearly on the blackboard and the class reminded to include him in the choice-group.

7. Children of this age may show reluctance to name children of the opposite sex as sociometric choices. Before Test V (item G) explain that for some school situations (e.g., model-making) both boys and girls are needed and in such a situation a boy would prefer one girl to another.

8. If absentees can be given tests when they return this helps to keep data complete, but it is not essential.
Instructions for Popularity Test I (Test I)

Some people at London University are trying to find out interesting things about what children like and what kinds of people they like.

You will be able to help by telling me some things about people you like.

We all like some people better than others. Most boys like boys best, and most girls would choose girls, but we usually have boys and girls together in a class and we can't help liking some of them better than others.

Now I am going to give you a description of an imaginary person, a child of about your age, whom everybody likes. This description is about a boy, but later we will have one about a girl.

Henry is a very popular boy. Most of the children in his class like him. They would like to sit near him and play with him. They would like him for their friend.

(Read twice)

That may remind you of a real person you know, perhaps a boy in this class, but that doesn't matter. I have given you a list of items which might tell you more about that boy who is so well liked. I want you to think in your mind of Henry, or someone like him, and then put a tick beside the things from the list that you think would fit Henry.
I want you to read the list, starting with Number 1 and going right down to Number 40. Just tick the ones you think fit Henry or someone like him and leave those you think don't fit Henry. It doesn't matter how many you tick altogether, and it doesn't matter how long you take, but work steadily down the list.

Begin now ....

Has everyone finished? You have one more thing to do. Perhaps you can think of some other things which are not on the list, but you think they would fit Henry. You can write these things you have thought of, on the back of your answer paper.

(If you can't think of anything else it doesn't matter).

Popularity Test (Test 2)

This morning we were thinking about a very popular boy, and what he would be like. Now I want you to think about a girl who is very well-liked.

Jennifer is a very popular girl. Most of the children in her class like her. They would like to sit near her and play with her. They would like her for their friend. That may remind you of a real person you know, perhaps a girl in this class, but that doesn't matter.

Now I want you to look at the list and think in your mind of Jennifer, or someone like her, and then put a tick beside the things from the list that you think would fit Jennifer. Some of them may be the same as those you chose for Henry or some may be different, that doesn't matter. Just think now of Jennifer.
We all like some people better than others. We can usually think of the people we like best—people like Henry and Jennifer whom I described before. There are also people we don't like so much, and there may be some people we don't like at all—we really dislike them. We may try to hide our feelings of dislike and try not to be unkind to those people, but we can't help not liking them as much as others. In a class there are usually some people like that. I will give you a description of an imaginary girl like that. Magda is very unpopular girl. Most of the children in her class don't like her. They don't want to sit near her or play with her. They wouldn't choose her for their friend. Will you think of Magda now, or someone like her, and tick on the list the things you think would apply to her, the things that would fit an unpopular girl.

Now will you think of an unpopular boy. I will describe an imaginary boy. George is a very unpopular boy. Most of the children in his class don't like him. They don't want to sit near him or play with him. They wouldn't choose him for their friend. Will you think of George now, or someone like him, and tick on the list the things you think will fit him.
A. Write down the names of the children you like best in this class.
B. Write down the names of any children you don't like in this class.
C. Are there any children from other classes that you like a lot? Write down their names.
D. Whom would you choose (from this class) to sit near you?
E. Whom would you choose (from this class) to play with at Break-times (Play-times)?
F. Whom would you like as your best friend?
G. If you are a boy, you may have written mostly boys' names. Now write the names of the girls from this class whom you would choose.
   If you are a girl you may have written mostly girls' names. Now write the names of the boys from this class whom you would choose.
H. Which boys do you think are best liked by the other boys?
I. Which boys do you think are best liked by the girls?
J. Which girls do you think are best liked by the other girls?
K. Which girls do you think are best liked by the boys?
L. Do you think that the children you have chosen feel the same way about you? Would you indicate by Yes (Y) or No (N) whether you think each child that you have named on A, B and F would also name you on that question.
Most of you have ticked some of these lists for me before thinking of an imaginary child.

Today I want you to do something which seems very easy, but it means you must think carefully and be very honest. I want you to read through the 40 items and decide which ones fit you, yourself.

If you think an item fits you, put a tick by the number.
If you think an item doesn't apply to you - or perhaps is the opposite - put a cross.
If you're not sure about an item, leave it blank.

Do you understand? Think about yourself, as you really are, and tick the things in the list that are like you, and put a cross by the things that are not like you.

If you want to add some extra items which are like you, write them on the back of your answer paper.
Instructions for "Guess-Who" Test (Test 7)

(To accompany Copy of Basic Checklist of 40 descriptive items).

You have used these lists for thinking about imaginary children and about yourselves.

Now we are going to use them for thinking about other children in the class.

You have another paper on which to write numbers and names. I want you to read Item 1 and think which person in the class is most like that.

Write down the name by No. 1 on the answer paper.

Now do the same with Item 2, and so on down the list.

