THE RELATION BETWEEN SELF-IMAGE AND

SOCIAL ADJUSTMENT IN MIDDLE CHILDHOOD

by

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Abstract

The present study is concerned with the relation between children's self-acceptance, and their acceptance by their peers, as well as the developmental processes involved in the establishment of the self-image during middle childhood.

144 children divided into four age groups (age 7.5, 8.5, 9.5 and 10.5) were included in the study.

Children's self-image was investigated in terms of three variables: 1) self-acceptance 2) uncertainty or inconsistency of self-evaluation, and 3) a social versus personal orientation in evaluating both self and peers.

Social adjustment was studied in terms of four variables: 1) sociometric status, 2) reciprocal choices, 3) insight into peers' choices, and 4) peer interactions during play situations.

In the first part of the study, the equivalence of three measures of self acceptance: 1) self-esteem derived from an interview technique, 2) self-acceptance derived from a Q sort technique, and real self - ideal self congruency (derived from Kelly's repertory grid technique) was borne out. Self-acceptance and real self - ideal self congruency were found to be positively associated, though not entirely overlapping.

The second part of the study was concerned with some developmental trends, which emerge during middle childhood in the self-image, as well as in peer-interaction. In this respect it was found that:

1) self-acceptance linearly decreases with age.

2) real self-ideal self congruency decreases with age, though a quadratic rather than linear age trend component was found.

3) Children's uncertainty with regard to self-evaluation linearly decreases with age.

4) The amount of peer interaction in play situations - linearly increases with age.

Social self-orientation (in terms of the ideal self) was found to increase with age. A parallel personal self-orientation linearly decreased with age. A differentiation according to a social versus personal orientation in evaluating both peers and self was investigated by principal component analysis.

In the fourth part of the study a curvilinear relation between self-acceptance and acceptance by peers, tested separately in each of the eight subgroups (divided according to age and sex), was confirmed. Furthermore, the significance of this relation linearly increased with age.

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Introduction

The argument put forward in the present study, is that children discover and develop their self-concept from the kind of experiences they have had with other people, not from telling, but from the experiences themselves. In this way they develop feelings of being liked, acceptable, and able. Thus, according to this view, the self image is seen as a mirror image, being largely determined by the nature of the child's interpersonal relationships.

The phenomenological school of thought which stresses the importance of "significant others" in the child's life, in the formation of his self image, has therefore been taken as a theoretical basis.

The present study has set forward two main purposes:

1) To investigate developmental processes which are believed to emerge in the self-image during middle childhood, as a result of children's social relationships in the peer-group.

2) To investigate the relation between children's self-acceptance, and their acceptance by their peers.

Although the influence of family relationships on the child's self-concept, is not investigated in the present study, the fundamental role of "significant others" in the child's family, in the establishment of his self-perceptions, is not denied or ignored. On the contrary, it is held

that the child's home, and it's respective emotional and social climate, has the earliest and greatest influence upon the child's social development.

However, the present study has set out to investigate the effects of another source of social environment on children's self-evaluations - that of the peer-group.

A number of theoretical considerations, appear to justify the selection of the peer-group as an appropriate social environment for study:

1) The interest taken in peer-group relationships is based on the recognition, that chronologically, in the child's developmental process, the peer-group is the second socializing agency. Thus, it is held that during the stage of middle childhood, the child's social world changes radically, from a small world centred in the family, to an expanding world, with a second centre in the peer-group.

2) It is believed that the peer-group's functions as a socializing agency, are essential for the child's proper fulfillment of his developmental tasks, and cannot be achieved anywhere else.

3) The peer-group enables the child to explore freely personal relationships, and to test himself against others, in his search for social and self-identity.

4) The achievement of self-identity is facilitated, as the child is able to view himself in comparison to his peers. In this way his peers are used as a standard, against which he measures himself.

5) As a result, an additional aspect of self-awareness develops, as the child becomes critical of his own behaviour, which is evaluated from socially-derived reflected appraisals of his peers.

Thus, the process of achieving a stabilised social self-image is accentuated, as the child becomes increasingly involved with other children. Their unhibited remarks, as well as their perceptual attitudes, concerning the child's body and facial features, competence of skills and abilities, and items of clothing, become the perceptual field on which to base the self-concept.

6) It is believed that satisfactory contacts and relationships with other people in the child's environment are essential for his normal personality development. The child's developing image of himself needs continuing validation, that he is loved, respected and acceptable, in order to contribute to his feelings of adequacy and self-acceptance. On the other hand, experiences of being rejected by his parents, or being unfavourably regarded by his peers, will lead to the development of a self-rejecting self-image, indicating feelings of inadequacy, insecurity and unhappiness.

7) The dynamic nature of the self-image, appears to be of fundamental importance in determining the reciprocal relation, which is believed to exist between the self-image, and the social environment. Thus, according to Sullivan's inter-personal theory, the attitudes that the child has acquired, concerning himself, will in turn colour the attitudes he holds toward other people. Similarly, the part played by

the self-image in the process of selective perception,
must be recognised. Thus, it is commonly assumed by
phenomenological theorists, (particularly Combs and Snygg,
1959), that the conception one holds of himself, is a
vital factor in determining the richness, and variety of
perceptions, selected.

On the basis of this assumption:

a) We may expect that the self-concepts a child holds of
himself, have a vital effect in selecting the perceptions,
that become part of his perceptive fields.

b) Furthermore, the child's actual behaviour will be
influenced by his perceptions of himself, and in turn will
justify the self-perceptions held. In essence, it is
believed that a child who conceive of himself as unwanted,
unliked and unable, will perceive and behave in accordance
with his unfavourable self-perceptions. Since this
behaviour will involve a rejecting attitude toward others,
this will further feed and justify their rejecting attitudes
toward the child.

The relevance of the age-period selected, for the investigation of developmental processes in the self-image.

The age-groups selected for study are seven to eleven,
an age-period referred to as "middle childhood". A number
of theoretical considerations were taken into account, in
the selection of this age period:

1) At this stage, it is assumed that the child's self-image
has already reached a degree of stability and consistency,
to allow the measurement of some of its aspects.

Particularly with regard to social aspects of the self,
it is believed, that after experiencing at least two years
of sustained contact with peers, children may be expected
to have formed some definite and stable attitudes toward
their peers, as well as some self-evaluations, based on
their peers' attitudes toward them. On the other hand,
it is believed that during this stage of life, children
undergo some consistent developmental changes in their
social self-image, as a result of the increasing
significance of peer-group influences, from the age of
seven, to the age of eleven years.

The developmental stage selected for study, coincides
with Havighurst's "middle" and "later" childhood stages,
Erickson's "industry" stage and Piaget's stage of "concrete
operations".

The middle childhood years may be considered as a
distinct and significant period, since success in adjustment
to school and to a new world of peer-relationships will do
much to shape the nature of the self-concept in later years.

Allport (1961) defines the self, which develops during
this period (six to twelve years in his categorization), as
a "rational coper", which is facilitated by the child's
intellectual development, and objective knowledge, gained
in school, together with the newly learned peer-standards
and expectations.

Havighurst (1953) names eight developmental tasks which are essential for the adequate development of personality, during middle and later childhood: the achievement of physical skills, stable attitudes toward self, learning to get along with peers, as well as an appropriate sex-role, developing the fundamental skills in reading, writing and arithmetic, developing concepts necessary for everyday living, morality and values, and attitudes toward social groups and institutions.

Erickson (1963) characterise this socialization stage, as a stage in which industry versus inferiority are learned. If the child does not feel competent in his skills, or satisfied with his status in the peer group, he may develop a sense of inferiority.

In Piaget's developmental conception, (Piaget, 1926), this stage coincides with the phase of concrete operations. Through reversibility, the child achieves an operational level of thought, which refers to the mental capacity to order and relate experience to an organized whole.

Piaget's cognitive model is relevant in the present study for two reasons:
1) The recognised ability of the child to order his experiences, and to be aware of their realistic relationships to each other, enables an attempt to measure self-perceptions, and self evaluations of children at this stage, from their self-report. The assumption that self-report at this stage is valid, seems justified, since the child at this point can order his experiences, and explain them in relation to others.

2) The second point is Piaget's recognition, that the child's awareness of realism, and logical relationships, helps him to create a notion of certainty.

In summary, the important features of middle childhood, as characterized by Havighurst, Erickson, Allport and Piaget, must be taken into account, when aspects of childrens self-image are investigated.

Survey of Literature

"The psychology of personality harbors an awesome enigma - the problem of self"...

"A complete theory of personality cannot shelve this difficult problem of the subjective (felt) nature of the self, but must face up to it".

<div align="right">Gordon Allport.</div>

The great difficulty which psychologists have encountered in the attempt to relate observations of behaviour to the study of mental processes has led many of them to limit psychology to the study of behaviour alone, and to leave to philosophy the task of speculating, as to the existence and nature of mind and soul.

Gordon Allport (1961) indicates three reasons to account for the tendency of many psychological discussions of personality to avoid the problem of self:

1) The term self is used in a great many ways, by a great many theorists. Often the term ego is employed instead.

2) The problem of defining the self is one of the more difficult tasks, although the self is something of which each of us is immediately aware of. As Moustakas has said: "It is much easier to feel the self than to define the self".

3) The subject of self opens up profound philosophical dilemmas, concerning the nature of man, "soul", freedom and immortality.

The philosophical difficulty may be seen as the problem of self as knower, and was made explicit as early as Descartes. This puzzling problem arises when we ask: who is the self who knows the self as an object of knowledge. Over the centuries, philosophers have struggled with this problem, and many different philosophical views were suggested as attempts to solve the riddle.

Embedded in the philosophical problem of self, is the problem of unity. This issue again has worried most philosophers, and as in the attempts of solving the problem of self, different solutions have been offered.

This brief statement of the philosophical difficulties involved in the construct of self may explain why many approaches to personality avoided this problem altogether.

However, for other approaches to the study of human behaviour, which have sought to make sense out of human action, a construct of self or ego seemed indispensable.

Allport gave three reasons why the concept of self is essential in order to explain human behaviour:

1) The one and only sure criterion for our personal existence and identity lies in our sense of self.
2) Theories of learning, motivation and development cannot be complete or correct without distinguishing what is "self relevant" in personality from what is not.

3) That although psychology cannot hope to solve the
ultimate dilemmas of philosophy, it is obligated to
provide a careful factual account of the evolving
sense of self.

Thus, Allport holds that discussions concerning the
essence of mind may seem irrelevant for the study of
psychological phenomena, and psychology sets its limits
in studying the self as "object of knowledge and feeling"
- what he calls the "proprium".

William James (1890) may be considered as the first
theorist who made in his writings a transition point
between older and newer ways of thinking about the self.
His contribution to it, may be considered in both his
objective treatment of the problem, and in giving the topic
a wider coverage than any of his predecessors. James
assumed that everything experienced whether self or not
self is objective. In the broadest sense the "empirical
self" is everything that a man can call his. It's
components are classed as: "spiritual self", "material
and social selves", and "bodily self". By spiritual self
James meant the concrete psychic powers and dispositions -
what we most truly seem to be. With regard to a person's
"self regard" says James: "Our self feeling in this world
depends entirely on what we back ourselves to be and do.
It is determined by the ratio of our actualities, to our
opposed potentialities, a fraction of which our pretentions
are the denominator, and the numerator our success..."
(James, 1890, p.313).

Among the psychological writers before Sigmund Freud, the term "ego" had very little importance in comparison to the term "self", in their theories. But in Freud's theory, the term "ego" bears most of the emphasis.

On this Allport commented that "psychoanalysis may well be remembered in future years for having given shelter to the self, under the term "ego system", when positivism made it an outcast from psychological literature." However, psychoanalytic theory did not immediately bring constructs concerning the self to the forefront, mainly because Freud in his early theorizing emphasized the role of the "id". In his later writings, Freud himself assigned greater importance to ego development and functioning. In psycho-analytic theory the ego is responsible for modifying the psychic energy of the id. The ego is that which determines modes of expressions and facilitates reaction. The ego is governed by the reality principle. Since eventually the reality principle leads to pleasure, the id may be regarded as the product of one's biological sources, the ego as the result of interaction with objective reality in the higher mental processes, and the superego - as the product of socialization and cultural tradition.

Later, the Neo-Freudians put more emphasis upon ego functioning. Hartman (1958) argued that the ego was responsible for "adaptation to reality", using the organized ego-functions, such as intelligence and perception, which exist in their own right. Neo-Freudians also stressed the importance of the self picture and the ego-ideal.

The same area as that of ego psychology is covered by Aldler's terms of "style of life". From the early formative years the style of life emerges through experiences, that eventually develop into a characteristic pattern of reactions. Once a person's style of life becomes set, it then guides his action, and accords with his goals and purposes.

Harry Stuck Sullivan (1953) in his theory of inter-personal relationship contributed a great deal to the understanding of the self system. According to Sullivan the self system has its origins socially in interpersonal relationships, and it is inferred by the "reflected appraisals" of "significant people" in the child's life. This point of the influence that significant adults in the child's life have in the formation of the child's self image, has later been strongly emphasized by the phenomeno-logical approach. Sullivan maintains that the self regarding attitude of a person is determined by the attitude of others toward him, in the process of socialization. Furthermore, self attitudes seem to facilitate the attitudes which he has toward others.

In a historical review of the topic of self, James C. Diggory (1966) describes the period of early twentieth century for psychology as "a period of hectic system building". In addition to the various "schools" of Gestalt, psychologists, structuralists, functionalists and behaviourists, there was another group which found a common ground in attempting to establish what was called "personalistic psychology", or a "psychology of selves".

The basic tenet of "self psychology" is that all experience is that of some person, and that ideas and percepts are connected with some subject. This view was held by writers as Laird (1920), and McDougall (1923), who has stated that the existence of self is "a basal fact of experience". But the self psychology approach suffered from lack of suitable methods, and so failed to make progress in formulating the problems with which they were concerned. However, their basic tenet can be seen as an important signpoint leading to the later phenomenological approach.

Before discussing more current views concerning the self, attention must be paid to the influence of sociology on psychological thinking. The emphasis on society's crucial part in the formation of the individual, was stressed by the sociologist Cooley as early as 1899, and was later maintained by Mead (1934). Cooley argued that "self and society are twin born... and the notion of a separate and independent ego is an illusion." (Cooley 1911, p.5) and "Identification with others (in James' sense of the 'social self') blurs the boundary between self and others"... (Cooley, 1922, p.66). Cooley analyses the development of the self in terms of sympathy and imitation. From his interpretations of certain behaviours of the primary groups in which the child is involved, he derives his estimates of himself. This is the self he sees reflected in the behaviour of others toward him, or as Cooley called it "the looking glass self".

This idea of the "looking glass self" was later adopted by all "phenomenological self" theorists, who commonly believe that perception of self and others evolve significantly from self interpretations of social experiences, within an interpersonal environmental field.

Another theory, stressing the remarkable influence of society is presented in Mead's theory of the "Generalized Other" (Mead, 1934). According to Mead, there are two general stages in the full development of the self. At the first stage, the individual's self is constituted simply by an organization of the particular attitudes of other individuals toward himself, and toward one another. But at the second stage, when full development of self takes place, the self is built, in addition to the particular individual attitudes, also by an organization of the social attitudes of the generalized other, or the social group as a whole, to which he belongs.

An important contribution to personality theory was made by Gestalt theorists, particularly when an expansion was made, from their notion of a perceptual field, to that of a behavioural field. Referring to the view they maintain concerning the behavioural field, says Diggory: "Gestalt psychologists opened a second front against the behaviourists, specifically on the issue of the nature of human motivation. Their battle cry was 'wholeness'. We must consider the whole person the whole organism, the whole situation" (Diggory, 1966 pp. 52,53). Goldstein adopted the idea of

'wholeness' by recognizing in human behaviour only one drive
the drive of self actualization. He was the first one to
produce this term, which was later recognized and advanced
by all the phenomenologists, and other distinguished
personality theorists, naming only a few representatives:
Allport (1946), Fromm (1941), Maslow (1954), Rogers (1955)
and Combs and Snygg (1959).

At the same time, some early attempts were made to
investigate the experience of self.

Klein and Schoenfeld (1941) introduced a new aspect of
ego-psychology, when they produced the term "ego-involvement"
to describe behaviour in which it appeared that the relevance
of the task to the subjects, affected the consistency of
their judgments. They demonstrated that when college
students took the results of the experiment to be relevant
for their college records, their confidence ratings on
their performance over six tests became markedly consistent.
They suggested that the person was "ego involved" in tasks
which were relevant to important personal goals, and that
there appeared to be some extension of the self concept to
include such related aspects of the environment.

With this recognition of a dimension of the self concept,
which lent itself to exploration and manipulation by direct
experiment - a shift in the focus of interest began, away
from theoretical attempts to define the "self", towards
investigation of its function.

A further development giving additional importance
to self psychology was in 1949, when Hilgard postulated
in his APA presidential address the need for a self, in
order to understand psychoanalytic defense mechanisms,
and called for research on the self. Investigation into
the self concept flourished, and studies have spread over
into many areas of psychology.

The most productive group of researchers have been
those who have adopted the phenomenological approach to
the self concept. Some of the leaders of the phenomeno-
logical movement were: Hubert Bonner, Combs and Snygg,
Erich Fromm , Arthur Jersild, Abraham Maslow and Carl
Rogers.

Phenomenology which has its roots in philosophy, begins
with the simple proposition, that all human knowledge is
based upon experience - not only of empirical objects, but
the psychologically more relevant lived experience. Further-
more, phenomenology suggests that this experience represents
reality for the behaving organism.

A brief presentation of the most important phenomeno-
logical theories will illustrate each writer's contribution
to the total approach: Carl Rogers (1951), originator of
client-centered therapy has contributed an organized frame
of reference to the phenomenological approach to personality
dynamics. His developmental view of the self concept, is
worth quoting:

"As a result of interaction with the environment, and particularly as a result of evaluational interaction with others, the structure of self is formed, an organised, fluid but consistent conceptual pattern of perceptions of characteristics and relationships of the "I" or the "me", together with the values attached to these concepts..."

Furthermore, Rogers maintains that if all the sensory and visceral experiences of the individual are accepted into one consistent and integrated system, then he is necessarily more understanding of others, and is then more accepting of others as separate individuals. This concept of congruency of self is of basic value in client-centred therapy, and has later become a stimulus for research in this field of behaviour. The concept of congruency of self implies that, when the individual perceives himself as behaving in a manner consistent with his own picture of himself, he is a congruent self, who generally experiences feelings of adequacy, security and worth.

A perceptual approach to behaviour and development of self is given by the two phenomenologists; Arthur Combs and Donald Snygg (1959). They argue that each person possesses a large number of ways of perceiving himself, thus distinguishing himself among other people. The perceptions people have of themselves are not limited to description alone, but include perceptions related to feelings, attitudes, values and personal traits. These perceptions are seen by Combs and Snygg as concepts of self, which the

individual regards as part of his being. The concepts of self each individual possess form an organization of all ways an individual has of seeing himself and his private world. This organization is referred to by Combs and Snygg as the "perceived self" or "phenomenal self". In explaining the consistency of the perceived self, they think that all the concepts comprising the perceived self, have a very definite organizational relationship to each other. Like Rogers, Combs and Snygg maintain that in order to achieve an adequate self, will require that the individual develop a high degree of consistency within his phenomenal self. Like other phenomenologists, who stress the influence of social environment, they see the self as basically a social product, arising out of the experience with other people.

A closely related theory of self is Abraham Maslow's view of the actualizing self. Maslow (1954) sees the self as an essential inner core that every person possess. In his theory of motivated behaviour he sees man's ultimate need as the need for self actualization, and defines healthy psychological growth as growth toward self actualization. Maslow maintains that psychological health is not possible unless the essential core of the person - his self - is fundamentally accepted, loved and respected by others and by himself.

A very similar idea to that of self actualization, is Earl Kelly's (1952) view of the fully functioning self. He too believes that the self is achieved through social

contact, and it therefore has to be understood in terms of others.

Jersild's (1952) contribution to phenomenological thought is his conception of self as an "inner world". Jersild sees the self as a person's total subjective environment. As such, the self constitutes a person's inner world, as distinguished from the outside world, consisting of all other people and things. This unique personal world is a composite of an individual's thoughts and feelings, strivings and hopes, fears and fantasies, his view of what he is, what he has been, what he might become, and his attitudes referring to his worth. Although Jersild regards the self as a subjective phenomenon, he believes that a person is able to regard aspects of himself both as subjects, and as objects.

We may now summarize all the common assumptions and fundamental tenets held by the phenomenological theorists mentioned previously:

1) They all maintain that the self emerges from the dynamic interaction of an individual's genetic origins and his environment, or phenomenal field.

2) The concept of self is formed through the person's perceiving his continuous experiences in his private world of self awareness, and the world of people and things around him. The way a person perceives self and the world around him, means reality to him.

3) In the phenomenal field, emphasis is put upon the
social world of the individual - the influence of
significant others in his world on the formation of
his self. The self is shaped through a person's
perceptions of the reflected attitudes and judgments
of those who make up his world, and as such, the self
concept is the individual's anticipation of his general
acceptance or rejection by others.

4) As the self concept is formulated, it tends to shape
new experiences to conform to the established patterns,
thus attempting to maintain the consistency of the self
concept.

5) The interaction between the self and the phenomenal
field is of a complex nature, since it is characterized
by reciprocal influences. First, the phenomenal field of
the individual can enhance or impair development. Second,
his inherited qualities as well as perceptions of self
influence his responses to the environment, and third,
his responses to the environment, based on his self
perceptions and inborn tendencies, in turn influence the
way others respond to him. Thus a person's self perceptions
may have a dynamic role in influencing his social environment.

6) Since the self consists in part at least of the
accumulated experiences of each person, as such it there-
fore contributes to the differential uniqueness of each
individual.

7) Phenomenological theorists discuss personality in terms
of the "fully functioning person". Thus, each individual
possess an inherent tendency toward self actualizing his
potentialities.

8) As shown in all the phenomenological theories cited previously, strong emphasis is put upon developmental processes in a human being. Each of these theories sees the self concept as an organizing core of value meanings which emerges gradually through experience, and is modifiable at any time during life.

A large number of methods have been devised to
measure or estimate the self concept. None of them
captured the idea in its entirety, but most seem to
embrace enough of it, to demonstrate that the self
concept is an important personality variable.

The most popular, though not the only type of
operational definition has assumed that the self concept
can be defined in terms of the attitudes toward the self,
as determined either by the subject's reference to himself
in psychotherapy, or by asking him to mark off certain
self regarding attitudes on a rating scale, adjective
check list, etc. The widespread of instruments which have
been devised to measure aspects of self include: self
rating scales, adjective rating scales, adjective check
lists, ranking methods, questionnaires, and various Q
sort techniques.

Historically, measurement of the self concept was not
directly attempted as such, until Raimy (1948), a student
of Carl Rogers shifted the emphasis from the analytical
categorization of the "self" by outside observers, to the
self as perceived "objectively" - a phenomenological
definition. Raimy in his classic study (1948) found that
attitudes to the self, taken from clients' protocols, were
a reliable index of improvement during therapy.

Carl Rogers, (1951) who theorized the self in a phenomenological frame of reference, started together with Dymond et al. (1954) a large number of experiments on the self concept that have been followed by psychologists of other theoretical approaches. Studies involving the self concept have spread into many areas of psychological research besides the clinical field. For experimental purposes, Raimy's method of selecting self referential statements from protocols of patients, has been adapted by most experimenters for use with normal subjects, in order to measure attitudes toward self. Interested as they were in groups of subjects, rather than particular individuals, they have merely selected lists of statements, either on the basis of the frequency of their appearance in many protocols, or on a random basis. By getting subjects to rate themselves on these selected statements, they have obtained self referential attitudes from the subjects.

Lists of items used for research

1) One of the first such lists, to be employed for experimental purposes, was by Scheerer (1949). Scheerer selected 101 statements that appeared relevant for attitudes toward the self and others, using protocols from the University of Chicago Counselling Centre.

2) A second well-known list of self-referential items to be used as a Q sort technique, was selected at random from therapeutic protocols by Butler and Haigh (1954).

Their set of one-hundred self referent statements has

been most extensively used as an index of self regard,

and was employed in research on non-directive therapy,

described in Rogers and Dymond (1954).

3) The Scheerer client statements formed the basis

for rating scales constructed by Phillips (1951) and

by Berger (1952).

4) The only rating scale of attitudes toward self that

has been published, is Bills' Index of Adjustment and

Values (1958). In these experimental assessments of

subjects' self concepts, they are commonly asked to rate

the statements of items as to the degree of likeness or

truth about themselves. The scoring of Bills' index is

more elaborate in that his measure depends upon the

differences between ratings made under different instructions.

First, the subject is asked to rate himself according to

the way he sees himself as being, second, the way he

accepts his self rating as satisfactory, and third, the

way the self is rated as wishing to be.

5) Allport and Odbert (1936) produced a list of 17,935

traits. In 1946 Cattel factorized the Allport list, and

produced a list of 171 trait variables.

6) From Allport's trait list Gough (1955) listed 300

adjectives, for his adjective check list measure.

The method of selecting items or statements from

protocols of patients undergoing therapy, and then using

these as test items for unrelated groups of normal subjects,

is strongly criticized by Crowne and Stephens (1961), in their

critical review of self evaluative measurements. Crowne and Stephens argue that the items selected, should be a representative sample of self referential statements of the population to be studied, which in most cases are normal subjects. These authors suggest that perhaps what is required ideally for the phenomenologist is that the subject generate his own list of self descriptions, and the values he attaches to them. They think that Kelly's (1955) Role-Construct-Repertory-Test appears to fit this model. However, to get each subject to produce his own sample of self statements, is suitable only for clinical individual use. But when the main purpose is comparison between subjects, this task becomes practically impossible.

Crowne and Stephens suggest therefore an optimal solution to the sampling problem: 1) It would be possible to achieve some degree of representativeness in the item-sampling, if the items are selected from a more strictly defined universe of self-reference statements. 2) In this case, the definition of the population is properly referable to the theory in which the self-concept construct is embedded. That is: one should be able to deduce from the theory the nature of items to be sampled.

This methodological notion is of paramount importance in the present study, since the problem of the representative-ness of item sampling was considered carefully in that:

1) A more strictly defined universe of self-referent statements was defined.

2) The sample of items selected refers to some general theoretical assumptions. Thus: The phenomenological theory of self-concept development was taken as the theoretical basis, which governed the selection of items.

3) Furthermore, adopting the phenomenological emphasis put upon the uniqueness of the self image, an attempt was made in the present study to combine nomothetic and idiographic procedures, in order to achieve a better understanding of the processes involved in the development of children's self concept. Three different methods of measuring aspects of the self concept were therefore employed and compared: 1) Interview. 2) Q sort technique. 3) Kelly's Repertory-Grid technique.

It appears that regardless of the main theoretical views held by experimenters, whether or not they accept main Rogerian theory, they all accept the main empirical definition of the self, for purposes of investigating the self concept - that from a subject's ratings of a set list of self referential statements, an assessment can be made of the concept they hold of their individual "self". As to the interpretation of this assessment, and the meaning assigned to the various measures derived from it, such agreement is unfortunately not the case.

Such lack of agreement in interpretation is
particularly true of the various measures of <u>self</u>
<u>acceptance</u>. This measure has been stated to have a
constant relationship with measures of psychological
adjustment.

One possible reason for the lack of agreement as
to the meaning assigned to self acceptance results,
might stem from the variety of terms used: self
acceptance, self esteem, self satisfaction - being
only three of them. Different experimenters have used
different terms to describe the same variable, or
different experimenters have used the same term to
describe different variables.

The second possible reason for disagreement stems
from the widespread of procedures employed: again,
different experimenters have used different self concept
measures, with consequent differences in their derived
measures of self acceptance.

A brief statement of the main measures may illustrate
the variety of methods used:
1) In clinical research the Butler and Haigh items,
employing the Q sort technique, have been most extensively
used. The Q sort technique has later become a common method
for studying self acceptance. In a typical Q sort method,
the statements or items are printed on cards, and sorted
by the subject into piles. The Butler and Haigh items were
to be sorted by the subject into nine piles, either according

to the degree they were like him, or unlike him, or
(in another sort) according to the degree he would most
like to be, or (in a third sort) according to the degree
to which the statements characterize the "ordinary person".
As is usually the case in Q sort techniques, the subject
is forced to assign a certain number of items, to each
of the piles, in order to produce a forced normal
distribution. Butler and Haigh obtained an index of self-
acceptance from the discrepancy between the "real self"
and the "ideal-self" scales, sorted by the subjects.

2) Dymond (1955) obtained an adjustment score, from
Butler and Haigh's items, by finding how many of the 74
items relevant to adjustment are placed on the "like me"
or "unlike me" side of the distribution, as respectively
appropriate. Similarly, it is the size of the self-ideal
self correlation, which is assumed to be an index of self
satisfaction, i.e. - maladjustment, as personally experienced
by S.

3) The only published self rating scale, is Bills' (1958)
Index of Adjustment and Values (I.A.V.), mentioned
previously. In his measure, self acceptance is taken as
the amount of agreement, shown by the subject, between the
way he sees himself as being, and the way he rates himself
as accepting his self rating. In addition, a second measure
of self-ideal self discrepancy is taken by comparing the
differences in ratings, between the way the self is
perceived in reality, and the way it is rated as wishing
to be.

4) Still, another adaptation in the use of a rating scale was made by Brownfain (1952), deriving a measure of what he termed the stability of the self concept. Brownfain got subjects to rank themselves on 25 words and phrases, each describing a different area of personality adjustment. His subjects were asked to make their ratings twice; once with an optimistic frame of reference, and once with a pessimistic one. The degree of congruence between the two ratings, was called by Brownfain the stability of the self concept. The component in Brownfain's test which contributed mostly to "stability", was the "negative" self concept: (the rating under a pessimistic frame of reference). Brownfain's measure seems to be useful in self-acceptance research, since two separate scores could be combined, one from the optimistic ratings and one from the pessimistic ones. Such attempt was made by Cowen (1954) who used a modification of Brownfain's technique. He compared subjects with extremely high and extremely low negative self concept ratings. He found that much more variance was contributed to the stability index, by the variance of the negative self concept ratings, though some significant variance was contributed by the positive ratings as well.

5) A somewhat different psychometric model, has been suggested by Gough (1955), in which self-acceptance is inferred from the ratio of "favourable" self descriptive statements, to the total number of self descriptive statements made by the subject. In this model the adjectives or statements are characterized by the notion of social

desirability, which is independently judged by the experimenter. Regardless of which set list is used, every choice of every subject is given a positive, neutral or negative value. Ordinarily these are added algebraically, and the resulting figure is thought of as an index of self-acceptance. This type of score is criticized by Wylie (1960). She argues that to be consistently phenomenological, a self concept theorist must be concerned with the relationships between the phenomenal self, and his phenomenal ideal self, rather than relating the subject's phenomenal self to an objective judgment or cultural stereotype of the ideal self. The assumption that the subject's phenomenal ideals for themselves are equivalent to culturally accepted standards for the ideal person, is not empirically safe, but rather a hypothesis, which needs to be presented for systematic investigation.

6) As mentioned previously, the most frequently used technique for self-acceptance measurement, is the Q sort technique (which has already been described in a previous section). The most typical self-acceptance measure is obtained from the discrepancy between self and ideal self ratings. This method was employed by many investigators, to mention the most important studies: Rogers and Dymond (1954), Butler and Haigh (1957), Block and Thomas (1955) and Turner and Vanderlippe (1958).

The obvious differences between the various measures in item selection, test procedure, scoring technique and the implied theoretical meanings of self acceptance arouse an important problem, as to the degree of equivalence between all these tests. With regard to this problem, Crowne and Stephens (1961) criticize strongly the tendency of experimenters in this area to assume that these tests , characterized by a diversity of both theoretical and psychometric methods, can be interchangeable. These authors argue : "tests of self-acceptance which are based on different construct systems, and in the development of which different procedures and items have been employed, are not equivalent in the absence of empirical demonstration of their relationships." (Crowne and Stephens, 1961 p. 108).

In fact, this methodological problem of the equivalence of instruments, is not confined to research in self-acceptance, it is rather common in psychology to treat different instruments measuring some other global concepts (e.g. adjustment, or neuroticism) as equivalent, and therefore interchangeable. An important issue for research is therefore to investigate the empirical relationship between the various self acceptance tests,which are available. In this respect, several attempts have been carried out:

1) Bills' (1951) reported a correlation of .24 between the self-concept score derived from the Index of Adjustment and Values, and the "self score" of the Phillips Attitudes Toward Self and Others Questionnaire (1951). Whereas the correlation found between Bills' Self-Ideal self discrepancy, and Phillips' "self score", was .56.

2) Omwake (1954) found a correlation of .55 between Bills' I.A.V. self-acceptance score, and Phillips self score, and a correlation of .49 between the self-acceptance I.A.V. score and Berger's self acceptance scale (Berger, 1952).

3) On the other hand, Cowen (1956) found no correlation between Brownfain's self rating inventory scores, and the scores obtained from Bills' I.A.V. measure.

The contradiction between results indicate that prediction of scores on one of these measures, from scores on another, may be accompanied by a wide margin of error. It seems therefore possible that differences among self-acceptance tests result from the sampling of relatively non-overlapping behaviours by the various tests.

In this respect, some methodological implications which are relevant for the present study, may be borne out:

1) It must be recognized that the equivalence of various self-acceptance measures is an empirical problem, on which the very few studies cited previously, provided only a suggestive answer. Correlations between Q sorts and other techniques do not appear to have been tried. The correlations

obtained though not high, are positive, and while these findings are suggestive, they cannot supply us with a conclusive answer.

2) Even if evidence suggested that the various tests measure relatively non-overlapping behaviours, Crowne and Stephens' conclusion that "one is without means of measuring self acceptance as phenomenologically defined" - does not necessarily follow. The tests could all correlate poorly, and still reflect highly differential aspects of the phenomenal self. However, their criticism suggest that some important methodological considerations must be taken into account, in studying self-acceptance.

