THE RELATIONSHIP BETWEEN INKELOT BARRIER SCORES AND SOCIOMETRIC STATUS IN ADOLESCENTS

by

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Abstract

This study attempted to relate barrier scores to sociometric status among adolescents on the theory that high barrier individuals tend to be more "person" oriented and therefore more successful in interpersonal relationships.

Eighty-seven pupils (46 males and 41 females with an age range of 12-15) from grades seven, eight, and nine of a junior high school were examined with the short form of the group version of the Holtzman Inkblot Technique and a modification of the sociometric test described by Northway.

Analysis of the data revealed no direct relationship between sociometric test scores and barrier scores. A relationship was found, however, between barrier scores of choosers and those whom they choose. Significant sex differences in barrier score at all ages and some age differences in barrier score were found. There was no significant difference apparent in sociometric status of high barrier males and females.
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CHAPTER I Introduction

More than a half century ago, the concept somatopsyche, referring to an "orientation in the sphere of the body" was defined by Wernicke. (Gertsman 1958, p. 499). Further elaboration of it by such somatopsychologists as Kretschmer and Sheldon foreshadowed the formulation of the body image concept, which has been used considerably in such fields as neurology, psychiatry, psychoanalysis and sociology as well as in psychology.

In general, body image refers to the nature of the concept which an individual has about his body. More specifically, Fisher and Cleveland state that body image is "a term which refers to the body as a psychological experience and focuses on the individual's feelings and attitudes toward his own body" (Fisher and Cleveland 1958a p x). In their view these attitudes and feelings about the body are not necessarily available to conscious knowledge, and the body image need not bear a direct relationship to the body's objective characteristics. They suggest that the body image is concerned with subjective experiences and the meaningful organization of sensations from the body. It develops through the socialization process and appears to be strongly influenced by the concept which the individual believes that others have of him.

Fisher and Cleveland (1956a) noted that, in the literature which they reviewed, studies of the body image had been
concerned largely with whether people viewed their bodies positively or negatively, and have given little attention to other characteristics of the body image. They note too that the assessment of the body image was based on predominantly subjective techniques which yielded results lacking in scientific validity. Accordingly, these authors attempted to develop a more objective method of evaluating the body image. For this purpose they gave attention to "barrier responses", a type of response sometimes given to inkblots (such as on the Rorschach test). These are responses in the form of objects with well defined boundaries; that is, objects whose line of separation from the environment is clearly and definitely present and receives considerable attention in the response. Examples of such barrier responses are box, bowl, man in armour, mummy, or cave with rocky walls. Included also as barrier responses are objects with unusual and highly differentiated surface texture or design, such as elaborated clothing and animals with distinctive skin. By totalling the number of such responses, given by an individual on an inkblot test, a "barrier score" is obtained, which according to Fisher and Cleveland represents the degree of firmness of the body image boundary. Individuals who give a large number of these types of response are termed "high barrier" and those who give a few such responses are termed "low barrier".

Hypotheses and data presented by Fisher and Cleveland suggest a wide range of psychological and social characteristics which may be common among high barrier individuals and
which may differentiate them from low barrier persons. Among
the characteristics thus attributed to high barrier persons
there have been several which may facilitate their inter-
action with and acceptance by other persons, and which may
result in differences between high and low barrier persons
in success achieved in entering into and maintaining inter-
personal relations. For example, Fisher and Cleveland state
that, as compared with low barrier persons, high barrier
persons tend to have closer family relationships, to be
more oriented towards people, to have a greater capacity to
enter into intimate expressive relationships, to have had
more satisfying experiences with people, to be more zestful
and good humoured and to have more ability to empathize than
do low barrier individuals. (Fisher and Cleveland 1958a p.
204, 259; 1958b p. 211). At the same time, they refer also
to other attributes of high barrier people which may inter-
fere with the social acceptability, such as their tendency
to assume a dominant role in a group and to act independently.
However, it may be that their purported interest in people,
capacity for intimate relationships and empathetic ability
are sufficient to override these and to result in their being
wanted frequently as associates.

It is on this basis that the present study undertakes to
examine the relationship between barrier scores and acceptance
by peers, as assessed by sociometric tests. Young adolescents
attending grade seven, eight and nine classes in a junior secondary school have been chosen as subjects for several reasons. For one thing classroom groups are well suited to sociometric testing. In addition, there have been a relatively small number of studies of barrier scores in pre-college age persons. By including three grades with age ranges from 12 to 15, some opportunity is made available to assess possible developmental changes in barrier scores and in their relation to social acceptance. Similarly, because classes used are mixed sex, there is an opportunity to assess also possible sex differences in barrier scores and in their relation to social acceptance. It will be of interest to compare the results of this study with those of Fisher and Cleveland (1958a p 265) who found sex differences in the 10 - 13 age group but not in the over 13 group.

The present study has been structured to test the following null hypotheses:

1. There is no significant relationship between barrier scores of young adolescents and level of peer acceptance as represented by sociometric test scores. If this hypothesis should be rejected and a relationship apparent between these two variables, there would be interesting implications regarding the type of personality characteristics which contribute to acceptance by peers.
2. There is no significant relationship between the barrier score of choosers and that of those whom they choose. Rejection of this hypothesis would lend some support to the contention of Lindzey and Urdan (1954) that homogeneity and not heterogeneity is the rule in friendship, even though friendship and choice on a sociometric test cannot be equated directly.

3. There is no significant difference in barrier score among ages twelve, thirteen, fourteen and fifteen.

4. There is no significant sex difference in the barrier score of young adolescents.

5. There is no significant difference in sociometric test score between high barrier males and high barrier females. This hypothesis if rejected would suggest that the personality characteristics of the high barrier individual have different significance with respect to peer acceptance for the two sexes.
Chapter II Review of the Literature

A. Body Image Theories

Some of the earliest interest in the body image was shown by neurologists who, even before the turn of the century, observed and described bizarre attitudes about the body expressed by patients with brain damage. Such reports and related studies of the body image by Bonnier, Pick and others, are described by Fisher and Cleveland (1958a), and they refer to Head as the first to describe a "schema" or model of oneself which the individual constructs.

More recently, case histories of patients with distorted body images have been reported by several authors who are interested in neurological disorders (Teicher, 1947; C.M. Scott, 1948; Bychowski 1943). In these reports about patients suffering from organic brain damage, such body image distortions as exchange of bodies and projection of body parts into the environment were noted.