Try to think of a boy and a girl for each number.

You can put more than two names by some numbers if you wish, or put no names by some numbers if you think that no one in the class is like that.
Verbal Instructions for "Ideal Self" (Test 8)

You have done some very hard work for me with these lists. I think this is the last one you will need to do, and it is an easy one.

I want you to tick this list for the sort of person you would like to be.

You can use your imagination and think of all the things you would like to fit you. You can put a tick by all those things you would like to fit you, and a cross by the things you wouldn't want to be like.

This time it doesn't matter whether an item really fits you, but tick it if you would like to be like that.

Leave any that you are not sure about or don't think matter very much.

Add any extra items on the back of the answer paper.
### RECORD OF TEST PROGRAMME

<table>
<thead>
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<th>TEST</th>
<th>DATE &amp; TIME</th>
<th>NUMBER PRESENT</th>
<th>ABSENTEES' NAMES</th>
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<tr>
<td>1. Popular Boy</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. Popular Girl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Unpopular Girl</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>4. Unpopular Boy</td>
<td></td>
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<td>5. Sociometric questions</td>
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<td>6. Self</td>
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</tr>
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<td>7. 'Guess-Who' naming</td>
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<td></td>
</tr>
<tr>
<td>8. Ideal</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Name of School:**

**Class:**

**Number in Class:**  
- Boys:  
- Girls:  
- Total:
APPENDIX 4.

Composition of Basic Sample, School C.

(a) 1963 SAMPLE, N = 56
CLASS 12, 'A' Stream, 15 Boys and 15 Girls,
TOTAL 30 children.
Average age, 10 years 11 months.
Age Range, 10 years 4 months - 11 years 2 months.

CLASS 11, 'B' Stream, 13 Boys and 13 Girls,
TOTAL 26 children.
Average age, 10 years 10 months.
Age Range, 10 years 5 months - 11 years 3 months.


(b) 1964 SAMPLE, N = 35
CLASS 13, 'A' Stream, 15 Boys and 20 Girls,
TOTAL 35 children.
Average age, 11 years 0 months.
Age Range, 10 years 4 months - 11 years 2 months.

APPENDIX 5

Description of School C

School C is a Junior Mixed School in North-West London. The school has been established in the area for over thirty years and staff tend to stay a long time. Pupils come mainly from lower Middle Class and Working Class homes and usually pass through the Infant School on the same site.

The Junior school is streamed by ability, with two streams in each year group. Classes are mixed with approximately equal numbers of boys and girls.

The atmosphere is friendly and purposeful, the Headmaster encouraging each child to 'give of his best' in all areas.

Class 12 (1963 + 1964) had a Male Teacher with many years service in the school. He was firm but friendly, well-liked by the pupils.

Class 11 (1963) had a Female Teacher, new to the school after previously teaching in Canada. She was energetic and efficient.
Justification for use of Derived Score

On the whole, items were clearly associated with either popularity on the one hand, or unpopularity on the other. However some items did receive ticks on Tests 3 and 4 (Unpop.) as well as on Tests 1 and 2 (Pop.). It was therefore felt that using a corrected score (Ticks for Popular Child minus ticks for Unpopular Child) would reflect more accurately the opinions of the subjects, particularly in terms of items which were relatively ambiguous.

Although comparison of sub-groups in response to the items, formed an integral part of the planned study, differences found were small and related to discrete items. Therefore it was felt that the use of the derived score, combining results of the sub-groups, was justified for most overall comparisons between schools.

Justification for use of Rank Ordering

The purpose of this part of the study was to assess the opinions of each group of children towards the descriptions presented in Items 1-40, and to make comparisons across groups and sub-groups. Although an analysis was first made in terms of the number of ticks given to any item it was felt that apparent differences indicated by this score were only suggestive, since it did not take account of the fact that some children (or groups of children) were more prolific "tickers" than others. Therefore the comparison on the basis of rank order was included.
### Association of Descriptive Items with Popular or Unpopular Children: Responses to Tests 1-4 (1963 Sample)

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<tr>
<th>Items</th>
<th>CLASS 12 T1+2 Score</th>
<th>T3+4 Score</th>
<th>Derived Rank</th>
<th>CLASS 11 T1+2 Score</th>
<th>T3+4 Score</th>
<th>Derived Rank</th>
<th>Combined Rank Overall Rank</th>
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Results of Tests 1, 2, 3, 4 (Association of Items with Popularity)

1963 Sample

(i) For 1963 group, there were 49 subjects present for Tests 1 and 2, thus 98 possibilities existed for ticking any item (for a popular child). To set a value for the score above which an item could be considered significantly associated with Popularity, calculations of Chi-squared were made comparing observed frequency with expected frequency based on chance.

Range of score obtained = 3 - 95

Criterion value (for \( \chi^2 \) (sig. at 1% level) = 67

On this basis, 13 items were found to be significantly associated with popularity by the group.