1) When comparing results, or generalizing from one self-acceptance situation to another the experimenter should be aware of the differences between item-selection procedures, item content, type of response elicited, and test format, as well as the theoretical assumptions governing the design of the various tests.

2) One may assume that certain areas of the subject's self evaluation, are going to be more relevant in some situations than in others. It is therefore suggested that in studies where self concept estimates are to be used to predict behaviour in more specific situations,(for example learning situations, or social situations), a test which concentrates on closely associated areas of self evaluation would be more profitable.

3) Along the same lines of thought presented in Crowne and Stephens review, it seems that when an experimenter is able to present both his self acceptance measure and the hypotheses

it intends to measure, as based on some well defined
theoretical considerations, this confusion may be
reduced, since comparisons with other studies and
generalizations would be made only on the basis of the
same theoretical background.

In summary, from what has been discussed here, it
seems that no single definition of self acceptance would
be accepted by all who use the term. However, the
phenomenological view of Carl Rogers seems to represent
a common point of departure: his concept of self acceptance
is derived from his definition of the self concept, referring
at least empirically to the extent to which this self concept
is congruent with the individual's description of his "ideal
self". A somewhat different, less frequently used model,
uses as an index of self-acceptance the proportion of
"favourable" items, from the total number of items presented
to the subject.

It has already been pointed out that self acceptance
was suggested by many theorists to bear a strong relationship
to adjustment. (In fact, some see self acceptance as an
equivalent measure of adjustment, e.g. Dymond 1955), since
they believe that the subject's self-ideal self discrepancy
indicates his self satisfaction and happiness, or his
adjustment to life. Many attempts have been carried out to
investigate the relationship between self acceptance and a
great many of other personality areas and behaviour situations.

All these investigations are based on the assumption that the self concept, though essentially private, influences and is revealed by most of a person's behaviours. If this is correct, poor self acceptance should be reflected in other behaviours that represent personal and social maladjustment, whereas satisfactory self acceptance should be associated with good adjustment.

In the following sections, studies concerning the relation between self acceptance and other dimensions of personality and behaviour, which seem to be relevant to the present investigation, will be discussed under the following categories:

1) The relation between self acceptance and adjustment.

2) The relation between self acceptance and sociometric status, peer interaction and effectiveness in group situations.

3) Self acceptance and insight into others.

4) Personal versus Social orientations as dimensions of the self concept, and their relation to both self acceptance and acceptance by others.

The Relation Between Self-Acceptance and Adjustment

Studies concerning the relationship between self acceptance and adjustment are not in complete agreement. The disagreement does not reflect merely the contradictory results, but rather refers to the theoretical assumptions concerning this relationship, and is therefore both of a theoretical and empirical nature.

As already discussed in previous sections, client centered therapy implicitly hypothesized a _linear relation-ship_ between self acceptance and adjustment; high self-acceptance is related to good adjustment. Rogers and Dymond (1954) have demonstrated that adult self-acceptance tend to increase with psychotherapy. Indeed they regard self-acceptance as an indicator of successful therapy. However, other studies, have suggested that extremely high self-acceptance could be a result of a defensive self-image, and therefore indicate maladjustment on the part of the client.

In clinical research – a series of studies were carried out by Butler and Haigh, at the University of Chicago Counselling Centre. Their hypothesis was that successful therapy will increase satisfaction with one's self. Using a Q sort technique, clients' self-ideal self discrepancies were measured before and after therapy. They found that self-ideal self discrepancy decreased after therapy, proving that during therapy more congruence between self and ideal self was achieved, indicating better adjustment.

However Dymond (1955) testing clients who were
waiting for psychotherapy, found that during the waiting
period, clients increased their self-ideal self congruence,
although ratings based on their T.A.T. protocols, taken
during the same period - did not show any change. Dymond
explains this surprising result as due to an increase in
neurotic defense. Marshall Lowe (1961) attacks her
conclusion in pointing out that the same behaviour pattern
might be the basis for changes during therapy as well!

Along these lines of thought Taylor (1955) devised a
Q sort technique, dividing between positive and negative
statements. He found an increased self-ideal self
congruence, after subjects made repeated sortings both for
self and ideal self. Taylor concluded that self introspection
without therapy results in increased positive attitudes toward
self.

The same result was found by Engel, studying the
stability of the self concept among adolescents, during a
period of two years. As Marshall Lowe concludes - from the
point of view of psychotherapy, there is no complete
assurance that the cognitive self acceptance as measured
by a Q sort technique, is indeed related to a deeper level
of self integration, that client-centered therapy intends
to achieve. These findings may be seen as a drawback, only
with regard to clinical settings, particularly from a client-
centered therapy point of view. However, with regard to
research, the type of relation between self acceptance and

adjustment is of both theoretical interest and empirical value, and must be treated as a hypothesis. In this respect, a number of investigations has been carried out with normal subjects, in which a linear relationship was predicted between self acceptance and adjustment. The following studies support a linear relationship between the two personality dimensions:

1) Calvin and Holzman had college students rank themselves on seven personality traits. They found that self depreciation was related to high scores on the M.M.P.I. They concluded that the tendency to enhance the self is inversely related to maladjustment.

2) Turner and Vanderlippe (1958) compared college students high in self-ideal self congruence, with students low in this variable,(as measured by a Q sort technique). The two contrasted groups were compared on a number of adjustment indices. The authors found that the composite picture of students showing high congruence, is that of one who participates more in extra curricular activities, has a higher scholastic average, is given higher sociometric ratings by his fellow students, and receives higher adjustment ratings by both the Q adjustment score.(Dymond's score based on 74 items taken from Butler and Haigh's measure), and certain traits measured by Guilford-Zimmerman Temperament Survey.

3) Hanlon, Hofstaeter and O'Connor (1954), compared the results of high-school juniors on the California Personality Scale, with the degree of self-ideal self congruence.

They found that the closer the congruence, the better the
adjustment on the personality scale.

4) Cowen (1954) found that low self ratings on Brownfain's
negative self-concept scale, were related to high scores
on the California F scale, showing that negative self
attitudes correlate with poor adjustment.

5) Smith (1958) compared congruence between self-ideal
self Q sorts, with scores on Edwards P.P.S., Cattel's 16
personality factors and measures of average mood.
Obtaining positive correlations between self-acceptance
and the three adjustment measures, Smith also came to the
conclusion that a positive self-concept is indicative of
good adjustment.

In a number of studies the linear relationship between
self acceptance and adjustment was borne out using children
as subjects:

1) Lipsitt (1958) got a large number of fourth, fifth and
sixth-grade boys and girls (about 300 subjects), to indicate
whether each of a series of adjectives was "very like them"
or "very unlike them". They were then asked whether each
of the traits was personally desirable or undesirable.
Lipsitt then compared the obtained self-acceptance index
of each subject, with his score on an anxiety test. He
found that children with poor self concepts were significantly
more anxious, than children with high self-acceptance.

discrepancy) was obtained. Self satisfaction scores were
then correlated with the subscales of the M.M.P.I. Then,
a subscale called "social maintenance" has been constructed
from a number of M.M.P.I. items. People with mental
illness who score high on this scale, have been found to
be better prospects for rehabilitation into society, than
those who score low. Then Block and Thomas correlated
self-satisfaction scores with self-maintenance scores.
They obtained a negative correlation between the two
measures: the highly self satisfied were scored lower
on "self maintenance" than subjects who were more critical.
Then the authors extended their analysis, dividing their
subjects into three groups:

1) those who were extremely satisfied with themselves,

2) those who were moderately satisfied with themselves, and

3) those who were extremely dissatisfied with themselves.
Having these three groups, they investigated the differences
in type of self criticism between them. Block and Thomas
concluded that the highly self-satisfied emphasize "social
appropriateness over interpersonal intimacy", and wish to
control their expressiveness and spontaneity, but at the
same time be accepted and popular. The authors conclude
that "their uneasiness with the affective life is stressed
by their preference to be ideally less sentimental, less
dependent and less jealous than the middles". This type of
response is no doubt one of a defensive and suppressive type.
The highly dissatisfied students were judged by the authors
to be "confused, overly introspective, despairing, and with
unrealistic contradictory aspirations", whereas the "Middles"

appeared to be reasonable and accepting in their self
evaluations. They were able to accept ambiguous emotions,
and were comfortable in their social relationships with
others. This study suggests a curvilinear relationship
between self satisfaction and adjustment, in contrast to
the linear relationship discussed previously. Thus, both
excessive self satisfaction, and extreme self-dissatisfaction
appear to be undesirable psychological attributes.

A similar study has been carried out by Chodorkoff
(1954). He also found a curvilinear relation between
adjustment, and self-ideal congruence, using 30 college
men as subjects. But his findings are in opposition to
those obtained by Block and Thomas, in that both the high
and the low self satisfaction men scored higher on
adjustment ratings, than the ones in the middle self-
acceptance range. These findings are contradictory, and
rather confusing. There is no way to resolve this confusion.
We can only conclude that they have resulted from the
different methods and the different populations used.
Block and Thomas employed a standardized paper and pencil
test, to measure adjustment, whereas Chodorkoff used the
T.A.T. and Rorschach inkblot test as his basis for inferring
adjustment. An attempt to compare these two studies which
differ so largely both in the methods employed and in their
theoretical basis, would be open to the kind of criticism,
which Crowne and Stephens make of attempts to compare the
essentially non-comparable data.

One study demonstrate a curvilinear relationship between self acceptance and adjustment in children: Taylor and Coombs (1952), in a study of sixth-grade children, advanced the following hypothesis: well adjusted children should be more accepting of unflattering things about themselves, than poorly adjusted children. To test this hypothesis, they got the children rate themselves on the well-standardized California Test of Personality. Analyses of boys and girls were made separately. Then Taylor and Coombs divided them into well-adjusted,(scored above the median) and poorly adjusted,(scored below the median). The subjects were then asked to report whether 20 undesirable statements did or did not characterize them. It was assumed that although the 20 statements are unflattering, they are universally true. It was found that the well-adjusted boys admitted a significantly higher number of unflattering self appraisals than the poorly-adjusted boys. The same results were obtained in the sample of girls. Thus, willingness to admit derogatory things about oneself, is positively, not negatively related to adjustment.

These results are in the line with the assumption that honesty about oneself, which may also be thought of as accuracy of self concept, is an important aspect of self-evaluation, and may well be related to good adjustment. It is believed, that in order for a subject to be honest and accurate in his self-evaluation, he must be able to accept and admit self-derogatory statements, as well as

self-flattering ones, and that this type of moderate self-acceptance represents lack of defensiveness, and not self rejection.

Summarizing all the findings discussed in this section, we may conclude that the relation between self-acceptance and adjustment is not a simple one. On one hand, a linear relationship is demonstrated, in studies carried out with clients undergoing therapy. (Rogers and Dymond), and in other studies on students and children. On the other hand, studies have demonstrated a curvilinear relationship to exist both in adults and children. One could argue that the hypothesis of a curvilinear relationship between self-acceptance and adjustment, put forward by both Block and Thomas and Taylor and Coombs, is more fruitful, in that in fact it can predict all the data. Two reasons are given: 1) Results by Rogers et al. could also be predicted from a curvilinear relationship, if it were assumed that their subjects, all clients undergoing therapy were all showing very low self acceptance before therapy. However, after the psychotherapy period, when their self-acceptance was found to be increased, it was not in fact very high, but reached the moderate, well adjusted ranges of self-acceptance. 2) In the curvilinear model the problem of discriminating between highly self-defensive subjects (scored high on self-acceptance), and well-adjusted subjects, does not exist, since this model differentiates successfully between high self-defensive subjects (poorly-adjusted), moderately self-accepting subjects (well-adjusted), and self rejecting subjects (poorly adjusted).

Still, the evidence of the curvilinear relationship
is not clear, and more research is needed to explain why
in some cases a linear relationship was obtained with
both college students - Smith, Turner and Vanderlippe,
and with children; Hanlon, Hofstaeter and O'Connor, Lipsitt,
Coopersmith. Particularly in the area of child development
more evidence is needed, since it could be argued that in
children, high self-acceptance might not indicate poor
adjustment.

In the present study therefore both possibilities
were considered, and the data obtained was statistically
tested for its linearity, versus its curvilinearity.

In summary, from previous findings reported and
discussed in this section, it can be concluded that most
research evidence indicates that people who are highly
self-critical, that is - who show a large discrepancy
between their real self and their ideal self, are less
well-adjusted than those who are at least moderately
satisfied with themselves.

The Relation Between Self-Acceptance and Acceptance
by Others

Since sociometric techniques have been extensively
used in the studies to be described in this section, and
were also employed in the present investigation, a brief
review of these techniques is presented, before describing
relevant studies, in which they have been included.

Sociometric Status and Social Interaction

Sociometric Techniques for assessing interpersonal
relationships, the social status of individuals, and the
informal organization of groups, was devised originally
by J.R. Moreno (1934). These techniques are basically
simple, and may be used to elicit responses, from members
of a given group, concerning the positive, neutral and
negative relations, existing within the group. A
sociometric measure consists in making each individual
in a group to state: with whom among the members of the
group he prefers to associate for specific activities,
or in particular situations. From the answers obtained,
the choices each individual receives, are added to give
him a sociometric score.

Sociometric measures provide a means of representing
an important part of the individual's social environment,
as perceived by the subject. They also provide an
externalized view of the same events through the responses
of other members of the group. Moreno's own work established

that these techniques could normally be applied to children
aged seven and upwards. Later studies have set the lower
limit to be four-five years. Northway (1943), trying the
technique with nursery-school children, found it unsuitable
for this age group. However, later investigators, e.g.
Marshall and McCandless (1957), have modified the technique
to be applicable with this early age-group.

One of the most frequent modifications of the technique
is in the limitations upon the number of choices, the
individual may make. It has been argued that increased
criteria and choices, increase the psychological difficulty
of the task. However, it has been suggested that the
criteria should cover wide areas, and different aspects
of life within the group, and that the number of choices
should be that which the individuals will make without
undue urging. Northway suggested that for usual sociometric
situations, tests using three or four criteria, and allowing
three choices be used.

Another aspect of sociometric method is the question
of scoring. Some investigators - (Campbell, Wright and
Eriths, 1961), concluded that weighted scores, according
to order of choice, were a preferable index of popularity.
However Bronfenbrenner (1945) points out that weighted
scores increase the amount of error of the measure.

Moreno has established that since spontaneous social
relationships are those which sociometric techniques are
designed to measure, formal groups should not be assessed
in this way, if they are likely to include subgroups which

are spontaneously separated from each other. Moreno's findings tentatively show that among pre-adolescents, informal groups were predominantly of boys or of girls separately, rather than being of mixed sex. In studies of preadolescents in a mixed sex classroom setting, therefore, a procedure which studies boys and girls in separate groupings, is essential in order to accord with the informal social structure.

Since the classroom is an artificial rather than a spontaneously formed group, it has to be considered that classroom group measurement might exclude many members of the childrens' natural social grouping.

One study has set out to test this hypothesis: Croft (1951), in a study of secondary modern school class, allowed the children if they wished, to choose individuals from other classes, as well as their own class. Croft found however, that only a very small percentage of boys did so, and concluded that restriction of choices to the formal class group, is not likely to yield different results, than those of spontaneously formed groupings. However, this finding has to be demonstrated with younger children as well.

Relatively, there has been very little modification in the original sociometric procedure, as established by Moreno. However, a number of elaborations and modifications has been added.

One of the more important elaborations concerns the sociogram, which is a diagramatic device for summarizing the choices and rejections among members of the group. In the sociogram "overchosen" people are shown in contrast to "isolates". Similarly, the diagram taps mutual pairs, which are reciprocal choices between individuals, as well as "chains" - larger units of persons, connected by mutual choices.

A similar device has been the matrix, which is a N X N table, in which N refers to the number of subjects in the group. From the matrix, the ratio of mutual choices of an individual, divided by the total number of choices made by him, may be obtained.

A number of investigators have contributed to scoring procedures and statistical analysis of sociometry.

Proctor and Loomis (1951) developed an index of social distance, based upon the reciprocal relation, existing between each pair of individuals in the group.

Jennings (1950) identifies one standard deviation above the mean number of choices received, as overchosen, and those one standard deviation below the mean, as underchosen, for comparison with other size groups.

Bronfenbrenner (1945) offered a statistical analysis based on probability. He suggested that the distribution of indices provided the upper and lower limits of variation, beyond which phenomena may be judged to be statistically significant.

Studies of the reliability and validity of the
sociometric technique, have generally shown that these
are adequate, provided that the conditions related to
suitable groups are fulfilled. In this respect, a
time-sampling observation technique was devised by
Marshall and McCandless (1957) as an attempt to validate
sociometric scores used with preschool children.

Since the time sampling observation technique has
been modified for use in the present investigation, a
brief description of the method seems relevant: By this
technique it is possible to record children's interactions
in free play situation in a systematic way, and to derive
friendship indices from these records. This method has
earlier been suggested by the Hyde and York technique (1948),
for studying social interactions of adult psychotics.

In Marshall and McCandless modification of the method,
it was possible to make a record of four qualitative aspects
of social interaction, for an average of 3.5 children, for
each of 1114 two-minute observations.

Basically, a complete two minute observation record
is given by preparing a time-sampling diagram in which
names of the subjects to be observed are written in separate
diamonds, where each of the four sides of a diamond represents
one category for observation (e.g. associative play).
During the two minutes of observation sampling, the experi-
menter draws lines between the various sides of the diamonds,
i.e. the different social behaviour categories, according to
the actual behaviour of the subjects under obersation.

Marshall and McCandless found this technique to be significantly correlated to sociometric indices. The technique appears highly flexible, in that the number and type of observational categories may vary, according to the study requirements, and therefore lends itself to a large range of content, according to the specific needs of subjects and situations which are to be studied.

Sociometric Status as a Measure of Social Adjustment

One of the measurement possibilities inherent in sociometric score, is the estimation of the effectiveness with which an individual interacts with other members of the group.

This implies that sociometric techniques yield a measure of the success or failure of the individual's interaction, or his social adjustment.

One of the aspects of social adjustment is the degree of acceptance of the individual by other members of the group, or his popularity. Acceptance by others is obtained from the total choices of an individual, made by the other members of the group. Similarly, one aspect of social maladjustment is the degree of rejection of the individual by the other members of the group, which is obtained from the total number of rejection scores.

Lindzey and Borgatta (1954) warn that: "although an individual's social adjustment may be considered to bear considerable relation to his personal adjustment, the two variables are not the same. In particular cases there may be striking discrepancies between them". (Lindzey and Borgatta 1954, p.427). The authors give an example of an individual whose basis of social success may be the lack of personal security, that makes it impossible for him to face rejection or loss of love.

A number of early investigations have been designed to explore the relation among children, between sociometric status, and general dimensions of personality. Since these investigations are believed to have borne out some important conclusions as to the relationship between personal adjustment and social adjustment, and more specifically to the relation between self acceptance and acceptance by others, they will be described in more detail in the following section.

In the first section of this review, some theories
which emphasize the influence of social environment on
the formation of the self-concept, have been presented
(Cooley, Mead, Sullivan, Rogers, Combs and Snygg, and
others).

In the last three decades many investigators became
interested in studying the influence of "significant
others" in the child's life, upon his personality. Those
who adopted the phenomenological ideas, were particularly
interested in studying the types of relationship between
significant others and the self-concept, or self-evaluation.
The basic assumption governing all these studies is that
good interpersonal relationships are essential for both
good adjustment and for the development of self-acceptance.
However it is surprising that in an area where the early
stages of self-concept formation are strongly emphasized
by most theories, the majority of studies has been carried
out with adults (mainly college students), rather than with
children. Only in recent years investigators have become
interested in the processes involved in self-concept
development.

Although the main purpose of the present study has
been to investigate the relation between children's self-
acceptance and their social position in the peer group, it
is assumed that the relationship between personality factors

and group functioning is complex, and peers' acceptance
versus self-acceptance is only one facet of it, among
many others. Therefore, studies concerned with the
relation between other personality factors and group
functioning, which seem to indicate some relevant
implications for the present study, will also be
described.

It has already been mentioned that the more early
studies attempted to correlate peer-acceptance or rejection
with general personality factors or traits. These studies
were particularly concerned with traits which may facilitate
group acceptance, such as friendliness, outgoing behaviour
and sociability.

Northway (1944) was mainly interested in the personality
patterns of children, who were least acceptable to their
peers (whom she called "outsiders"). She concluded that
from both observing and interviewing these children, the
most apparent fact was the variety of personality character-
istics and patterns of behaviour shown by the "outsiders".
The only factor which they all had in common was poor
acceptability. However, Northway noticed that some children
in this group did show a similar characteristic pattern.
These similarities led to a sub-classification of "outsiders".
According to Northway, socially isolated children may be
classified into the following three categories:-

1) <u>Recessive children</u> - who are typically listless,. show
lack of vitality, usually under-developed physically,
below normal in their intelligence, careless in appearance,
and lacking an interest in people.

2) <u>Socially uninterested children</u> - do not appear to
make any effort in either formal class activities, or
social affairs, often quiet and retiring. But they
are much better developed in their care of person and
possessions, and they have interests, which are
personal rather than social.

3) <u>Socially ineffective children</u> - differ completely
from the former groups, in that they are often noisy,
rebellious, delinquent in classroom affairs, boastful
and arrogant. To Northway they appear to be
diametrically opposite from recessive children. They
have in common only the lack of acceptance by their
peers, however, so called "ineffective" children have
vitality, and are keenly interested in social affairs.
Northway explains their failure in the establishment of
good social relations, in that they seem to make rather
ineffective, aggressive and naive attempts to be accepted
and recognized by the social group.

Although Northway did not investigate self-evaluations
in these groups, from her typology it seemed possible that
these three groups might have shown differences in their
self-acceptance patterns. Some hints are included in her
typology, which may suggest that a curvilinear relationship
between self-acceptance and peer-acceptance could predict

such diverse patterns of social functioning. While the
first type of "recessive" children might be associated
with low self-acceptance, having experienced failure
and ineffective behaviour in most areas of life, the
other extreme of socially ineffective children might
be associated with extremely high ranges of self-
acceptance, implying defensive, unrealistic, and
repressive self appraisals. Of course such speculation
can only be verified by further investigation directed
to this end.

Another early investigation, carried out along similar
lines, was one by Bonney (1943), which analysed differences
in personality patterns between five very popular and five
very unpopular children. These ten children were selected
from a group of 150 primary-school children, after a follow
up of five years (from the second to the sixth grade).
Popularity and unpopularity were determined sociometrically.
Various personality factors of these children were carefully
studied by the following measures:-

1) I.Q. measures obtained from the California Test of
   Mental Maturity and Kuhlman-Anderson Tests.
2) The decile standing in academic achievement.
3) Decile ranks in personality self-rating
   (California Test of Personality).
4) Self Rating Scale, consisting of questions on self
   and social adjustment. Self-adjustment included self
   rating on self reliance, sense of personal worth,
   sense of personal freedom etc. Items of social

adjustment referred to: social standards, social skills,

freedom from anti-social tendencies etc.

5) Home-background - derived from the Minesota Home

Status Index.

6) Interest score (interests in reading, movies, games,

etc.)

7) Evaluations by teachers, school principals, author's

observations.

8) A few anecdotal records from the teachers.

A striking fact, reported by Bonney, is that all the

popular children have rated themselves considerably lower

than known facts about them justify.

Bonney's analysis of the difference in personality

factors and behaviour between the popular and unpopular

children, includes ten different characteristics obtained

from the eight measures taken:

1) <u>Physical Health and Vigor</u>. Since differences in this

respect are not marked, Bonney concludes that physical

health conditions do not explain differences in social

acceptance.

2) <u>Conformity and Group Identification</u>. Popular children

show significantly more conformity than the unpopular

ones. While the popular children adapt to the group,

the unpopular either play a lone hand, or fight back

by overt aggression, and attention demanding behaviour.

3) <u>Emotional Stability and Control</u>. Bonney found a marked contrast between the two groups. Popular children are characterized by stability of feelings towards others, no extreme anger or fear feelings, calm, patient, tranquil, etc. In contrast, the very unpopular children show poor social insight, and "a need for emotional release expressed into inappropriate channels."

4) <u>Arousing Admiration</u>. While all the popular children win the respect of the group, there is no one of the unpopular ones who arouse admiration. As a result, Bonney points out that unpopular children lack pride, and self regarding sentiments.

5) <u>Social Aggressiveness</u>. The two groups differ in the quality of social aggressiveness. While the first group shows constructive aggressiveness for social activities, the latter group is aggressive only in a destructive way.

6) <u>Adaptability and Tolerance</u>. Popular children are adaptable and tolerant, whereas non popular ones are primarily indifferent and more ego-centric.

7) <u>Dependability</u>. Popular children are more dependable, whereas unpopular children are typically lacking a sense of obligation.

8) <u>Dependence on others for Assistance and Emotional Support</u>. Popular children utilize the knowledge and skills of others, thus gaining more efficiency and effectiveness, whereas unpopular children are incapable of fellowship and democratic behaviour.

9) <u>Being a Source of New Experiences to Others.</u>   The
   popular children possess a sense of humour, they are
   amusing, witty, charming, etc.   Their capacity to
   provide new experiences to others is most strikingly
   shown in their capability to dramatize.   In contrast,
   the unpopular children are more rigid and boring, and
   none of them has ever participated in dramatization.

10) <u>"Social Service" Motivation and an Attitude of Good
   Will towards Others.</u>   Popular children are described
   as helpful, considerate, generous, idealistic.   These
   five children are characterized by an attitude of good
   will towards others.   The author points out that the
   two groups are most distinctly separated on this trait
   syndrome, than on any others.   In contrast to the
   popular group, the unpopular children are lacking an
   attitude of good will toward others.   Instead, they
   are more likely to show jealousy and resentment.

Bonney points out that despite the considerable
differences between the groups, there is also an overlapping
between the individuals, and the total picture is one of
unique patterns, rather than types.   In addition, though
all the figures suggest that the very socially successful
children do have some advantage in home background, the
two groups are not significantly differentiated on this
basis.

Bonney's study shows that no single trait is of over-riding importance in children's popularity with their peers. What contributes to popularity is personality structure as a whole, and the "total impression" one makes on others.

In a later investigation by Bonney and Powell (1953), the same type of relationship was studied with two groups of younger children (first grade), employing the same procedures. In this study 25 various categories were differentiated. Evidence showed that only five of the 25 behaviour categories yielded a statistical significant difference between the two extreme groups. These categories were:
1) conformity to classroom situations, 2) cooperativeness and group-participation, 3) smiling, 4) voluntary contribution to the group, 5) likeliness to be alone during play and activity periods.

The authors point out the striking findings, that from the standpoint of observable social behaviour, the two extreme groups were much more alike than they were different.

Summarizing the studies described in this section - although no single trait was found to determine children's popularity with their peers, research presents a consistent picture of those traits that covary with acceptance: peer acceptance is associated with such characteristics as friendliness, sociability, social visibility and outgoingness. Sociability and peer acceptance are presumed to be reciprocally related: sociability may lead to acceptance, but acceptance

undoubtedly inspires greater sociability. More experimental

methods, and evidence of a manipulative type are needed to

throw more light on the causal relationship between these

variables.

Self Acceptance and Acceptance by Others

On the basis of the phenomenological theories
discussed in the first section of the literature review,
from the very early stages of child development, the
relation between self-evaluation and acceptance by others
is assumed to be reciprocal: Acceptance by others, and
warm interpersonal relationship with significant people
in the child's immediate environment, will maintain and
enhance his self regard. In turn, it is believed that
high self regard will lead to better ability to get
along with others, thus gaining more acceptance from them.
On the basis of this notion, a number of investigations
have attempted to investigate the relation between indices
of self regard and sociometric indices. Most investigators
used adults as subjects, however, research with children
will be presented here in more detail. Some of the studies
in this area have yielded evidence in support of a positive
association between the variables, and others have not.

     The following studies reported a positive correlation
between self acceptance and sociometric status:
1) Brownfain (1952) in a sample of undergraduate and
graduate students, found that "stability" of the self
concept (congruence of the "optimistic" and "pessimistic"
attitudes toward self - as described previously), was
positively associated with knowing and being known by more
person's in one's fraternity, and with being significantly
better liked, and more popular in the fraternity.

Popularity was determined by the subject's peer-ratings
on a ten-criteria scale. As pointed out previously, it
was the "negative self concept" (the unfavourable self
references), which contributed most of the variance,
thus, the negative component in Brownfain's study is
assumed to contribute mostly to the association between
the self-concept and sociometric status.

A similar finding with college students is reported
by Turner and Vanderlippe (1958): subjects with high
self-ideal self congruence on the Butler and Haigh items
(as contrasted with subjects with low congruence), ranked
higher on all eleven components of a sociometric score,
obtained from dormitory peers.

In contrast to this type of evidence, some other
studies with adults did not bear out the expected
relationship.
1) McIntyre, attempting to relate self-acceptance to
sociometric status in students, found no relation between
sociometrically measured acceptance by male subjects in
a college dormitory, and self acceptance based on Phillips
rating scale (reviewed previously).
2) Fiedler et al. (1958) found no relationship between
self-esteem, as measured by a twenty-items semantic
differential instrument, and sociometric status.

Fey (1955) made a rather refined analysis of his data, and his conclusions throw some more light on the more general findings. His subjects were 58 third year medical students. Fey obtained from his subjects data using the four following measures:

1) measures of self-acceptance, 2) acceptance of others, 3) each subject's estimation of how well he was accepted, and 4) an actual estimate of popularity (sociometric status). Interestingly enough Fey found that there was no accuracy at all on the part of the subjects in estimating their popularity. (correlations between estimated popularity and actual popularity being zero). Fey then split his subjects into two groups: those who markedly overestimated their popularity, and those who markedly underestimated it (were self-derogatory). He found that the self-derogatory group was significantly more popular than the former. The subjects in this group were also significantly more accepting of others.

Fey assumes that individuals who are extremely self-accepting, but who reject others, are characterized by "defensively organized attitudes of superiority, lack of insight as to their actual social status, tend to disparage others, and consequently are rejected by others, because they are threatening to the security of other people". On the other hand, subjects with lower self-acceptance, who have high acceptance of others, are seen by the group as unthreatening, and therefore liked. As Fey concluded from his findings: The "prototypic well-adjusted person (the

one with high self-acceptance), may not appear to need friendship ... his very psychological robustness is resented..."

Fey's analysis is important, in that it may be seen as a tie between findings of both Northway and Bonney, which have been introduced earlier. Thus, we may speculate that Fey's highly self-acceptant, yet rejected subjects, introduce the same pattern of behaviour, as that shown by Northway's socially ineffective children. Since Fey's findings suggest that high self-acceptance does not indicate good adjustment, but rather implies defensiveness, unrealism and lack of insight into self and others, the findings fit a curvilinear relationship between self-acceptance and acceptance by others.

Contradictory evidence is also presented in studies carried out with children; some investigators found a positive linear relationship between these variables, some others found a curvilinear relationship, there is also a number of studies which did not obtain any significant results.

Zelen (1954) in a study involving 83 sixth grade boys and girls in their classrooms, applied the Bonney Sociometric Technique, and two measures of self-acceptance: 1) California Test of Personality Feeling of Personal Worth, and the Who Are You Test. He obtained small but significant correlations between each measure of self acceptance, and sociometric acceptance by peers.

Zelen interpreted this finding by pointing out:
"Apparently a child who has positive feelings about
himself is better able to devote his energies to the
group activities, and to cooperate more fully with
others. The child with negative self percepts must
be constantly on guard against new threats from others".

On the other hand Perkins (1958) in a study with
fourth and sixth-grade children, correlated changes in
children's self-ideal self congruence, with changes in
acceptance by their peers, as measured by a sociometric
procedure. He obtained no relationship between the two
kinds of changes over a six-months period.

Two well-conducted investigations, Coopersmith (1959)
and Reese (1961) are of considerable importance, as a basis
to the present thesis, since they provide the clearest
evidence with regard to the relationship between children's
self-acceptance, and their acceptance by their peers.

Coopersmith (1959) conducted a detailed study which
attempted to distinguish between subjects high and low in
self-esteem, and between subjects exhibiting reality-based
and defensive responses. He hypothesized that persons
whose experiences have been prepondently successful, should
generally tend to express confidence and assurance in their
behaviour and perceptions, while those who have had more
failure experiences, should generally tend to express
caution and hesitancy, attention seeking and aggression in
both their behaviours and perceptions. His operational

hypothesis was: In cases in which there is disagreement between self-evaluation and behavioural expression, there should be either a) low self-evaluation, due to high standards, to which the individual rigidly adheres, or to failures in areas of experience not tapped in the experiment, or b) high self-evaluation due to defenses against a low self evaluation.

The subjects were 102 fifth and sixth-grade children, 10-12 years of age. The measures employed were: 1) Self-Esteem Inventory, constructed on the basis of Rogers and Dymond Scale. 2) Self Esteem Behaviour Rating Form (BRF), given to the teachers and principal. 3) Objective achievement was measured by the IOWA Achievement Test. 4) Sociometric status was measured by a sociometric technique. 5) Achievement motivation was measured by Winterbottom's method of story completion and 6) Self-ideal self discrepancy - by using the self esteem items as a Q sort. Then Coopersmith selected four groups of 12 children each, on the basis of their score in the self-esteem inventory, and the teachers ratings. The four groups were:
1) H-H (High-High) - children who were scored highest on both the Self-esteem Inventory and teachers' ratings, 2) L-L - children with the lowest scores in both measures, 3) H-L - high self-esteem and low ratings, and 4) L-H - Low self-esteem and high ratings.

Scores on the achievement test and sociometric status were used as indices of success experiences.