Interest has been shown also in body image disorders of patients with psychiatric illnesses. For example, bizarre perceptions of the body have been noted in schizophrenics, psychotic depressives and conversion hysterics. (Wechowicz and Sommer, 1960; Hozier, 1959; R. Scott, 1951; and Peto, 1959). Of particular interest to the present study are Peto's comments with regard to schizophrenics. He believes that disturbed body image revealed in the schizophrenic's
fantasies are regressions to the very early body image of the pre-verbal level when body boundaries are extremely vague and fluid. This view, that fluidity of body image boundaries is an early developmental phenomenon, and the implication that with the maturing process comes more definite boundaries, is of significance to this study because of the interest in firmness and definitness of body image boundaries.

Peto also expressed the view that the schizophrenic is trying desperately to establish the boundaries of his personality. To do so and in order to evaluate external reality it is necessary for him to re-discover his body in relation to the environment. In other words according to Peto, he has to clarify the boundaries of his own body. The individual's body image boundaries then is of extreme importance in grasping concepts of the world around him. A distortion of body image may result in a conception of the world which differs from that of other individuals.

Support for the theory of fluid body image boundaries in schizophrenics comes from several other sources. Cleveland (1960) showed not only that schizophrenics have less definite body image boundaries than do neurotics or normals, but also that improvement in the adjustment of schizophrenic patients was paralleled by increased definiteness of these boundaries. Similarly Szasz (1956) contended that in acute psychotics, bodily preoccupation is focused on the loss of body boundary
as an object to which to relate. Wechowicz and Sommer (1960) also stressed the significance of the body (or self) boundary. Like Fisher and Cleveland (1956a) they suggest that the development of a stable body image, with a clearly defined line of separation from the outside world, is dependent upon the extent to which early social relationships were structured by parents. They believe that a stable body image is very important in bringing about well defined social relationships and social roles.

Although interest in the concept of body image developed initially as a by-product of studies of distortions of body image in patients with neurological or psychiatric disorders, once established it grew independently.

Schilder (1935), who was one of the first to consider body image in relation to personality, pointed out that this "picture of our own body which we form in our mind" is not just a sensation or imagination or perception but it consists also of impressions that often remain "outside of central consciousness". (Schilder 1935 p 11). He believes that an individual's attitude towards his body, is determined largely by the interest which others take in it. That is attitudes and actions of others are the bases for the elaboration of the individual's body image.

More recently some attention has been given to the developmental aspects of the body image, that is, to the stages and changes in the body image as the individual matures, and
to related processes and influences. For example, Linn (1955) expressed the view that ego development and body image are closely related. Discussing Bender's theory that there is a fusing of the face and hand in the body image of the very young child, Linn stated that the infant is unable to differentiate between himself and the environment. It is only after he has recognized that a boundary separates him from his environment that he is able to differentiate his hand and his face.

The theory suggested here that awareness of the body plays an important role in the development of self is supported by several authors. For example, according to Greenacre (1958), bodily sensations are essential factors in the differentiation of self from other than self. Similarly, Litwinski (1949) stated that an awareness of the body as an indisputable "mine" must precede the recognition of self.

The building of a specific body image was studied by Schneiderman (1956) and by Brown and Goiten (1943). These authors agreed that an individual's attitudes and values about himself, as well as those of other persons in his environment play a significant role in the formation of that person's body image. The mirror reflection of the external figure in itself is relatively unimportant in the construction of a body image, according to Brown and Goiten. Other theories of these authors were that postural tensions and internal stresses play an important role in the development of body image and that
there is a relationship between an individual's body image and the clinical symptoms which he exhibits. The latter theory is of particular interest in view of the many studies of Fisher and Cleveland (1955; 1956b; 1958a) (Cleveland and Fisher 1960) which related body image boundary and psychosomatic symptoms.

The relative permanence of the body image, once it has been developed, also has received some attention. Some authors have noted that changes in objective bodily features often are not accompanied by appropriate changes in body image. For example, there are references to the phantom limb phenomenon, in which a "complete" body image is retained, even though, in reality, some part has been removed (Simmel 1956; Fisher and Cleveland 1958a). Other examples of the relative inflexibility of the body image are the failure of the actual effects of the aging process to be reflected in body image changes (Fisher 1959a) and the failure to assimilate into the body image even changes of a positive nature, such as loss of obesity (Weiss 1958) and improved facial features through plastic surgery (Abel 1953).

Many of the authors who discuss body image point out that it tends to be covert. For example, Brown and Goiten (1943) state that the body image rarely reveals itself spontaneously but instead it tends to appear in dreams, hallucinations and such phenomena as the phantom limb. This is one of the reasons for the difficulties in evaluating an individual's body image, and also for some of the problems that have been encountered in efforts to develop measures of it.
B. Methods of Assessing Body Image

One of the earliest methods used to evaluate an individual's body image is the figure drawing technique, in which the individual is asked to draw a person. Machover (1949) advocates its use for this purpose by postulating that the spontaneous drawings of a human figure represent a projection of the subject's body image. In keeping with this view Bender and Keeler (1952) have used the figure drawing technique in the study of changing body image in schizophrenic children during treatment. Other workers (Freed and Pastor 1951; Cramer-Azima 1956) have found this method useful also to follow changes in body image of patients undergoing such physical treatments as thalamotomy and ACTH.

Though the figure drawing technique is still used by some as the means of assessing individual body image, there are others who regard it as inadequate for this purpose. Bennett (1960) disagrees with Machover's proposition that figure drawings represent a projection of the body image. He believes that after a mental age of ten, figure drawings are representational and realistic; influenced by visual and tactile experiences; and no longer related to the body image. According to Bennett it is the percept rather than the concept of the body which is revealed in figure drawings, except in the case of young children.

Jourard and Secord (1955) also question the validity of figure drawing techniques as measures of body image and they
have attempted to develop other means of assessing it. They suggest that figure drawings may be useful in the study of body image to confirm hypotheses about a single case, but that they are not of much value in a systematic study. For the latter purpose, Secord (Jourard and Secord 1955) devised a word association technique, using words which could be perceived as relating to the body or non-body; that is body homonyms, such as colon, graft, and tablet. It was theorized that the individual who was preoccupied with his body and its function would tend to perceive the bodily connotation of a larger number of these words than would the subject who was not so oriented.

However, in order to make comparisons among individuals Jourard and Secord (1955) sought a method which would quantify feelings about the body and which would therefore be an improvement of the homonym test. Thus, they developed a rating scale on which subjects indicated their degree of satisfaction or dissatisfaction with various body parts. The results of this measure were termed degree of "body cathexis". With another rating scale they measured "self cathexis" or satisfaction with such things as one's morals, intelligence, personality and talents. They found that the "body" and "self" cathexes were related and also that perceived parents' attitudes about the subject correlated highly with the subject's attitudes about himself. They concluded that, in our
culture, the body is perceived as a tool for impressing others whose approval one comes to need for his own self esteem and that the attitudes a person forms about himself are based upon what he believes others think of him.