These were Items 1, 2, 5, 8, 9, 12, 14, 19, 20, 24, 27, 29, 30, 32, 34, 36, 39, 40.

(ii) Similarly, for Tests 3 and 4 (Unpopular Child)

Range of scores obtained = 0 - 101

Criterion value (for \( \chi^2 \) sig. at 1% level) = 67

17 items were found to be significant associated with unpopularity.

These were Items 6, 7, 10, 11, 13, 15, 16, 18, 21, 23, 25, 26, 28, 31, 33, 37, 38.
APPENDIX 6d

Responses to Tests 1-4 (1963 Sample)

Comparison of Rank Order of Descriptive Items differentiated by Sex:

- **PBB** - A Popular Boy described by Boys
- **PBG** - A Popular Boy described by Girls
- **PGB** - A Popular Girl described by Boys
- **PGG** - A Popular Girl described by Girls

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<th>Rank,PBG</th>
<th>Rank,PGB</th>
<th>Rank,PGG</th>
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APPENDIX 6e
Responses to Tests 1-4 (1963 Sample)
Comparison of the two Classroom Groups (Class 11 and Class 12)

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<th>Class 11 (N=23)</th>
<th>Class 12 (N=26)</th>
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<tr>
<td>Number of Items sig. associated with Unpopular child</td>
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<tr>
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<td>No. of items with positive scores</td>
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<tr>
<td>No. of items with negative scores</td>
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Comparison of Rank order based on Derived scores:
Correlation Coefficient = 0.91 (Sig. at 1% level)

Detailed examination of findings, with respect to individual items

A more detailed analysis was attempted of responses made to particular checklist items, by particular subject groups, on particular test criteria. This was done by inspection and extraction from the recorded data, in terms of number of ticks given, proportion of possible number of ticks given, ordinal position when ranked. Any indications of differences were taken as suggestive only, but seemed to provide a meaningful extension of the overall analysis already presented, providing possible bases for comparison with further subject samples.
TABLE showing Items which appear to be more salient to one group than to the other.

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Appendix 6f

Comparisons of Rank Ordering of Descriptive Items: Sub-groups

Spearman's Rank Correlation Coefficient was used to test whether the measure of agreement between rankings of Sex and Classroom Sub-groups was greater than could be expected by chance. Spearman's original formula was used for calculation of rho (P), the Rank Difference Coefficient (Spearman, 1904) Garrett (1956) was consulted for Levels of Significance.

\[ P = 1 - \frac{6 \times \Sigma D^2}{N (N^2 - 1)} \]

(1) Agreement between Boys and Girls on relative importance of items for a popular boy:

\[ P = 0.916, \text{Significant at } 1\% \text{ level} \]

(2) Agreement between Boys and Girls on relative importance of items for a popular girl:

\[ P = 0.87, \text{Significant at } 1\% \text{ level} \]

(3) Agreement between Class 11 and Class 12 on relative importance of items for a popular boy:

\[ P = 0.894, \text{Significant at } 1\% \text{ level} \]

(4) Agreement between Class 11 and Class 12 on relative importance of items for a popular girl:

\[ P = 0.84, \text{Significant at } 1\% \text{ level} \]
APPENDIX 7a

Association of Descriptive Items with Popular or Unpopular Children: Responses to Tests 1-4, 1964 Sample (Class 13)

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</table>
Analysis of Results of Tests 1, 2, 3 and 4
(Association of Items with Popularity)

1964 Sample (Class 13)

(i) For 1964 group, there were 34 subjects present for Tests 1 and 2, thus 68 possibilities existed for ticking any item for a Popular child.
Range of scores obtained = 0 - 65
Criterion value (for $X^2$, Sig. at 1% level) = 49
17 Items were found to be significantly associated with Popularity by this group:
Items 1, 2, 5, 8, 9, 12, 14, 20, 24, 27, 29, 30, 32, 34, 36, 39, 40.

(ii) Similarly, for Tests 3 and 4 (Unpopular child)
Range of scores obtained = 0 - 68
Criterion value (for $X^2$, Sig. at 1% level) = 49
12 Items were found to be significantly associated with Unpopularity by this group:
Items 6, 7, 10, 16, 18, 21, 23, 26, 28, 31, 33, 37.

(iii) Range of Derived Scores is from -66 to +65
Taking the sign of the Derived Score as an indicator:
21 Items have positive scores and are associated with Popularity
19 Items have negative scores and are associated with Unpopularity.
(iv) Placing the items on a continuum of rank order for association with Popularity/Unpopularity on the basis of the Derived score, the following items are most clearly associated with the Popular and Unpopular child:

**MOST POPULAR** Ranks 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Items 29 40 39 12 2 20 32 9 30 36 1 24 14 27 34

**LEAST POPULAR** Ranks 40 39 38 37 36 35 34 33 32 31 30 29
Items 7 21 18 23 6 33 37 16 31 10 28 26

The following items are relatively ambiguous or unimportant:
3, 17, 35, 22.