In the first stage Coopersmith found a low but significant partial correlation both between self-esteem and achievement, and self-esteem and sociometric status, but he points out that in many other cases this tendency did not hold true. He therefore attempted to investigate different patterns in the four groups. He was particularly interested in the two groups showing discrepancies between subjective and objective ratings, i.e. HL and LH. Coopersmith found that the two groups differ significantly on all indices, and therefore do not represent the same personality types. The H-L pattern was correlated with low achievement and low sociometric status. Coopersmith interpreted the high self-evaluation in the face of poor achievement, low teachers' ratings, and low sociometric status, as indicating a defensive reaction. He also offered an alternative explanation, of both misperception (lack of insight), or generalization from success in other areas of experience, but these possibilities have not been examined in the study.

In contrast, the L-H type was correlated with high achievement and high sociometric status, high self-ideal self discrepancy, and high achievement motivation. Coopersmith interpreted this pattern as representing a striving for high goals, in the face of which present performance appears inadequate. Again, alternative hypotheses of a lack of insight or failure in other areas -

were not explored. But Coopersmith argues that the L-H group of children were competing against absolute standards of excellence, rather than against the performance of their peers. Then, the two groups which represented agreement between subjective and objective ratings (H-H and L-L) were explored. The author found that the L-L group consisted of children who scored lowest in self-evaluation than any other group. Similarly, their behaviour was evaluated as lowest by their teachers, they were least chosen as friends by their peers, and had the lowest scores on the Achievement Test. This pattern was interpreted by Coopersmith as an indication that the L-L group has recognized and accepted their low status, and therefore did not set high goals, since past attempts to improve their position had proved painful and useless. (This explanation was supported by the subjects' low achievement motivation). The fourth group (H-H) consisted of children with the highest mean in self evaluation scores, than any other group. They were rated highly by themselves, their teachers, and were frequently chosen by their peers, though they were not the highest achievers in the class!

Coopersmith notes that this study raises questions concerning the relation between adjustment and self-esteem. If we define adjustment as "getting along in the world as it is, adequate degree of social conformity, capacity to adapt to a wide range of conditions..." (Barron's definition) then it is the H-L and L-L subjects who are maladjusted.

But if adjustment is defined as accuracy of perception, it is the H-L and L-H subjects who are maladjusted. And furthermore, as the author points out; "the H-H subjects who would appear to be the ideal of all adjustment criteria, do not appear to be as forceful, constructive, complex, or as potentially creative, as do the L-H subjects." Coopersmith leaves this question open, since interpretations depend upon the view we hold about the adjusted person, whether we see him as "passive, acceptant, and striving to maintain the status-quo, or as forceful, complex, potentially creative, in a never-ending striving process..." (Coopersmith, 1959). However, the H-L subjects, who think highly of themselves in face of objective failures - would appear to be the group to which the criteria of maladjustment would be most generally applied.

Coopersmith's study is important in that it provides the clearest evidence that the relation between self-esteem and adjustment (as measured by four different indices) is not a simple one. The study throws some light on the variables involved in this complex relationship. Rather than expecting a smooth linear correlation between self-acceptance and adjustment, by simply correlating the two complex dimensions, a more sophisticated categorization, according to different response patterns is offered, thus contributing to a better understanding of the different behaviour mechanisms involved.

A later study concerned with the relation between
self-acceptance and sociometric choices, is one by Reese
(1961), which provides clear evidence of a curvilinear
relationship between the two variables. Reese's subjects
consisted of 507 children from the fourth, sixth and
eighth grades. He employed the following measures:
1) Lippit's Self-Concept Scale and his Ideal-Self Scale.
2) Sociometric rating scale, and 3) Check-list Sociometric
Scale. Reese then divided the same-sex subjects into
three groups on the basis of their self-concept scores.
Low, Medium and High.

The following results were obtained:
1) Girls obtained a significantly higher mean self-concept
score than boys (sex differences were larger in group L
than M and H.)
2) Acceptance of others, acceptance by others, and
acceptance by best friends were curvilinearly related to
self-acceptance scores. The highest peer acceptance was
found in the group with moderate self acceptance, and
lowest in the group with the lowest self-acceptance scores.
3) These trends were not significantly different in
different grades or sexes.

Although Coopersmith's analysis (discussed previously),
hints at similar effects, the possibility of a curvilinear
relation between self-acceptance and peer-acceptance has
not been explored by others. Replication and extension
of Reese's results seem to be important, since they suggest
that high self esteem may be associated with certain behaviours

which are rejected by peers, such as "show off" behaviour,
"cockiness", and snobish withdrawal from social interaction.
It is this possibility which was considered in the present
study.

Summarizing the findings obtained from investigations
concerned with the relation between self-acceptance and
acceptance by others - the whole picture consists of
inconsistent findings. Some provide evidence in support
of a significant linear relationship, others demonstrate
a significant curvilinear relationship, and still, a
number of studies did not bear out the expected relation.
It is possible of course that the inconsistencies in the
findings stem from the use of different methods for
assessing self-acceptance. We may speculate at least
with regard to the studies which did demonstrate a
significant relationship, that those supporting a linear
association between the variables, employed a measure
consisting of more general and socially desirable stereo-
type items, referring to self esteem, thus failing to
differentiate between self acceptance and self defensiveness,
while measure obtaining a curvilinear relation employed
a more sensitive measure, consisting of items related to
specific types of behaviour, thus being successful in
differentiating between "real" self-acceptance and self-
defensiveness.

So far, the literature which has been presented concerning the relation between personality characteristics of people, and their acceptance by others, consists almost exclusively of correlational findings. The typical strategy has been to administer sociometric tests, concurrently with tests of the self concept, or related personality characteristics. The two sets of measured were then correlated. Both Mussen (1970) in his review of correlates of peer-acceptance and rejection, and Wylie (1961) in her review of the self-concept literature, point out the extremely limiting conclusive power of the inferences which may be drawn from such findings.

To know that self-acceptance is correlated with popularity, is not to say that popularity is the "cause" of self-acceptance. It is just as reasonable to hypothesize, that being well liked leads a person to evaluate himself favourably, as it is to hypothesize that these positive self-evaluations facilitate in the person the kinds of behaviour which will lead to his liking, and acceptance by others. It is therefore important to devise other research strategies, and make an increasing use of experimental methods, which allow a more systematic manipulation and control of the variables. Some attempts have been carried out in this direction, using almost exclusively adults as subjects.

The typical strategy, employed by experimenters who
are interested in the influence of peer acceptance upon
self-acceptance, has been; manipulating peers perceptions
of each other, by means of bogus information, and
measuring effects of the manipulation upon the self-
concept. The other strategy, which seems more suitable
for exploring the influence of self-concept aspects upon
peer-acceptance, has typically been the study of status
differentiation, occurring in informal groups, during the
time that such groups are being formed.

Videbeck (1960) in a systematic experiment got subjects
to rank themselves on a self-rating measure. His purpose
was to test Cooley's formulation of the "looking glass
self", in a more direct fashion, by experimentally varying
the reactions of others, and observing subsequent changes
in self ratings. Videbeck got college students in drama
to rate themselves on three scales: 1) a self-criticized
scale, consisting of items concerning their speech ability,
2) related scale, 3) unrelated scale.

After the self-rating test was given, the subjects
were introduced to one of the "experts" in speech, who
responded with random approval or disapproval to the
subjects' speech "ability". In the post-test phase the
subjects were re-administered the self-rating test.
Three variables were measured: 1) direction of change,
2) amount of change, 3) spread of change.

The results reported by Videbeck were as follows:

1) As to the direction of change, the "approval" group was found to increase significantly their positive self-ratings, while the "disapproval" group showed a significant decrease. 2) There was a significant difference between the two groups in the absolute amount of change, where the "disapproval" amount of change was 2.5 times greater. 3) A diminishing spread of effect was found from the criticized items, through the related items, to the unrelated items.

In a later study by Maher, Mensig and Nafzger (1962), Videbeck's experimental strategy was repeated, with the only difference that their study was concerned with body concepts of adolescent boys. Thirty-one high-school physical education class aged 14-16 years, were given a "physical development test". The instrument included 30 items of self rating on a nine-point scale on: criticized items, related items and unrelated items. After the self-rating test was given, the subject was introduced to one of the "experts" in physical development, who like in the previous experiment, responded with a random approval or disapproval to the subject's physical "ability". In the post-test phase the subjects were re-administered the self-rating test. The results obtained by Maher, Mensig and Nafzger were similar to those obtained by Videbeck: 1) Direction of change: the "approval" group significantly increased in their self-ratings in the second stage, while the "disapproval" group showed a corresponding decrease.

2) Unlike Videbeck's results, the different treatments did not bring about significant different amounts of absolute change.

3) Spread of effect - There was a diminishing spread of effect from the criticized items, through the related items, to the unrelated items.

These two studies bear out important implications, as to the influence of "significant others'" approval or disapproval on the self-appraisals in behavioural areas, in which the significant other plays an important part. Furthermore, the studies suggest that the subject generalizes from the specific area of self-appraisals to other related areas. Some important inferences may be drawn from this finding, with regard to the dynamic role the self-concept plays in perceiving and interpreting the phenomenal field. More research is needed, which might answer the question, whether or not such changes, as were observed in the two experiments, could in fact be considered analoguous to the changes which take place as the self is formed.

Still another extension of Videbeck's and Maher's experiments is a later experiment, carried out by Haas and Maher (1965). Specifically, it is concerned with two critical questions, related to the phenomenon demonstrated in the previous experiments: 1) If the phenomenon of changes in the self-concept is a real and stable one, some evidence of its durability over time should be demonstrated.

2) Whether the phenomenon is subject to dosage, i.e. whether great amounts of approval or disapproval treatment, produce greater, or more durable changes in the self-ratings.

The same procedure described previously was followed. Post-treatment measures were obtained immediately, one day later, and six weeks later. The results showed that the treatment had lasting effects on the subjects' self-ratings. Changes on the "criticized scale" were still significant at the end of six weeks. In order to test the second hypothesis, one group of subjects were given approval treatment twice, while the other one-only once. There was significantly less spread of effect (to the related scales) in the latter group, than the former. Furthermore, in the former group after six weeks a significant difference was still shown in the unrelated scales. The hypothesis that changes in self-ratings are subject to dosage, was obtained.

A number of similar experiments have related the described phenomena to interpersonal-congruence theory, based on cognitive theories of Heider (1958) and Festinger (1957), and to studies in social psychology carried out by Festinger, Schachter and Back (1950) concerning cognitive balance and resistance to change.

Along these lines, Harvey, Kelley and Shapiro (1957) have studied reactions to unfavourable evaluations of the self, made by other people. The other persons were of either

high or low authoritativeness, and the unfavourable responses
were given in systematically varied amounts. The subjects
were 112 experimental, and 31 control-group college students.
1) Each subject rated himself on a number of important
social characteristics. 2) Each subject was asked to rate
another person in the class - either a person who knew him,
or did not know him. 3) The subject was then shown ratings
of himself, that presumably had just been made by that other
person, but in reality were fictions. 4) These ratings
tended to be lower than his self ratings, in some cases
by small amounts, and in others, by large amounts. The
subject then rerated himself, and rerated the other person.
1) Results showed in all cases a significant tendency to
shift self-evaluations in the unfavourable direction.
2) An interrelation among three effects, according to
the treatment given. The effects were:
a) Devaluation of the source, b) distortion in recall of
the ratings received, c) dissociation of ratings from the
source.

The data strongly suggest that with high discrepancies
between the subject's self ratings, and their presumed
ratings by others, subjects are divided into those, on one
hand, who handle the negative evaluation by distortion,
and on the other hand, those who handle it with devaluation
of the source.

This study and two other similar studies by Backman
and Secord (1962, 1963) add some important variables,
adopted from research in social psychology, which
contribute to a deeper understanding of the possible
dynamic forces, involved in self concept development and
change. Rather than viewing the "self" as a passive
mirror, exclusively manipulated by others' attitudes
(favourable or unfavourable), a more "active" picture
of self is offered, in which the subject's perceptions
and interpretations, his insight into the situation,
which are directed by his need of interpersonal congruency
- all play an important part. According to this view,
the individual is seen as actively structuring his
relations with others in order to achieve ánd maintain
congruency.

One other study by Dittes (1959), which manipulates
experimentally the degree of acceptance given to the subject,
throws light on an additional factor, playing a part in the
relation between a person's self acceptance, and his
perception of the social situation - his motivational
attraction towards the group. The motivational factors is
considered important, since it is assumed that a person
responds differentially to the same degree of social
acceptance, depending on how gratifying it is to him, or to
what extent it satisfies a need. Dittes attempted to vary
experimentally two variables, in order to measure their
relative effectiveness. He assumed that:
1) The type of gratification that people commonly gain
from membership in groups is that of social acceptance.

2) The need for social gratification is best indicated by a person's level of self esteem, or general sense of adequacy. Dittes' main hypothesis was that the lower the level of self esteem, the greater is the person's need for such supports to self-esteem, as are provided by acceptance in the group.

Three different levels of apparent acceptance were introduced to 102 college students, by letting them see ratings of themselves, which they believed had been made by their peers. Results showed that: 1) as found in other studies, subjects who were made to feel accepted, (the satisfying condition), reported being significantly more attracted to the group. 2) Furthermore, as predicted, the difference was primarily due to the subjects with lower self-esteem, presumably indicating stronger need for social acceptance. Thus, when persons were made to feel accepted, attraction to the group was greater than that shown by persons with lower self-esteem. 3) In the frustrating condition (non-acceptance), attraction to the group was related to level of self-esteem - subjects with the lowest self-esteem scores reported the least attraction. This finding gives tentative support to the hypothesis.

An example of a study of the second type of experimental strategy - that of observing group interaction from its beginning, over a period of time, is that by Sherwood (1965).

Sherwood measured changes in both self-evaluation
and sociometric choices in six training groups (T groups,
each of 10-13 members), over a period of two weeks. He
postulated a formula (based on Lewinian theory) in which:
1) Self-identity is defined as the totality of the
person's self-attributes, at a given moment of time.
2) A person's self identity (OPI) is defined as the
perceptions by referent O's of P, while Subjective
Public Identity (SPI) is the perception by P of his OPI.
Now, a person's self esteem (SE) is a function of his
subjective public evaluation. This is in turn a function
of Objective Public Evaluation. Objective Public Identity
does influence the person's self-identification only to
the extent that it is communicated to, and received by P
(phenomenological point of view).

From these assumptions, Sherwood constructed the
formula: OPI —> COPI —> SPI —> SI, on which he based
his hypotheses as follows:
1) Self evaluation changes in the direction of Subjective
Public Evaluation.
2) The more an O is a referent to P, the more his Objective
Public Identity held by him, influences P's Subjective
Public Identity.

The same basic questionnaire format with varied
instructions, was used for measuring self-identity,
subjective public identity and objective P.I. The
instrument consisted of 26 bipolar eleven-point-adjective
rating scales, which measure self-identity dimensions.

The rating scales were given in the beginning of the two
weeks, and in the end of that period. The usefulness of
the findings rests upon the assumption that the independent
variables of Objective Public Identity change over the
course of the laboratory. Given a change in OPI, due to
the nature of the training process, it was predicted that
subjective public identity would change in the same direction.

The data showed that: 1) Self-identity changes in
the direction of objective public identity. 2) Those
members of the group, who were attractive as friends,
had more influence on P's self identity, than did those
members who were not chosen as friends. Thus, strong
referent public had more influence on SPI, than did weak
referent public. 3) The more P was self involved in the
group, the more the attributes of his aspired self-identity
changed in direction positively valued by the group.

Sherwood's study supports findings obtained in studies
discussed previously, although his findings were not
obtained by arbitrarily manipulating others' acceptance,
but rather by studying differentiations occurring in
unstructured groups, during the time that they have been
formed. Sherwood's findings contribute to this area of
research by providing empirical support to the phenomeno-
logical view, which emphasizes the subjectivity and
uniqueness of perception in interpreting the phenomenal field.
Thus, according to Sherwood's findings account has to be
taken not only of the objective acceptance by others (OPI),
but also of the subject's perception of OPI, or his SPI,

which is an intermediating process between self-acceptance

and acceptance of others.

As defined by accuracy in predicting other individuals'
behaviour, insight has a rather longer history of systematic
investigation. In fact with regard to self-concept theory,
studies which concern "insight" are the most numerous ones.

1) In the classical Freudian and Neo-Freudian view, lack
of insight is alleged to be accompanied by defensiveness,
and or maladjustment.

2) Phenomenological theorists seem to be saying that the
individual will not become anxious, unless and until he
becomes at least to a certain extent aware of the disparity
between his phenomenological self, and the views others
hold of him (Rogers, 1951).

Piaget (1926), whose thinking on this subject is
integrated into his general theory of cognitive development,
stresses the necessity for egocentricity to be replaced
by an awareness of reciprocity - if insight is to be
achieved. As a result of his experimental work with
children, concerning their developing capacity to adopt
different points of view, Piaget concluded that two
conditions are essential for the understanding of other
people:

1) A consciousness of oneself as a subject (or a self concept).

2) The ability to detach subject from object, so as not
to confuse the second characteristic with the first, and
also; "to cease to look upon one's own point of view as
the only possible one, and to coordinate it with that of others".

Some of Piaget's experiments concerned the developing
awareness of generally accepted moral principles. Others
were concerned with situations in which spacial perspectives
were involved.

More recent studies on insight have usually made
more specific reference to measurable characteristics
of other people, whom the subject was asked to predict.

There are varieties of definitions of insight, or
"insightfulness". Nevertheless, the generality of the
capacity to make accurate predictions, is often taken
for granted. Piaget views insight as a generalized
capacity. Dymond (1948) also assumes that "empathy" -
as she defines accuracy in predicting others - is a
global trait. However, there is only a small number of
experiments,which set out to test the hypothesis of
generality of "insight", and disagreement in results
does not seem to justify this assumption (Hall and Bell,
1953).

With regard to definitions of insight into self -
there are varieties. Wylie (1961) points out that most,
but not all definitions of insight which have been used,
involve a discrepancy between subjects' self-report and
the report of another person concerning the subject.
According to this definition the subject may either tell
how he sees himself privately, with respect to characteristics
which can be measured relatively objectively (e.g. intelligence),
or, he may report his social self concept, i.e. regardless

of how he personally evaluates himself, he tells how he
thinks other people see him. More specifically, the
subject may guess, how others will rate him, or may
try to guess the score he will make on another person's
test. This type of insight-measure faces two serious
problems with regard to its validity, (Wylie, 1961).
One is concerned with the construct validity of the
self - other discrepancy. Though on a priori theoretical
grounds, it seems that even with the clearest instructions,
there can be no sharp separation on the subject's part
between his private self-concept and his "social" self
concept. Wylie points out that a number of studies have
shown that there are significant differences in self-
concept reports, obtained under "private self" and "social
self" instructions.

A second source of contamination involves the
discriminant validity of the two-part insight score.
Wylie argues that it has to be demonstrated that individual
differences in "insight" reflect indeed something more
than individual differences in self-reported self-regard.
She calls attention to the possibility that any ratings
which does not hold self ratings constant, when attempting
to measure insight, leads to ambiguous, probably artificial
findings.

The same criticism holds with regard to studies which
attempt to investigate the relation between "insight and
defensiveness. On this Wylie argues that the correlation
between insight and defensiveness might be more parsimonously

interpreted as meaning, that defensiveness is associated with level of self regard, rather than with level of insight.

Insight into others. The present study is concerned with another aspect of insight - that of accuracy in predicting others' behaviour with regard to the subject, or more specifically, the subject's accuracy in predicting others' choices made towards him, a characteristic called by Dymond (1948, 1949) "empathy", which is thus differentiated from insight, defined as self-other rating discrepancy. This measure has the advantages of:

1) The possibility of being objectively compared with the actual choices made by others.

2) Being independent of the self-evaluation measure.

3) Being specifically concerned with sociometric choices. Thus, this specific variable may be defined as the subject's insight into his peers' choices made to him.

4) The specifically-defined measure avoids all the sources of contamination and error, being mentioned previously. For example, it is relatively free of the possible contamination due to social desirability, since names of people are guessed, rather than their characteristics. Furthermore, this variable is completely independent from the measure of self regard. Another serious criticism in this area, is that definitions of accuracy in predicting others have ignored the distinction between two different sorts of accuracy - stereotype accuracy and differential accuracy. Since no stereotype accuracy is involved in

this measure, it is believed to have discriminant validity. However, the disadvantage of this measure is that, being specific, it limits the possibility of its generalization into a broader trait of insight.

Much of the work in this field has been designed to investigate the association between this assumed general capacity for insight, and factors of personal and social adjustment.

As indicated previously, acceptance by one's peers might be considered an external criterion of adjustment. Dymond (1948) attempted to relate accurate prediction of others (empathy), both to an understanding of self, and to a good social adjustment. She found that empathy was positively correlated with insight into self. Empathy was defined as a whole-hearted and realistic projective involvement with persons described in the T.A.T.

In a later study, Dymond (1949) attempted to investigate the relation between prediction of self and others, using more objective measures. She found that empathy, defined as the capacity to predict accurately others' ratings of the subject, was highly correlated with "insight". Insight was defined as: the congruence of self ratings with those ratings of the subject, actually provided by others. Another finding in Dymond's study was that, accuracy of prediction both of others and self, was positively correlated with good, against hostile interpersonal group relations.

In a further study with children aged 7-12 years,
Dymond found that accuracy in predicting the subject's
own popularity, and that of other children in the group,
was correlated with the extent of the subject's own
popularity in the group. However, accuracy of prediction
was not significantly correlated with Dymond's TAT measure
of empathy.

Another study, which has been concerned with the
relation between the subject's accuracy in predicting his
own and others' popularity, and the level of his sociometric
status, is one by Ansubel and Schiff (1955). They found
that among adolescents, accuracy in predicting others'
popularity was unrelated to accuracy in predicting the
subject's own popularity. On the other hand, the latter
variable was positively correlated with actual popularity.
However, Gage and Cronbach (1955) in their critical review
of methodological problems in interpersonal perception,
suggested that this type of finding might be an artifact
of the observed tendency of most subjects, to credit
themselves with good social standing.

Gage and Cronbach, summarizing this area of research,
argue that most studies concerned with predicting others,
suffer from both conceptual and methodological limitations.
As in the case of research in self-acceptance, different
operational definitions, and different measurement
techniques make generalization - a difficult task.

Personal versus Social Orientations in Self-Evaluation

Wylie (1961) drawing conclusions and implications from her review of self-concept research says: "Part of the explanation lies in the scientific shortcoming of all these personality theories, which emphasize constructs concerning the self. These constructs have been stretched to cover so many inferred cognitive and motivational processes, that their utility for analytic and predictive purposes has been greatly diminished." (Wylie, 1961, p.317). Nevertheless, she suggests, that perhaps the constructs and hypotheses based on them can be improved. For example, by constructing more molecular and inferred variables. She points out that constructs such as self-acceptance or self-esteem, especially when referring to specified attributes, have yielded more fruitful research procedures.

Along the same lines of reasoning, McCandless (1967) in his review of the self-concept, suggests further, that more molecular qualities of the self-concept, apart from self-acceptance, merit more consideration. He lists the following qualities: 1) Complexity and breadth, 2) Congruency and accuracy, 3) Clarity or articulateness, 4) Consistency, 5) Flexibility, 6) Self-acceptance - (in the sense of accepting one's real self as it is).

In more recent years, experimenters have followed these suggestions by attempting to limit and define more precisely: a) The variables referring to self-concept aspects   b) The environmental characteristics by which the self-concept is believed to be strongly affected, and c) The instruments devised for measuring aspects of the self concept, as well as aspects in the phenomenal field.

Along these lines, a few more recent studies have attempted to differentiate between self referential attitudes, which form some dimensions, or orientations, according to the various sources (or agents) in the phenomenal field, which are believed to facilitate, or to inhibit such orientations.

In this respect, studies by Douvan (1966) and Carlson (1963, 1965) were concerned with a social versus a personal orientation which is assumed to develop in the self concept. A closely related differentiation was made by other investigators (Hollander and James, 1970), between peer-oriented versus adult-oriented self-evaluations.

In a study of pre-adolescents, Carlson (1963) showed that both a social versus personal orientation in children's self-concept, and their amount of self-esteem, are related to the quality of the pre-adolescent's parental identification, and to his sociometric status. Social orientation was defined as "the salience of interpersonal experiences in the individual's perceptions of himself." Personal orientation was defined as "conceptions of self which are independent of concern with social experiences". Self-esteem was

measured in terms of the self-ideal self discrepancy.
Another finding shown by Carlson in this study was,
that the majority of pre-adolescent subjects were
found to be personally-oriented, with no evidence
for sex differences in social-personal orientation.
However, Carlson predicted that during adolescence a
marked sex differentiation on the social-personal
dimension will occur. He therefore set out another
longitudinal experiment, which attempted to test this
hypothesis by measuring the personal-social self-concept
dimension in the same subjects, after six years. He
found clear sex-differences in the social-personal
orientation during the adolescent period. Where there
were no sex differences at the pre-adolescent level,
six years later the girls were significantly more socially
oriented than the boys. Furthermore, shifts in orientations
also occurred in the predicted direction. On the other
hand, no sex differences were found in either the level,
or stability of self-esteem. However, this study does
not indicate any findings with regard to the possible
relationship between self-esteem and social versus personal
orientation.

Evidence supporting the finding of sex differences in
this dimension among adolescents is also presented by
Douvan (1966). He found what he called "ego-integration"
among adolescent boys, to be related to the development of
personal independent standards, while "ego-integration" in
girls was associated with interpersonal skills, and sensitivity.

Of course, cultural factors and expectations play a major part in the formation of such differentiation.

A closely related differentiation has been hypothesized by experimenters to develop between children's peer-orientation and their adult orientation in the self-concept. The two types of differentiation (social versus personal, and peer versus adults) are probably over-lapping to a large extent. A relatively large number of studies emphasize the role parents play in determing such orientations. Although parents and peers are frequently viewed as alternative agents of socialization, some studies provide evidence to the less explicit assumption, that parents also provide orientations for the child's interaction with peers.

Evidence along these lines comes from studies such as those of Maccoby (1961), on rule enforcement, Bronfen-brenner (1961a,b) on responsibility and leadership, and Emmerich and Smoller (1964) on role patterning.

In a recent study with pre-adolescents by Hollander and James (1970) the essential purpose was to examine the relation between the child and parent peer-orientation. The authors suggest that parents can be peer-oriented in their upbringing practices, by engendering a positive disposition in the child to accept peer standards. It was found in this study that children who perceive their parents as peer-oriented, are themselves peer-oriented, and are also seen in this way by their classmates. The authors

showed that four variables appeared to be related to the
child's peer-orientation: his parents' peer-orientation,
father versus mother dominance, the child's academic
standing, and sex. A second finding was that boys were
more peer-oriented than girls. This finding is in
contradiction to that of Carlson, pointed out previously.
With pre-adolescents Carlson found a personal orientation
to be dominant in both sexes. It is even more in opposition
to Carlson's other finding, that during adolescence boys
are predominantly personally oriented. However, age
difference might account for the differences between the
findings. In addition, it was also found by Hollander
and James that children in the less advanced class were
more peer-oriented, than children in the more advanced
class (one possible speculation might be that in their
instrument personally oriented self-evaluative items
coincided to a large extent with achievement-oriented items).

Surprisingly enough, another finding of this study
is that children who were peer-oriented, and whose parents
were peer-oriented, were found to be least likely to be
chosen as friends. This is a rather puzzling result.
The authors' explanation is that it might be that:
"the combination of the parents' and the child's peer
orientation may together constitute a strong push toward
peers, which could be overwhelming in its impact. The
child who is so eager to please, for the sake of acceptance
by peers, thus finds himself rejected by them..."

This may be an interesting linkage point between what has been discussed previously, with regard to self-acceptance and sociometric status. Extremely high self esteem was shown in some studies to be associated with poor social standing, or with social rejection. The argument was put forward, that people who are highly self-acceptant, also show self-defensive attitudes, lack of insight toward their peers, and are therefore seen by their peers as threatening. We may speculate that those children who are "pushed" as it were, by their parents, therefore develop a rather unrealistic peer orientation. The same children might also show a pattern of extreme self-acceptance, indicating self defensiveness. However, lack of evidence, as to the empirical relationship between a personal versus peer orientation, and self esteem, leaves this relation on a speculative level. From the studies discussed here, one may see some suggestive leads emerging in the direction of a further investigation of self-acceptance, as related to peer versus personal orientation.

The Variables Selected for Study

Three aspects of the self-concept, and four aspects of social adjustment were selected for study.

I Aspects of the Self-Image

1) Self-Acceptance

Self-acceptance is defined in the present study in terms of two characteristics:

a) A positive attitude toward self. Thus, if a child likes his self-concept, he will accept himself. If not, he will reject himself.

Self-acceptance is believed to be essential for good adjustment.

b) A realistic attitude toward self - according to the present definition, self-acceptance does not mean smug self-satisfaction, but rather the willingness to face facts about oneself, whether favourable or unfavourable, as openly as possible.

The two parts of the definition of self-acceptance, are based on the assumption, that on one hand, in order to achieve an adequate personality, the child must develop self concept that he "can accept and live with, without feeling too guilty, anxious, or hostile, without being self-defeated or destructive of others." (Frank, 1951) On the other hand the child's self-concept must be realistic, in order to enable the child to accept himself.

2) <u>Uncertainty, or Inconsistency About Self</u>

The second aspect or variable, in terms of which
children's self-image can be investigated is the degree
of consistency or certainty about one's self-image.
It is assumed that there must be a degree of consistency
in the child's self-acceptance, if he is to make good
adjustment. Thus, self-acceptance and self-rejection are
seen as self-perpetuating processes, which in time
determine the characteristic pattern of adjustment, the
child will make to life. A closely related aspect is the
degree of stability of the self-concept. The more certain
and consistent a child is about his self-image, the more
stable his self-image is expected to be.

3) <u>A Social Versus Personal Orientation in the Self Image</u>

a) <u>A social orientation</u> in children's self-image, is
defined as the salience of inter-personal experiences in
the individual's evaluations of both his peers and himself.
b) <u>A personal orientation</u> in the self-image is defined in
terms of self and peer-evaluations, which are independent
of concern with interpersonal experiences.

Such differentiation, according to a personal versus
social orientation toward self, was found fruitful in
investigations concerned with the relation between social
experiences and the self image (Douvan, 1966; Carlson,
1963, 1965).

II Aspects of Social Adjustment

Four variables were selected as indices of social adjustment. The first three are measured by a sociometric technique, and the fourth one, by a time-sampling observation technique.

1) Sociometric Status

Sociometric status, or popularity, is defined as the degree of acceptance of an individual by all the members in his peer-group, as obtained from the total of his peers' choices made toward him.

2) Reciprocal Choices ("Friendship" Relationships)

The amount of reciprocity of choices between pairs of individuals, as tested against the chance-expectancy of such choices to occur. This variable is believed to represent another aspect of social-adjustment, indicating to what extent a subject's choices of his peers are reciprocated by them, or, his mutual relationships in the peer-group.

3) Sociometric "Insight" or "Empathy" into Peers' Choices.

To what extent is the individual able to guess who among his peers, might choose him for each of the four social activities chosen for study. (As tested against the chance expectancy of the individual to guess correctly). This measure of "empathy" is assumed to be specific, rather than global.

It is believed that the child who lacks social insight, makes more inadequate adjustment to the peer group, than the child whose self-perceptions are close to the perceptions his peers hold of him.

4) <u>Amount of Peer-Interaction</u> (As measured by a Time-Sampling Observation Technqiue).

Peer-interaction was defined in terms of seven characteristics to be observed: 1) Associative play, 2) Showing leadership in associative play-situations, 3) Friendly approach, 4) Conversation, 5) Hostile interaction, 6) Playing alone, 7) Being alone, without any activity.

I With regard to the aim, which set out to investigate <u>developmental processes</u> in the self image of children, based on the assumption that as children grow toward maturity, their self-image becomes more accurate and realistic:

1) It is expected that the amount of children's self-acceptance gradually <u>decreases</u> with age, indicating a developmental change from a "black or white" self picture, toward a realistic self-critical, and more differentiated self-picture.

2) It is expected that children's uncertainty, or inconsistency about their self-concept, gradually <u>decreases</u> with age, indicating that, in the process of self-evaluation, children gradually become more consistent, and more certain about their self-concept, as they grow toward maturity.

This process indicates a developmental change from a global self-picture, characterised by a high amount of uncertainty and inconsistency, toward a well-differentiated self concept, about which the individual is certain and highly consistent.

3) Based on the assumption that the child's social relationships become gradually "mirrored" in his self-image, it is assumed that during middle childhood, an increasing social orientation in evaluating both peers and self, emerges in the child's self-image.

4) Furthermore, it is expected that the salience of social experiences with peers, in determining children's ideal self-picture, gradually increases with age.

II With regard to the second purpose of the present study, which set out to investigate the relation between children's self-concept, and their social adjustment: On the basis of the phenomenological assumption, that the self-concept is basically a social product, arising from the child's social interaction with significant people in his phenomenal field:

5) It is expected that during middle childhood, self-acceptance becomes increasingly associated with acceptance by peers, indicating that the child's social position in the peer group will increasingly determine the way he will evaluate himself.

6) The association between self-acceptance and acceptance by others is believed to be _curvilinear_, rather than linear.

This hypothesis is based on the assumption that both very high and very low amounts of self-acceptance are associated with maladjustment. Extremely high self acceptance may indicate self-defensiveness, or smug and unrealistic self-satisfaction, whereas extremely low self-acceptance - may indicate self-rejection and insecurity. Thus, according to the hypothesis, moderate rather than extreme amounts of self-acceptance are believed to indicate good adjustment, as well as a realistic attitude toward self.

Methodology Section

Pilot investigation was designed to satisfy two
major aims:
1) The primary aim was to develop a method for measuring
two dimensions of the self-image, chosen for study;
self-acceptance and uncertainty (or inconsistency) about
self, as well as to examine the applicability of the
measures, devised or selected for study.
2) The second aim was to test the validity of the
approach taken in the present study.