Even though it involves more quantitative evaluation, the rating scale method still depends upon conscious subjective evaluations by the subject. In addition, as with most of the other methods of evaluating the body image, it attempts to deal with the body image as a whole, rather than with some aspect of it that may be amenable to more exact, concrete definition and more susceptible to controlled scientific measurement. Fisher and Cleveland (1958a) have attempted to overcome both of these sources of weakness in the techniques of measurement of the body image, and have developed a more objective method of evaluating it. In so doing, they formulated a theory about body image boundaries and then devised a method by which this boundary could be assessed.

The theory and method of measuring body image boundaries developed as a consequent of the findings of an earlier study of the fantasy life of arthritic patients (Cleveland and Fisher 1954). In this study it was reported that these arthritic patients tended unconsciously to conceive of their bodies as containers whose walls are formed of a hard protective substance. The authors noted that this conception of their bodies by arthritics was further expressed in their
symptomatology, which involves a stiffening of the musculature in the outer layers of the body (Fisher and Cleveland, 1955). They postulated that the fantasied body wall was a defensive barrier to protect the person from threat from without, and also to hold within himself his own disturbing, hostile impulses.

These observations led the authors to hypothesize a relationship between type of body image boundary and type of psychosomatic symptom. They believe that those patients whose psychosomatic symptoms involved body exterior conceive of their body boundaries as strong, protective walls whereas those whose symptoms involve the body interior conceive of their bodies as lacking defensive walls and as being easily penetrated. In order to devise a method of evaluating body image boundary quantitatively, and thereby obtain a more objective means of assessing body image, Fisher and Cleveland (1958a p 58) examined Rorschach records of a large number of arthritic patients. They noted any reference to the bounding aspects of responses and discovered two types of such references. The first referred to the boundaries of objects as having definite structure, substance and surface qualities. The second type referred to the negative aspect of boundaries, such as their weaknes and penetrability.

The authors termed the first type of response "barrier" and the second type "penetration". They expected that there would be a negative correlation between the two. However,
their data showed that penetration does not represent an opposite equivalent of barrier. In fact, they discovered that the penetration score proved to have little significance in relation to body image boundary in a normal group (ibid p 92). On this basis, they decided to restrict measurement of body image boundary definiteness in normal groups entirely to the barrier score. Barrier responses were scored whenever there were containers, enclosed spaces, coverings, or distinctive surfaces present in the response. For example, such responses as a mummy, a knight in armour or a cave with rocky walls would be scored as barrier responses. The subject's barrier score was the total number of such responses in his Rorschach record.

In a comparison of the Rorschach records of patients with exterior symptoms (patients with arthritis, dermatitis or conversion paralysis) and with interior symptoms (patients with stomach ulcers or colitis) there was a significantly higher barrier score in the former group (Fisher and Cleveland 1955). These findings confirmed the hypothesis of a relationship between symptoms and body image boundary, but in order to be sure that the body image was not the result of living with a certain type of symptom, these investigators conducted a further study. They reasoned that, if boundary type were a reaction to a symptom, two groups which experienced the same symptom should have the same type of body image boundary, even though the etiology of the illness differed. They compared records of patients who had arthritis which was believed
to be psychogenic with patients who suffered from traumatic back pain. They also compared records of patients who had neurodermatitis with those of patients who had organic skin damage. Both of the groups whose symptoms were regarded as psychosomatic had significantly higher barrier scores than the groups whose symptoms had an organic etiology. Therefore, support was given to the contention that the individuals type of body image boundary precedes, rather than results from, his symptoms.

The same authors showed further that, as well as experiencing more exterior symptoms, high barrier individuals differed in life orientation from the low barrier subjects (Fisher and Cleveland) (1956a). Using the Thematic Apperception Test records of university student subjects, the authors investigated the style of life of high and low barrier people. They found that the high barrier subjects had an unusually strong definition of self identity and they showed active self expression which was aimed at establishing a stable controlling relationship to the environment (ibid p 377). High barrier people tended also to identify with parents who provided a well defined model. The model in some cases had been positive and in some cases had been negative, but it was always definite. In addition the level of aspiration among the high barrier group was higher than among the low barrier group and a significant relationship was revealed between barrier score and McClelland's achievement need.
In contrast the low barrier people had much less definite attitudes about self identity and had been provided with only a vague, hazy model for identification by their parents. These people also were much less inclined than high barrier people to see others as concealing their intentions. This tendency on the part of high barrier individuals to see life as full of potential deception led the authors to wonder if this group would be more likely to be paranoid if they were to have a breakdown. (ibid p 377).

Fisher and Cleveland (1956c) showed also that high barrier people have more motivation for competitive advancement and a stronger drive to establish themselves as distinct entities. They work harder at proving themselves and tend to see tasks as tests of themselves. They manifested a greater need to recall incomplete tasks which was interpreted as suggesting that they have greater "ego-strength" (ibid p 36). From all of these data comparing high and low barrier individuals the authors concluded that the character of an individuals body boundaries represents an index of basic personality patterning or style of life that "colours his mode of reaction in a wide variety of situations" (ibid, p 40).

Another situation in which responses to life situations appeared related to barrier scores was described by Ware, Fisher, and Cleveland (1957). High barrier individuals were shown to make a better adjustment to poliomyelitis than did low
barrier individuals when the degree of physical impairment and duration of illness were held constant. The authors concluded that the individual who has a body image concept involving a shielding, protective barrier is better able to cope with stress than is the patient whose body concept lacks these characteristics. This type of individual is disposed therefore towards a favourable adjustment to a physical handicap. He seems to have a degree of self confidence which serves as a bulwark against threat to self preservation. A relationship between definiteness of body image boundaries and toleration of stress was found, also, in emotionally disturbed patients (Cleveland 1960). In this study of psychotics undergoing treatment, ego regression was paralleled by lowered barrier score, and reorganization by raised barrier score.

The many studies in which Fisher and Cleveland related body image boundary to physiological reactivity and in turn physiological reactivity to importance assigned to body parts (Fisher 1958, 1959a, 1959b, 1960, 1961; Fisher and Cleveland 1957, 1959) have contributed to the understanding of how an individual develops a particular type of body image boundary. Fisher (1961) explained too the relationship between attitudes about the body and reactivity in terms of resolution of role problems. The way that an individual solves these problems determines the attitudes that he then projects to body areas. These attitudes have a regulatory effect on his reactivity level.
Many personal-social differences were found between high and low barrier groups and among them appeared to be the degree of interest which was shown in other people (Fisher and Cleveland, 1958a). Fisher and Cleveland found that high barrier people tended to have had closer family relationships, to have had more satisfying experiences with people in the process of growing up, and to be more "people-oriented", whereas low barrier people are "thing" oriented (ibid p 169). They further described the high barrier person as more able to gratify himself, showing good humour, zestfulness and excitement. In contrast, the low barrier individual feels the need to deny himself gratification, to be stiffly serious and to maintain that he is unselfish. (ibid p 137). Other studies showed that high barrier people have a greater capacity to enter into intimate, expressive relationships and have more ability to empathize than do low barrier subjects (Fisher and Cleveland 1958a, pp; 204, 259; 1958b p 211).