(v) The 1964 sample consisted only of the current Class 12 (A Stream), therefore no cross-class comparisons are possible within this group.

(vi) Comparison of Sex Groups: Table showing Items which appear more salient to boys or girls

<table>
<thead>
<tr>
<th>In a Boy</th>
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<tbody>
<tr>
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<tr>
<td>To Girls</td>
<td>4 23 9 24 26</td>
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### Choice Scores and Ranks from Sociometric Questions A and B

**Test 5 (Class 12, 1963)**

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### Choice Scores and Ranks from Sociometric Questions A and B.

**Test 5 (Class 11, 1963)**

<table>
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<th>TOTAL Choices on A</th>
<th>Weighed Choice Score on A</th>
<th>RANK on A</th>
<th>TOTAL Rejections on B</th>
<th>CORRECTED Choice Score</th>
<th>RANK on Corrected Score</th>
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Histogram showing distribution of Choice Scores (Corrected A-B) in each class.
School C
Class 11 (N=28)

Histogram showing distribution of Choice Scores (Corrected A-B)
in each class.
Histogram showing distribution of Choice Scores (A-B) in Class 13 (1964)

School C. N=35
Popular and Unpopular Children in Class 12, selected on Sociometric Test (T5)

<table>
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<th>POPULAR</th>
<th>Corrected Choice Score</th>
<th>Rank</th>
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<tr>
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<td>2.5</td>
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<tr>
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<td>103</td>
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<td>6</td>
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<tr>
<td>129</td>
<td>+7</td>
<td>6</td>
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</table>

<table>
<thead>
<tr>
<th>UNPOPULAR</th>
<th>Corrected Choice Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
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<td>30</td>
</tr>
<tr>
<td>102</td>
<td>-6</td>
<td>29</td>
</tr>
<tr>
<td>126</td>
<td>-5</td>
<td>28</td>
</tr>
<tr>
<td>108</td>
<td>-4</td>
<td>27</td>
</tr>
<tr>
<td>105</td>
<td>-2</td>
<td>26</td>
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</table>
### People with corrected choice scores

**Popular**

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<tbody>
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<td>+11</td>
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<tr>
<td>2.5</td>
<td>154</td>
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<td>2.5</td>
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<td>+9</td>
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<tr>
<td>4</td>
<td>151</td>
<td>+7</td>
</tr>
<tr>
<td>5.5</td>
<td>135</td>
<td>+5</td>
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<tr>
<td>5.5</td>
<td>155</td>
<td>+5</td>
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**Unpopular**

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<th>Corrected Choice Score</th>
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<tr>
<td>25</td>
<td>133</td>
<td>-5</td>
</tr>
<tr>
<td>23.5</td>
<td>141</td>
<td>-4</td>
</tr>
<tr>
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<tr>
<td>22</td>
<td>148</td>
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Appendix 9a

Guess-Who Description related to Sociometric position: Children with Highest Number of Mentions from classmates on Guess-Who Test, Test 7. (1963 Sample)

<table>
<thead>
<tr>
<th>Class 12 (N = 30)</th>
<th>Overall No. of Guess Who Mentions</th>
<th>Favourable</th>
<th>Unfavourable</th>
<th>Rank on Corrected Guess Who Score</th>
<th>Rank on Corrected Sociometric Score</th>
<th>Classified*</th>
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<tbody>
<tr>
<td>107</td>
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<td>115</td>
<td>97</td>
<td>2</td>
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<td>79</td>
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</table>

<table>
<thead>
<tr>
<th>Class 11 (N = 26)</th>
<th>Overall No. of Guess Who Mentions</th>
<th>Favourable</th>
<th>Unfavourable</th>
<th>Rank on Corrected Guess Who Score</th>
<th>Rank on Corrected Sociometric Score</th>
<th>Classified*</th>
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<td>90</td>
<td>86</td>
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<td>7</td>
<td>2.5</td>
<td>P</td>
</tr>
</tbody>
</table>

* Classification as Popular, Unpopular, Intermediate based on Quartiles.
Descriptions of Popular and Unpopular Children by their Classmates - based on Test 7, Guess-Who. (1963 Sample)

(Descriptive items assigned by at least 33% of classmates unless otherwise indicated.
'T' indicates that the child is also named by Class Teacher as "most like" this description).

**POPULAR CHILDREN**

From Class 12:

- 107 A good leader, polite and helpful to teachers, brings honour to the class. Good at schoolwork, liked by most teachers, usually clean and tidy (T).
- 104 Attractive appearance (T), cheerful and amusing, friendly.
- 130 Attractive appearance.

From Class 11:

- 132 Has good ideas for things to do and play. A good leader (T). Polite and helpful to teachers. Loyal to friends (20%), usually clean and tidy (20%).
- 138 Attractive appearance.
- 154 Attractive appearance (20% + T), usually clean and tidy (20%).