Applicability of the techniques, was defined in terms
of the degree to which these measures yield adequate
variance, and appear free from contamination, due to
intelligence and response set, and prove applicable with
the population selected for study.

The validity of the approach was defined as: the
degree to which a consistent and significant relation
could be seen between the variables chosen for study.

Selection of subjects

The selection of subjects was determined by three
considerations: age, sex and socio-cultural background.
According to the theoretical considerations discussed in
the first section (introduction), the period of middle
childhood and pre-adolescence (age seven to eleven), was
selected for study.

For pilot investigation, one representative age level of this period, (age nine) was selected.

Since sex differences were expected along the variables studied here, two mixed classes were selected for pilot investigation, and the scores of boys and girls were analysed separately, along all the variables, and then compared.

Socio-cultural background: Although the social aspects of children's self-concepts, which were to be investigated, were strictly defined in the present study as those directly influenced by the child's peer-group experiences in the social environment of school, the more general socio-cultural background had to be taken into account, since it was expected to affect both social aspects of the self-image, and probably the quality of peer-group relationships. Therefore, the required environment for study was defined as: a "typical" environment, for boys and girls in middle childhood.

A lower middle class neighbourhood was therefore thought appropriate, particularly in the sense that this socio-cultural background was considered relatively favourable to the development of a satisfactory relationship between the child and his peers, and therefore favourable for the establishment of a marked peer-orientation, within the child's self-concept.

Although it is recognized that the socio-cultural stratum selected, does not necessarily cover the whole range of social aspects of the self-image in middle childhood, it was considered justified in that it is assumed to yield a typical picture. Furthermore, it is justified, in that the present study is mainly concerned with interrelationships between the dimensions chosen, and not with the subjects' position, relative to a known population distribution.

Hypotheses Tested in Pilot Study

1) Subjects' self-acceptance scores are consistently related to their uncertainty scores, in that self-acceptance is negatively associated with uncertainty, and the association expected is linear.

2) Subjects' self-acceptance is a relatively stable dimension of the self-concept, in that it is not affected by temporary fluctuations due to personality or environment.

3) The relation between children's self-acceptance, as derived from their self-evaluations of social experiences, and their acceptance by their peers (as measured by their sociometric status), is curvilinear.

4) The three indices of social adjustment: sociometric status, amount of mutual relationships with peers, and the amount of sociometric insight into peers' choices, are intercorrelated.

		Variable	Instrument

		Variable	Instrument
1.	Aspects	Self-acceptance	Q sort technique
2.	of the	Uncertainty (or inconsistency)	Q " "
3.	self-concept	Self-esteem	Interview "
4.	Aspects of social	Sociometric status (peers' acceptance)	Sociometric technique
5.	adjustment	Mutual relationships ("friendships")	" "
6.		Sociometric insight ("empathy")	" "

PART 1

The Development of a Q Sort Technique for Measuring Two Aspects of the Self-Image Related to Social Experiences: Self-Acceptance and Uncertainty.

Introduction

One instrument devised by Staines (1958) for measuring the two variables was available, with some modifications in the administration of the technique, made by Fallon (1965), to be applicable with younger children.

Staines' instrument is a Q sort technique, consisting of 56 cards, and based upon Raimy's phenomenological definition of self. The 56 self-referential statements are believed to cover children's self inferences, drawn out of their experience at home, school, and other social groups.

Staines' Q sort technique was found applicable for use
with children aged 7-12, by Fallon (1965), and yielded
meaningful results, in that a significant positive relation
was found by Fallon, between self-acceptance and three
aspects of personality adjustment: Anxiety, neuroticism
and extraversion, as measured by Cattell's Children's
Personality Questionnaire.

However, for the specific purposes of the present
study, Staines' measure seemed to be inappropriate, if the
following theoretical and methodological considerations
were to be taken into account:

1) Since the main purpose of the present study was defined
as the investigation of the social aspects of children's
self-image, a selection of items, which are specifically
and directly related to peer-group experiences, seemed more
appropriate. However, Staines' items consist of more
general self-references of children, which cover a much
wider range of children's experiences, and which are
therefore seen as more appropriate for investigating
personality adjustment.

2) Furthermore, based on the assumption, that the social
self-image of children is a product of their interpersonal
relationships, the task demanded a selection of self-
evaluative statements of children, which are as independent
and as free as possible from other types of experiences,
particularly those related to success and failure in
scholastic abilities and achievement.

3) The same variables as those measured by Staines, self-acceptance and uncertainty were also selected in the present study. However, a second fundamental assumption governing the present study was that a realistic self-concept implies the acceptance of both favourable and unfavourable facts about the self. Self-acceptance was therefore empirically defined in the present study in terms of the "balance" or the relative amount of favourable self-evaluations, as against the total amount of unfavourable self-evaluations. On the other hand, Staines' set of items consisted of a much larger proportion of favourable statements.

For the purposes of the present study, an equal number of favourable and unfavourable number of items seemed essential.

Such standard measure, which covers a large number of social experiences with peers, on one hand, and which consists of an equivalent amount of favourable and unfavourable items, on the other hand, did not appear to exist, Pilot work was therefore set out to devise such measures, which may tap important aspects of children's self-appraisals, taken from experiences with their peers.

The attempt was carried out in two stages:

I The development of a preliminary interview technique, for measuring children's self evaluations, which are related to their social experiences.

II The development of a Q sort technique, based on the data obtained in the interviews.

Stage I - The Interview Technique

An interview seemed to be the appropriate method for
tapping preliminary information about children's social
self-image. It was considered a preliminary stage, for
collecting a representative sample of children's self-
referential statements.

The requirement was that the interview technique should
arouse the child's self-evaluations, which are directly or
indirectly concerned with his social self-image. The self-
assessments made, should be measurable in terms of the
two indices of the self-concept selected for study; self-
acceptance and uncertainty.

The questions selected for the interview, were based
on Jersild's categorization of items. Jersild (1958),
carried out a fundamental study, in which 2,893 male and
female subjects were included, and which covered a wide
range of age groups: three elementary grades (fourth,
fifth and sixth), three junior high-school grades, three
high-school grades, and three college grades. All these
subjects were asked to write an anonymous composition on
the subject: "what I like about myself, and what I dislike
about myself."

Then a content-analysis of the data obtained was carried
out, from which 20 categories were derived, and then further
subdivided into sub-categories.

In the present study, Jersild's categories, which
were believed to be relevant to social adjustment, and
peer-group relationships, were selected as centre points
in the interview, and then were further extended in
order to cover a wide range of children's social life,
both within and outside school.

Furthermore, some additional topics, which are not
directly concerned with social experiences, were also
included, since it was assumed that children establish
their social evaluations from inferences drawn out of
their various experiences with their peers. These
experiences are not necessarily always "purely" social,
but rather include situations of competition, level of
aspiration, comparison of skills and abilities, personal
talents, and so on.

The final structure of the interview consisted of
nine categories, which are all believed to elicit attitudes
toward self, concerned with social experiences, and
related to the child's self-esteem. Each of the nine
categories included a number of more specific items
(for list of interview items, see appendix no. 1). The
nine categories of the interview covered the following topics:

1) The child's assessment of his behaviour, when meeting
   people for the first time.

2) His self-appraisals concerning his friends (their
   estimated number, the amount of his estimated popularity
   and peers' acceptance).

3) The child's acceptance of others.

4) Self evaluations concerning achievement and success
   in school, his aspirations, and assessment of his
   abilities, as compared with his peers.

5) Self-perceptions concerning personality characteristics.

6) Self-perceptions concerning emotional tendencies.

7) Self-acceptance, as derived from the degree the child
   is satisfied with what he is, and with what he has.

8) Self-evaluations with regard to skills in sports and
   games.

9) Self-evaluations concerning special talents.

Administration

Two mixed classes, one of 33 nine-year-old, and the
other of 32 nine-year-old boys and girls were selected
for interview. Each of the 65 subjects was interviewed
individually.

An attempt was made by the interviewer to carry out
an unstructured interview, in a friendly and warm atmosphere,
which would facilitate as much as possible the eliciting
of self-referential statements. This was made possible by
only leading flexibly the interview, rather than asking
questions, so that a conversation could be developed.

Typically, a topic was raised by the interviewer, and
the child made free and spontaneous responses to it. In
most cases, children responded to the interview topics
keenly, since it raised questions taken from their immediate
and personally important environment. Most children

reported after the interview that they found talking about
their friends and social experiences an enjoyable task.
Some of them also admitted that they had not had a chance
to "talk about those things" before. The interviews were
tape-recorded. The average time for one interview was
20-30 minutes.

Stage 2 - An Attempt to Devise a Standard Measure Based on the Interview Data.

The purpose at this stage of the pilot investigation
was to devise a standard measure, which will cover the same
aspects of children's self-image, elicited from the
interview technique, and which would yield an objective
and unbiased scoring procedure.

This aim was based on the assumption that in order to
be phenomenologically consistent on one hand, yet achieve
a practical and applicable measure on the other, the items,
which are to be chosen, must be statements which have been
made by children themselves, rather than inferences made
by the experimenter about children's social experiences.

A Q sort technique consisting of a representative sample
of children's self-evaluations, seemed to be appropriate,
satisfying the following requirements:
1) The Q sort technique should measure aspects of the
   self-image in terms of the two variables chosen for
   study: self-acceptance and uncertainty.

2) The items selected should cover a wide range of children's self-evaluations, with regard to peer-experiences.

3) On the basis of the approach taken in the present study, which associates good adjustment with a realistic self-image, which implies the ability to face and accept both favourable and unfavourable attitudes about self, it was considered essential that the sample of items should include an equal number of favourable and unfavourable statements.

In fact, the latter requirement seems to be lacking in most measures of the self-concept, which have been used with children. Typically, they consist of either favourable statements only, which are to be rated or ranked by the subject, or a very high proportion of favourable items, as against a low proportion of unfavourable ones.

The Procedure for Constructing a Q Sort Technique

The selection of 50 items, from the 65 interviews of boys and girls, obtained in the first stage of pilot work, was made on the basis of the three considerations pointed out previously:

1) In order to satisfy the requirement of a wide range of children's peer experiences, items were selected to cover the nine categories of the interview.

2) In order to fulfill the aim of an equal proportion of favourable and unfavourable statements, each of the 50 items was doubled, so that one statement of a pair represent the

favourable end of a scale, and the other - the unfavourable
end.

As a result, 50 bipolar pairs of children's self-
referential statements were obtained, where each of the
pairs represented opposite or polar ends of a scale, yet
carried the same absolute meaning. The favourable item
of each pair could yield a score of +1 whereas the
unfavourable item, could yield a score of -1.

The set of one hundred items thus prepared, was
presented on cards, to be employed as a Q sort technique,
given at random, to each subject individually.

Only two categories were selected for sorting:
1) "True of me"
2) "Not true of me"

Thus, in sorting the items, subjects had to make a
forced choice between the two categories.

First Administration
(Testing the Applicability of the Measure)

The first aim at this stage was to test the applicability
of the technique. For this purpose, a sub-sample of 12
subjects, taken from the nine-year-old class,(six boys and
six girls), was selected at random, about six weeks after
they had been interviewed.

The items were read aloud by the experimenter, in order to eliminate any possible contamination, due to reading difficulties, degree of understanding of the task or items, or the time needed for completing the task.

Individual testing assured that the conditions were held constant, and were free from the sources of contamination, pointed out previously.

(For instructions, see appendix no. 2).

1) The procedure took place in a free room at school.
2) No subjects were called during play time.
3) The average time for completing the Q sort task by one child, was 25 minutes.

Reappraisal of Applicability of Q Sort Technique, After the First Administration.

After trying the procedure with the 12 children, a practical drawback was found, with regard to the applicability of the negative statements. Some of the children had difficulty in sorting a statement presented in the negative form, as "not true". In other words, the task of denying a statement presented in the negative form, was found to be cognitively difficult for children at this age.

Therefore, some of the statements in the set had to be transferred, so that all the items should be presented in a positive form of speech. This was a drawback, since the preparation of statements which are on one hand in opposite directions, on the other hand have the same absolute meaning, and yet, are all presented in the positive form of speech, involved a more difficult task, in order to achieve unbiased pairs of items. The corrected set of one hundred items was tried again, with another sub-sample of 12 boys and girls. The items were presented to the subject at random.

It was assumed that an unbiased pair of items should yield a binomial distribution of responses, and a small amount of contradictory sortings. A pair of items was considered biased, if it yielded over 20% of contradictory responses. Such pairs were altered, in order to achieve more symetrical and balanced opposite poles.

This procedure was administered twice, until all the pairs were considered unbiased, (yielded less than 20% contradictory responses). (For final list of 100 items of the Q sort, see appendix no. 3).

Preliminary Steps of Scoring

1) For the use of the experimenter, on the right hand side of each card, the ordinal number of the card was written.
2) Each pair of cards was given the same ordinal number, but a "positive" card was assigned with the letter "a", whereas a "negative" card - with the letter "b".

The cards where therefore ordered from 1a - 50a and
from 1b - 50b.

3) In order to make the scoring procedure easy and quick
to handle, Q sort scoring sheets were prepared, for the
experimenter's use, during administration of the test
(for Q sort scoring sheet, see appendix no. 4). e.g.:

item No.	1	2	3	4	5	6	7	8	9	10
positive pole a	T	T	N	T	N	N	T	N	T	T
negative pole b	N	N	T	T	N	T	N	N	T	N

These scoring sheets consisted of 50 cells, for each
of the pairs of items, where each cell was further sub-
divided into two categories - a (for "positive" items)
and b (for "negative" ones).

During the experiment, the experimenter checked the
number and letter, which appeared on top of the card and
marked T (for "true of me") or N (for "not true of me"),
according to the number of card, and the subject's sortings.

Altogether, each pair of items could have been sorted
in four possible combinations, as presented in Table 1.

Table 1. The four possible combinations of responses,
which could be given to each pair of items
of the Q sort technique.

	pair sorting	Meaning
1 Consistent Sortings	TN	favourable item sorted as "true of me" unfavourable item - "not true of me"
2	NT	favourable item sorted as "not true" while unfavourable item sorted as "true"
3 Inconsistent Sortings	TT	Both favourable and unfavourable items of a pair are sorted as "true of me"
4	NN	Both favourable and unfavourable items of a pair sorted as "not true"

Obviously, the first two combinations: TN and NT, indicated a consistent scoring, whereas the latter two combinations, TT and NN, indicated contradictory sortings.

In the present study, the two combinations of contradictory sortings indicated the amount of uncertainty, or inconsistency of the subject, with regard to his self-evaluations.

Scoring Procedure

I Scoring self-acceptance

1) Each favourable item sorted by the subject as "true of me", yielded him +1 point

2) Each unfavourable statement sorted as "not true of me" yielded the subject +1 point

3) Similarly, each favourable item sorted as "not true of

me" yielded the subject -1 point

4) An unfavourable item sorted as "true of me" yielded the subject -1 point.

Since in the present study, self-acceptance was empirically defined as the subject's "balance" between his favourable and critical self-evaluations, the final self-acceptance score was presented as:

$$\frac{TN - NT}{TN + NT} \quad or \quad \frac{a - b}{a + b}$$

where "a" represents the consistently sorted favourable self-evaluations, and "b" the consistently sorted unfavourable self-evaluations. Thus, scores could vary between +1 representing the maximum value of self-acceptance, and -1 representing the maximum value of self-rejection.

Obviously, in the self-acceptance score, only consistently sorted pairs were included, whereas contradictory sortings were excluded. Instead they were treated as indicators of the subject's self-inconsistency, or uncertainty about his self-image.

II An Uncertainty Score: Rationale

The selection of pairs of items which consist of an equal absolute meaning, and represent the favourable and unfavourable poles of a scale, offered a possibility of measuring uncertainty in a way, which is quite different from that provided by Staines' Q sort measure. It was assumed that a contradictory sorting of a pair of items,

should indicate the subject's inconsistency, or uncertainty, with regard to his self-referential statements.

Of course, this assumption was treated as a hypothesis, which has to be empirically demonstrated, since the possibility, that a contradictory sorting is contaminated by misunderstanding of the items, or other cognitive difficulties, had to be taken into account. It was therefore assumed that the validity of the uncertainty measure, may be proved, if this measure yields consistent scores, which are related to other variables and which could therefore be predicted.

Scoring Uncertainty

The uncertainty score was derived from the total number of items, which were sorted by the subject inconsistently ($\frac{a}{T}$ $\frac{b}{T}$ or $\frac{a}{N}$ $\frac{b}{N}$ as explained in Table 1), and which were therefore excluded from the self-acceptance measure. Since the total set of items consisted of one hundred cards, the total amount of uncertainty could be represented in percents.

Second Administration of the Q Sort Technique, for Testing the Validity of the Measure.

The second class of 33 nine-year-old boys and girls was given the Q sort test. Administration was individual as before. The distribution of self-acceptance scores ranged from +.76 to -.32. The distribution of uncertainty scores ranged from 8% to 38%.

It seemed relevant to consider whether the variance obtained, appeared free from contamination, due to response set.

For this purpose, a table of 2 X 2 was prepared for each subject, in which all his responses (of one hundred items), were divided according to his sortings, into the appropriate cells, as in the following example:

e.g.		True	Not True	Total
	Positive	41	9	50
	Negative	9	41	50
	Total	50	50	100

It was assumed that if the subject's sortings are not affected by a response set, the number of cards sorted into each of the two categories ("True" or "Not True") should be equal.

In a binomial distribution, the range of a bias due to chance expectancy, for fifty pairs, lies between 39.7 and 60.3. In only 4 out of the 33 cases tested, this range limit was exceeded.

The variance of the amount of bias, produced in the sample, can be tested in one way analysis of variance. In this analysis of variance, the variance estimate of the sample may be tested against the theoretical variance estimate (= 25), with infinity degrees of freedom.

Results

Table 2 representing a one-way analysis of variance,
testing the variance estimate of the sample, as against
the theoretical variance estimate.

Source	S.S.	d.f.	Variance estimate	F
Variance of sample	1422	32	44.43	1.77(p < .01)
theoretical variance		∞	25.00	

Comments

As shown in table 2, the variance of the sample
significantly reflects differences between subjects,
which are not due to response set. On the basis of the
findings obtained, it is tentatively concluded that the
Q sort technique was found applicable, and free from
bias due to response set, with the age group studied.

The Relation Between Self-Acceptance and Uncertainty

We may now test the first hypothesis of the pilot study,
in which a consistent relation is expected between subjects'
self-acceptance scores, and their uncertainty, or the amount
of inconsistency they show in evaluating themselves.
According to the hypothesis, a negative linear association
is expected between the two variables.

In order to test this hypothesis, Kendall's Rank-Order-Correlation Coefficient test (tau) was performed separately for boys and girls. No correction for ties was required. In order to assess how far the results yielded the expected relationships, the correlation coefficients were converted into Z scores.[†]

Results

Table 3. Rank-order correlation coefficients converted into Z scores, between self-acceptance and uncertainty scores, in boys and girls.

Sex	Z value	Significance level
Boys	Z = -2.35	$p < .01$
Girls	Z = -2.49	$p < .01$

Comments

As shown in Table 3, in both groups a significant correlation in the expected direction was obtained, between self-acceptance and uncertainty. This finding tentatively supports the hypothesis that self-acceptance is negatively associated with uncertainty, and that the relation is linear. Furthermore, the finding may yield support as to the validity of the two measures, since it was found that a consistent association, which can be predicted, exists between the two variables.

[†] Footnote: z values are calculated from the variance of the sampling distribution of tau, in the manner described by Kendall, M.G., Rank correlation methods (2nd ed.) chap. 4, Griffin & Company Ltd., London, 1955.

The findings may be discussed in terms of the
psychological processes involved in establishing the
relation between the two variables.

Staines (1958) argued that his measure of uncertainty
(which was derived from the subject's amount of "I don't
know" responses), indicates the amount of psychological
insecurity of the subject. However, Staines did not
examine the actual relationship between self-acceptance
and uncertainty, seeing the two variables as independent.

On the basis of the findings obtained in the present
study, we may argue that since it is psychologically
"easier", and less painful to hold a positive image of
self, the amount of certainty about it is higher, than in
the case of an unfavourable and rejecting self-image.
Such self-image, which is assumed to be a product of
painful and derogatory experiences with others, is believed
to be accompanied with more doubt and uncertainty about self.
Furthermore, one could argue, that the process of learning
and achieving certain self-evaluations is not different in
quality from any other learning process, in which prize and
punishment are involved.

Thus, it may be argued that experiences which facilitate
the establishment of a favourable attitude toward self, are
perceived as enhancing and rewarding, and therefore learned
easily. Whereas the task of achieving an unfavourable
attitude toward self is learned through painful and therefore
"punishing" experiences, which arouse more doubt and
uncertainty.

In summary, the findings obtained, support the hypothesis of a linear negative relation between self-acceptance and uncertainty.

In fact, we may argue that by yielding a consistent relation between the variables measured, these findings also establish the validity of the Q sort technique, as a measure of these variables. Since a consistent relation in the expected direction was found between self-acceptance and uncertainty, it may suggest that the latter variable does represent a psychologically meaningful variable, rather than merely indicating the amount of error in the measure. However, the validity of the measure will be further examined, by investigating the relation between self-acceptance and sociometric status.

A Procedure of Scoring the Data Obtained from the Interview.

Since the Q sort items were selected as a representative sample from the population of self referential statements, elicited by the interview technique, it was assumed that the two techniques measure an equivalent dimension of children's self-image.

Since the same subjects were interviewed and then after six weeks given the Q sort technique, the degree of equivalence of the two techniques, within a gap of six weeks, could be measured. An attempt to develop a scoring procedure of the interview technique, was therefore carried out.

In order to assess the amount of self-acceptance,
revealed by the child in the interview, a rating scale
was made up, consisting of all the items included in the
interview. In this rating scale, each item was thought
of, as a scale of values, which consists of a favourable
pole, an unfavourable pole, and points in the middle range.
In the present study, only three points were scored;
the favourable pole, the unfavourable pole, and one
middle point. e.g. "I think that most children like
me.." "Only a few children like me". "Most children
dislike me". In this way, all the items which have been
presented in the interview, were ranked on a three-point
scale.

The prepared rating scale was given to two post-
graduate students in the psychology department, who were
asked to rank all the items on the three-point scale,
according to their favourability or unfavourability.
Only the items which yielded a significant agreement
between the two judges and the experimenter, were included
in the final rating scale. Items which did not yield an
agreement among judges - were excluded from scoring.

The rating scale was duplicated, so that the material
from each interview was first analysed into the appropriate
categories, then scored according to the following scoring
pattern:

1) An answer (or item) which fell in the favourable pole
   of its appropriate scale, was given a score of +2.

2) An item which fell in the middle range was given a score of +1.

3) An elicited answer which fell in the favourable end of the scale, was given a score of 0.

The total of scored items yielded the subject's "self esteem" score (as differentiated from his self-acceptance score, derived from the Q sort).

When self-esteem scores, based on interview data were obtained for all the subjects (following the procedure described previously), five of the interviews were selected at random, and given to a judge (post-graduate psychology student). The judge was asked to follow the same scoring procedure (transfer the tape-recorded interview data into the rating categories, rate, and score them). The degree of agreement between judge and experimenter scores, as calculated by Kendall Rank-correlation coefficient (tau) was significant ($Z = 2.38$ p < .01).

The distribution of scores obtained from the interview technique ranged from +55 to +20.

The Degree of Equivalence between Self-Acceptance
Scores (derived from the Q sort technique, and the
Self-Esteem Scores (obtained from the interview).

Since it is assumed that the same dimension of the
self image, (that, mainly achieved from the quality of
interpersonal experiences with peers), is measured by
the two techniques, it is argued that the degree of
equivalence of the two measures will test the reliability
of the Q sort measure, over a period of six weeks.

A positive and linear association between the two
measures was therefore expected. For testing a linear
correlation between the two measures, Kendall's Rank-
correlation coefficient (tau) was performed. No ties
occurred in either of the distributions. Scores were
then converted into Z values.

Results

Table 4. Rank-order correlation coefficients, converted
into Z scores, between self-acceptance scores,
and self esteem scores in boys and girls.

Sex	Z values	Significance level
Boys	3.59	$p < .01$
Girls	2.59	$p < .01$

Comments

As shown in Table 4, a significant correlation in the
expected direction was found between subjects' self-
acceptance scores, derived from the Q sort technique, and
their self-esteem scores, obtained from the interview
technique.

1) Since a high degree of equivalence was found between
the two measures, supporting the assumption, that both the
interview and the Q sort technique measure the same
dimension of the self-image, the reliability of the self-
acceptance measure was established.

2) From the high degree of reliability, over a period
of six weeks, implications as to the stability of the
self-acceptance variable may be drawn.

The finding obtained, tentatively supported the second
hypothesis tested in the pilot study, that during middle
childhood, children's self-acceptance is a relatively stable
dimension of the self-image, in that it is not affected by
temporary fluctuations in the child's personality, or
social environment.

In summary, in the present section, pilot investigation
was designed to devise a standard technique for measuring
self-acceptance, with regard to children's social experiences
with their peers, and to test the applicability and validity
of such measure.

The measure was found applicable with the sample selected for study. The validity of the measure was tested in terms of a consistent and predicted relation between the two variables, derived from it. Finally, the reliability of the technique was indicated by the high degree of equivalence between self-acceptance scores, over a period of six weeks.

PART 2

Testing the Validity of the Approach Taken

1) The Relation Between Self-Acceptance and Acceptance by Peers

In the present section, the validity of the approach taken, with regard to the relation between the child's self-image and his social position in the peer group, was investigated.

On the basis of the theoretical considerations discussed in previous sections (introduction), a curvilinear relation is expected between the child's self-acceptance with regard to his social experiences, and his social position in the peer group. The child's social position in the peer group is measured by a sociometric technique, from which three independently measured indices of social adjustment may be derived:

1) Sociometric status

2) Amount of mutual choices ("friendship" relationships)

3) Amount of sociometric insight into peers' choices ("empathy")

Description of Sociometric Technique

For the purposes of the present study, the following four criteria, which have been recommended by Northway (1952) for use with subjects in middle childhood, were employed:

1) Moving to a new class with ...

2) Playing during play time with ...

3) Doing the most favourite things in school with ...

4) Doing the most favourite things at home with ...

The subject was asked to make three different choices for each criterion. However, he was allowed to choose the same persons for different criteria. The four criteria imply that only positive choices (and no rejections), could be made in this measure.

Administration

1) The sociometric test was also given individually to the same 33 subjects who had been both interviewed and given the Q sort test.

2) The test consisted of two parts. In the first part, from which a sociometric status score, and a score of mutual relationships were derived, the subject was asked to choose three subjects, from same-sex members of his classroom, for each of the four criteria.

In the second part of the test, the subject was asked to guess who of the same-sex members of his class might choose him, for each of the four criteria. (For instructions,

given in the first and second part of the test see
appendix no. 5).

Scoring Procedure of Sociometric Indices

a) Scoring sociometric status

1) Each choice given to the subject, yielded him one point.
The order of choice was not taken into account.
2) The subject's sociometric-status score was obtained
from the total number of choices given to him by the
same-sex members of his class.

b) Scoring mutual choices ("friendship" relationships)

In order to obtain this score, a matrix of N X N
(N = number of subjects), had to be made, for each criterion
and for each sex-group separately. Thus, eight such
matrices were prepared.

From each matrix, the actual number of the subject's
mutual choices, obtained in a particular criterion, had
to be compared, with his chance expectancy of mutual choices.
(Assuming that some mutual choices might occur by chance).
Therefore, for each subject, four 2 X 2 tables were prepared,
(one for each criterion) representing:
1) The subject's actual number of mutual choices.
2) One-way choices that he made.
3) One-way choices given to him.
4) The number of subjects, who neither chose him, nor
were chosen by him.

e.g.:

criterion:	1	2	3	4
	chose	did not choose		
chosen	X	m		
unchosen	Y	n		

The subject's actual amount of mutual choices was tested against the chance expectancy of such choices to occur. Therefore, for each 2 X 2 table, Kendall's binomial tau test was performed, from which an S score was calculated. The mean of the four S scores yielded the subject's mutuality score.

c) Scoring Sociometric Insight ("empathy")

The same scoring procedure as the one for mutual choices, was employed for scoring insight. However, for this type of score, another four N X N matrices for each sex group had to be prepared. This time, the number of right guesses of peers' choices made by the subject, was compared with the chance expectancy of making right guesses. For this purpose 4 (2 X 2) tables, for each subject separately, were prepared on the basis of the matrices, representing:

1) The number of right guesses made by the subject.
2) The number of wrong guesses made by the subject.
3) The number of people who chose the subject, but which he failed to guess.

4) The number of people who neither chose him, nor were
"guessed" by him.

The four combinations are illustrated in the following example:

e.g.:

Criterion	1 guessed	2 did not guess	3	4
chose	X	m		
did not choose	Y	n		

As in the previous case, for each 2 X 2 table, Kendall's binomial tau test was performed, from which S scores were obtained. The mean of the four S scores represented the subject's sociometric "insight" score.

2) The Relation Between Self-Acceptance and Sociometric Status

According to the third hypothesis made in the pilot study, a curvilinear relation was expected between the two variables. The association was tested separately for boys and girls, since subjects' sociometric status scores were obtained from same-sex peers only.   In order to test this hypothesis:
Kendall's coefficient of rank correlation (tau) was performed, testing both a linear and a curvilinear correlation.

1) No significant linear correlation was found between the two variables.

2) In order to test a curvilinear correlation, Kendall's rank-order-correlation coefficient was again performed, using the formula for ties in one ranking. However, the rank order of self-acceptance scores was formed to fit a U shaped distribution, using the following procedure: The median of self-acceptance scores in each group was taken as a cut-off point, from which each pair of scores - one below and one above the median - was given the same ranking order. In this way a U-shaped distribution of ranks was obtained with the self-acceptance scores. This curvilinear distribution of ranks was then correlated with sociometric status scores, and correlation coefficients were converted into Z values.

Results

Table 5. <u>Kendall's rank order correlation coefficients converted into Z values, testing a curvilinear relation between self-acceptance, and sociometric status, in boys and girls.</u>

Sex	Z values	significance level
boys	2.14	$p < .05$
girls	2.26	$p < .05$

Comments

As shown in table 5, in both groups a significant
curvilinear relation was found between the two variables,
tentatively confirming the hypothesis that children's
self-acceptance is curvilinearly related to their
sociometric status.

This finding yields support for the theoretical
approach, taken in the present study. Since the relation
between self-acceptance and acceptance by others is
believed to be a complex one, the direction of causality
is assumed to be reciprocal. Thus, on one hand, we may
argue that a child's popularity in his peer group, and
the amount of acceptance he gains from his peers - directly
affect his self-evaluations. Thus, peers' acceptance
facilitates the establishment of self-acceptance in the
child, which is seen as one characteristic of an adequate
self-image.

However, in order to adjust to the social environment,
the child must also establish a realistic view of himself,
which involves self-criticism, as well as accepting
unfavourable self-evaluations into his self-image. Thus:
a realistic self-image is seen as another characteristic
essential for adequacy. On the other hand, the dynamic
part of the self-image cannot be denied: a realistic self-
image probably facilitates the acceptance of others.

Thus, a child who possesses moderate rather than
extreme feelings of self-acceptance, does not appear as a

threat to his peers, nor is he seen as "cocky" and

snobish by them. These type of children, who possess

a more realistic image of themselves, probably have

more insight into their peers' acceptance, with regard

to social behaviour, and acceptable group functioning.

The Interrelation Between Three Indices of Social Adjustment

According to the fourth hypothesis, the three indices

of social adjustment, measured in the present study;

sociometric status, mutual relationships and sociometric

insight, are intercorrelated. In order to test the

correlation between the three indices, Kendall's coefficient

of rank correlation (tau) was performed. (No ties were

obtained in either of the three distributions of scores).

Results

Table 6. Kendall's rank-order correlations, converted into
Z values, between sociometric status and "friendship",
sociometric status and "insight" and "insight and
"friendship", in boys and girls

Sex	Z values of sociometric status and friendship	Z values of sociometric status and insight	Z values of friendship and insight
Boys	2.04 (p < .05)	2.55 (p < .01)	2.14 (p < .05)
Girls	1.98 (p < .05)	2.38 (p < .01)	2.12 (p < .05)

1) As shown in table 6, a ~~high~~ positive association was
   found between subject's sociometric status in the peer
   group, and their amount of mutual choices ("friendship"
   relationships), as tested against a chance expectancy.

2) Furthermore, children's sociometric status, and their
   amount of "insight" into their peers' choices (as
   tested against the chance expectancy of correct guesses
   to occur), were also positively associated.

3) In addition, a positive association was found between
   "insight" and "friendship" scores.

On the basis of these findings, implications as to the
validity of sociometric status, as a measure of a global
rather than a specific dimension of social adjustment, may
be drawn. The findings suggest that sociometric status
indicates a much wider range of social functioning, than
merely the child's hierarchial position in the peer group.
Since it is correlated with both the amount of mutual
relationships, and sociometric insight, it may be seen as
an indicator of a general rather than a specific dimension
of social behaviour.

Summarizing the findings obtained in the second part
of the pilot investigation:

1) The hypothesis of a curvilinear relation between self-
   acceptance and sociometric status was confirmed, thus
   supporting the validity of the approach taken in the
   present study.

2) The sociometric technique was found applicable with subjects in the age group studied. The technique yielded meaningful results, which tentatively suggest that sociometric status is a valid index of a global rather than a specific dimension of social adjustment.

Main Study

The main study was designed to investigate some developmental processes, which emerge in the self-image during middle childhood, and which are believed to be facilitated by the child's social experiences with his peers.

It was carried out with a reasonably large and representative sample of subjects, which were divided into four age groups: age 7.5, 8.5, 9.5 and 10.5. Inter-individual, as well as inter-group comparisons were carried out, along the variables under investigation.