In a group setting high barrier members tended to make decisions and were not slow to take an aggressive stand. They gave directions whereas low barrier people tended to ask for direction. (Fisher and Cleveland 1958a; Ramer 1963). A greater preference for personal, influential communication with others was found in the high barrier group (Fisher and Cleveland 1958a p 165).

Ramer (1963) was interested in the findings with reference to communication. He used students in a controlled
interpersonal situation and found that more frequent communication attempts were made by high barrier subjects. There was a tendency for these subjects also to give opinions and directions rather than to ask for them. This author concluded that there is a need for further investigation to determine exactly what the barrier score actually measures. If it does measure an aspect of self image, it should enable prediction of behavior in those who score high or low.

The literature indicates, then, that early methods of assessing body image tended to have the weakness of utilizing subjective evaluation and also to attempt global measurement of the body image. These difficulties were overcome to a great extent by the barrier score which was developed by Fisher and Cleveland. The barrier score has been found to be related to physiological reactivity, psychosomatic symptoms, reaction to stress, level of aspiration, and several personality characteristics. At the same time some other variables have not shown a relationship or at least not a one to one relationship to barrier score. For example, Fisher and Cleveland (1958a p 64) found only a chance relationship between barrier score and intelligence. Sex and barrier score were found to be related only at ages when there was stress, confusion, and uncertainty about life's goals (Fisher and Cleveland 1958a p 70, p 87, p 101, p 260; p 263; p 268). Age in itself received little attention and no findings involving developmental changes in barrier score were discovered in a review of the relevant literature.
C. Group Inkblot Techniques

For many years the Rorschach inkblot test was administered on an individual basis, exclusively. The introduction by Harrower and Steiner (1945) of a group method of administration and later a multiple choice version of this method at first met with considerable skepticism and even hostility. However, acceptance of the group procedure grew gradually and many now regard it as a valid, orthodox procedure (Harrower 1959). Studies which tested the reliability and validity of this method were conducted by such investigators as Rohrer, Hoffman, Bagby, Henman and Wilkins (1955). A successful use of the method was reported by Feldman and Graley (1954) in a study designed to test the ability of subjects to simulate abnormality on the Rorschach.

However, there remain various workers who believe that the elimination of the examiner-subject contact, particularly during the inquiry, lessens the validity of the Rorschach test. Hence they prefer not to use the Rorschach in a group setting. Because there was a need for a group inkblot test and Holtzman (1958; 1961) had introduced an inkblot technique which tended to lend itself more readily to group administration (Fisher and Cleveland 1960), Swartz and Holtzman (1963) developed a group version of the Holtzman Inkblot Technique. The advantages, for group administration, of Holtzman's test as compared with the conventional Rorschach are the utilization
of only one response per card and a simplified, standardized inquiry. Swartz and Holtzman claim that their version has a high degree of comparability with the individual Holtzman method and that, at least with normal adults, it may be substituted confidently for the more time consuming individual version (Holtzman and Swartz 1963, p 441). Fisher*, expressed some reservations about the use of a further development of the group method, a multiple choice version devised to investigate barrier and penetration scores (Fisher and Cleveland, 1958a, p 107).

In an examination of the validity of the group method of the Holtzman test, Holtzman, Mosely, Reinehr and Abbott (1963) found that though differences did exist in five variables (location, colour, space, barrier and popular), when individual and group administration results were compared, these are very slight especially in the case of the last three. They account for the slight drop in barrier score by pointing out that it is likely due to the decreased amount of elaboration found when subjects write their own responses. They conclude that with a few minor exceptions there is a striking degree of similarity between the group and individual methods.

A practical problem in using the Holtzman test is the length of time required to administer forty-five blots. In the group method seventy minutes is required. For this reason Herron (1963) devised a shortened version, which employs

* personal communication
thirty cards and can be administered in fifty minutes. He reported that the split-half reliabilities obtained for the short form and those predicted for a thirty item from a forty-five item test were for all practical purposes the same. This finding makes it possible to decrease or increase the test length (with a minimum of 30 blots) without changing the results significantly.
D. Sociometric Tests

There has been some earlier interest in preference of associates but the publication of "Who Shall Survive" by Moreno (1934) marked the official beginning of sociometry as a means of assessing preference. Moreno defined sociometry as a branch of socionomy ("a science concerned with psychological properties of populations and the communal problems which these properties produce") and added that sociometry was the mathematical study of these properties, using experimental techniques and applying quantitative methods (Moreno, 1934, p 10). Moreno made it clear that there must be a definite criterion for the choice of associates. If the subject is asked only whom he likes or dislikes irrespective of any criterion then this cannot be called a sociometric test.

Frankel and Potashin (1944) pointed out that the sociometric methods overcomes the difficulties inherent in earlier methods of preference rating. These earlier methods were verbal choice (naming friends without criteria) and paired comparisons of all members of the group, which required so much time that the children became fatigued or bored. Eng and French (1948) though considering paired comparisons to be the most accurate method, recognized also the same deficiencies of this method. They found that sociometric tests involving an unlimited number of choices best met this criterion. Largely for statistical reasons there are advantages, however, in using the limited choice sociometric test.
Northway (1945) used a limited choice method in studying relationships among children at summer camp. She used a method of scoring responses based on weighting of three choices on each question. She also evolved a target diagram based on Moreno's sociogram, to illustrate the direction of choices in the group. Though Northway demonstrated that there is some change in the sociometric status of children, she found that, even after a year, there was still positive correlation with the original status.

Another significant development in early sociometry was the discovery by Moreno and Jennings (1938) that sociometric choices show a markedly skewed distribution, approximating a J-curve. The authors believe that this type of distribution results because of the phenomenon of "sociodynamic effect" (ibid p353). This characteristic of sociometric scores has the concomitant statistical implications that such procedures as product moment correlation which require normal distribution, cannot be used in analyzing sociometric scores.

The principle of chance occurrence was introduced in this same study by Jennings and Moreno (ibid). They used it in the calculation of cohesion within groups. Bronfenbrenner (1945) also used the principle of chance as a basis for the development of an absolute frame of reference for evaluating the significance of individual scores. This method which substitutes a one point score for all choices in place of weights and uses the principle of chance expectancy as a basis for
establishing the significance of scores, makes possible comparisons of groups differing in population and in number of criteria.