**UNPOPULAR CHILDREN**

From Class 12:

- 115 Naughtv, lets the class down, sometimes bullies others or is spiteful (T). No good at P.E. and games. Doesn't bother or care about schoolwork (20%).
- 126 Not good at schoolwork (20%). Likes to be alone, seems stuck up (20%).
Appendix 9b (Continued)

From Class 11:

146. Doesn't bother or care about schoolwork (T).
      Not good at schoolwork. Lets the class down
      (20%). Often cheats or copies (20%).
      Seems to be a coward or cissy (20%).

141. No good at P.E. and games (20%).

142. Not good at schoolwork (20%). Seems to be a
      coward or cissy (20%).
APPENDIX 9c

Descriptions of Popular and Unpopular Children by their Classmates - based on Guess-Who Test 7: 1964 Sample, Class 13.

(Descriptive items assigned by at least 33% of classmates.
'T' indicates that child is also named by Class Teacher as 'most like' this item).

POPULAR CHILDREN

159. Attractive appearance.

162. Good at schoolwork (T), polite and helpful to teachers, liked by most teachers. Brings honour to the class (T), usually well-behaved. A good leader (T). Usually clean and tidy.

157. Good at schoolwork (T), brings honour to the class (T), polite and helpful to teachers, liked by most teachers. A good leader (T). Usually clean and tidy.

UNPOPULAR CHILDREN

165. Lets the class down, naughty. No good at P.E. and games (T). Sometimes bullies others or is spiteful.

164. No good at P.E. and games (T). Bossy, likes to show off and boast, seems to be a coward or cissy. Lets the class down.

166. Not good at schoolwork (T).
Association of Descriptive Items with Self: Responses to Test 6. (1963 Sample, 53 Subjects present)

Items chosen by 50 or more subjects (94%), in rank order:
12, 32, 36, 1, 30, 40

Items chosen by 40 or more subjects (75%), in rank order:
27, 2, 9, 20

Items chosen by 30 or more subjects (56%), in rank order:
3, 24, 29, 14

Items chosen by 10 or more subjects (18%), in rank order:
34, 19, 5, 8

Items chosen by less than 10 subjects:
4, 6, 7, 10, 13, 18, 21, 22, 23, 25, 26, 28, 33, 35, 37, 38

Unchosen items:
11, 15, 16, 31

N.B. Using $\chi^2$, items chosen by 34 or more subjects are chosen more often than would be expected by chance (5% significance level).
Opinions about Self: Items added to Checklist by Subjects.

1963 Sample

Class 11
Likes animals a lot and cares about them.
Sometimes good.
Likes music.
Always helpful, doesn't like girls much.
Not good at Art or painting.

Class 12
I don't like to have my teeth out.
Interested in social clubs, likes to get into fights,
    likes to watch football matches.
I like to play football, I don't like girls.
Likes stamp-collecting and cricket.
Likes having hobbies.
Likes composition.
Helps others in difficulty, liked by nearly everyone.
Favourite lesson is P.E., likes needlework, does not like Art.
Likes science, history and English.
APPENDIX 10c

Association of Descriptive Items with Ideal Self:

Responses to Test 8 (1963 Sample, 47 Subjects present)

Items chosen by 40 or more subjects (85%)

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<th>Item(s)</th>
<th>Choices</th>
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<td>1, 2, 9, 36</td>
<td>(46 choices)</td>
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<td>12, 40</td>
<td>(45 choices)</td>
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<td>(44 choices)</td>
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<td>(43 choices)</td>
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<td>39</td>
<td>(40 choices)</td>
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Items chosen by 20 or more subjects (42.5%)

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<th>Choices</th>
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Other items chosen

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<tr>
<td>13, 26, 31, 18, 22</td>
<td>(1 or 2 choices)</td>
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Unchosen items

<table>
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<th>Item(s)</th>
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<tbody>
<tr>
<td>4, 6, 7, 10, 11, 15, 16, 21, 23, 25, 28, 33, 37, 38.</td>
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</table>
School S

School S. is a Mixed Primary School in a small town in South-East England. It is a Church of England School, but not all pupils are necessarily strongly denominational. The School is popular with parents and since there are few fee-paying schools in the area, most pupils come from Middle Class professional backgrounds. School uniform is worn by most pupils.

The School is relatively small with one class in each age-group. Classes are mixed and unstreamed.

High standards of behaviour and work are stressed. The atmosphere in the School is orderly. Children are courteous and helpful to visitors.

The Class studied had 26 pupils and a young male teacher who appeared to be firm but kind.

School B

School B. is a large Mixed Primary School in the same town in South-East England as School S. The School takes pupils from nearby Council Housing Estates. Families are predominantly working-class, many having moved out from crowded inner London areas.
The atmosphere in the School is noisy and the children boisterous. The Headmaster appeared to be under stress to keep the school running harmoniously and there were frequent staff changes.

The Class studied was the 'C' stream of a three-stream year. The 35 pupils had been together for at least a year and most had progressed through the Infant School. There was a temporary female teacher. The class was difficult to manage and did not always concentrate fully on the test programme, which aroused interest, but also excitement and some resistance.