Since a third measure of self-acceptance (Kelly's repertory grid technique), was added to the main study, it enabled to compare three self-acceptance measures, obtained from different measurement methods, in order to test the degree of equivalence of the three measures.

In addition, repertory grid technique presented the possibility of studying developmental patterns in children's self-image, in terms of a third aspect, that of a social versus a personal orientation, in evaluating self and peers.

The study is presented in four parts, according to the theoretical issue under discussion:

Part 1 of the study is concerned with the degree of equivalence of the three self-acceptance measures employed: Interview technique, Q sort technique and Kelly's repertory-grid technique.

Part 2 is concerned with some developmental trends, which emerge during middle childhood in the self-concept and in peer-interaction.

In Part 3, the development of a social versus personal orientation, in evaluating both self and peers, is investigated.

Part 4 is concerned with the relation between self-acceptance, and some aspects of social adjustment in middle childhood.

PART 1 — Aim and Design

A Comparison of Three Measures of Self-Acceptance,
As Derived from: Interview, Q sort technique and
Kelly's Repertory Grid Technique.

The Measures Employed in this part of the study:

Variables	Measures
1) Self-esteem	Interview technique
2) Self-acceptance I (favourable - unfavourable self-evaluations)	Q - sort technique
3) Self-acceptance II (Real self - Ideal self)	Repertory-Grid technique

This part of the study is concerned with the degree
of equivalence of three different measures of self-acceptance,
which were derived from:
1) Interview technique (designed in pilot study)
2) Q sort technique   (designed in pilot study)
3) Repertory-grid technique.
It was designed to test the following hypothesis:

The three different instruments basically measure
the same dimension of the self-concept; self-acceptance.
Therefore, scores which are obtained from the three
independent measures are positively correlated.

Testing this hypothesis is considered essential from a theoretical point of view, which is based on the methodological criticism discussed in previous sections. According to such sources of criticism, the equivalence of the various measures of self-acceptance is an empirical question, and should therefore be tested under a hypothesis, rather than taken for granted.

Furthermore, the differences in operational definitions of the three self-acceptance measures, employed in the present study have to be taken into consideration:

1) The self-acceptance measure, which was obtained from the interview technique, is operationally defined as the total amount of favourable self-evaluations which was revealed during the interview. It is therefore referred to as "self-esteem" in the present study. This operational definition is similar to that of Gough (1955).

2) The self-acceptance measure which was obtained from the Q sort, is operationally defined in the present study as the "balance" or discrepancy between the subject's favourable and unfavourable self-evaluations. This measure appears essential in the context of the theoretical approach taken in the present study. It's operational definition is similar to that of Brownfain's (1952) "balance" between the "optimistic" and the "pessimistic" attitude toward self.

3) The self-acceptance measure, which was derived from the Repertory Grid technique, is operationally defined as the congruence between Real-self and Ideal-self rankings of the elements. Thus, this technique yields a measure of

self-acceptance as defined by the classical phenomeno-
logical approach.

In summary, the three closely related, yet
differentially defined aspects of self-acceptance are
tested in the first part of the study, as to their
degree of equivalence.

Description of Investigation

Although results obtained in the main study are
presented in four parts, according to theoretical issue
under discussion, the whole investigation, which was
carried out in three stages, will be described in this
section. The presentation of the method of study as a
whole appears appropriate, since it was both designed
and carried out as a single prolonged investigation.

Subjects

Since the present study is concerned with some
developmental processes, the following four age groups,
representing the period of middle childhood, were
included: 7.5, 8.5, 9.5 and 10.5. The rationale for
selecting this age range was discussed in previous
sections (introduction).

The requirements for the socio-cultural background
of the subjects was, that it should be "typical" of that
experienced by most children of this age.

In addition, since the four age groups were compared along the various variables studied, it was considered essential that the four age groups should belong to the same socio-cultural background.

Furthermore, since emphasis was put on the effects of social interrelationships with peers upon the self-concept, it was considered essential, that the social background and atmosphere should be held constant in all four age groups. Therefore a study of four groups, taken from the same school, was considered appropriate. One L.E.A. school, serving working class and lower middle class neighbourhood, was therefore chosen.

The sample consisted of 144 boys and girls in four different school classes. Their categorization according to age and sex is shown in Table 7.

Table 7. The number of subjects included in the main
study, as divided by age and sex

Age Sex	7.5	8.5	9.5	10.5	Total
boys	16	13	20	21	70
girls	19	21	15	19	74
Total	35	34	35	40	144

1) As in the pilot study, all techniques were individually administered.

2) As shown in Table 7, the total sample was subdivided
into eight groups, according to age and sex, and the
relations between the variables under investigation
were analysed separately for each of the eight groups.

1) Self-esteem, as measured by the interview technique

Although it was found in the pilot investigation that
both the interview and the Q sort techniques basically
measure the same dimension of the self-image, and may
therefore be considered as equivalent, it seemed appropriate
to employ both techniques in the main study as well, with
all the subjects, on the basis of two considerations:
First, it was believed that since both techniques yield
a measure of the same variable, the employment of the two
techniques within a gap of six weeks would present the
possibility of testing the reliability of the self-
acceptance measure. Similarly, it would yield important
data as to the degree of stability of self-acceptance
over a period of six weeks to two months.

Furthermore, although the variables measured by the
two techniques are overlapping, there is still a fundamental
difference between the two measures as to the type of data
they yield. In the Q sort technique the items are not more
than a representative sample of peers' self referential
statements and evaluations, which are supplied to the subject.
It is assumed, that a particular subject's social self-image,
can be evaluated by these self-referential statements.
Obviously, this assumption is not purely phenomenological,

in that the technique cannot yield any data as to the unique and characteristic self-image of each individual.

On the other hand, in the interview technique, the items concerning the self-image are elicited, rather than supplied. The technique has therefore the advantage of yielding data about the private and unique self-image, and as such,may be considered as consistently phenomeno-logical.

However, the interview technique suffers from being dependent upon subjective interpretation of the data by the experimenter. If it is used alone, it demands rather complicated and unparsimonous procedures of interpretation of results and scoring, in order to avoid bias due to subjective judgment.

On the basis of these considerations, it is held in the present study, that by employing both the Q sort and interview techniques, the advantages of a standardised procedure of administration and scoring, will be combined with the advantage of having access to data about the private and unique self-image.

Measures Employed in the Main Study

Stage	Variable	Measure
1	1. <u>Self-esteem</u>	Interview technique
2	2. <u>Self-acceptance</u> (favourable - unfavourable self-evaluations)	Q sort technique
	3. <u>Uncertainty</u> (consistency of self-evaluations)	Q sort technique
3 A	4. <u>Self-acceptance</u> (Real - Ideal self)	Rep. Grid technique
	5. Social versus Personal self-orientation	Rep. Grid technique
B	6. Sociometric status	Sociometric technique
	7. Reciprocal choices ("friendship")	" "
	8. Insight into peers' choices ("empathy")	" "
	9. Peer Interaction	Time-sampling observation technique

Description of Procedure

Each age group (consisting of one mixed class), was first individually given the first measure (interview technique). The procedure of interviewing one class took about one month to six weeks. This was followed by the second stage in which all the subjects of the same class were given the Q sort technique individually. The second stage, which was also carried out within four - six weeks

was followed by the third stage, in which the repertory

grid test, and the sociometric test, were given

individually to each of the children. Thus, for each

individual child, the time gap between the administration

of each of the three measures was four to six weeks.

When the three - stage procedure was completed with the

first class (age group 8.5), it was repeated with each

of the other three classes, in the following order;

age group 9.5, 10.5 and 7.5.

Since three of the techniques employed in the main

study (interview, Q sort and sociometric techniques), had

been previously employed in the pilot investigation, in

which their applicability and validity had been demonstrated,

the same procedures of administration and scoring, as

described in the methodology section, were repeated.

Thus:

1) Scoring the interview data involved again transferring

the tape-recorded data of each subject's interview into

recording forms, and then scoring each category according

to the scoring code. In this way a self-esteem score was

obtained for each subject.

2) Both administration of the Q sort technique, and its

scoring procedure were repeated as before:

a) Again, a self-acceptance score was obtained by

the operation $\dfrac{a - b}{a + b}$ where a = favourably sorted

items, and b = unfavourably sorted items.

b) An Uncertainty score was obtained from the total

of inconsistently sorted pairs of items (as described

in the methodology section).

3) The procedure of administration and scoring of the sociometric technique was repeated as in the pilot investigation, to yield the following three measures:

a) Sociometric status = (total number of choices given to each subject).

b) Reciprocal choices ("friendship relationships") = The number of each subject's reciprocal choices, as compared with the chance expectancy of his reciprocal choices to occur.

c) Insight into peers' choices ("empathy") = the number of each subject's right guesses of choices made to him by his peers, as compared with his chance expectancy of making right guesses.

Two techniques, which had not been employed in the pilot investigation, were added to the main study: The repertory grid technique, and the time-sampling observation technique. The repertory grid technique was designed to satisfy two aims:

1) To yield a third and differentially defined measure of self-acceptance (Real self - Ideal self discrepancy)

2) To investigate the development of a social versus personal orientation in evaluating self and peers.

Description of Repertory Grid Technique

The repertory grid technique, devised by George Kelly (1955), seemed to be another well suited method for measuring children's self-assessments, particularly in the social context of their relationships with their peers.

Basically, the technique consists of judgments made by subjects, of particular objects - elements, in terms of particular categories or constructs. In the standard procedure with children, photographs of the same-sex and same-age peers are used as elements.

This procedure appears particularly relevant in the present study, since the social self-image is assumed to emerge and develop within the social environment of peers, and from the endless number of comparisons, which he makes between his peers and himself, in the process of self-assessment. The comparisons can be assumed to be made in terms of the child's constructs. A construct is basically a way of formulating similarities and differences. It is a two-ended affair, e.g. friendly - unfriendly, but there is an implicit unity between the two poles of the construct. The constructs used with children are based on the implied unity of the construct, and the two opposed poles are verbalised as "most likely to - least likely to".

Repertory grid technique is highly flexible, in that it is based on the recognition of the uniqueness of every person's outlook, and it lends itself to a wide range of content and of scoring method, according to the special aspects of the subject's outlook, which are to be studied.

In order to make comparisons between individuals and groups of individuals, standard constructs had to be used, and therefore, the constructs were supplied to the subjects, rather than being elicited by them.

In order to assess the subject's identity system in terms of a personal versus social self orientation, eight constructs were selected for their personal relevance to the two dimensions; personal self-identity and social self-identity. Social and personal orientations were defined in a way similar to that by Carlson (1963, 1965).

Social orientation: was defined as the salience of interpersonal experiences in the individual's evaluations of both peers and self.

Personal orientation: was defined as self and peer-evaluations which appeared to be independent of concern with interpersonal experiences.

a) Socially oriented constructs

1) Most likely to have a lot of friends - Least likely to have a lot of friends.
2) Most likely to be shy - Least likely to be shy.
3) Most likely to be good at games - Least likely to be good at games.

b) Personally oriented constructs

1) Most likely to be good at drawing - Least likely to be good at drawing.
2) Most likely to be clever - Least likely to be clever.
3) Most likely to be good at writing stories - Least likely to be good at writing stories.

c) Two self-referential constructs (in order to
assess ideal and actual self independently)

1) Most likely to be like me - Least likely to be
like me (real-self).

2) Most likely to be like I would like to be - Least
likely to be like I would like to be (Ideal-self).

II Elements

Eight passport photographs of 7.5 to 10.5 year-old
boys, to be administered with the boys' sample, and
similarly - eight passport photographs of girls within
this age range - to be administered with the girls' sample.

The construct "like me" was explained as meaning
"the sort of boy you are", not necessarily the boy you
look most like. Similarly the construct "like I would
like to be" was explained as meaning "the sort of boy
you'd like to be like", not necessarily the boy you'd
like most to look like.

Administration of the Grid Technique

Two preliminary steps preceded administration of the
technique:

1) The eight photographs were lettered A, B, C, D, E, F, G, H
on the back.

2) As suggested by Ravenette (footnote), a recording
sheet was prepared (see appendix no. 6).

Footnote: Ravenette, A.T. Method for administering the
grid for children. Unpub. MS. (1969).

The Repertory Grid technique was also administered individually. A ranking procedure was employed, as recommended by Ravenette (footnote), using the following steps:

1) The photographs were spread out in two rows in front of the subject.

2) He was invited to select the boy or girl who is "most likely to ... have a lot of friends" (This was construct 1 in the experiment).

3) When the choice was made by the subject, it was placed, face down, on the experimenter's left.

4) The subject was then invited to select the boy who was "least likely to have a lot of friends" (The opposite pole of construct 1).

5) This choice was placed, face down, on the investigator's right.

6) Steps 2 - 7 were repeated for construct 1, until all the photographs were ranked.

The same instructions (see appendix no.7) were repeated for all the eight constructs.

During the experiment, the recording sheet was used by the experimenter to enter the appropriate ranks. Originally, the ranks from 1-8 appeared at the top of the sheet, and the experimenter entered the appropriate letters according to the rank, which has been given to the photographs. The grid of letters thus obtained, was then converted into a table of rank orders (see example of scoring sheet in appendix no. 6).

Footnote: Ravenette, A.T. Method for administering the grid for children. Unpub. MS. (1969).

Scoring

The table of rank orders has been converted into a correlation matrix, using rank order correlations between each pair of constructs. These correlations were used to assess:

1) The inter-relations between the constructs for each subject

2) The relation between the different personally-oriented and socially-oriented constructs, on one hand, and the subject's ideal and actual self, on the other.

Measuring Peer-Interaction by a Time-Sampling Observation Technique.

In the present study Marshall and McCandless' (1957) diagram technique, which has been described in the literature section (see sociometric techniques), was adopted for measuring peer-interaction, with the following modifications:

1) seven rather than four categories of observation were employed

2) Therefore, a number of symbols was added to the diagram.

The following categories of social behaviour were selected for observation:

1) Associative play (represented by the upper-left side
   of each diamond) was defined as children being involved
   in a common activity or interest.

2) Leadership in Associative play (represented by a circle
   added on top of a diamond) was recorded when, during
   the two-minute observation a child's social behaviour
   remarkably suggested that the social activity was
   instigated, or led by him.

3) Friendly Approach (represented by the lower-left side
   of a diamond) was defined as a verbal approach, or
   response to another child, that is neutral, friendly
   or helpful.

4) Conversation (represented by the upper ~~left~~ right side of
   a diamond) was recorded if conversation of a friendly
   nature occurred between two or more children for more
   than one minute of the two-minute observation time.

5) Hostile Interaction (represented by the lower-right
   side of a diamond) was defined as verbal or physical
   approach or response, that interferes with the ongoing
   activity of another child, or is a direct attack on
   another child.

6) Playing Alone (represented by a separated diamond,
   where its lower half was filled, e.g. ◆), was defined
   as a child who was found alone, being involved in a
   certain play activity.

7) Being alone without any defined activity (represented by
   a separated diamond, where its upper half is filled,
   e.g. ◆). This was recorded, when the observed child
   was found alone, and without being involved in any
   defined activity.

Description of Procedure in the Present Study

Time-sampling observations were taken by the experimenter during play-time. Since a systematic observation of all the 144 subjects included in the sample, was considered an overwhelming task, a sub-sample was taken from each of the eight groups, on the basis of their sociometric scores. The eight sub-samples consisted of the four most popular and the four least popular subjects in each group. The selection of these criterion groups on the basis of their sociometric status score was considered appropriate for validating the sociometric technqiue, as well as for investigating sex and age differences in social interaction with peers.

The total sample selected for observation, consisted of 64 boys and girls, equally divided into 16 categories, according to age, sex and popularity.

For each subject, 15 two-minute sample observations were taken, in a random order. Each observation was recorded in a diagram (see example in appendix no. 8), by drawing lines, which connected between the four sides of the diamonds, which represented the categories of observation.

Scoring

a) Each of the following four categories: "associative play", "leadership in play", "friendly approach", and "conversation", if recorded, were given a score of +1.

b) A sample recorded as "playing alone", was given a score of 1/2 point.

c) A sample recorded as "being alone without any identified activity", was scored 0.

d) A sample recorded as "hostile behaviour", was given a score of -1.

The scoring procedure was considered justified, since it was believed that an ordinal social-interaction scale was formed along the categories under observation, with the first three categories equally representing the positive end, and the last two categories representing the negative end.

The total of the subject's scores, derived from his 15 observations, yielded his peer-interaction score.

Since only one observer was involved, sampling reliability of the play-interaction score was tested for odd-even split half. The odd-even Guttman[†] coefficient was over .90.

[†] Cf Guttman, L. A basis for analysing test-retest reliability Psychometrika 1945, 10, 255-282 and:
Guttman, L. The Test-retest reliability of qualitative data. Psychometrika 1946, 9, 81-95.

Results of Part 1

(A Comparison of Three Measures of Self-Acceptance)

Before testing the main hypothesis in part 1 of the study, two important questions were examined: The first question concerned the possibility of contamination due to response set, in all the subjects' responses to the Q sort measure. The second question concerned the amount of agreement (or concensus), among all the subjects, as to the element ranking in the grid technqiue.

With regard to the possibility of a response set in the Q sort measure, as in the pilot investigation, a table of 2 X 2 was prepared for each subject. Each subject's one hundred responses were divided as before into the four cells, according to his actual sorting; as in the following example:

	True	Not True	Total
Positive	41	9	50
Negative	9	41	50
Total	50	50	

As in the pilot investigation, it was assumed, that if the subject's sortings are not affected by a response set, the number of cards sorted into the two opposite categories ("true" and "not true of me"), should be equal. As pointed out previously, in a binomial distribution the range of a bias, due to chance expectancy for fifty pairs, lies between 39.7 and 60.3.

In only 16 out of the total number of 144 subjects, this range limit was exceeded.

As in the pilot investigation, a one-way analysis of variance was carried out, in which the variance of the sample was tested against the theoretical variance estimate (= 25), as shown in Table 8.

Table 8. <u>One-Way Analysis of Variance of the sample, as</u> <u>tested against the theoretical variance estimate</u> <u>with infinity degrees of freedom.</u>

Source	SS	d.f.	Variance estimate	F
Sample	9702.5	144	67.38	2.70(p <.001)
theoretical variance		∞	25	

<u>Comments</u>

As shown in table 8, the variance of the sample significantly reflects differences between subjects, which are not due to response set.

The non biased responses to the Q sort test may also suggest that the positive and negative poles of the test were well balanced, rather than biased towards one of the two directions.

In order to test the degree of consensus among the
subjects, as to the ranking of the elements for each
construct, all the 144 grids were submitted to analyses
of variance, testing the degree of "consensus" in the
element rankings of each construct, in each of the eight
groups (footnote).

Analyses of variance were carried out for each of
the eight groups, and for each construct separately, in
terms of; the variance between the subjects, variance
between the elements, and the interaction between subject
and element.

The F ratio of the total variation, due to differences
between elements, as against the interaction of element
and subject, was found significant for each construct
(see appendix no. 9). The F value indicated the degree
of consensus in each group, as to the rankings of the
elements for each construct.

On the basis of the significant consensus among
subjects in ranking the elements for each construct, a
"consensus" grid for each group, in terms of the average
element rankings of the constructs was calculated.
Eight such "consensus" grids were obtained.

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Footnote: This program is available in the M.R.C. service,
           for analyzing repertory grids, under the direction
           of Dr. P. Slater.

The amount of equivalence of three measures of
self-acceptance, as derived from: interview,
Q sort technqiue and Kelly's repertory grid technique.

In this part of the study, the amount of equivalence
of the three measures of self-acceptance was tested. It
was assumed that although the three measures derive from
three different operational definitions of self-acceptance,
and three different measurement methods, the three measures
are closely related, because of the broader theoretical
frame of reference, that they have in common.

In order to test a positive and linear association
between the three measures, Kendall's rank order correlation
coefficient (tau), was performed. (No correction for ties
was required). The "tau" values were then converted into
Z values. Eight such correlations were performed testing
the hypothesis in each group separately.

a) The Degree of Equivalence Between Self-Esteem, As
   Measured by the Interview Technique, and Self-Acceptance
   As Measured by the Q Sort Technique.

Results

Table 9. <u>Kendall's rank-order correlations, converted
into Z scores, between self-acceptance, as
derived from the Q sort technique, and
self-acceptance scores, obtained from the
interview, in each of the eight groups.</u>

Sex \ Age	7.5	8.5	9.5	10.5
Boys	.86 (N.S.)	1.44 (N.S.)	3.59 (p<.001 1 tail)	3.62 (p<.001 1 tail)
Girls	3.52 (p<.001 1 tail)	3.18 (p<.001 1 tail)	2.59 (p<.01 1 tail)	2.91 (p<.01 1 tail)

Comments:

As shown in table 9, in six of the eight groups, a
highly significant correlation was found between self-
acceptance, as measured by the Q sort technique, and
self-esteem, as measured by the interview technique.
All the eight Z scores obtained are in the expected
direction.

Testing the significance of the sum of Z scores under
a null hypothesis[†], yielded: Z = 7.69 (p < .001), which
is highly significant.

This result unequivocally confirms the hypothesis, that
the measure of self-esteem, obtained from the interview, is
equivalent to the measure of self-acceptance, obtained from
the Q sort technique.

[†] Footnote: This technique is described in:
Weatherburn, C.E., <u>A first course in
mathematical statistics</u>, Cambridge Univ. Press,
1961, p.58.

The same finding has been obtained in the pilot
investigation.

In fact the highly significant correlations obtained
between the two measures, are not surprising, since both
the theoretical frame of reference, and the universe,
from which the sample of items were selected, were the
same for the two measures. The only difference between
them lies in the different measurement methods, and
since they were found equivalent, the reliability of the
self-acceptance measure, over a period of four to six
weeks, is borne out.

It may be interesting to point out that, as shown in
table 9, the two groups in which a significant correlation
between the two variables was not borne out are both groups
of boys in the lower age range (7.5 and 8.5). A possible
explanation might be, that the two groups of younger boys
failed to respond "naturally" in the interview, in front
of a female experimenter, particularly since the interview
covered areas of the self-concept (social areas), which
the child does not usually discuss spontaneously with his
teachers.

b) The Degree of Equivalence Between Self-Acceptance
   Measured by the Q Sort Technique, and Self-Acceptance
   Measured by Repertory Grid Technique.

Results

Table 10. Rank order correlations converted into Z scores,

between Q sort self-acceptance scores and

Repertory Grid Self-Ideal self congruency scores,

in each of the eight groups.

Age Sex	7.5	8.5	9.5	10.5
Boys	0.18 (N.S.)	0.60 (N.S.)	0.0	3.21 (p < .001 1 tail)
Girls	1.26 (N.S.)	0.30 (N.S.)	0.99 (N.S.)	0.32 (N.S.)

Comments:

As shown in table 10, in only one case, (boys of 10.5 years old), a highly significant correlation was found between self-acceptance, as measured by the Q sort technique, and self-acceptance, as measured by the Real-Ideal congruence scores, derived from the repertory grid technique.

The other seven results obtained, though not significant, are all in the expected direction. Therefore, when testing the significance of the sum of Z scores for the eight groups, a significant Z score is obtained (Z = 2.43, p < .01).

It is not surprising that the amount of association between the latter two measures is less than that obtained from the comparison of the two former measures. It may be explained by the differences between the two measures in both operational definitions, (favourable - unfavourable

self-evaluations, as against self-ideal self discrepancy)
as well as the differences in measurement procedures.

It is therefore considered a striking fact that
nevertheless, a low though significant association was
still found between the two measures. This finding is
even more striking, considering the relatively long time
gap (about two months) between their administration.
The same findings may now be discussed with regard to
the stability of the self-concept, over a period of six
to eight weeks.

A highly significant correlation was found between
self-esteem, as measured by the interview technique, and
self-acceptance, as measured by the Q sort technique,
over a period of four to six weeks. The finding may
suggest that self-acceptance is a relatively stable
dimension of personality, and is not affected to a large
extent by more temporary environmental and personal
fluctuations.

However, it is argued in the present study that during
this period of age (middle childhood), significant changes
in children's self image do occur as a result of some
deeper personality changes. It is assumed that these
changes are consistent, and therefore measurable, and
that they emerge as developmental trends in the child's
personality, as a result of his developing social inter-
relationships with his peers. These developmental processes
will be discussed in the next part of the study.

Summarizing the findings obtained in the first part
of the study:

1) Whereas self-esteem and self-acceptance, as measured
by the interview and Q sort techniques, were found to be
overlapping dimensions of the self-image, measured by
highly equivalent measures, a smaller, though significant
amount of association was found between the Q sort self-
acceptance measure, and the repertory grid real - ideal
self congruence measure. It is therefore suggested that,
in any attempt to generalize from findings, which derive
from two different measures, the lack of complete over-
lapping between them, must be taken into account.

2) Since the first two measures yielded a highly
significant association, between two different measures
of the same dimension of children's self-image, over a
period of four to six weeks, it was concluded that self-
acceptance is a relatively stable personality dimension.
Changes in this dimension are therefore expected to emerge
as a result of consistent, and therefore predictable
developmental trends in the child's personality, rather
than stemming from temporary fluctuations in the child's
personality, or his social environment.

Developmental Trends which Emerge During Middle
Childhood, in the Self-Concept and in Social
Adjustment.

Introduction

In the present part of the study, a developmental
approach is taken, in investigating aspects of the self-
concept (self-acceptance and uncertainty), and aspects
of peer-interaction.

Thus, although the same type of relationship
(curvilinear) is expected to occur between the two sets
of variables, along the different age and sex groups, it
does not follow that the quality and complexity of each
of the investigated variables, is expected to remain
constant, along the four age groups. On the contrary;
consistent and therefore predictable developmental changes
in the child's self-concept, as well as in the quality and
quantity of his social relationships with his peers, are
expected to emerge during the age period studied.

With regard to the self-concept, developmental trends
were predicted in the two aspects under investigation:
self-acceptance and uncertainty. On the basis of the
theoretical approach taken, in which a moderate, rather
than a high degree of self-acceptance is associated with

good adjustment,as well as a more realistic concept of self, the argument is put forward that, as the child grows, his degree of self-acceptance, which is achieved through the process of self-evaluation, will gradually decrease. As a result, a more realistic and mature picture of self will take the place of the earlier simplified and rather "black and white" self-image. A realistic self image undoubtedly involves more experiences of self-criticism, and therefore, more unfavourable self-assessments will be established as part of the self-image.

A parallel developmental process, which is believed to emerge during middle childhood, is the gradual achievement of more certainty and more consistency with regard to one's self-concept. Obviously, the more experienced the child becomes within his social environment of peer-relationship, the more established his social position becomes. The establishment of a social position within the peer group will be reflected in the more crystallized self image.

In the present study, uncertainty, or consistency about self may be seen as an indicator of the degree to which the self-concept becomes established and crystallized in the child's personality. It is assumed that the more certainty and consistency the child shows in his self assessments, the more established and mature his self-image is. On the basis of these considerations, this part of the study was aimed to test the following hypotheses:

1) Self-acceptance as measured by the Q sort technique decreases gradually from age 7.5 to age 10.5, in both boys and girls.

2) Self-Ideal self congruence, as measured by the Repertory Grid technique, decreases gradually from age 7.5 to 10.5, in both boys and girls.

3) The amount of uncertainty, as measured by the Q sort technique, decreases gradually from age 7.5 to age 10.5, in both boys and girls, indicating that the amount of certainty and consistency in evaluating self, increases with age.

A linear trend as a function of age is therefore predicted with regard to the three variables.

In order to test the three hypotheses, a two-way analysis of variance (between age and sex), was carried out with each of the three variables. Since the eight groups consisted of an unequal number of subjects, the unweighted means method was employed.

a) Developmental trend in self-acceptance

Results

Table 11. Self-acceptance mean scores in each of the eight groups.

Age Sex	7.5	8.5	9.5	10.5	Total
Boys	64.0	58.07	41	34	197.0
Girls	59.8	42.38	39.8	34.3	176.28
Total	123.8	100.45	80.8	68.3	373.28

Table 12. Summary Table of a two-way analysis of variance of self-acceptance scores, according to sex and age, in the eight groups.

Source	SS	d.f.	Variance estimate	F
Sex	937.5	1	937.5	0.84 (N.S.)
Age	15,708	3	5236.0	4.72 (p<.01)
Sex X Age	353.8	3	117.5	N.S.
Within cell	150,628	136	1107.5	

Table 13. Summary Table of Trend Analysis of self-acceptance scores, as a function of Age.

Trend	SS	d.f.	Variance estimate	F
linear	15,324	1	15,324	13.84 (p<.001)
quadratic	260.4	1	260.4	N.S.
Cubic	0.53	1	0.53	N.S.
Within cell	150,628	136	1107.5	

Comments:

As shown in table 12, the only significant difference between self-acceptance scores is found between the age groups. Both sex differences and the interaction of Sex and Age are negligeable.

The trend analysis of the age differences is presented in table 13. As shown in the table, the linear trend component is highly significant ($F = 13.84$, $p < .001$), whereas the quadratic and cubic trends are non-significant. An explanation of the results in terms of a simple linear trend is therefore tenable.

These findings strongly support the hypothesis that the amount of self-acceptance gradually decreases with age, and that the type of decrease is linear.

b) <u>Developmental Trend in Real self - Ideal self Congruence</u>

Table 14. Mean scores in real self - ideal self congruence scores (in terms of rank order correlations between real self and ideal self), in the eight groups.

Sex \ Age	7.5	8.5	9.5	10.5	Total
Boys	58.81	69.71	73.42	33.59	235.53
Girls	45.05	61.71	72.93	35.75	215.44
Total	103.36	131.42	146.35	69.34	450.97

Table 15. Summary Table of a two-way analysis of variance of real self - ideal self congruency scores, according to sex and age, in the eight groups.

Source	SS	d.f.	Variance estimate	F
Sex	928,64	1	928.64	0.70 (N.S.)
Age	31,210.0	3	10,403	7.90 (p < .001)
Age X Sex	1,474	3	491.33	0.373 (N.S.)
Within cell	183,016	139	1316.66	

Table 16. Summary Table of Trend Analysis of real self - ideal self congruency scores, as a function of age.

Trend	SS	d.f.	Variance estimate	F
Linear	3562.36	1	3562.36	2.90 (N.S.)
Quadratic	24,794 .84	1	24,794 .84	18.83 (p < .001)
Cubic	2852.54	1	2852.54	2.16 (N.S.)
Total	31,209 .7			
Between Age	31,210			
Within cell	183,016	139	1316.66	

Comments:

As shown in Table 15, with regard to the main effects, results obtained from the Real self - Ideal self congruency measure, are similar to those obtained from the Q sort self-acceptance measure. Thus, the only significant difference between the scores is due to age differences.

Here again, a developmental pattern may be seen, along
the four age groups, and with regard to both sexes.

However, the trend analysis, summarized in Table 16,
suggests that a different developmental pattern emerges
in the Real self - Ideal self congruency scores. In the
latter trend analysis a significant quadratic trend
component was found. Looking at the mean scores in both
sex groups along the four age groups (Table 14), we find
that Real self - Ideal self congruency scores increase
gradually from age 7.5 to age 9.5, and then drop sharply
at the age of 10.5 years. This finding may suggest two
important implications:

First, the finding throws more light on the association
between the two self-acceptance measures, which has already
been discussed in part 1 of the study. The different
developmental trends, revealed by the measures, suggest
again, that although self acceptance, as measured by the
favourable - unfavourable self-evaluation discrepancy, and
self-acceptance, as measured by real self - ideal self
discrepancy, are closely related, the self-concept dimensions
which they measure are not entirely overlapping.

On the basis of the findings presented in Tables 15 and
16, in which a quadratic age-trend was found in the real
self - ideal self congruency variable, the following
explanation may be suggested. Before the child reaches the
age of ten, the differentiation according to a real and
ideal self is difficult to make, and its measure before

this age suffers, therefore, from a lack of differential validity. This suggestion may be supported by the relatively small, yet increasing differences in scores of this variable, between the first three age groups.

In contrast, a sharp decrease in scores is found at the age of 10.5. During this age, the child is already expected to be able to differentiate between a real and an ideal picture of self. The sharp drop in real - ideal self congruency, may therefore suggest differences in quality, as well as in quantity of self-acceptance.

On the basis of the findings obtained with the two measures, it is therefore suggested, that the Q sort technique, using only one sorting (real self), appears to be more sensitive in measuring developmental trends. The Q sort technique indicates sharper quantitative differences, between each of the four age groups, rather than a sharp difference in quality only.

c) Developmental Trend in Uncertainty, or Inconsistency in self-evaluation.

Table 17. Mean scores (in percents) of uncertainty about the self concept, as measured by the Q sort technique, in all the eight groups.

Sex \ Age	7.5	8.5	9.5	10.5	Total
Boys	35.43	23.53	27.7	22.95	109.61
Girls	32.63	25.23	23.6	23.05	104.51
Total	68.06	48.76	51.3	46.00	214.12

Table 18. Summary Table of two-way analysis of variance
of uncertainty scores, according to sex and
age, in the eight groups.

Source	SS	d.f.	Variance estimate	F
Sex	56.25	1	56.25	0.52 (N.S.)
Age	2630.32	3	876.77	8.10 (p < .001)
Age X Sex	170.0	3	56.66	0.52 (N.S.)
Within cell	14,703.24	136	108.11	

Table 19. Summary Table of Trend Analysis of uncertainty
scores, as a function of age.

Source	SS	d.f.	Variance estimate	F
Linear	1791.11	1	1791.11	16.56 (p < .001)
Quadratic	433.4	1	433.4	4.00 (N.S.)
Cubic	389.53	1	389.53	3.60 (N.S.)
Total	2614.04			
Within cell	14,703.24	136	108.11	

Comments:

As shown in Table 18, the same pattern is found with
the "uncertainty" variable; the only differences between
scores, are due to age differences. The main difference
appears from table 17 to be between age group 7.5, and
the other three groups.   The trend

analysis shown in Table 19, yields a highly significant
linear trend component. In fact, the two non linear
trend components (cubic and quadratic) are also relatively
large, though not significant. It may suggest that the
age trend of the uncertainty dimension is more complex,
than that of the self-acceptance dimension. However,
since the only significant element is the linear one,
an explanation of the results in terms of a linear trend,
is tenable.