In her early writings Criswell (1944) regarded Bronfenbrenner's method as valuable but later (Criswell 1950) she became disenchanted with this technique, which she stated was based on statistical misconceptions. Nonetheless, Bronfenbrenner's method has continued to be used by many in the field such as Northway (1952), Thorpe (1955) and Loomie and Pepinsky (1948).

Interest in the reasons for choosing certain individuals as associates was shown by McKinney (1948) who asked his subjects not only to choose associates but also to say why they preferred these individuals. He also discussed the reliability and validity of sociometric tests. He supports the validity of these tests on the basis of the effects of the application of their results in the formation of groups and consequent successful interaction.

Northway (1946a) used the sociometric test as part of many efforts to relate acceptance differences to personality and other variables. She noted that individuals tend to maintain their social status when they change groups, which suggests a factor of acceptability on which acceptance scores are based. The individuals who are highly accepted in one group seem to be highly accepted in other reasonably similar groups
of which they become members. Personality characteristics of the highly accepted people were found to be expansiveness, sympathy, objectivity and a dynamic approach to life. Least accepted people were lethargic, self-centered and retiring (ibid p 188). It may be of significance that some of these characteristics resemble those attributed by Fisher and Cleveland to high barrier individuals.

Many other studies attempted to relate sociometric status and various psychological characteristics. Several authors have attempted to show a relationship between sociometric rating and I.Q. (Loeb 1941; Bonney 1946; Grossman and Wrighter 1948; Wardlow and Greene 1952). Results have been negative with the exception of the Grossman and Wrighter study. Here intelligence seemed to be a factor in selection up to a point. A minimum of normal intelligence was demanded for selection but an increase beyond that minimum did not increase degree of selection.

This same demand for conformity to a minimum standard was found by Grossman and Wrighter in the relationship of socioeconomic status to selection. Bonney (1944) agreed that there was some relationship but other studies (Bonney 1946; Dahlke 1953) found no significant relationship.

Size of family was investigated with a view to demonstrating that it was related to social acceptance. Bonney (1944) found that the most accepted children came from the smaller family units, except in the case of a few who came from extremely large families. That is the least accepted children
had from two to five siblings. Thorpe (1955) discovered that there was a negative correlation between number of choices received and size of family in the case of males and a positive correlation in the case of females. Loomis, Baker and Proctor (1949) found no relationship between these variables but their subjects were rural children whereas the other studies involved urban children.

A medium level of aspiration, a moderate amount of dominance and medium feeling of security were all found to be more acceptable than very high or very low amounts of these characteristics (Bonney 1946; Cassel and Saugstad 1942; Lindzey and Urdan 1954).

A large number of studies involved personal adjustment, mental health, and tendency to show symptoms related to emotional instability (Bonney 1946; Thorpe 1955; Phillips 1955; Baron 1951; Dahlke 1953; Wardlow and Greene 1952; Northway and Wigdor 1947). Relationships were found by all of these investigators between sociometric status and personality adjustment.

Most of these studies used as their criterion of adjustment some form of personality inventory, case history material or classroom observations. One of the very few studies that have related sociometric status and Rorschach findings is that of Northway and Wigdor (1947). In this study low sociometric status individuals showed Rorschach signs of serious emotional disturbance. According to Rorschach criteria, these subjects with low sociometric scores were more egocentric, moody and
impulsive and they showed poor emotional control. On the other hand the high status subjects showed Rorschach signs of greater sensitivity to the environment, stronger need for affection and approval, and a tendency to use "feeling tone" and sensual contacts of a situation to further their own ends (Northway and Wigdor 1947 p 194).

Gronlund (1955) discussed the greater ability of high sociometric status subjects to perceive accurately the attitudes and feelings of others. He believes that the reported lack of success in modifying the behavior of low status individuals is due, partly, to the inability of these people to perceive the attitudes and feelings of others. Hence they are unable to select behavior appropriate to the situation.

A problem which appears throughout studies which attempt to relate sociometric status and other characteristics, is the cause and effect dilemma. Particularly in the field of emotional adjustment, it is difficult to determine the degree to which low sociometric status results from or contributes to maladjustment.

Northway (1946) states that she has been unable to discover, in the literature, any single measure which correlates with sociometric status. Thus she suggests that it is a combination of characteristics rather than any single characteristic which contributes to or determines acceptance. Bonney (1944; 1947) agrees that acceptance seems to be related to the whole personality structure or total impression which one makes on others and not to any one particular trait.
Northway and Bonney agree also, however, that there is a relationship between acceptance of a child in a group and the amount of energy which he puts forth. The retiring, lethargic child tends to be chosen much less often than the energetic one. An exception to this situation is the rejection of the child whose energy is directed towards aggression and interference with others.

It would appear then that there is an optimum combination of many traits which determine whether a child will be desired as an associate by his peers. It has not been possible to relate any one measure to high sociometric status and therefore it is difficult to predict whether a certain individual will find acceptance in a group. It would be of considerable value if such a measure could be discovered and it is the purpose of this study to examine the barrier score to determine whether it is related to sociometric status. While no attempt to relate these two is reported in the literature, there are many similarities in the descriptions of the high barrier person and the individual with high sociometric status.
Chapter III Method

A. Subjects

The study was conducted in three classrooms of a junior high school located in a middle class urban community. Pupils in this school are allocated to their classes on a random basis and the principal assigned one each of the grade seven, eight and nine classes to be used in this study.

The age range of the subjects used is twelve to fifteen years and the intelligence range, as measured by the Otis Test, is 85 to 137 (obtained from school records). All the pupils who were present in the three classes on the first day of testing were used in the study. There was a total of eighty-seven subjects of whom forty-six were male and forty-one were female. These characteristics of the total group and of each classroom used in this study are shown in Table 1.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
<th>Age</th>
<th>I.Q.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>15</td>
<td>16</td>
<td>31</td>
<td>12-15</td>
<td>85-137</td>
</tr>
<tr>
<td>8</td>
<td>15</td>
<td>15</td>
<td>30</td>
<td>12-15</td>
<td>94-124</td>
</tr>
<tr>
<td>9</td>
<td>16</td>
<td>10</td>
<td>26</td>
<td>14-15</td>
<td>85-121</td>
</tr>
</tbody>
</table>
B. Materials

In this study, the technique used for obtaining barrier scores was Form A of the Holtzman Inkblot Technique (Holtzman 1958; 1961). It was chosen rather than the conventional Rorschach test because Fisher and Cleveland (1950) regard it as preferable for research purposes, particularly when the object of the test is to obtain barrier scores rather than other types of personality indicies. They stated that this test lends itself better to group administration in addition to eliminating many of the problems inherent in differential productivity. The different number of responses given by subjects occurs when fewer blots are used and an unrestricted number of responses requested. It is often very difficult to compare records because the number of responses contained in them may vary markedly.