School W

School W. is a large Mixed Primary School in another town in South-East England. The School is relatively new with well-planned and spacious buildings and playing fields. Pupils come mainly from lower middle class home backgrounds. The atmosphere is enthusiastic and purposeful, with emphasis on academic achievement.

The Class studied was the 'A' stream of a three-stream year. The male teacher was firm but caring.

School E

School E. is a Primary School in South-West London. The building is old and cramped with limited space for sports. Pupils come from a mixture of lower middle class and working class backgrounds.
The Headmaster is approaching retirement with several long-standing members of staff. The atmosphere is traditional with firm discipline, but genuine interest in children as individuals and encouragement of special talents (e.g. music).

The Junior School had previously been entirely divided into single-sex classes, but this was being phased out, so that the two classes studied were the only remaining 'all boys' and 'all girls' groups.

Class Eₐ consisted of 34 girls, unstreamed for ability, taken by an elderly female teacher.

Class E₈ consisted of 39 boys, unstreamed for ability, taken by a young male teacher.
Distribution of Choice Scores (A−B) in School S.

N=28
Distribution of Choice Scores (A-B) in School B.  
N=35
Appendix 12 c

Distribution of Choice Scores (A−B) in School W,

N=40
Distribution of Choice Scores (A-B) in School E.G.  N=34
Appendix 12 e

Distribution of Choice Scores (A-B) in School EB.

N=39
Reputational Profiles of Popular Children (Repeat Studies)

**School S**

<table>
<thead>
<tr>
<th>Class/Role</th>
<th>Frequency</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>201. Boy</td>
<td>25%</td>
<td>3, 5, 34</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>40, 14, 29, 30, 1, 9, 20, 24, 17, 36, 19, 27, 32, 12</td>
</tr>
<tr>
<td></td>
<td>&quot;Attractive, Leader, average work&quot; (x z)</td>
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<tr>
<td>201. Girl</td>
<td>50%</td>
<td>8</td>
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<tr>
<td></td>
<td>25%</td>
<td>1, 2, 39, 30, 19, 40</td>
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<td></td>
<td>10%</td>
<td>34, 27, 36, 29, 32, 5, 12, 9</td>
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<tr>
<td></td>
<td>&quot;Brings honour, clean and tidy, polite and helpful, liked by teachers, well-behaved, good at work, generous&quot; (z x y)</td>
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<tr>
<td>203. Boy</td>
<td>25%</td>
<td>14, 19, 32</td>
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<tr>
<td></td>
<td>10%</td>
<td>12, 20, 27, 29, 34, 9, 1, 40</td>
</tr>
<tr>
<td></td>
<td>&quot;Brave, good at work, friendly&quot; (x x y)</td>
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</table>

**School B**

<table>
<thead>
<tr>
<th>Class/Role</th>
<th>Frequency</th>
<th>Characteristics</th>
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</thead>
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<td>204. Girl</td>
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<td></td>
<td>10%</td>
<td>5, 9, 24, 32, 12, 17, 39</td>
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<td></td>
<td>&quot;Clean and tidy&quot; (x x z)</td>
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<tr>
<td>205. Girl</td>
<td>25%</td>
<td>5, 1</td>
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<tr>
<td></td>
<td>10%</td>
<td>9</td>
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<tr>
<td></td>
<td>&quot;Attractive, clean and tidy&quot; (x x z)</td>
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<tr>
<td>206. Boy</td>
<td>10%</td>
<td>9, 1, 12</td>
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<tr>
<td></td>
<td>(x y z)</td>
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**School W**

<table>
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<tr>
<th>Class/Role</th>
<th>Frequency</th>
<th>Characteristics</th>
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</thead>
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<td>9, 8, 1, 14</td>
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<td></td>
<td>&quot;Good at P.E. and games&quot; (z x y)</td>
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</table>
Appendix 12 f (continued)

201. (Girl) 10% 1, 19, 2, 32, 39, 40 (z x y)

202. (Girl) 25% 5
10% 1, 29, 34, 2, 30, 39

"Attractive" (y z x)

School E (Girls)

210.
25% 5, 19, 24, 34
10% 1, 9, 8, 9, 39, 36, 14

"Good at work and games, leader, attractive" (z y x)

211.
25% 24
10% 19, 9, 34, 5, 8, 12, 14, 29

"Good at P.E. and games" (z y x)

212.
25% 24
10% 5, 8, 14, 34, 32

"Good at P.E. and games" (z y x)

School E (Boys)

213.
25% 8, 16, 26
10% 34, 20, 19, 33

"Brings honour, likes to show-off and boast, bossy, always wants his own way" (z )

214.
25% 24, 34
10% 1, 5, 14, 20, 8

"Good at P.E. and games, good leader" (z )
215.  