These findings strongly confirm the hypothesis that
a developmental trend, in terms of a linear decrease,
occurs during middle childhood in uncertainty about the
self concept, indicating that children's certainty and
consistency of their self concept, ~~gradually~~ increase
during middle childhood.

In fact, the confirmation of the latter hypothesis
also implies the validity of the uncertainty measure.
The consistent developmental pattern found in this variable
may suggest that uncertainty, as obtained from the number
of inconsistent sortings of the bipolar pairs of items,
strongly suggests that this inconsistency indicates the
amount of uncertainty in the self-evaluation process,
rather than inconsistency due to chance fluctuations,
or error.

Finally, the latter finding supports the assumption,
that during middle childhood, a gradual process of
crystallization of the self-concept occurs.

<u>Summarizing the findings of developmental trends</u>

<u>in self-acceptance and uncertainty</u>:

1) Both the Q sort self-acceptance measure, and the
real self - ideal self congruency measure showed
significant age differences. However, whereas a simple
linear age trend was obtained with the former measure,
a quadratic age trend was obtained with the latter.
This difference was interpreted as implying that the two
measures represent related though not entirely overlapping
dimensions of self.

2) A significant linear age trend was also found in
uncertainty scores. The findings obtained, confirm the
hypotheses predicted, and therefore support the following
two theoretical considerations:

  a) The amount of self-acceptance decreases with age:
The more social experience the child achieves the more
realistic becomes his self-concept. A realistic self-
concept is indicated by a significant change towards
moderate rather than extreme amounts of self-acceptance.

  b) A parallel developmental trend occurs in the process
of crystallization of the self-concept: During the period
of middle childhood, the self-concept becomes gradually
crystallized. Evidence to this process is drawn from the
gradual decrease in children's uncertainty about their
self-concept, as a function of age.

d) Developmental Trends in Social Interaction with Peers, as Measured by a Time-Sampling Observation Technique.

Introduction

The sociometric technique, which has been employed in the present study for measuring three variables of social adjustment, was considered appropriate only for inter-individual comparisons, and inappropriate for inter-group comparisons. Since by using the sociometric technique, only the same sex, same age peers within the subject's classroom, were defined as the subject's peer group, the technique did not provide a broader frame of reference, in which developmental changes, along the four age groups, could be investigated.

However, developmental changes in the quality and quantity of social interaction with peers, were believed to be a significant characteristic of middle childhood. An attempt to investigate these changes, using a time sampling observation technique (described previously), was therefore carried out in the present part of the study. As pointed out previously, this attempt was carried out with two criterion groups, consisting of the most accepted and the least accepted children in each of the four age groups.

1) It is assumed that during this age period, both the quality and quantity of the child's social interactions with his peers, change gradually. Since during this period the child improves gradually his techniques of social

interaction, the pattern of his interrelationships with his peers become more complex.

2) It is also assumed that not only highly accepted children, but also poorly accepted ones, achieve a higher amount of social interaction, as they grow up. Thus, unaccepted and even rejected children improve and elaborate their social behaviour with age, as a result of the perceptual learning of new interaction techniques, as well as the gradual adjustment to social situations.

On the basis of these considerations, the present section of the study was designed to test the following hypotheses:

1) <u>Popular children differ from unpopular children in both the quality and the quantity of their social interaction, as measured by the seven observation categories.</u> According to this hypothesis:

a) A higher amount of "associative play", "leadership in associative play", "friendly approach" and "conversation" will be found in popular, than in non-popular children.

b) A higher amount of no-interaction behaviour pattern will be found in non-popular than in popular children. The latter pattern consists of: "hostile behaviour", or being in either of the two "lonely" situations; "playing alone", or "being alone without any defined activity".

c) The differences between popular and non-popular children are expected across the sexes.

2) <u>A developmental trend in social interaction, as defined</u>
   <u>by the seven categories, is expected across the sexes,</u>
   <u>and across the popular - non-popular groups.</u>
   According to this hypothesis:

a) Both boys and girls show a gradual increase in social
interaction, along the four age groups.

b) Both popular and non-popular subjects show a gradual
increase with age in social interaction.

1) In order to test the first hypothesis, a three-way
analysis of variance of the social-interaction scores in
fifteen observations, according to age, sex and popularity
was carried out.

2) In order to test the second hypothesis, a trend analysis
as a function of age, was carried out.

Results

Table 20. <u>Summary Table of three-way analysis of variance,</u>
           <u>of 15 time-sampling observations, according to</u>
           <u>Age, Sex and Popularity, taken from the most</u>
           <u>popular and the most unpopular subjects in each</u>
           <u>of the four age groups.</u>

Source	SS	d.f.	Variance estimate	F
Popular	628.075	1	628.075	169.29 (p < .001)
Sex	6.91	1	6.91	1.86 (N.S.)
Age	54.3	3	18.10	4.88 (p < .01)
Popular X Sex	4.6	1	4.6	1.24 (N.S.)
Popular X Age	2.04	3	0.68	0.18 (N.S.)
Sex x Age	11.83	3	3.94	1.06 (N.S.)
Pop. X Sex X Age	14.80	3	4.93	1.33 (N.S.)
Subjects' Within cell	178.22	48	3.71	

Table 21. Summary Table of Linear Trend Analysis of
15 two-minute observations, as a function
of Age, taken from the most popular and
most unpopular subjects in each of the
four age groups. (cf. figure 1a, p. 202).

Source	SS	d.f.	Variance estimate	F
Linear	53.24	1	53.24	14.35 (p < .001)
Subjects' Within cell	178.22	48	3.71	

Comments:

The highly significant difference, found between peer-interaction scores of popular and non-popular subjects and shown in Table 20 (F = 169.29, p < .001), unequivocally confirms the first hypothesis. In fact, the striking gap between the two criterion groups is not surprising, since they were chosen on the basis of the most extreme socio-metric scores, i.e. subjects who received the highest number of choices from their peers, versus subjects who received the lowest number of peer-choices. It may therefore be concluded that this finding strongly validates the sociometric technique, as a measure of social adjustment at this age.

Furthermore, the finding suggests that highly chosen subjects differ from poorly chosen subjects, not only in the three indices of social adjustment, as measured by the sociometric technique. Rather, the finding suggests that

the two criterion groups differ remarkably in the type
of social behaviour in the peer group.

Since the seven categories selected for measuring
social interaction, were designed to form an ordinal
scale, with the play-interaction categories scores +1,
"lonely" behaviour scored 0 and hostile behaviour scored
-1, it may be argued, that difference in scores represent
differences in both quality and quantity, between
different social behaviour patterns.

On the basis of the finding obtained, it may be
concluded, that the two criterion groups differ both in
the amount of social interaction with peers, and in the
type of their behaviour pattern. Whereas the popular
groups show a behaviour pattern, consisting of a large
amount of social interaction with peers, the non-popular
groups show a behaviour pattern of no-interaction with
peers, or of hostile behaviour, which are non-social in
nature. These differences were found across the sexes,
that is: The same pattern was found in both boys and
girls.

We may now discuss the findings with regard to the
second hypothesis, made in this section, concerning a
developmental trend in social interaction with peers.
Since in the analysis of variance of the main effects
(Table 20), significant age differences were found between
the groups, these age differences were tested for their
linear trend component (Table 21). As shown in Table 21,

Figure 1a

Total scores in social interaction of the most popular
and most unpopular boys and girls in the sample, as a
function of age (social interaction is measured by a
time-sampling observation technique).

Popular subjects

Unpopular subjects
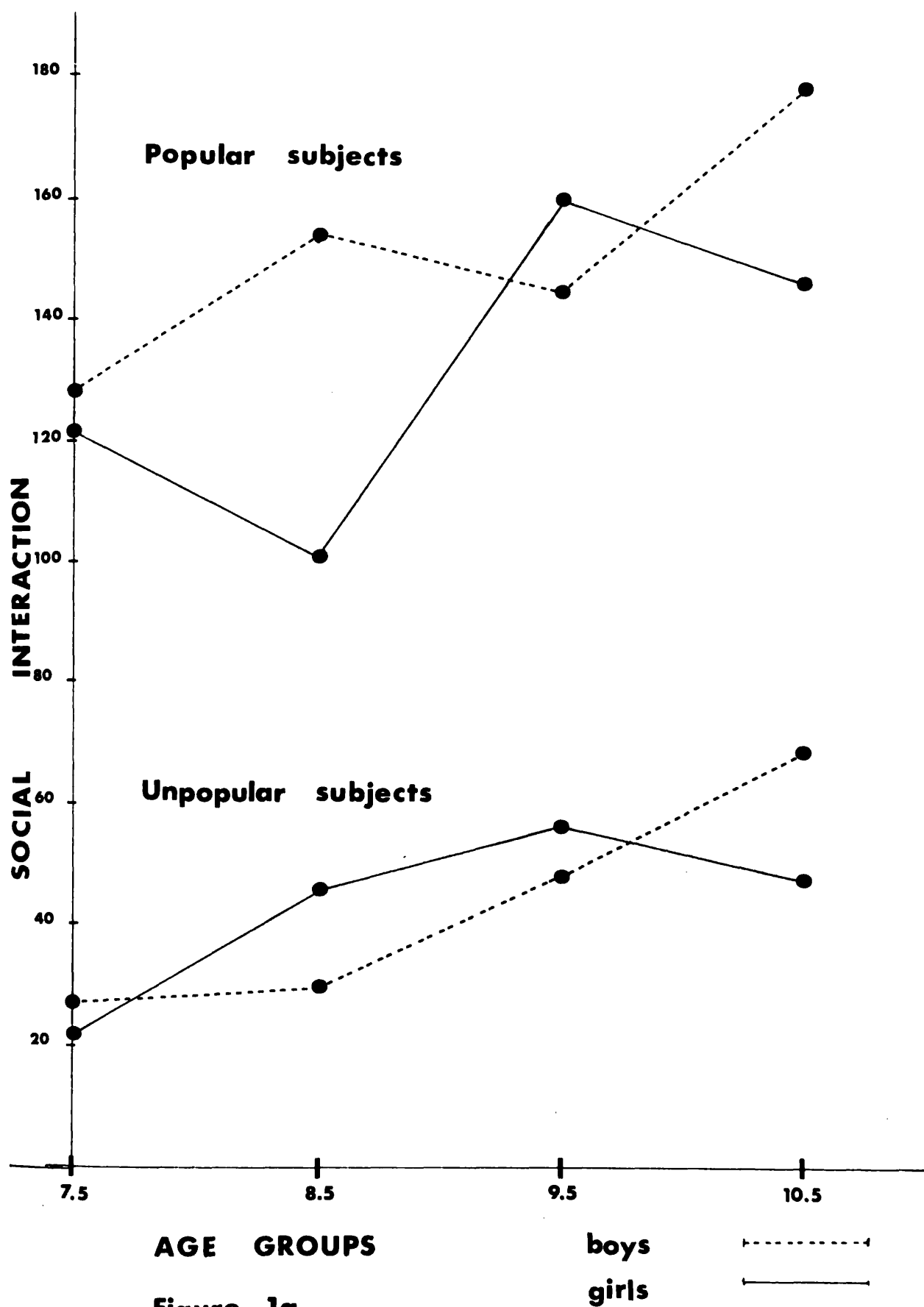
AGE GROUPS boys

girls

Figure 1a

a highly significant linear trend component was found, tentatively confirming the second hypothesis. Thus, as predicted, it was found that during middle childhood, developmental changes in children's social interactions with peers occur, and that the amount of peer-interaction linearly increases with age. Furthermore, as expected, the linear age-trend was found in both popular and unpopular groups.

Figure 1a, illustrates the slopes of the four groups (popular and unpopular boys and girls) in peer-interaction, as a function of age.

As shown in figure 1a, sex differences appear to be larger in the popular groups, than in the non-popular groups. However, this point is only suggestive, since no significant sex differences were obtained in the analysis of variance (see Table 20).

Summarizing the findings obtained in the present section

1) Marked differences in both type and amount of social interaction with peers, as measured by the seven categories of social behaviour in play situations, were found between the two criterion groups, consisting of the most popular and the most unpopular subjects in the sample. The popular subjects showed a higher amount of social interaction, whereas the non-popular subjects showed a low amount, or a lack of social interaction with peers.

2) A significant linear age trend in social interaction, was found across the sex groups, as well as the popular - versus non-popular groups. This finding confirmed the hypothesis that social interaction increases with age, and that such increase occurs in both boys and girls, and with both popular and unpopular subjects.

On the basis of this finding it may therefore be concluded that not only highly accepted children, but also highly unaccepted children improve their interpersonal behaviour with age. This occurs as a result of social experiences with peers, as well as the achievement of a better adjustment to social situations.

The Present Position of the Study

In the second part of the study, a developmental approach was taken, in studying aspects of the self image on one hand, and aspects of social interaction with peers, on the other.

In this respect: 1) A gradual increase with age, in the type and amount of social interaction with peers, was found during middle childhood.
2) With regard to developmental processes in the self-image, a gradual decrease in self-acceptance, from extremely high amounts of self-acceptance at the age of 7.5, to moderate amounts of self-acceptance at the age of 10.5, was found, indicating a development of a realistic, and more mature self image, during this age period.

3) Similarly, a gradual decrease with age in uncertainty
was found during middle childhood, indicating the
development of a more accurate self-image, as well as
a higher level of crystallization of the self-image.

The argument is put forward that the developmental
trends found in the two aspects of the self-image, have
to be explained in terms of a two-way interaction between
the concept of self, and social experiences with peers.

Thus: On one hand these findings suggest that the
self is basically a social product, emerging, and being
modified by social experiences.   On the other hand, it is
believed that once the self-concept is formulated, it tends
to affect the evaluation of new experiences, in terms of
the established patterns.

Along this line of thought, in the next part of the
study, the possibility of the emergence of a social versus
a personal orientation, which the subject adopts in the
process of evaluating both self and peers, is investigated.
Thus: a developmental approach is taken again in that:
a) It is assumed that the salience of a social self-
orientation (in terms of the child's ideal self), develops
gradually during middle childhood.
b) A social versus personal orientation in ebaluating both
self and peers, emerges during this age period.

PART 3

The Development of A Social versus Personal
Orientation, in Evaluating both Self and Peers.

Introduction

The present part of the study was designed to
investigate the possibility of a developing social
orientation, in children's evaluations of both
themselves and their peers. For this purpose, the
repertory grid technique was employed as a measure
of social versus personal orientation, and inter-
group, rather than inter-individual comparisons were
made.

A fundamental assumption governing this part of the
study, is that the outlook of children at this stage of
childhood can be meaningfully regarded in terms of
differential personal and social orientations, in
evaluating both peers and self, and that during middle
childhood a social rather than personal self-orientation
(in terms of the child's ideal self) - gradually increases.

As pointed out in the description of the Repertory
grid technique (Part 1 of the main study):
A social orientation was defined in terms of the salience
of interpersonal experiences in the individual's evaluations
of both peers and self.
A personal orientation was defined as self and peer
evaluations which appeared to be independent of concern
with interpersonal experiences.

As mentioned in the description of investigation, in order to assess a personal versus social self-orientation, constructs were selected for their personal relevance to characteristic dimensions of personally oriented, versus socially oriented characteristics.

a) <u>Socially-Oriented Characteristics (Constructs)</u>

1) Has a lot of friends

2) Shy (reversed rank order)

3) Good at games

b) <u>Personally Oriented Characteristics (Constructs)</u>

1) Good at drawing

2) Clever

3) Good at writing stories

c) <u>Self-Referential Constructs (Self and Ideal Self)</u>

1) Like me

2) Like I would like to be

The present part of the study was designed to test the following hypotheses:

1) During middle childhood a differential social or personal orientation develops in evaluating self and peers.

2) A social rather than personal desirable self orientation (in terms of the ideal self), emerges as a dimension within the subject's self-image.

3) A social self-orientation, in terms of the ideal-self, increases with age, whereas a personal self orientation, in terms of the ideal self, decreases with age.

a) In order to test the first hypothesis a differential
orientation in evaluating the elements (or peers),
according to personally oriented versus socially oriented
constructs, was analysed by principal-component-analysis,
and will be discussed later.

b) With regard to the second and third hypotheses, a
social versus personal self orientation was measured in
terms of the association between each of the constructs,
on one hand, and the ideal self constructs, on the other.

Thus, on the question of the self-concept most
reelevant to personal versus social orientation, "ideal
self", in its relation to each of the six characteristics,
appeared more crucial than "real self" for two reasons:

1) In order to investigate the developing desirable self-
orientation of children, the self-image in terms of the
ideal self, rather than the actual self, seemed to be
more relevant.

2) On the basis of the findings in the first part of the
study, it has been suggested that probably, not all the
subjects at this age period are able to make a clear and
valid differentiation between their actual, and their
ideal selves.

In order to test the second and third hypotheses,
subjects' differentiated identification (in terms of their
ideal self construct), were compared with each of the
seven constructs (three personally oriented constructs,
three socially oriented constructs, and the actual self
construct). Thus, the relative identification with each

of these constructs was defined in terms of the correlation
between the subject's "ideal self" construct, and each of
the other seven constructs.

A comparison of subjects' differential identification
system in terms of correlations between the ideal self
construct, and each of the seven constructs, was carried
out by means of a three-way analysis of variance, according
to constructs (seven categories), age (four categories),
and sex (two categories).

The analysis of variance was calculated in the
unweighted means method, due to an unequal number of
subjects in each age and sex group.

a) In order to test the hypothesis of a differentiation
according to socially oriented and personally oriented
constructs, a planned comparison analysis was carried out,
on the basis of the analysis of variance.

b) In order to test the hypothesis that a social self
orientation increases with age, an age trend analysis
was carried out on the basis of the analysis of variance.

Tables 22 and 23. Cell means of correlations between ideal self construct and each of the seven constructs, divided into age and sex groups.

GIRLS

Sex Construct Age	friends	drawing	clever	shy (reversed)	stories	games	Real Self	Total
7.5	0.56	0.41	0.57	0.40	0.46	0.48	0.38	3.28
8.5	0.59	0.47	0.43	0.52	0.33	0.52	0.59	3.43
9.5	0.58	0.43	0.38	0.16	0.40	0.61	0.72	3.81
10.5	0.69	0.42	0.38	0.30	0.36	0.52	0.43	3.12
Total	2.42	2.24	1.77	1.39	1.55	2.14	2.14	13.69

BOYS

	friends	drawing	clever	shy (reversed)	stories	games	Real Self	Total
7.5	0.45	0.29	0.49	0.02	0.56	0.54	0.61	2.98
8.5	0.59	0.48	0.48	0.26	0.36	0.50	0.69	3.38
9.5	0.52	0.69	0.47	0.15	0.33	0.53	0.72	3.43
10.5	0.51	0.30	0.33	0.25	0.24	0.52	0.33	2.52
Total	2.08	1.77	1.78	0.69	1.51	2.10	2.36	12.31

Results

Table 24. <u>Summary Table of Three-Way Analysis of Variance
of Correlations Between the Ideal Self Construct,
and Each of the Seven Constructs, of all 144
Subjects, According to Construct, Age and Sex.</u>

Source	SS	d.f.	Variance estimate	F
Between				
Age	197.318	3	65.77	1.46 (N.S.)
Sex	69.15	1	69.15	1.54 (N.S.)
Sex X Age	5.05	3	1.68	N.S.
Subjects' Sex X Age	6165.19	137	45.0	
Within				
Construct	1049.03	6	174.83	10.07 (p<.001)
Construct X Age	835.16	18	46.39	2.67 (p<.001)
Construct X Sex	131.04	6	21.84	N.S.
Const. X Sex X Age	211.14	18	11.73	N.S.
Error	14,266	822	17.35	

Comments

The summary table of the main effects tested in the
analysis of variance (Table 24) shows that only two sources
of variation were found significant: differences between
constructs, and the interaction between Construct and Age.
These findings suggest both a differential self orientation
(supported by the significant differences found between constructs)
and a developmental trend (confirmed by the interaction between

age and constructs). However, the two conclusions suggested by the analysis of variance of the main effects, have to be further investigated.

Since a specific self-orientation pattern, according to a socially-oriented versus personally oriented identification system was predicted, a planned comparison of the variance of constructs, according to the predicted pattern, was carried out.

Thus three socially oriented constructs were compared with three personally oriented constructs - even comparisons were made. Each of the three socially oriented construct totals was alldtted with a positive coefficient (+1), and each of the three personally oriented construct totals - with a negative coefficient (-1). The seventh construct ("real self") which was not included in the comparison, was given a coefficient of zero.

Similarly, on the basis of the significant interaction of age and constructs, found in the analysis of variance of the main effects (Table 24), a linear age trend was tested.

According to the third hypothesis, an increasing identification with the socially oriented constructs, and a parallel decreasing identification with the personally oriented constructs, as a function of age, was predicted. Therefore, the group totals of the three socially oriented constructs were compared with increasing linear polynomial coefficients, along the four age groups. Similarly, the group totals of the three personally oriented constructs

were compared with the same polynomial coefficients, but
in a reverse (decreasing) direction, along the four age
groups.

Results

Table 25. <u>Summary Table of Planned Comparison of the
differentiation according to a personally
oriented versus a socially oriented construct
identification.</u>

Source	SS	d.f.	Variance estimate	F
Planned Comparison	5.049	1	5.049	0.11 (N.S.)
S's Sex X Age	6165.19	137	45.00	

Table 26. <u>Summary Table of a linear trend analysis of a
social self orientation versus a personal self
orientation (in terms of the ideal self), as a
function of age. (The linear trend is analysed
in terms of an increase in social self orientation
and a parallel decrease in personal self orientation).</u>

Source	SS	d.f.	Variance estimate	F
Linear Trend	73.77	1	73.77	4.25(p<.05)
Error	14,266.86	822	17.35	

Comments

Since the planned comparison analysis shown in Table
25 did not yield a significant result, the variance between
constructs cannot be explained in terms of differences
between socially oriented and personally oriented constructs.
The second hypothesis, predicting a differentiation between
a social orientation within the self image, is therefore
disconfirmed.

However, the finding can be explained in terms of the
significant interaction, found between Construct and Age
(Table 24). It seems therefore that the differentiation of
construct identification is more complex than has been
predicted, in that it is not a general characteristic of
all age groups, but rather appears to be a function of age.

Tables 22 and 23, which present the cell means of the
seven construct categories for the different age and sex
groups, reveals the directions of this interaction: On
one hand there is a lack of differentiation, according to
a social or personal self-orientation, in the two earlier
age groups. On the other hand - a remarkable differentiation
of social versus personal self orientation occurs in the
oldest age group. Obviously, an overall social versus
personal self-orientation is therefore insignificant.

On the basis of the significant interaction, found
between Age and Construct, we may argue that the differentiation
according to a social versus personal self-orientation rather
than being characteristically found in all subjects, is a

process which develops during the four age periods. This hypothesis is yet to be tested by the age trend analysis.

Two parallel linear trends, along the four age groups, were tested in the trend analysis:

1) A linear increasing trend in the identification with the socially oriented constructs.

2) A linear decreasing trend in the identification with the personally oriented constructs.

As predicted, a significant age trend in the two predicted parallel directions was found, indicating:

1) A linear increase with age in identification with socially-oriented constructs.

2) A parallel linear decrease with age in subjects' identification with personally oriented constructs.

In fact the two parallel trends in the opposite direction, explain further the significant interaction between Construct and Age, found in the analysis of variance (Table 24). Thus, the findings support the third hypothesis of a developing social self-orientation, and a parallel decreasing personal self-orientation, during middle childhood.

Since the self-image was investigated here in terms of the ideal rather than the actual self, the findings suggest that the desirable self-picture, as seen from children's point of view, and which develops gradually during middle childhood, is a socially oriented rather than a personally oriented one. Since the social self-orientation in the

child's outlook is defined in terms of what he would like
to be, rather than what he is, the finding of a socially
oriented ideal self-picture, rather than a personally
oriented one, has some important implications, as to the
central part of peer-group relationships, in the formation
of a satisfactory self image. The findings imply the
importance of a satisfactory social position in the peer
group, in the establishment of the ideal self-picture as
perceived by the child.

In summary, the findings presented in this section
support the theoretical assumptions according to which the
self image is viewed as being basically a social product,
arising out of the experience with other people. Further-
more the findings suggest that the ideal self-image of
children at this age must be understood in terms of other
people, rather than in terms of the isolated individual.

So far, a "personal" versus "social" orientation
toward self has been investigated in terms of the variance,
with regard to the ideal-self construct only. However,
in order to test the first hypothesis, of a general social
versus personal orientation in evaluating the elements
(which represent peers) - principal component analysis of
the "consensus" grids of each of the eight groups under
investigation, seemed to be a more appropriate method.

The advantage of principal component analysis is that the total dispersion is analysed into amounts due to variation into independent dimensions. In this way the contribution of each construct to the variation in each dimension (or component), can be given by element loadings and construct loadings.

Principal Component Analysis of "Consensus" Grids

The eight "consensus" grids which have been obtained from each group's average ratings of the elements were submitted to principal component analysis (see footnote).

The results of all eight groups show that the first component accounts for over 80% of the variance, the second for about 10% and the remaining of 5-10% is spread over a number of minor components. From these results the following implications may be drawn:

1) Almost the total observed variation can be analysed in terms of the amounts occurring in the first two dimensions.

2) Since the first component accounts for a very large amount of the total variance (over 80%), it may be suggested that in the age groups under investigation the variation between the elements is to a large extent unidimensional rather than multidimensional.

Footnote: This program is available in the M.R.C. service, for analysing repertory grids, under the direction of Dr. P. Slater.

Results are presented for each of the eight groups separately. In each group – constructs' loadings on the first and the second components are shown.[†]

Table 27. Constructs' loadings on the first and second components in boys and girls, age 7.5.

Age 7.5

Sex	BOYS		GIRLS	
Component	1st component	2nd component	1st component	2nd component
% of variance	82% of variance	10% of variance	92% of variance	3.9% of variance
Construct				
1. friends	-.383	-.479	-.45	.27
2. drawing	-.358	-.50	-.30	.25
3. clever	-.331	.40	-.38	-.03
4. shy (reversed)	-.145	-.18	-.29	.82
5. stories	-.366	.13	-.36	.14
6. games	-.311	-.23	-.33	-.15
7. real self	-.386	.42	-.26	.35
8. ideal self	-.462	.25	-.39	-.10

[†] Footnote: **A full description of this technique will be found in appendix 10.**

Table 28. Constructs' loadings on the first and second components, in boys and girls, age 8.5

Age 8.5

Sex	BOYS		GIRLS	
Component	1st component	2nd component	1st component	2nd component
% of variance	85% of variance	9.1 % of variance	92% of variance	5.17% of variance
Construct				
1. friends	-.43	-.18	-.47	.22
2. drawing	-.39	-.27	-.30	-.19
3. clever	-.25	.12	-.29	.54
4. shy (reversed)	-.20	-.63	.32	-.12
5. stories	-.23	-.37	-.22	-.03
6. games	-.31	.12	-.36	.34
7. real self	-.43	.29	-.35	-.57
8. ideal self	-.44	.47	-.42	-.39

Table 29. Constructs' loadings on the first and second components in boys and girls, age 9.5

Age 9.5

Sex	BOYS		GIRLS	
Component	1st component	2nd component	1st component	2nd component
% of variance	87% of variance	6.2 % of variance	89% of variance	5.6 % of variance
Construct				
1. friends	-.34	-.18	.42	-.11
2. drawing	-.29	-.02	.34	.37
3. clever	-.30	-.02	.28	.34
4. shy (reversed)	-.10	-.89	-.14	-.01
5. stories	-.32	-.20	.27	.36
6. games	-.38	.28	.44	.23
7. real self	-.45	.10	.38	-.32
8. ideal self	-.47	.18	.42	-.65

Table 30. Constructs' loadings on the first and second components, in boys and girls age 10.5

Age 10.5

Sex	BOYS		GIRLS	
Component	1st component	2nd component	1st component	2nd component
% of variance	79% of variance	12% of variance	89% of variance	7.5 % of variance
Construct				
1. friends	.53	-.11	-.47	-.10
2. drawing	.30	.41	-.29	.19
3. clever	.37	.20	-.28	.36
4. shy (reversed)	-.28	-.78	.09	.76
5. stories	.23	-.05	-.36	.12
6. games	.29	-.18	-.38	-.05
7. real self	.28	.30	-.34	-.46
8. ideal self	.42	.14	-.44	-.10

Comments

Considering the first component in relation to the constructs - looking down the column of constructs' loadings in each of the eight groups, we see that every construct contributes to this component in the same direction - either positively or negatively (when the fourth construct "shy" is reversed).

Closest in orientation to the positive pole of
component 1, is the construct of greatest psychological
interest to the subjects.

In all but one group (boys, age 9.5), the two most
highly loaded constructs are the ideal self construct
("like I would like to be") (construct 8), and the
socially oriented construct "most likely to have a lot
of friends". So we may suppose that the first component
of each group's "consensus" grid provides a scale for
measuring the degree of acceptance or rejection of the
elements (or peers).

It seems important that from the eight constructs,
the one which is closest in orientation to the ideal-self,
is the social construct "to have a lot of friends". It
suggests that for all but one group, it is a social salient
construct, rather than a personal construct, which is of
greater psychological interest, in evaluating both self
and peers.

In fact in the two oldest groups (age 10.5 boys and
girls), it is the latter construct (to have a lot of friends)
which is the most highly loaded construct in the first
component, where the second most highly loaded construct
is the "ideal self".

It is interesting that in all but one group of girls (age 7.5), the next highly loaded construct, contributing to the desirable orientation of the first component, is another social, rather than personal construct - "most likely to be good at games" (construct 6). This is not the case with boys. It may suggest that although in most groups the most salient construct in the acceptance-rejection compoent (component 4) is a social construct, in general, a social rather than personal orientation in evaluating elements (or peers), is stronger in girls, than in boys.

This finding is in accordance with that of Carlson (1965), who showed in a longitudinal study, that over a period of six years girls showed an increase in social orientation, while boys increased in personal orientation.

With regard to the second component, similarly, in relation to the constructs, in this component both positive and negative entries in construct loadings, separate between two clusters. The clusters were not found to be equivalent in all eight groups.

Generally, the positive and negative entries in the construct loadings of component 2, separate those suggesting a social orientation ("most likely to have a lot of friends", "good at games") from those suggesting a personal orientation ("most likely to be good at drawing", "most likely to be clever", and "most likely to be good at writing stories".

In fact, a clustering according to a social versus personal orientation occurs in all but the two youngest groups (age 7.5 boys and girls). In the latter two groups, a social versus personal orientation does not seem to have occurred yet.

The clearest evidence of a well differentiated social and personal orientation in the second component, is provided by the two older age groups. Particularly the two groups of girls - age 9.5 and 10.5, show a remarkable differentiation between socially oriented and personally oriented constructs. However, there are differences among the eight groups as to the relation of the two self referential constructs - "real self" and "ideal self" to the two clusters.

With regard to girls' groups - whereas at the age of 8.5 both self referential constructs are associated with personal rather than social orientation, at the age of 9.5 and 10.5, these constructs are strongly associated with the social constructs, and strongly opposed to the personal constructs. Thus, in girls - a shift in self orientation does occur, away from the personally oriented constructs - towards the socially oriented ones. These findings are in accordance with those obtained by the analysis of variance, and discussed in the previous section.

In contrast, with the boys' groups - an opposite shift was found. Whereas at the age of 8.5 self referential constructs are associated with both personal and social

constructs, at the age of 9.5 these constructs become associated with one socially oriented construct, and at the age of 10.5 boys' self referential constructs (real self in particular), are clearly associated with a personal rather than a social orientation.

The sex differences in self orientation, which were found in the second component, are again in accordance with Carlson's (1965) finding, that during adolescence boys increase in their personal orientation, while girls increase in their social orientation, thus reflecting different processes of personality development in adolescent boys and girls. Since these sex differences were found in the present study only in the oldest age group (10.5 years), the findings may suggest the beginning of such developmental process.

Summarizing the findings obtained from principal component analysis:

1) One major component, which accounts for over 80% of the variance was found in each of the eight groups' consensus grids. On the basis of constructs' loadings on the first component in each group, it may be suggested that this component provides a scale for measuring the subjects' acceptance versus rejection of the elements (or peers), as well as self.

2) Furthermore, on the whole, it seems that socially oriented constructs are more closely related to the "acceptance" pole of the scale (in terms of the ideal self), than personally oriented constructs. This orientation is stronger in girls than in boys.

3) Findings derived from constructs' loadings on the second component seem to suggest on the whole a differentiation according to a social and a personal orientation in evaluating the elements (or peers).

4) Finally, findings based on constructs' loadings on the second component suggest the emergence of sex differences in the association between self-referential constructs, and a social versus personal orientation. These sex differences are particularly distinguished in the older age groups. At the age of 10.5 girls' real and ideal self are strongly associated with socially oriented constructs, and opposed to personally oriented constructs. In contrast, at this age boys' self-referential constructs (real self in particular) are strongly associated with personally oriented constructs, and strongly opposed to socially oriented constructs.

A Geometrical Presentation of the Results Obtained from Principal Component Analysis.

A geometrical presentation of the data may prove helpful in visualising the general form of the dispersion of constructs in the element space.

Such geometrical presentation can be done by a diagram, representing the constructs, for the first two components, which has been applied to principal component analysis of grids by Slater (see footnote). As suggested by the author, if ranking has been used as a method of evaluating the elements, the points occupied by the constructs all lie at an equal distance from the origin. "So they scatter over the surface of a hypersphere, and are separated only by direction".