The group version of the test was used instead of the individual version because a very long time would have been required to build up a sufficiently large sample if subjects had been examined individually. Other advantages of the group method are the greater willingness of schools to participate in a less time consuming testing program and the greater experimental control possible when all subjects experience the same test situation.

The short form of the test, devised by Herron (1963) was used rather than the full forty-five blot form because it could be administered in the regular class period and was less
likely to fatigue or bore the young subjects.

Though it has been suggested that the short form is less reliable than the full test in evaluating barrier responses (Herron, 1963), it is believed that the short form is satisfactory for the purposes of this study. The emphasis in this study is on group differences rather than on individual clinical evaluation and no attempt is made to compare the subjects in this study with subjects who were tested by means of the standard Holtzman procedure.

In order to use group administration, 35 mm slides (colour transparencies *) were made by photographing the blots. Form A, Holtzman individual record forms were used to record responses. These record forms have a reproduction of each blot on the left side of the page and a space in which to write the response on the right. (copy in Appendix).

The means of obtaining peer acceptance ratings was a sociometric test which was adapted from the form used by Northway and Potashin (1946) with elementary school children. Their questions, or criteria for choice of companions were modified slightly to make them more appropriate for young adolescents.

The sociometric test used in this study includes four questions each asking the subject to state his preference for

*Colour transparencies were reproduced by permission for research purposes only, Copyright© 1958, The Psychological Corporation, New York, N.Y. All rights reserved.
companions in a different type of reality situation. Specifically, the situations used as criteria for choice or preference are moving to another classroom, eating lunch, participation in favourite in-school activity and participation in favourite out of school activity. To each question, the subject is to answer by stating his first, second and third choice of companion from among the population of his own classroom group. A copy of the form used is given in the Appendix.

C. Testing Procedures

Testing was conducted in each classroom separately but the same procedure was followed in all of them.

In order to minimize opportunities for discussion of the test by the subjects prior to performing it, the Holtzman test was given to all three classes on the same day. In each case, the school principal introduced the examiner to the group and he explained that she is a student at the university who would like the pupils to help her with a study which she is conducting. He further pointed out that the study has nothing to do with school work and that no members of the school staff would see what any individual pupil wrote. When the principal's introduction was completed the examiner explained that the purpose of the study was to discover how boys and girls of different ages use their imaginations. She stressed that the study was not concerned with the answers of individuals, but only with groups at certain ages. It was pointed out also that there were no right or wrong answers to the questions which would be
asked and that whatever was written would be seen only by those working on this study.

Each subject was given a Holtzman record form and the examiner read aloud the instructions given by Swartz and Holtzman (1963) for administering the group form of the Holtzman test. These instructions included the showing of two sample blots accompanied by the reading of suggested examples of responses to them. The test blots were then projected individually on a screen at the front of the classroom. The visibility of the projected pictures had been checked prior to the testing session to be certain that a clear, undistorted picture could be seen from all seats and also that there was sufficient light in the semi-darkened room for subjects to write their responses. The subjects were asked to write on the record form one response for each blot, and to indicate what it was, about the blot, that suggested the response. The timing and reinforcing comments were given throughout the test as directed by Swartz and Holtzman. The total time for the presentation of the Holtzman test was fifty minutes.

When the test was completed, subjects were told to turn the record forms face down so that no response could be seen by others as the examiner collected the forms.

Each Holtzman protocol thus obtained from the pupils in the three classrooms was examined for barrier responses* and

*Special thanks are due to Dr. Seymour Fisher who was so kind as to score all of the protocols for barrier responses.
a barrier score totalled for each subject. On the basis of
the rank order position of his barrier score among those from
his own classroom, each subject was assigned to a barrier
score quartile group.

Two weeks after presentation of the Holtzman test, an­
other graduate student administered the sociometric test to the
same classroom groups. Both the time interval between the
tests and the use of a different examiner were intended to re­
duce any carryover of the subjects' reactions from one test
performance to the other. Most of the pupils completed the
sociometric test on the same day, but some of them (2 from
grade 7, 2 from grade 8 and 1 from grade 9) who were absent
from school that day were asked to complete it at a later date.
The sociometric test requires that all subjects who are nor­
mally members of the group be included as eliminating absen­
tees would have an effect on the records of all those whom
they might have chosen.

As with the Holtzman test and for the same reasons,
sociometric testing was done in all three classes on the same
day. In preparation for administration of the sociometric
test in each class, a list of the names of all members of the
group was written on the board. The sociometric test forms
were distributed to the subjects and instructions as described
by Northway and Potashin (1946) were given. The subjects were
asked to answer the questions by choosing names from those
listed on the board and they were reminded that they could choose people who happened to be absent on that day. When all pupils in the class had completed entering their choices, the examiner collected the sociometric test forms.

Northway's (1946b) later method of scoring based on one point for each choice received was used to obtain a sociometric test score for each pupil. Within each class, on the basis of Bronfenbrenner's (1945) principle of chance expectancy, each pupil was designated as significantly above chance, above chance, below chance or significantly below chance expectancy in peer acceptance. In addition the responses of each child was examined to determine to which classmate he gave the largest number of his first choices.

D. Methods of analyzing the data

In order to test the hypothesis of a relationship between barrier scores and sociometric test scores the following procedure was used: - A contingency coefficient was calculated by means of a contingency table which recorded the four sociometric rating categories and the four quartiles for barrier score. In order to arrive at the correlation coefficient the number of subjects whose scores fell in each category of the table was recorded and a chi square calculated. After the contingency coefficient had been calculated, its significance was checked by means of the significance of chi-square.

The hypothesis of a relationship between the barrier score of choosers and those whom they choose also was tested by
means of a contingency table. For the purpose of this analysis subjects were designated as high or low barrier and above or below chance expectancy in peer acceptance. In order to arrive at these categories the two upper groups were combined and the two lower groups were combined both in barrier scores and in sociometric ratings. The same procedure was used as in the case of the first hypothesis to determine the contingency coefficient and its significance.

The hypotheses which deal with differences of barrier score in the four age groups and in the two sex groups were tested by means of a chi-square test.

The hypothesis of a sex difference in acceptability of high barrier subjects also was tested by means of the chi-square test.

In determining the level of significance acceptable in this study, it was felt that, because no serious consequences would result from significant findings, it would be more propitious to have a smaller type two and a larger type one error. Therefore, the acceptable level of significance was set at .10. A two tailed test of significance was employed because direction was not predicted in the hypotheses.
Chapter IV Results

Analysis of the data showed that the null hypothesis with regard to a relationship between barrier score and sociometric test score could not be rejected at the required level of significance, as shown in Table 2.