50% 19, 39  
25% 1, 2, 8, 27, 30  
10% 12, 17, 40, 9, 20, 32, 34  

"Good at work, liked by teachers, brings honour, takes pride in work, polite and helpful, well-behaved, clean and tidy" (z y)
Appendix 12 g

Reputational Profiles of Unpopular Children (Repeat Studies)

School S

216. (Boy) 25% 15, 31
10% 6, 7, 21, 22, 26

"Not good at schoolwork, doesn't bother or care about schoolwork" (W)

217. (Girl) 25% 16, 19
10% 18, 26, 37, 27

"Likes to show-off and boast, good at schoolwork" (T)

218. (Girl) 50% 15
25% 6, 7, 10, 21, 23, 31
10% 4, 13, 18, 11, 33, 25, 28

"Not good at schoolwork, lets the class down, naughty, doesn't bother about schoolwork, bullies, tells tales, cheats or copies" (W T)

School B

314. (Boy) 75% 25
50% 15
25% 6, 10, 31
10% 23, 11, 28, 7, 22, 18

"Rather scruffy and dirty, not good at schoolwork, lets the class down, doesn't bother about schoolwork, sometimes bullies or is spiteful" (V W T)

315. (Girl) 10% 6, 7, 13, 4, 31 (W)

316. (Girl) Less than 10% 4, 11, 18, 22 (U)
Appendix 12 g (continued)

School W

222. (Boy)  25%  10, 25, 7
  10%  21, 6, 26

"Sometimes bullies, rather scruffy and dirty, naughty
in school"  (W T V)

223. (Boy)  10%  15  (W)

224. (Boy)  10%  13  (W)

School E (Girls)

225.  10%  22, 11, 15  (U W )

226.  10%  15  (W)

227.  10%  37, 7, 12, 17 (W)

School E (Boys)

228.  25%  15, 25, 6
  10%  31, 21, 22, 23

"Not good at schoolwork, rather scruffy and dirty,
lets the class down"  (W V T U)

229.  10%  13  (W)

230.  25%  38
  10%  4, 13

"Often late for school or lessons"  (W U)
Reputational Characteristics of Popular and Unpopular Children

TYPES OF POPULAR CHILD (Clusters of characteristics suggested by Guess-Who data).

"The Good Scholar" (Z)
Teacher-approved behaviours 2, 27, 30, 39, (9)
Ability manifested in the school situation 19, 24, (3)
Behaviour brings prestige to the group 8, (14), (20), (34)

"The Good Fellow" (X)
Pleasant sociability and activity 9, 14, 20, 29, 32, 34
Pleasant inoffensive 17, 36
Actively unselfish 9, 40

"The Good Looker" (Y)
Pleasant personal appearance 5, 1

Unpopular children tend to be the opposite of these types:

"The Poor Scholar" (W)
Lack of ability 13, 15
Poor behaviour 6, 7, (18), (23), 31, 37, 38

"The Bad Mixer" (U) 11, 22, (4)

"The Bad Lot" (T) Offensive, selfish, disruptive behaviour 10, 16, (13), 21, (23), 26, 28, (33)

Poor Appearance — "Odd Man Out" (V) 25, (35)

(Items included in brackets are marginally important, or overlap more than one category).
### Summary of Sociometric Situation in Each Classroom Group

<table>
<thead>
<tr>
<th>Group</th>
<th>No</th>
<th>Values of Corrected Choice Scores (A-B)</th>
<th>Range</th>
<th>Median</th>
<th>Mean</th>
<th>Number With No Choices</th>
<th>Number With No Rejections</th>
<th>% With No Rejections</th>
<th>Number With Positive Scores</th>
<th>% With Positive Scores</th>
<th>Mean Choice Score, Boys</th>
<th>Mean Choice Score, Girls</th>
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<td>30</td>
<td>-18 to +12</td>
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### Appendix 13a

**Items Associated with Self in each Classroom Group**

*(Frequency greater than chance expectation, $\chi^2$, 1% Level)*

**Checklist**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>C, 12</th>
<th>C, 11</th>
<th>C, 13</th>
<th>S</th>
<th>B</th>
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Appendix 13 b

Items Associated with Ideal-Self in each Classroom Group
(Frequency greater than chance expectation, $x^2$, 1% Level)

Checklist

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<tr>
<th>ITEM NUMBER</th>
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School T. is a mixed Primary School, with a large catchment area, many children coming daily by coach.

Almost all the pupils are Roman Catholics and there is considerable emphasis on religion.

Home backgrounds are very varied, but most are comfortable lower Middle Class. Families tend to be large, but parents take an interest in school affairs and there is a flourishing Parent-Teacher Association.

The School Building is new and spacious. Staff tend to stay a long time. Discipline is firm and children are generally well-behaved and orderly, but the atmosphere is reasonably relaxed. There is no School uniform.

The School is not 'streamed' but class studied appears to the teacher to be the poorer half of the total age group. There was no full-time teacher for this class, but three part-time teachers, all female.

There was a total of 31 children in the class, 16 boys and 15 girls.
(i) There were 31 subjects and 62 possibilities of ticking any items for a popular child:
Range of scores obtained = 4 - 54
Criterion value (for $\chi^2$ significant at 1% level) = 42.
The following 13 Items were significantly associated with 
popularity:
1 2 5 9 12 14 20 29 30 32 34 36 40.