The distance between the points on the surface, occupied by two constructs, can be measured by the angle between the radii from the centre to them. The correlation between them is its cosine.

Figures 1-8 are constructed in accordance with these considerations. They use results from tables 27-30, of constructs' loadings on the first and second component, to show the relation between the constructs on the plane of the first two components (with the horizontal axis for the first).

Footnote: Slater, P. Composite diagrams and systems of angular relationships applying to grids. Unpublished, awaiting publication.

In order to show the relations between the constructs, a circle with a convenient radius was drawn for each of the eight groups' results separately (see for example figure 1). The centre of the circle represents the origin, whereas the loadings of the constructs define axes crossing it, and their opposite poles are shown, projecting from the circumference.

The axes are extended to the circumference in both directions, to show their positive and negative poles. As shown by the eight figures, generally, in all the eight groups the constructs are relatively close to one another, and the eight diagrams show differences between the groups concerning relations among constructs. Obviously, the constructs that come closest together, are the ones that are most closely correlated. This means that the order in which they place the elements will be very much the same.

The diagrams representing the two oldest groups (figures 4 and 8) provide the clearest evidence of a clustering, which separates between socially oriented and personally oriented constructs. Figure 8 (Girls, age 10.5) shows that the "social" construct "to have a lot of friends", is closely associated with "real self". Similarly, "ideal self" and "to be good at games" - are strongly correlated. These two pairs of associated constructs are opposed to the three personally oriented constructs; "good at writing stories", "good at drawing" and "clever". The construct "shy" is relatively isolated from all the others.

Figures 1 - 8

Diagrams, representing the dispersion of the eight constructs in the element space of the first two components, on the basis of principal component analysis of "consensus" grids, obtained from each of the eight groups under investigation.

They show the relation between the constructs on the plane of the first and second components (with the horizontal axis for the first).

The centre of the circle represents the origin, whereas the loadings of the constructs define axes, crossing it, and their opposite poles are shown, projecting from the circumference.
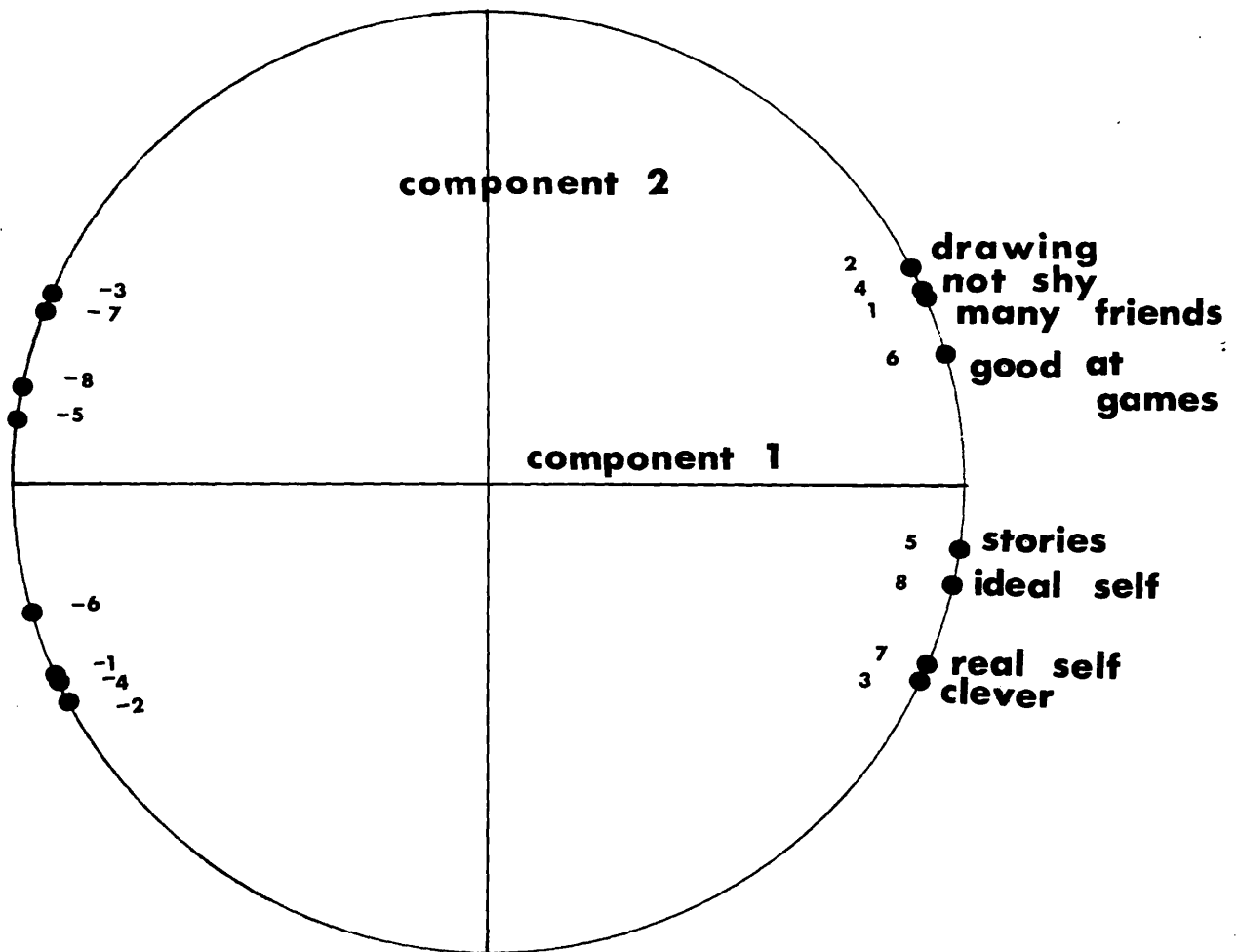
Figure 1

Boys, age 7.5

Figure 2

Boys, age 8.5

not shy

component 2

stories
friends
clever
drawing
real self
ideal self

good at
games

component 1
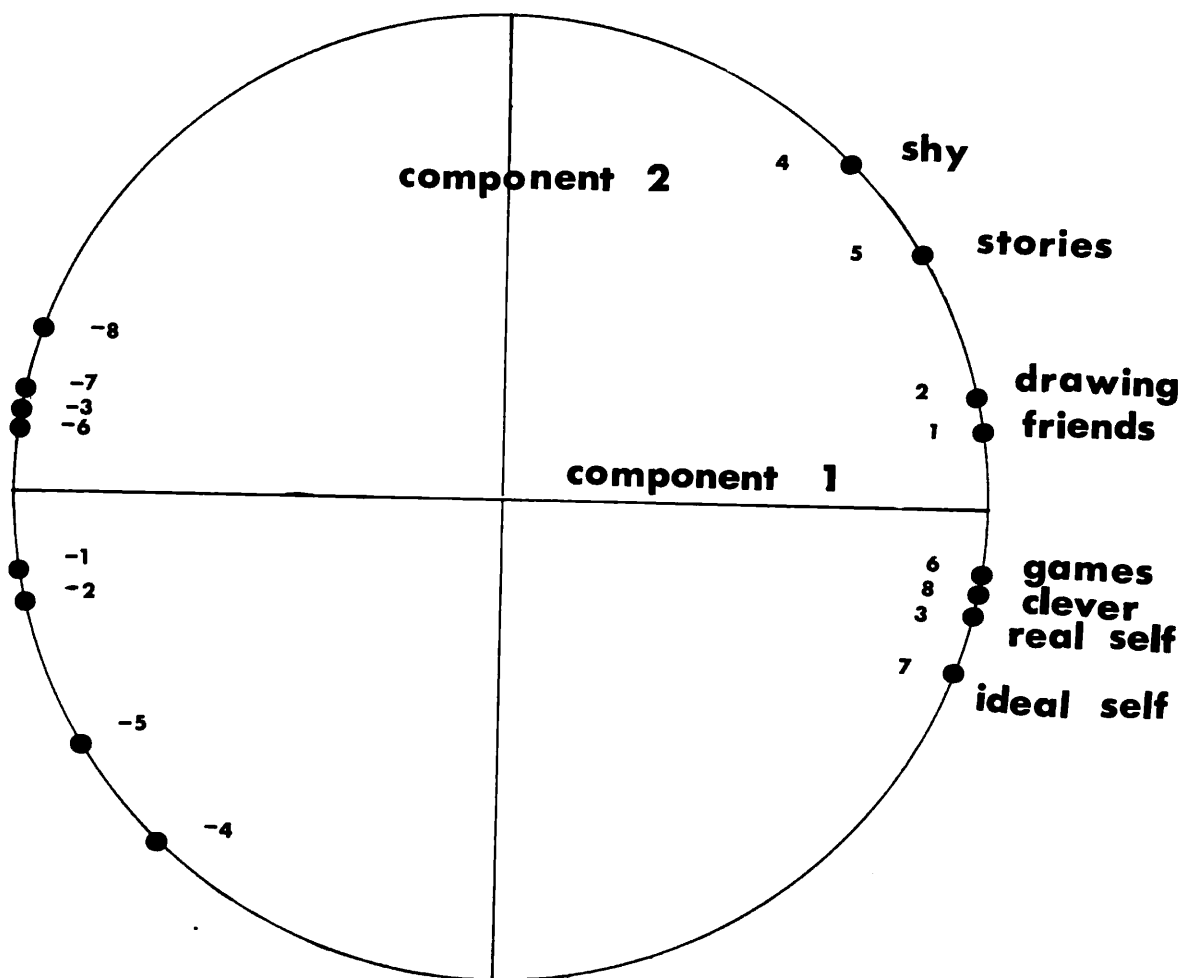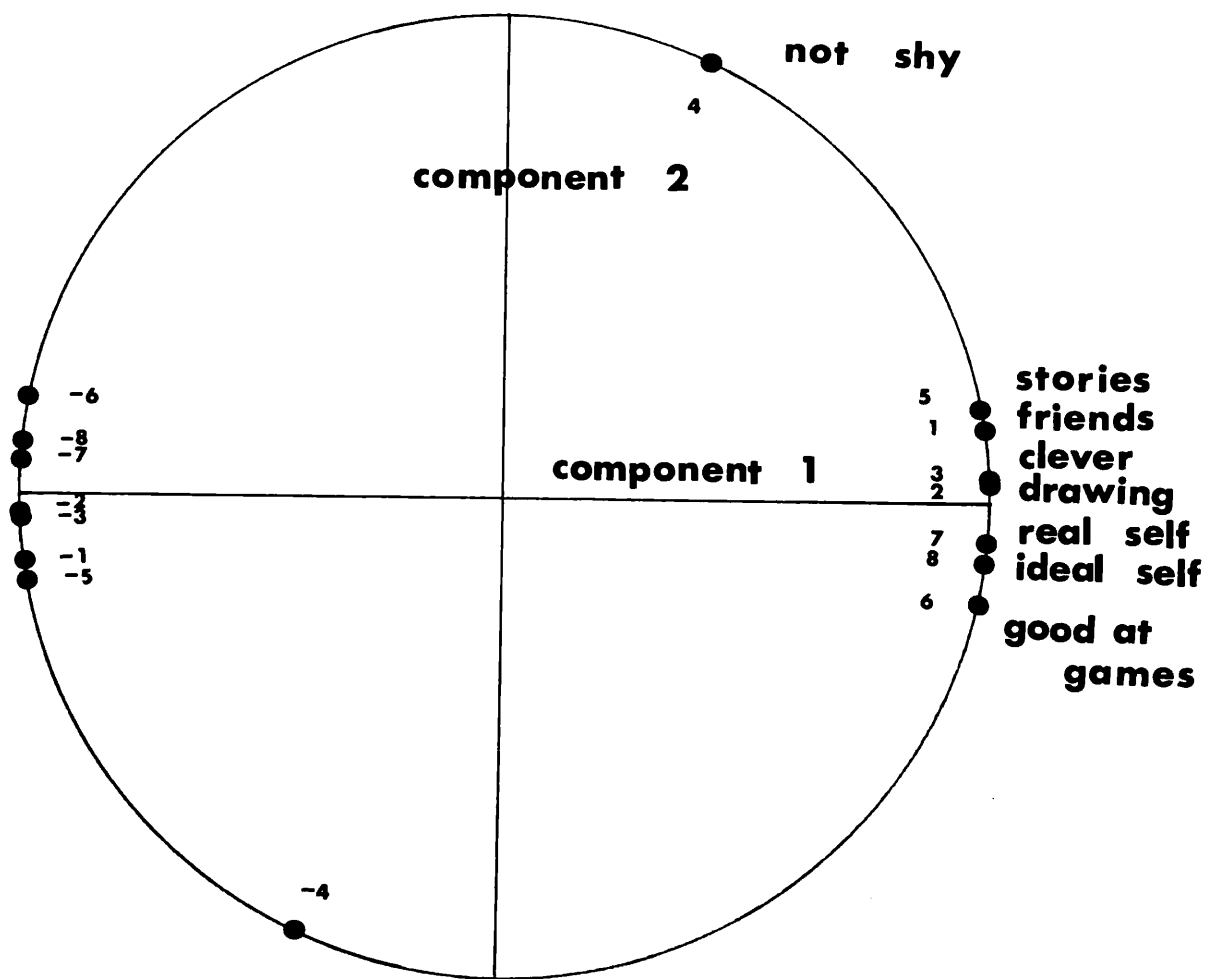
Figure 3

Boys, age 9.5

Figure 4

Boys, age 10.5

component 2

component 1

not shy

−7

−2
−1
−5

good at game
ideal self
clever

−3
−8
−6

stories
many friends
drawing

real self

−4

4

6

8
3

5
1
2

7

Figure 5

Girls, age 7.5

component 2

component 1

-3
-6
-1
-4
-5
-2
-8
-7

7 real self
8 ideal self
2 drawing
5 stories
4 not shy
1 many friends
6 good at games
3 clever
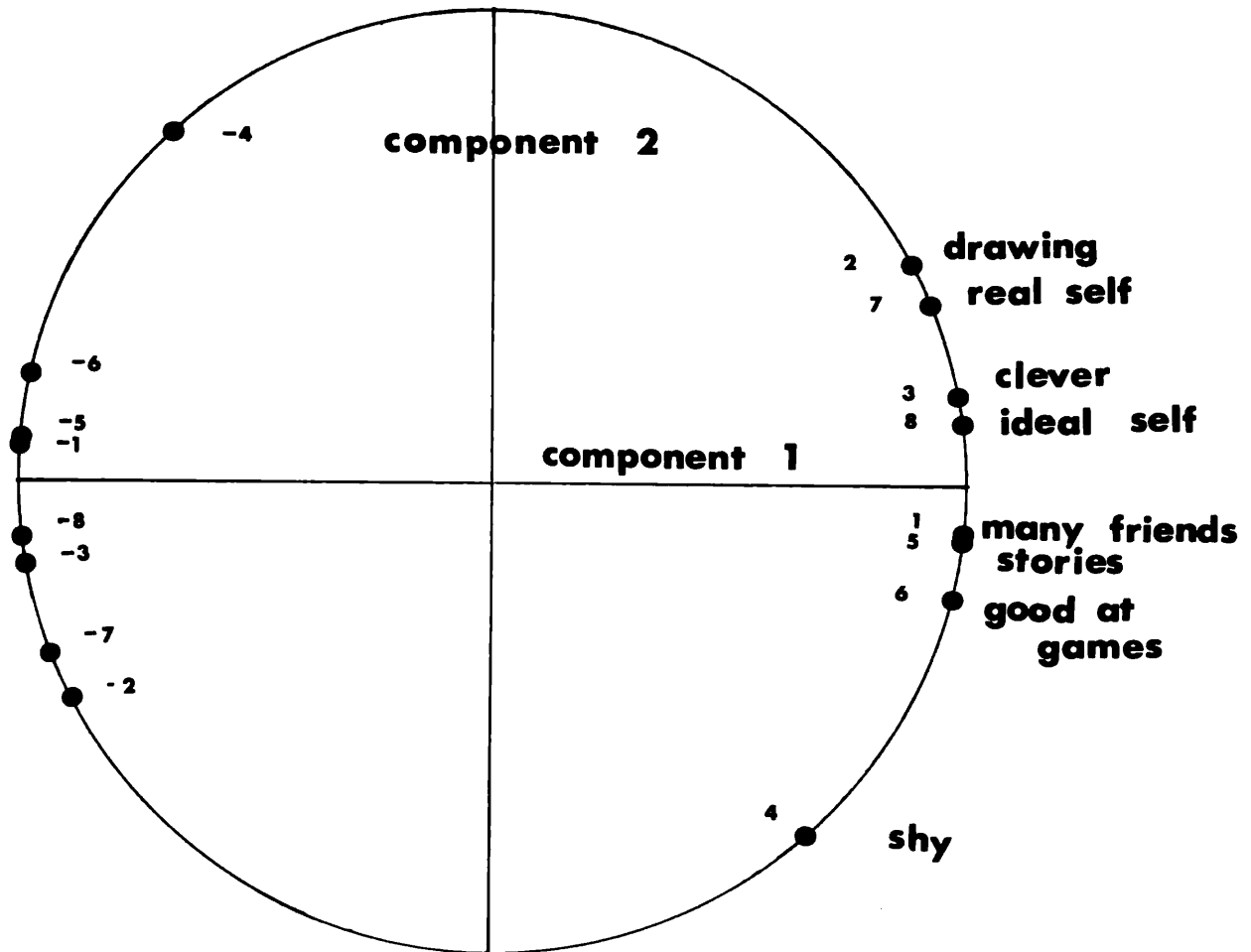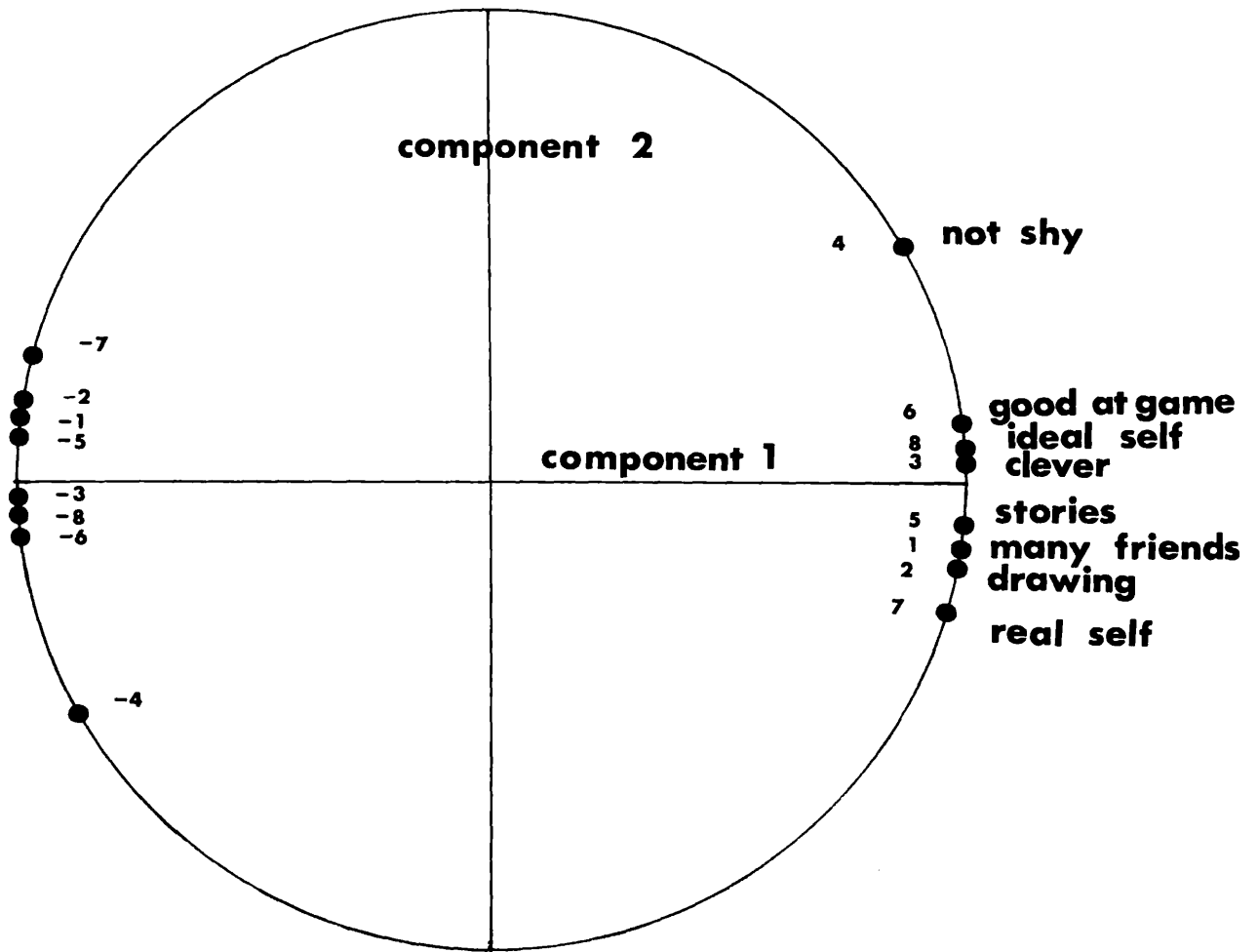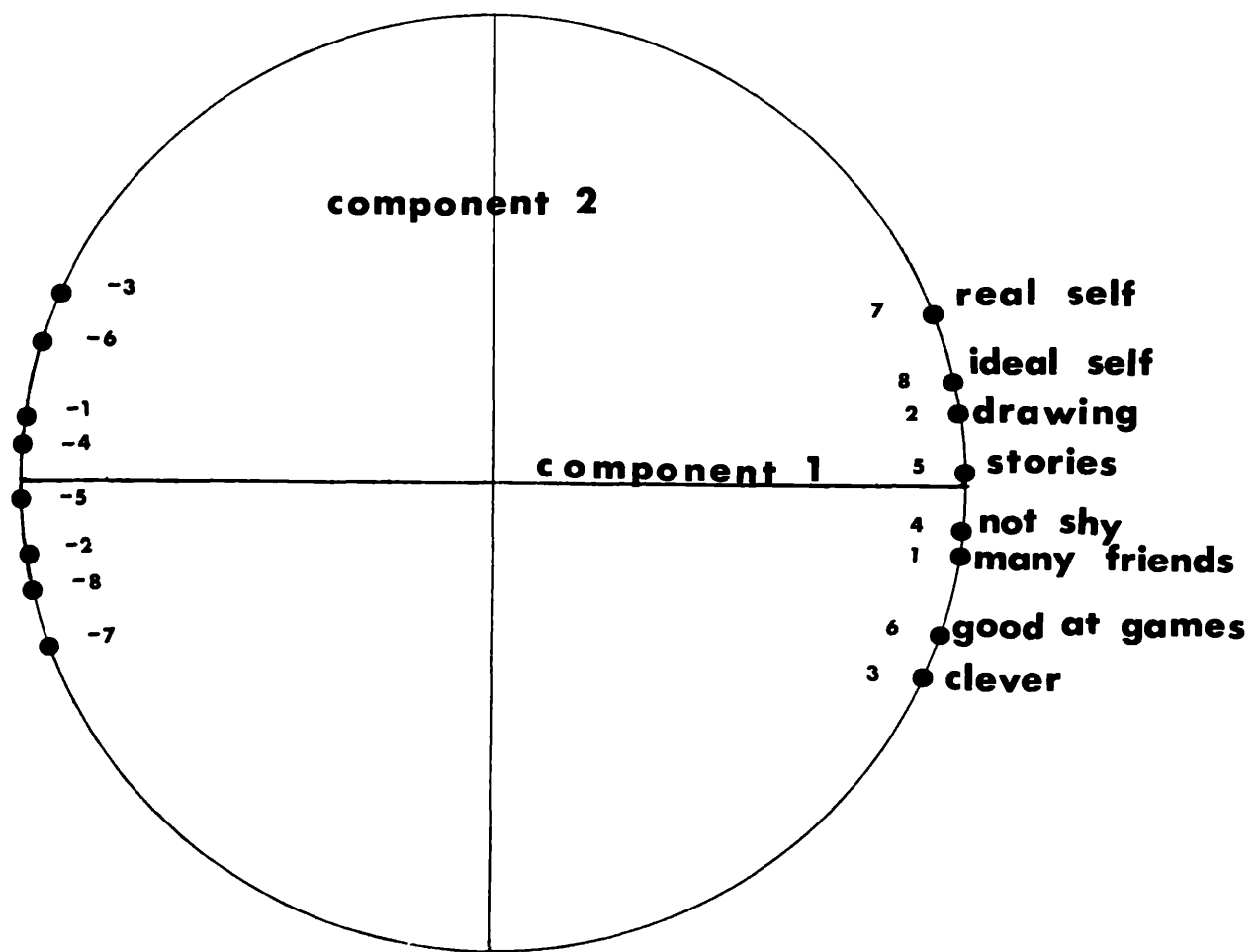
Figure 6
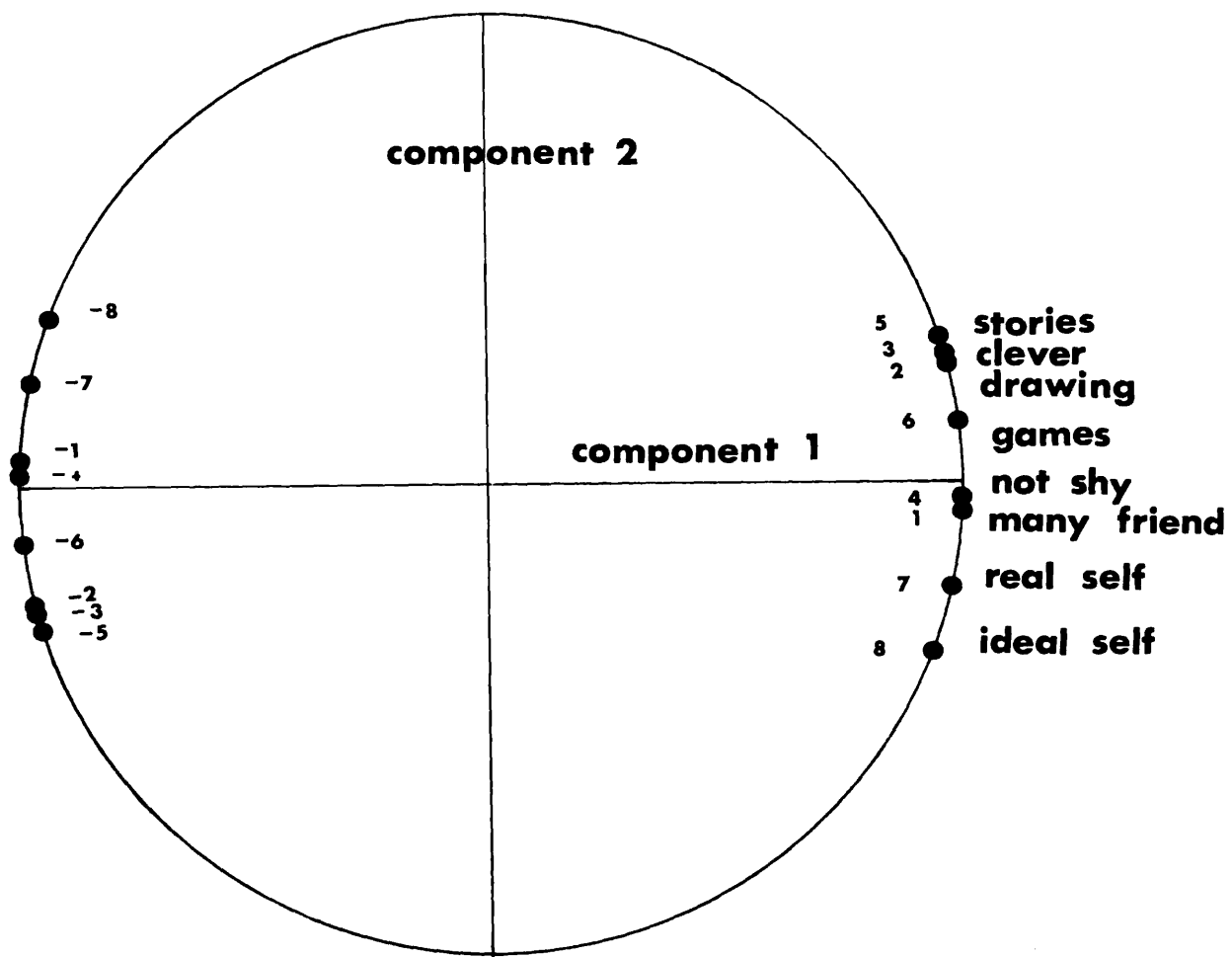
Girls, age 8.5

Figure 7

Girls, age 9.5
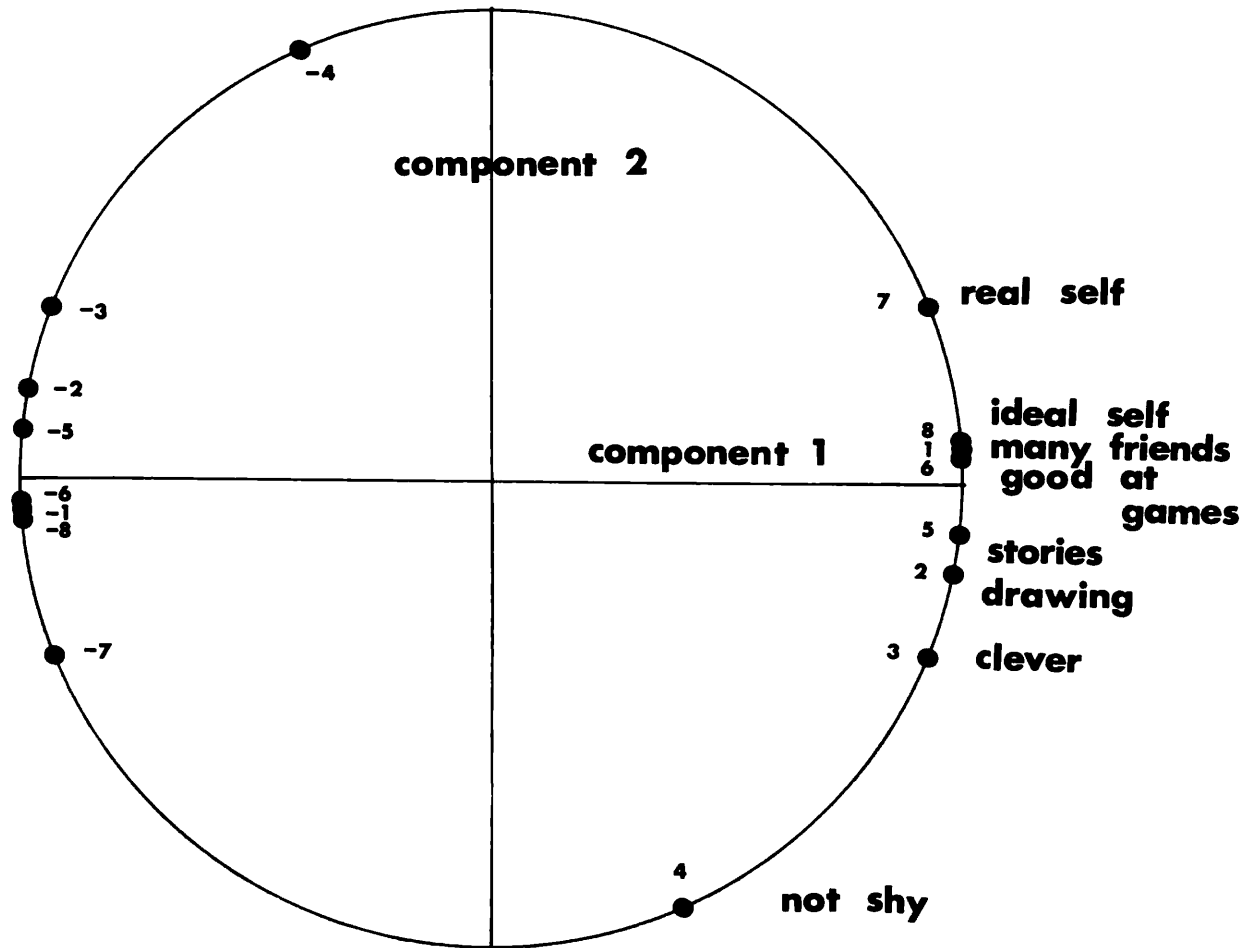
Figure 8

Girls, age 10.5

Evidence of two similar clusters is provided by
figure 7 (Girls, age 9.5). Here the three personally-
oriented constructs are very tightly clustered together,
and separated from both the socially oriented constructs,
and the two self-referential constructs.

The diagrams may demonstrate that such clear-cut
differentiation of a personal and social orientation has
not been found with boys,

Figure 4, representing the construct diagram of boys,
age 10.5, shows that with regard to this group, the
differentiation of construct system differs to a certain
extent from the way it has been predicted: The socially
oriented construct "to have many friends", is highly
associated with the personally oriented construct "good
at writing stories". As it has already been pointed out,
on the basis of this group's loadings on the second
component, (see Table 30, boys), figure 4 helps to
visualize, that the data obtained from the two components
of this group is contrary to prediction. Figure 4 shows
that in the oldest age group (age 10.5) boys' self-referential
constructs are associated with personal rather than social
orientation. In this respect, the construct "real self"
is highly associated with "good at drawing", and the
construct "ideal-self" is highly associated with the
personally oriented construct "clever" (figure 4). In all
the other groups of boys - no clear-cut differentiation was
found, according to socially oriented and personally oriented
constructs.

Summarizing the implications which may be drawn from the eight diagrams:

Although the diagrams do not add any findings to what has been obtained from principal component analysis, they seem to prove helpful in visualising the general pattern of the dispersion of constructs in each group. On the basis of principal component analysis, and the eight diagrams based on it, it seems fair to conclude that the hypothesis of a developing differentiation according to a social versus personal orientation, in evaluating self and peers, which emerges in the self image during middle childhood, seems to be borne out.