**TABLE 2**

Contingency table for barrier and sociometric scores

<table>
<thead>
<tr>
<th>Sociometric Scores</th>
<th>Significantly Below Chance</th>
<th>Below Chance</th>
<th>Above Chance</th>
<th>Significantly Above Chance</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>A</td>
<td>3</td>
<td>6</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>R</td>
<td>6</td>
<td>5</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>R</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>E</td>
<td>19</td>
<td>19</td>
<td>28</td>
<td>21</td>
</tr>
</tbody>
</table>

The associated $x^2$ of 9.68 and 9 df fails to meet the level of significance acceptable for this study. Therefore the null hypothesis is accepted. It is accepted also that there is no significant correlation between barrier score and sociometric score and that the $C$ of .316 is not significantly different from zero.
Analysis of the data with regard to the hypothesis of a relationship between the barrier score of choosers and chosen showed that the null hypothesis could be rejected since there is a significant, although small, positive correlation between the barrier scores of the choosers and of those whom they choose (see Table 3).

TABLE 3

Contingency table for barrier scores of choosers and barrier scores of those whom they choose

<table>
<thead>
<tr>
<th>Chosen</th>
<th>High barrier</th>
<th>Low Barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>High barrier</td>
<td>29</td>
<td>15</td>
</tr>
<tr>
<td>Low barrier</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>49</td>
<td>38</td>
</tr>
</tbody>
</table>

The associated $x^2$ of 3.3 and df of 1 is significant at the level accepted for this study for the rejection of the null hypothesis. The correlation of .19 is therefore significant even though small. The maximum $C$ possible with the conditions of a 2 x 2 table is .707 and though the $C$ of .19 falls a good deal short of this maximum it can be considered that there is a small but significant positive correlation between the barrier scores of choosers and chosen.
The next step consisted of testing by means of chi square analysis whether there is a significant difference among the twelve, thirteen and fourteen year age groups with regard to barrier score. The fifteen year olds were too few in number to include in the barrier score comparison. A significant difference was found between the twelve and thirteen year old groups. However, no significant difference was found between the thirteen and fourteen year old groups (see Table 4).

TABLE 4

Barrier scores of three age groups

<table>
<thead>
<tr>
<th>Age</th>
<th>No.</th>
<th>Median</th>
<th>% above total</th>
<th>$x^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>27</td>
<td>6</td>
<td>37</td>
<td>3.9</td>
<td>.05</td>
</tr>
<tr>
<td>13</td>
<td>22</td>
<td>6.5</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>33</td>
<td>6.5</td>
<td>51</td>
<td>.55</td>
<td>.5</td>
</tr>
</tbody>
</table>
A chi square test was used to determine whether there is any significant difference in barrier score responses of males and females. This analysis showed that there are significant differences at the twelve, thirteen, and fourteen year age levels (See Table 5).

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>No.</th>
<th>Range of Barrier scores</th>
<th>Median Barrier scores</th>
<th>% above total mdn.</th>
<th>$x^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Males</td>
<td>14</td>
<td>3-11</td>
<td>5.5</td>
<td>29</td>
<td>9.8</td>
<td>.01-.001</td>
</tr>
<tr>
<td>12</td>
<td>Females</td>
<td>13</td>
<td>3-13</td>
<td>7</td>
<td>43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Males</td>
<td>9</td>
<td>1-13</td>
<td>6</td>
<td>33</td>
<td>6.1</td>
<td>.02</td>
</tr>
<tr>
<td>13</td>
<td>Females</td>
<td>13</td>
<td>3-13</td>
<td>7</td>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Males</td>
<td>18</td>
<td>2-15</td>
<td>6</td>
<td>44</td>
<td>4.64</td>
<td>.05-.02</td>
</tr>
<tr>
<td>14</td>
<td>Females</td>
<td>15</td>
<td>2-13</td>
<td>7</td>
<td>64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>(Males only)</td>
<td>5</td>
<td>2-11</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Males</td>
<td>46</td>
<td>1-15</td>
<td>6</td>
<td></td>
<td>46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Females</td>
<td>41</td>
<td>2-13</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>87</td>
<td>1-15</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A chi square analysis was used also to test the hypothesis that there is no significant difference between the number of sociometric choices received by high barrier males and high barrier females. The results showed no significant difference and hence the null hypothesis can be retained (see Table 6).

**TABLE 6**

Sociometric Scores of High Barrier Males and High Barrier Females

<table>
<thead>
<tr>
<th>Sociometric Scores</th>
<th>Above chance</th>
<th>Below chance</th>
</tr>
</thead>
<tbody>
<tr>
<td>High barrier males</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>High barrier females</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>27</td>
</tr>
</tbody>
</table>

The associated $x^2$ of .556 and df of 1 fail to meet the level of significance acceptable for this study and hence the null hypothesis that there is no significant difference between high barrier males and high barrier females in sociometric score is retained.
Chapter V Discussion

In keeping with the original null hypothesis formulated in this study, no significant relationship has been found between barrier scores and sociometric scores among adolescents. It had been expected by the writer that, because of their reported greater interest in and understanding of interpersonal processes, high barrier individuals would be more desired as associates and hence would receive higher sociometric scores than would low barrier individuals.

The fact that in this study neither barrier group exceeded the other in sociometric status may be consistent with the principle enunciated by Northway (1946b) Bonney (1947) and others that acceptance by peers is not a function of any single personality trait. Rather, it is dependent upon the overall effects of a group or combination of characteristics. Thus it may be that though high barrier persons possess some traits which facilitate interactions and acceptance, they may also be characterized by other traits less desirable to peers and interfering with interactions which in some cases may be of sufficient strength to override the effects of the former. Similarly, though low barrier individuals may be less person-oriented they may have other compensating characteristics which facilitate their acceptance.

In this connection, Fisher has pointed out in a personal communication with the writer that, although high barrier
subjects often are more involved in and understanding of group processes, when necessary they are also more willing to take an aggressive stand. He believes that this readiness to take an aggressive stand might easily arouse the disapproval of peers and result in lowering the acceptance of the high barrier person. In some high barrier individuals, the ability to enter into close relationships may dominate the more aggressive, striving tendencies, and these high barrier persons may thus become much chosen associates. However, in other high barrier individuals the need to achieve, to compete and to be self-assertive may be predominant, causing them a loss of acceptance among their peers despite their person-orientation. In the low barrier individual lack of interest in others may result in a loss of sociometric acceptance. On the other hand, his willingness to follow directions may result in his increased acceptance.