(ii) Similarly for an unpopular child; 30 subjects present
Range of scores = 0 - 48
Criterion value 41
The following 16 Items were significantly associated with 
unpopularity:
4 6 7 10 13 15 16 18 21 23 25 26 28 33 37 38.

(iii) Using the Derived Score (corrected totals), Range is 
from + 53 to - 41.
Taking the sign of the Derived score as an indicator,
21 items have positive scores and are associated with 
Popularity.
19 items have negative scores and are associated with Unpopularity.

(iv) Placing the items in Rank order (on the basis of the 
Derived score), the following items are most clearly 
associated with the popular/unpopular child:
Appendix 14b (continued)

Most Ranks 1 2 3 4 5 6 7 8 9 10 11 12
Popular Items 1 2 5 9 12 29 32 14 20 40 34 36

Least Ranks 40 39 38 37 36 35 34 33
Popular Items 25 4 18 21 33 7 28 37

The following items are most ambiguous: Items 17 22 35

(v) Comparison of overall Rank ordering by boys and girls
indicates:

Items most strongly associated with a Popular Boy:
By Boys 1 9 2 5 12 17 32 36 40
By Girls 14 29 32 1 5 9 12 34 40 2 8 27

Items most strongly associated with a Popular Girl:
By Boys 1 2 30 20 32 39 40 5 8 9 12 24 29 36 19 34
By Girls 1 2 5 3 9 12 14 20 29 19 34

Comparison of overall Rank ordering by boys and girls
indicates:

Items most strongly associated with an Unpopular Boy:
By Boys 18 28 33 4 10 16 25 26 31
By Girls 4 21 15 18 25 28 31

Items most strongly associated with an Unpopular Girl:
By Boys 33 7 10 21 25 28 37
By Girls 7 21 25 4 6 18

Rank order for a Popular Boy (T1 + T4) by Boys/by Girls,
\(\rho = 0.840\) Sig. at 1% level

Rank order for a Popular Girl (T2 + T3) by Boys/by Girls,
\(\rho = 0.812\) Sig. at 1% level.
Table showing Items which appear to be more salient to one sex group than to the other:

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<th>In a Girl</th>
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</tr>
<tr>
<td>To Girls</td>
<td>15 21</td>
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</table>

(vi) Comparison of 1973 Sample with original 1963 Sample

Rank order of Items for Popularity (Derived Scores), $\rho = 0.867$ Sig. at 1% level

Items on which the two groups appear to differ, in overall ranking:

Item 4 (0 = 15) Coward or cissy
5 (0 = 13.5) Attractive appearance
25 (0 = 11) Scruffy and dirty
6, 14, 26, 27 (0 = 9)

Comments:

(1) When the most stringent criteria are applied, 10 items are strongly associated with a popular child by the 1973 group, yielding the following profile:

"He is usually clean and tidy, with attractive appearance. He is polite and helpful to teachers. He is cheerful and amusing, friendly and loyal. He has good ideas for things to do and is a good sport. He is brave and generous"

(Items 1, 2, 5, 9, 12, 29, 32, 14, 20, 40)

Only one item is as strongly associated with an unpopular child - Item 25.

Other salient items are 4, 18, 21, 33, 7, 28, 37.

"The unpopular child is rather scruffy and dirty"
(2) In comparison with the 1963 group, the 1973 sample attach more importance to 'attractive appearance' and 'being brave and not afraid to try things' for a popular child. They also attach more importance to their negative counterparts - 'scruffy and dirty' and 'seeming to be a coward or cissy, scared of things' for an unpopular child.

This difference holds when one considers the boy/girl subtotals separately.

The 1973 group attach less importance to 'taking pride in schoolwork, trying hard' and 'letting the class or school down'. They are also less opposed to 'bossiness, wanting his own way', than the earlier group.
Appendix 151

Patterns of Sociometric Choice: Key to Charts showing Top, Middle and Bottom Groups.

TC  = Total choices received
CSS = Number of choosers of same sex
COS = Number of choosers of opposite sex
Ci  = Total circle of choosers
1st = Number of first-choices received
CC  = Number of choices from those chosen (reciprocal choices)
Ig  = Number of choices not responded to
CR  = Number of choices received from those rejected
TR  = Total rejections received
RC  = Number of choices rejected

A   = Number of choices made on A
D/G = Number of choices made on D, E, F, G
I   = Number of individuals chosen at all
R   = Total rejections made on B
OS  = Number of opposite-sex children named on G
OSR = Number of opposite-sex children rejected
Re  = Number of all rejections reciprocated
Rig = Number of rejections not responded to
OSRe = Number of reciprocal choices with opposite-sex
OSRe = Number of reciprocal rejections with opposite sex
1:1 = First choice on A reciprocated.
Pattern of Choices Received: TOP GROUP (POPULAR)

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