Discussion by Fisher and Cleveland (1958a, p 204) of an apparent contradiction in their data also is relevant here. Biographical material in some of their studies indicated that low barrier men were friendly and enjoyed social interaction. At the same time, objective data showed low barrier people to be less person-oriented and poor in ability to empathize, suggesting less interest and pleasure in interpersonal relationships. However, the authors recognized that this contradiction may not be fundamental because the same biographical material showed the low barrier men to have difficulty in establishing intimate, lasting relationships with others. The
authors concluded that low barrier people can be interested and participant in relationships with others, but at a relatively superficial level. The distinction between low and high barrier people regarding their interest in others applies to intimate, ego-involving modes of relationship rather than to casual, superficial relationships. It is probable that in the present study the interpersonal relationships which were assessed were of a superficial nature and hence differences between the two barrier groups would not be apparent. It is interesting further that more high than low barrier subjects were involved in reciprocal choices. It would seem that two people each of whom gives the other most of his first choices, have a less superficial relationship than do those who are involved in unreciprocated choices.

The sociometric relationships may have been distorted also by the restriction of choices to the subjects' own class. It would be interesting to conduct a similar study in a small school where children could choose associates from anywhere in the school. In this way all students would be part of the study as there would be a good opportunity for all students to know each other. In the present study it was necessary to limit choice to each subjects own class because other classes had not been evaluated for barrier score. The fact that this method was not always satisfactory was evident because in spite of instructions to select from within the class a number of choices went outside the class and hence were
lost to the study. It is possible that some of the subjects have social relationships with members of other classes and have little interest in any member of their own class. This wider choice method would make possible, also, a more direct comparison of barrier scores, rather than relating them to each class.

The results of this study indicate a significant degree of similarity in barrier scores of the pupils and those whom they chose on the sociometric test. This suggests that young adolescents prefer to associate with others of their own barrier type. Examination of the data shows that the tendency to choose one's own barrier type is much stronger in high barrier people. This preference for other high barrier individuals could be related to the greater empathy attributed to the high barrier group. The ability to recognize in certain others, a greater interest in people than in things and their own need for affection and interpersonal relationships could lead the high barrier subjects to find attractive other high barrier people. The low barrier people who reportedly have less ability to recognize personality characteristics of others would be less consistent in their choices.

It is interesting to discover that the girls at all three ages included in this study, scored significantly higher on barrier score than did the boys. Fisher and Cleveland (1958a) believe that there are sex differences in barrier score only at ages when stress, confusion and uncertainty about life's
goals causes a drop in the barrier score of the group which is experiencing the insecurity. On the basis of this theory it may be that the boys at all ages in the present study are experiencing more confusion and stress than are the girls.

The significant difference in barrier score between the two age groups twelve and thirteen may be determined largely by this considerably lower barrier score of twelve year old boys. The girls show little change in barrier score at the three age levels. Hence it appears that rather than a consistent change of barrier score with age there are ages when stress causes a drop in barrier score of the males or females. These ages probably differ for the two sexes. A further indication that barrier scores do not change in direct relationship to age is the absence of a significant difference in the thirteen and fourteen year age group.

It is possible that the characteristics which have been attributed to high barrier individuals may be more socially acceptable in one sex than in the other. However, no significant difference was found in the sociometric status of high barrier males and females. Again the fact that some high barrier characteristics may be more acceptable in males and others in females results in a lack of a clear difference in the acceptability to peers in the two groups.
Chapter VI Summary

Theories about body image and various ways in which it has been assessed have been reviewed. The concept of the body image boundary described by Fisher and Cleveland (1958a) lends itself best to systematic inquiry and the barrier score which they developed appears to be the most objective measure available to evaluate the body image.

The barrier score is the total number of inkblot responses in which objects with well defined boundaries are represented. People who score high on this variable are termed high barrier and according to Fisher and Cleveland (ibid) they have among other things, a different approach to interpersonal situations than do low barrier individuals. High barrier subjects were reported to be more "people" oriented, more emphathic, and more capable of expressive, intimate relationships. In group situations, however, they are more willing to take an aggressive stand than are low barrier subjects.

The present study attempts to determine whether the differing approaches to interpersonal situations, which is found in high and low barrier people, is reflected in a difference in their acceptability among their peers. The following null hypotheses were tested, using eighty-seven subjects (forty-six males and forty-one females, ranging in age from twelve to fifteen years), drawn from grades seven, eight and nine of a junior high school: -

1. There is no significant relationship between barrier
scores of young adolescents and level of peer acceptance as represented by sociometric test score.

2. There is no significant relationship between the barrier score of choosers and that of those whom they choose.

3. There is no significant difference in barrier score among ages twelve, thirteen, fourteen and fifteen.

4. There is no significant sex difference in the barrier score of adolescents.

5. There is no significant difference in sociometric score between high barrier males and high barrier females.

The subjects were examined, in their classrooms, with the group short form of the Holtzman Inkblot Technique (Herron 1963; Swartz and Holtzman 1963) and their protocols were scored for barrier responses. The same subjects were later given the sociometric test as described by Northway and Potashin (1946) and their sociometric status in the group was calculated on the basis of chance expectancy.

The results confirmed hypothesis one: that is they showed no relationship between barrier and sociometric scores. They confirmed also hypothesis five, there being no apparent difference in acceptability of high barrier males and females. The second hypothesis was rejected however, as a small but significant relationship was found between the barrier score of choosers and chosen. Significant sex differences in barrier score were found also, at all ages and a significant difference
in barrier score between twelve and thirteen year old age groups was revealed. However, the latter difference was likely due to the very low barrier score of the males in this age group rather than being representative of the whole group.

It was concluded that, in general, the results confirmed Northway's (1946b) contention that no single measure seems to correlate with sociometric status and Bonney's (1947) statement that acceptance seems to be related to the whole personality structure or total impression which one makes on others rather than to any particular trait.

However, the relationships which were assessed in this study may have been too superficial to have reflected differences in barrier score. It would be of interest to attempt the assessment of more intimate, long-lasting relationships and to determine whether there are a greater number of high barrier than low barrier individuals involved in such relationships.
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The Sociometric Test

Name _____________ Age _________ Grade _______

1. Suppose you were to move to another classroom, which boys or girls would you like best to go with you?
   First Choice _______________________
   Second Choice _____________________
   Third Choice _______________________

2. Suppose everyone in your class ate lunch in the same lunch room, which boys or girls would you like best to eat with you?
   First Choice _______________________
   Second Choice _____________________
   Third Choice _______________________

3. What is your favourite activity in school? _______________
   With whom would you like to share this activity?
   First choice _______________________
   Second choice _____________________
   Third choice _______________________

4. What out of school activity do you like best? ____________
   With whom would you like to share this activity?
   First choice _______________________
   Second choice _____________________
   Third choice _______________________

Name  Age  Sex  Date
Address  Phone  Educational Level
Examiner  Previous Administration (Form and Date)

Symbols:  QL – question regarding location;  Qc – question regarding characteristics;  Qe – question regarding elaboration;  ▲▼ – change in card position;  R.T. – reaction time in seconds.

X  R.T.  

Y  R.T.  

1A  R.T.  

2A  R.T.  

3A  R.T.  

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