In accordance with prediction made, girls were found to develop a social rather than personal orientation towards self. The social self orientation is mostly evident in the oldest age group of girls.

In contrast, with regard to boys, although the same expected differentiation was borne out, on the whole, it was found that boys show a personal rather than social orientation towards self. Again, the personal self orientation is mostly evident in the oldest age group of boys.

Obviously, principal component analysis provides a deeper understanding of the relations among constructs, than the three-way analysis of variance (discussed previously), which was merely concerned with the relation between each construct with the "ideal self" only.

By means of principal component analysis, in which
the total dispersion was analysed into independent
dimensions (components), more light is thrown upon the
various relations among the constructs, within each of
the eight groups under investigation. Thus, the more
detailed analysis of each group revealed sex differences
in self-orientation, as well as differences as a function
of age.

Sex differences suggest a developing social self-
orientation within the self image in girls, and a personal
self orientation in boys, and are most obvious in the
oldest age group of boys and girls. They appear to be in
accordance with two studies by Carlson (1963, 1965) and
one study by Hollander and James (1970), which have been
discussed in the literature section.

The Present Position of the Study

In the second part of the study a developmental
approach was taken in studying aspects of the self-concept,
self-acceptance and uncertainty, and aspects of social
interaction. A clear developmental pattern was shown
along the four age groups, in the two dimensions of
personality.

In the third part of the study, a developmental approach
was taken in studying the differentiation within the self
image into a social orientation, and a personal orientation,
in evaluating both peers and self.

With regard to self-evaluation in terms of the ideal
self, it was found in part 3 of the study that on the
whole, socially oriented constructs, rather than personally
oriented ones, seem to be more closely related to the
ideal-self picture of children at this age. This was
interpreted as indicating the increasing salience of the
peer group in determining children's self-evaluations,
and therefore their self-acceptance during middle childhood.

The implications drawn from part 3 therefore lead
to the last part of the study, in which the relation
between self-acceptance and aspects of social adjustment
in each individual, as well as in a developmental context,
are investigated.

PART 4

<u>The Relations Between Aspects of the Self-Concept
and Aspects of Social Adjustment in Middle Childhood.</u>

In general, this part of the study was designed to
repeat the approach presented in the pilot investigation
with the four age groups studied, and with certain
extensions.

Part 4 is mainly concerned with inter-individual
comparisons along the variables under investigation.
However, since the whole sample, subdivided into eight
groups, according to age and sex of the subjects, was
included in the study, results were separately analysed
in each of the eight groups, and inter-group comparisons
of the relations between the variables were also made.

The present section was designed to test the following
hypotheses:

1) Self-acceptance is negatively associated with uncertainty
   (consistency) about self. The negative association
   expected is <u>linear</u>.

2) The relation between self-acceptance and sociometric
   status is <u>curvilinear</u> in each of the eight groups.

3) The significance of the curvilinear relation between
   self-acceptance and sociometric status is a function
   of age.

4) The three measured aspects of social adjustment:
sociometric status, reciprocal choices (amount of
friendship), and sociometric "insight", are positively
associated. The positive association expected is
linear.

5) The relation between self-acceptance and sociometric
insight into peers' choices ("empathy") is curvilinear.

6) Self-acceptance, as measured by the Q sort technique,
is positively associated with the subject's articulateness
in eliciting self-evaluational statements, as measured
by the interview technique. The association expected
is linear.

7) Self-acceptance (as measured by the Q sort technique)
is positively though not linearly associated with
intelligence. The significance of the association
increases with age.

Measures

Basically, the data analysed in the present part of the
study was obtained from the three-stage investigation,
described in the first part of the study,

The only two additional variables investigated in the
present section are articulateness, and an index of the
subject's intelligence. An attempt was carried out to obtain
a measure of the child's articulateness, and will be described
in the following sections. An index of the subject's
intelligence was obtained from teachers' intelligence ratings,
and will also be discussed in further sections.

The following summary table includes all the variables, and their measurement techniques, with which the last part of the study is concerned:

	Variable	Measure
1.	Self-acceptance	Q sort technique
2.	Uncertainty	Q sort technique
3.	Sociometric status	Sociometric technique
4.	Reciprocal choices ("friendship")	Sociometric technique
5.	Insight into peers' choices ("empathy")	Sociometric technique
6.	Self-esteem	Interview technique
7.	Articulateness	Interview technique
8.	Intelligence	Teachers' ratings

Scoring

1) In order to test hypotheses 1, 4, 6, where a linear association was expected, Kendall's rank order correlation coefficient (tau) was performed, and then converted into Z values. Generally, no ties occurred in the scores, but corrections for ties were made, when required.

2) In order to test hypotheses 2 and 5, where a curvilinear relation between the variables was expected, Kendall's rank order correlation coefficient (tau) was performed, testing curvilinearity. As described in the methodology section, a curvilinear ranking order was performed with the self-acceptance scores, by giving the same ranking order to pairs of scores above and below the median.

Since by using this procedure each pair of rankings represented a tie, Kendall's formula for ties in one ranking was performed. All the "tau" values were then converted into Z values, in order to assess:

a) How far the results obtained yielded the expected relationships,

b) In order to enable inter-group comparisons.

3) In order to test hypothesis 3, a linear age trend of the Z scores was tested under a null hypothesis. Polynomial coefficients in a linear order were therefore allotted to the Z values of the four age groups, which were tested against their chance expectancy.

4) In order to test hypothesis 7, in which a positive but not linear association was expected between the variables, Kendall's rank order correlation coefficient (for dichotomies) was performed and converted into Z values.

Results

a) <u>The relation between Self-Acceptance and Uncertainty (Consistency) in Self Evaluation.</u>

Table 31. Kendall's rank order correlations in terms of

Z scores, between self-acceptance and uncertainty,

as measured by the Q sort technique, in each of

the eight groups.

Age Sex	7.5	8.5	9.5	10.5
Boys	.59	-2.05	-2.71	.11
	(N.S.)	(p < .05)	(p < .01 1 tail)	(N.S.)
Girls	.28	1.25	-.40	-.28
	(N.S.)	(N.S.)	(N.S.)	(N.S.)

Comments

As shown in Table 31, results obtained from the eight groups are inconsistent.

In two of the groups (boys, age 8.5 and 9.5) a significant relation in the expected direction was obtained, thus confirming the hypothesis. In two other groups (girls, age 9.5 and 10.5) a non-significant result was obtained, but in the expected negative direction. However, in the other four groups - a positive, though non-significant trendency in the opposite direction was found. The results on the whole therefore indicate an inconsistent pattern, which is further proved by the non-significant Z value, obtained from testing the sum of Z scores under the null hypothesis (Z = 1.06, N.S.).

We may therefore conclude that although two of the eight groups included in the study, show a significant negative correlation between self-acceptance and uncertainty, with regard to the sample as a whole, the hypothesis was disconfirmed.

Testing the possibility of a sex-differences trend of the Z scores, under the null hypothesis, was also found insignificant.

It is interesting though, that the two significant findings were obtained in the two age ranges in the middle (8.5 and 9.5). With the same age range - a significant relation was also found in the pilot investigation. This consideration may lead to the following interpretation: We may argue that at the age of 7.5, when the self-concept is in its earlier stages, self-acceptance is not related yet to uncertainty. In the middle age-range, when the self-concept becomes more crystallized, but has not yet reached its maximum stability, a significant relation occurs between self-acceptance and uncertainty. In this age - uncertainty may indicate to what extent the self-concept is stable. When the child reaches the age of 10-11, it may be assumed that his self-concept has already reached a maximum level of stability. This may be proved by the much lower amount of uncertainty found in the first part of the study. As a result, the variance of uncertainty scores in this age group is much smaller. It is argued that the relatively small variance of the uncertainty scores within the oldest age group,

obviously affects the relationship between self-acceptance
and uncertainty in this group.

In fact, such interpretation is not only at a
speculative level, since difference in variance of both
variables between the groups may be demonstrated, and is
shown in Tables 32, 33.

Table 32. The Variance of Self-Acceptance Scores in
Each of the Eight Groups.

Age Sex	7.5	8.5	9.5	10.5
Boys	375	612.2	927.5	886.7
Girls	1306	840.5	2712.7	1282.6

Table 33. The Variance in Uncertainty Scores in Each of
the Eight Groups.

Age Sex	7.5	8.5	9.5	10.5
Boys	276	58.77	97.4	55.0
Girls	140.5	79.80	99.0	77.5

Comments

It seems that the present argument throws some light
on two interesting findings:

From Tables 32 and 33 it seems clear that whereas

the variance of self-acceptance scores increases with

age, the variance of uncertainty scores decreases with
age. The main drop in variance occurs between age 7.5 and 8.5.
age. The finding suggests that ~~towards~~ by the age of 10.5,

when the self-image reaches its stability, not only the

scores of uncertainty drop (as shown in the second part

of the study), but is also accompanied by a decrease in

the variance of this variable.

b) .The Relation Between Self-Acceptance and Sociometric

Status.

In the present section, the hypothesis of a curvilinear

relation between self-acceptance and sociometric status

is tested, in each of the eight groups.

Table 34. Kendall's rank order correlation coefficients,

converted into Z scores, testing a curvilinear

relation between self-acceptance and sociometric

staus in each of the eight groups.

Sex \ Age	7.5	8.5	9.5	10.5
Boys	0.16	0.98	0.39	2.42
	(N.S.)	(N.S.)	(N.S.)	(p < .05 2 tail)
Girls	1.23	1.79	2.35	2.31
	(N.S.)	(N.S.)	(p < .05 2 tail)	(p < .05 2 tail)

Comments

Table 34 shows that in three out of the eight groups
a highly significant curvilinear correlation was obtained
between the two variables.

A possibility of a linear relation between the two
variables was also tested. No significant linear correlation
was obtained.

Since all the eight Z scores are in the expected
direction, the significance of the sum of Z scores was
tested under the null hypothesis, and a highly significant
Z value (Z = 4.12, p < .001), was obtained. On the basis
of these findings it seems fair to conclude that on the
whole, a significant curvilinear relation between self-
acceptance and sociometric status was found, tentatively
confirming the hypothesis.

In order to test the hypothesis predicting that the
significance of this relation gradually increases with age,
a linear age trend of the Z scores was tested under the
null hypothesis. A significant linear age trend was
obtained (Z = 3.31), confirming the hypothesis.

In the present section of the study it was found that
the two independent dimensions of personality - self-
acceptance and sociometric status are curvilinearly related.

Furthermore, a developmental age trend in the
significance of this relation was found. The latter
finding suggests that developmental processes occur not
only in the two separate dimensions -- children's self-
acceptance and their social adjustment, (as found in
the second and third parts of the study), but also in
the formation of a meaningful relation between them.

Summarizing the findings obtained so far in a
developmental frame of reference: At the age of 7.5,
when peer interaction experiences have not yet been
sufficient in establishing an accurate self-concept,
the self concept is characterised by a high amount of
self-acceptance, as well as a high amount of uncertainty.
Since the child at this age has not yet been able to
learn from the limited social experiences about his
social position, a lack of relation is found at this age,
between the child's social position in the peer group,
and his self-acceptance.

The gradual increasing significance of the relation
between the child's position in the peer group and his
self acceptance, goes along with an increasing amount of
social interaction on one hand, and an increasing amount
of accuracy, realism and certainty in the self image -
on the other. Thus: at the age of 10.5 years
a) Children possess a more mature self-image (indicated
by moderate or "realistic" amounts of self-acceptance, as
well as a high amount of certainty with regard to themselves).

b) They are socially oriented rather than personally oriented.

c) Peer interaction at this stage has reached a high level of complexity and intensity.

d) A strong curvilinear relation occurs between self-acceptance and sociometric status, indicating that at this stage of life, children's social experiences with their peers have become "mirrored" in their self image, in that they have affected the process of self-evaluation.

c) The interrelations Between Three Aspects of Social Adjustment: Sociometric Status, Reciprocal Choices and Insight into Peers' Choices.

This section tests the fourth hypothesis. The three measured aspects of social adjustment; sociometric status, reciprocal choices, and insight into peers' choices are positively and linearly associated.

Results

Table 35. Kendall's rank order correlations, converted into Z scores, between sociometric status and reciprocal choices, in each of the eight groups.

Age Sex	7.5	8.5	9.5	10.5
Boys	2.63	2.04	1.01	0.67
	$(p < .01)$	$(p < .05)$	(N.S.)	(N.S.)
Girls	0.78	0.03	2.08	1.51
	(N.S.)	(N.S.)	$(P < .05)$	(N.S.)

Table 36. Kendall's rank order correlations, converted into Z scores, between sociometric status, and insight into peers' choices, in each of the eight groups.

Age Sex	7.5	8.5	9.5	10.5
Boys	2.13	2.05	1.47	2.09
	(p < .05)	(p < .05)	(N.S.)	(p < .05)
Girls	.70	.21	2.04	.88
	(N.S.)	(N.S.)	(p < .05)	(N.S.)

Table 37. Kendall's rank order correlations, converted into Z scores, between reciprocal choices, and insight into peers' choices in each of the eight groups.

Age Sex	7.5	8.5	9.5	10.5
Boys	1.77	2.08	2.84	2.34
	(p<.05,1 tail)	(p < .05)	(p<.01,1 tail)	(p<.01,1tail)
Girls	1.55	2.69	1.65	3.19
	(N.S.)	(p < .01,1 tail)	(p<.05, 1 tail)	(p<.001, 1 tail)

1) Testing the significance of the sum of eight Z scores obtained from the correlations between sociometric status and reciprocal choices (Table 35), under the null hypothesis, $Z = 3.79$ ($p < .001$, 1 tail).

2) Testing the significance of the sum of eight Z scores, obtained from the correlations between sociometric status and insight into peers' choices (Table 36), under a null hypothesis: $Z = 4.10$ ($p < .001$, 1 tail).

3) Testing the significance of the sum of eight Z scores (Table 37), obtained from the correlations between reciprocal choices and insight into peers' choices, under a null hypothesis: $Z = 6.42$ ($p < .001$, 1 tail).

4) Testing a linear increase with age in Z scores, under the null hypothesis - N.S.

5) Testing sex differences of Z scores under the null hypothesis - N.S.

6) Testing an interaction of age and sex in Z scores, under the null hypothesis - N.S.

Comments

On the basis of the three sets of correlations obtained in Tables 35, 36, 37, and on the basis of the highly significant Z values, obtained from testing the sum of Z scores in each table under a null hypothesis, the following conclusion is drawn: The three indices of social adjustment, measured in the present study, sociometric status, reciprocal choices, and insight into peers' choices - are strongly associated.

The findings are in complete accordance with those
obtained in the pilot investigation, from which implications
in this respect have already been disscused.

Summarizing these implications, the findings suggest
that more accepted children tend to show a more general
pattern of social adjustment; they obtain a higher amount
of reciprocal choices ("friendship relationships"), and show
a higher amount of "insight" into their peers' choices.
Since the measures of the three indices, as well as the
scores obtained from them, are by no-means inter-dependent,
it seems that the three variables represent three independent,
though closely related aspects of social adjustment.

Furthermore, in the second part of the study, the
sociometric technique was validated by a time-sampling
observation technique(using two criterion groups),
suggesting that sociometric status is associated with the
type and amount of peer interaction in play situations.

On the basis of these findings it seems fair to
conclude that sociometric status indicates much more than
merely the degree of acceptance the subject obtains from
his peers, or his popularity. Rather it seems that
sociometric status represents a global dimension of
social behaviour and adjustment.

d) <u>The Relation Between Self-acceptance and insight</u>
   <u>into peers' choices ("empathy")</u>

According to hypothesis 5, self-acceptance is expected
to be curvilinearly related to insight into peers' choices.
However, both a linear and a curvilinear association
between the variables were tested.

<u>Results</u>

<u>Table 38</u>. <u>Kendall's rank order correlations, in terms</u>
<u>of Z scores, testing a curvilinear relation</u>
<u>between self-acceptance and insight into</u>
<u>peers' choices, in each of the eight groups.</u>

Age Sex	7.5	8.5	9.5	10.5
Boys	0.19 (N.S.)	0.02 (N.S.)	0.03 (N.S.)	0.02 (N.S.)
Girls	0.14 (N.S.)	0.12 (N.S.)	0.34 (N.S.)	0.14 (N.S.)

Table 39. Kendall's rank order correlations, converted into Z scores, testing a linear relation between self-acceptance and insight into peers' choices, in each of the eight groups.

Age Sex	7.5	8.5	9.5	10.5
Boys	0.36 (N.S.)	0.49 (N.S.)	1.11 (N.S.)	0.91 (N.S.)
Girls	0.70 (N.S.)	0.18 (N.S.)	0.55 (N.S.)	0.49 (N.S.)

Comments

Sociometric insight into peers' choices was assumed to be an important intermediate variable, by which the objective social field of peer relationships becomes related to the subjective experience of such relationships, and further related to the self-image.

However, as shown in Tables 38 and 39, no significant association between the variables, in terms of both curvilinear and linear correlations, was borne out. From the lack of association found in the present study between self-acceptance and "insight" into peers' choices, some implications as to the measure of sociometric insight, employed, may be drawn:

As pointed out in the methodology section, this measure was devised to yield a specific index of insight, concerning the subject's ability to guess correctly peers' choices made toward him. However, since in this type of measure, only choices, and not rejections of peers, are taken into account, the scores of rejected subjects might be contaminated, by not taking into account their degree of awareness or insight, concerning their rejections by their peers.

In addition, it seems fair to assume that the perceptual mechanisms, involved in the formation of the self image are far more complex than those involved in the specific achievement of insight into peers' choices. On the other hand, it is not surprising that sociometric status, being an index of a global dimension of social adjustment, was found powerful in predicting self-acceptance in children.

e) Hypothesis 6: Articulateness of self, obtained from the interview technique, is positively associated with self-acceptance (independently measured by the Q sort technique).

Introduction

The hypothesis predicting a positive association between self-acceptance and articulateness, is governed by the assumption that it is psychologically easier for the child to reveal accepted self-refenential statements than to reveal

derogatory self-referential statements. Thus, it is expected that for self-accepting children, a spontaneous eliciting of such statements will be an enhancing experience, whereas for self-rejecting children, it may be a painful experience. These children may therefore repress their spontaneity, and replace it by a rather rigid type of conversation, merely consisting of answering to the interviewer's questions.

On the basis of these assumptions, it was predicted that self-acceptant children elicit more spontaneous self-referential statements, than children who show poor self-acceptance, or self rejection.

In this section an attempt was carried out to measure articulateness with regard to the self image, on the basis of the tape-recorded interviews.

Articulateness, in this respect, was operationally defined as the number of self-evaluative statements, spontaneously elicited by the subject, not as a result of the experimenter's questions. Each such spontaneously aroused statement was given 1 point. The subject's articulateness score was obtained from the total number of his elicited self-referential statements.

This variable was measured in only six of the eight groups. A satisfactory distribution of scores was obtained, ranging from 0-50. These scores were then compared, in each group separately, with the subjects' self-acceptance scores, independently measured by the Q sort technique.

In order to test the association between self-acceptance and articulateness, Kendall's rank order correlation coefficient (tau) was performed in each of the six groups, and "tau" values were converted into Z scores.

Results

Table 40. Kendall's rank order correlation coefficients (tau), converted into Z scores, between self-acceptance and articulateness, in each of the six groups.

Sex \ Age	7.5	9.5	10.5
Boys	.05 (N.S.)	.55 (N.S.)	.03 (N.S.)
Girls	1.87 (p < .05 1 tail)	.49 (N.S.)	2.60 (p < .01 1 tail)

Testing the significance of Σ Z under Ho, Z = 2.29 (p < .05)
Testing the significance of sex differences in Z scores, under Ho, Z = 1.77 (p < .05, 1 tail).

Comments

From the significant Z value obtained by testing the sum of Z scores of the six groups, under a null hypothesis, it seems fair to conclude that on the whole, the hypothesis

of a positive association between self-acceptance and
articulateness, is confirmed.

The finding suggests that as expected, self-accepting
children at this age are more open about themselves, and
therefore tend to elicit self-referential statements
more easily, than self-rejecting children.

In addition, the significant Z value, obtained from
testing sex differences in Z scores under a null hypothesis,
implies that the relation between self-acceptance and
articulateness is more significant in girls than in boys.
A possible explanation to this finding may be the sex of
the interviewer (female), which differentially affected
the results of boys and girls, in that she might have
facilitated more spontaneous self referential statements
among self-acceptant girls than among boys.

The Relation Between Self-Acceptance and Intelligence

Introduction

Although the self-acceptance measure, employed in the
present study, was designed primarily to measure social
aspects of self, and was therefore not expected to be
directly affected by children's intelligence, the question
of the relation between self-acceptance and intelligence is
considered as essential. The present section was therefore
designed to test the following hypothesis:

Children's self-acceptance is positively, though not
linearly, related to their intelligence, as measured by
their teacher's ratings.

The assumption governing the hypothesis is that
children's intelligence must play a fundamental part in
the process of self evaluation, particularly in the area
of scholastic abilities, as well as other experiences
engendering success and failure.

A linear relation is not expected, since, as mentioned
previously, self-acceptance, as measured in the present study,
is believed to be directly affected by social experiences,
and not by intelligence.

An index of intelligence was obtained from teachers'
ratings: The teacher of each of the four classes under
investigation, was asked to rate all the children in his
class, on a three-point scale, indicating; below average,
average, and above average.†

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† This was done since the education authority
would not permit the use of an intelligence
test, or the use of existing scores obtained
for their own purposes.

Due to a small number of subjects in each category, two categories were combined (average and above average), as well as the two sex groups in each class. Similarly, the distribution of self-acceptance scores was divided into roughly the same categories: below average, and average + above average. Thus, for each class, one 2 X 2 table containing a satisfactory distribution was obtained.

A comparison of the two categories of intelligence ratings with the two categories of self-acceptance scores was made by means of Kendall's correlation coefficient (tau), testing a dichotomy of rankings. Then "tau" values were converted into Z scores.

Results

Table 41. Frequency distributions of subjects in each age group, divided into two categories of self-acceptance (above and below average), and two similar categories of intelligence. The association between the two dichotomies is tested by Kendall's rank order correlations ("tau"), for testing dichotomies, converted into Z scores.

a) Age 7.5

intelligence	self-acceptance below average	above average	total
above average	6	12	18
below average	4	13	17
Total	10	25	35

$$Z = -.26 \ (N.S.)$$

b) Age 8.5

self-acceptance intelligence	below average	above average	total
above average	9	12	21
below average	9	8	17
total	18	20	38

Z = 0.29 (N.S.)

c) Age 9.5.

self-acceptance intelligence	below average	above average	total
above average	1	16	17
below average	7	11	18
total	8	27	35

Z = 1.89 (p < .05, 1 tail)

d) Age 10.5

self-acceptance intelligence	below average	above average	total
above average	6	15	21
below average	12	7	19
total	18	22	40

Z = 1.87 (p < .05, 1 tail)

Testing the significance of a linear age trend of the Z scores, Z = 1.79 (p < .05, 1 tail).

Comments

As shown in Table 4?, the hypothesis predicting a positive, though non-linear association between self-acceptance and intelligence, was borne out with the two older age groups(age 9.5 and 10.5), whereas with the two younger age groups (aged 7.5 and 8.5), the expected relation was not borne out.

Furthermore, a significant linear age trend, of the four Z scores, tested under the null hypothesis, indicates that the significance of the relation between self-acceptance and intelligence linearly increases with age.

Since in previous sections of the study a significant curvilinear relation between self-acceptance and sociometric status, was found in the two older age groups, and since in the present section a positive, though non-linear relation was found in these age groups between self-acceptance and intelligence, we may argue that the child's intelligence has an indirect rather than direct effect on his self-acceptance, which is intermediated by social variables.

Along this line of reasoning, it is believed that during the later period of middle childhood, successful coping with developmental tasks, demands an increasing amount of success experiences in scholastic abilities, which depend on intelligence. These experiences of achievement and excellence cannot be completely isolated from social experiences. On the contrary, it is more

likely that the child's social position may be enhanced
or impaired, among other things, by his degree of success
in scholastic tasks.

The implications of the indirect effects, which the
child's intelligence is likely to have on his self-
acceptance seems to be of particular importance, with
regard to certain individuals; those with very poor
intelligence.

Indeed, each of the eight groups under investigation
includes a small number of unfortunate children, who show
a characteristic pattern of maladjustment, along all the
variables with which the present study is concerned. This
group consists of subjects who are extremely unaccepted
or rejected by their peers, isolated in play situations
and always outside peer-interactions. Their general
pattern of self-evaluation consists of self-rejection
rather than self-acceptance (since their amount of self-
rejection exceeds to a large extent their amount of self-
acceptance). Finally, the majority of these children are
rated poorly by their teachers on the intelligence scale.
It seems that the characteristics of these children are
similar to the group called by Northway (1944) "recessive"
children, in her investigation of "outsiders".

It is believed that in each class these are the
children, who need more attention, as well as individual
assistance and encouragement, particularly with regard to
their social adjustment. Obviously, their inadequacy in

such a large range of school experiences, which normally provide sources for feelings of self-esteem, is "mirrored" in their maladjusted self-image, which typically consists of derogatory feelings, such as self rejection, unhappiness and inferiority.

Furthermore, since the self-image is thought of as a dynamic dimension of personality, it may further determine their attitudes towards other people, as well as their success in developmental tasks in the future.

Therefore, by assisting and encouraging these children in their social relationships, one can help to improve their acceptance by others, and as a result, to enable them to achieve a more favourable image of themselves.

Summarizing all the findings obtained in this part of the study:

1) On the whole, a curvilinear relation was found between children's self-acceptance, and their sociometric status, indicating that the most highly accepted children show moderate rather than extreme amounts of self-acceptance or self-rejection.

2) Furthermore, the significance of this curvilinear relation linearly increases with age, suggesting that a developmental trend occurs in the establishment of a meaningful relation between self-acceptance and sociometric status.

3) The three indices of social adjustment, as measured in the present study; sociometric status, reciprocal choices and insight into peers' choices, were found to be strongly associated. This finding suggests that sociometric status represents a global rather than specific dimension of social behaviour and adjustment.

4) The hypothesis, predicting a curvilinear relation between children's self-acceptance, and their insight into peers' choices, was disconfirmed. From the lack of association between the two variables, implications as to the limitation of the "insight" measure were drawn. Since it measured only peers' choices and not peers' rejections, the degree of insight of the socially rejected subjects, might have been therefore contaminated.

5) On the whole, a positive association was found between subjects' self-acceptance scores, as measured by the Q sort technique, and their amount of articulateness, as derived from the interview technique. Thus, self-acceptant children elicited spontaneously more self-referential statements, than self-rejecting children. The latter group showed a more rigid pattern of conversation during the interview.

6) A positive, though non-linear association was found between children's self-acceptance, and their intelligence, in age groups 9.5 and 10.5, whereas with the two younger age groups, this association was not borne out. Furthermore, it was found that the significance of this relation linearly increases with age. The following interpretation was suggested: During middle childhood, children's intelligence has an indirect effect on their self-acceptance, and the

relation between the two variables may be intermediated by social variables.

Principal Component Analysis of Responses to Q Sort Items.

The fifty bipolar pairs of the Q sort items, together with the responses of all the 144 children, were submitted to principal component analysis. The data was analysed in each age-group separately. In addition, one principal component analysis of all the girls' responses, and one of all the boys' responses, were performed.

Results

Principal component analysis of the girls' sample revealed ten main components, of which the first component accounted for 23.18% of the variance, the second 7.03% of the variance, and the third 6.44% of the variance, with the remaining components accounting for a very slight amount of the variance.

Principal component analysis of the boys' sample revealed very similar results; 10 main components, of which the first accounted for 20.9% of the variance, the second for 8.05% of the variance, and the third 6.36% of the variance. The results indicate, that one remarkable component, which accounts for over 20% of the variance, was found in both sex groups.

It seemed therefore relevant to correlate the item loadings of each of the three components in one sex group, with those of the other, in order to test whether the components have the same psychological meaning for boys and girls.

The product moment correlation coefficient found between boys' item loadings, and girls' item loadings on the first component, is highly significant, ($r = .95$, $p < .001$). However, the correlation found between the two groups' loadings on the second and third components, is not significant.

First component

Since the first component was found to have an equivalent psychological "meaning" for both sex groups, the degree of equivalence of the first major component was also tested in the four age groups.

Table 42. The distribution (in percents) of variance due to each of the three components, in the four age groups.

Age Component	7.5	8.5	9.5	10.5
1	14.71	22.25	23.60	25.88
2	10.74	9.35	8.61	8.43
3	8.36	7.80	7.22	6.51

Table 42 demonstrates that the variance "covered" by the first component linearly increase with age, whereas the variance "covered" by the other two components, linearly decreases with age. It may suggest that the salience of the first component increases with age.

In order to test the degree of equivalence of the first component in the four age groups, product-moment correlations were calculated between item loadings on the first component of age group 10.5, and each of the other three age groups.

Table 43. Product moment correlation coefficients, indicating the correlation between each group's item loadings on the first component, and those of age group 10.5 and their conversions to t values.

Age Group	r	t
9.5 and 10.5	.86	11.43 (p < .001)
8.5 and 10.5	.71	6.95 (p < .001)
7.5 and 10.5	.57	4.78 (p < .001)

Comments

From the findings shown in Table 43, two important implications may be drawn:

First, the significant intercorrelations between the groups' item loadings on the first component suggest that this major component has an equivalent psychological

meaning for all the subjects in the sample, and second, the equivalence of psychological meaning of the first component for all the subjects in the sample, enables inter-group as well as inter-individual comparisons of subjects' loadings on this component.

In contrast, non-significant correlations between the subgroups' second and third component's loadings were found. In this respect, the correlation between boys' and girls' loadings on the second component was found to be near zero, and the correlation between the second components of age group 9.5 and 10.5, was in the negative direction, but not significant ($r = -0.136$). These results imply that unlike the first component, the second and third components do not have an equivalent psychological meaning for all the subjects in the sample. Therefore, any interpretation of the meaning of these components must be separately given to each subgroup.

The psychological meaning of each component may be implied on the basis of the most highly loaded items in the component.

Since the 100 items of the Q sort, submitted to principal component analysis, consist of 50 bipolar pairs, therefore in each component the absolute amount of the items loading, as well as its direction (positive or negative, are relevant).

The Psychological Meaning of the First Components.

The following bipolar items mostly account for the meaning of the first component. They are ordered from the most highly to the least highly loaded.

1) a) I am more clever than the other children.

   b) The other children are more clever than I am.

2) a) I have better ideas than the other children.

   b) The other children have better ideas than I have.

3) a) I have got more friends than the other children.

   b) The other children have more friends than I have.

4) a) I am one of the best in the class at drawing.

   b) I am quite bad at drawing.

5) a) I think that in a few things I am a special boy/girl.

   b) Nothing is special about me. I am just like all the other children.

6) a) I find talking in front of the class easy.

   b) I find talking in front of the class difficult.

7) a) For me lessons are more important than games.

   b) For me games are more important than lessons.

8) a) I am one of the best in the class at running races.

   b) I am quite bad at running races.

9) a) I like being my own age, rather than younger.

   b) I would like to be younger than my age.

10) a) Usually at play time, I have a lot of children to play with.

   b) Usually at play time, I have no one to play with.

Comments

On the basis of the content of the most highly loaded items, it seems that the first component is mainly concerned with self-esteem. The first component suggests that a sense of self-esteem is achieved in a social context, by the child's comparisons of himself with his peers. It is believed that peer comparisons give the child a standard of excellence, and a sense of his own personal worth, in the self evaluation processes.

Second Component

Since items' loadings on the second component were not found equivalent for all subjects, a separate interpretation of the psychological meaning of this component had to be given to each age group. The second component's meaning is based on items, which are highly loaded on this component:

a) Age 8.5

Highly loaded items on the second component (Each item represents the bipolar scale).

1) I like coming to school more than staying at home.

2) I am quite good at running races.

3) I am quite good at sports and games.

4) Usually, I like working on my own rather than with other people.

5) I like being at this school.

6) I find it easy talking in front of the class.

7) I'd rather play with children my age than smaller ones.

b) Age 9.5

Highly loaded items on the second component

1) When children start hitting me, I just leave them alone.

2) I find it easy talking in front of the class.

3) When I meet new people, I always start talking to them.

4) I am shy only with people I don't know.

5) I like all the children in my class.

6) I never get into trouble.

7) I'd rather play with children my age, than younger ones.

c) Age 10.5

Highly loaded items on the second component

1) Usually I like working with other children, rather
    than on my own.

2) I have more friends than the other children.

3) I don't think I need to be more friendly, as I
    have got enough friends.

4) For me games are more important than lessons.

5) I'd rather be in the "middle" of the class, than
    come top.

6) Usually all the children want to play with me, whenever
    I ask them.

7) All the children in the class are my friends.

8) When somebody hits me I'll always hit him back.

Comments

Although not all the items included in the second component are equivalent in the three groups, it seems that their content is to a large extent overlapping.

On the basis of items' content, the second component seems to be associated with the experiential phenomenal self, particularly in the context of the child's social experiences with his peers.

In fact, on the basis of items' meaning, it appears that the number of items, concerned with self-evaluations of social experiences, increases with age. At the age of 10.5 all the eight highly loaded items are self references concerning social experiences. Thus, at this age the psychological meaning of the second component seems to be clearly distinguished from that of the first component.

Since the second component is almost entirely concerned with the child's self evaluations of his social position in the peer group, it seems relevant to test whether subjects' loadings on the second component are associated with their sociometric status score. In this respect, the following hypothesis was tested:

Subjects' loadings on the component concerned with the social experiential self, are positively associated with their social status in the peer group, as measured by the sociometric techniques. The association expected is linear.

In order to test this hypothesis, in each group, subjects' loadings on the second component were correlated with their sociometric status score. As pointed out previously, only inter-individual, and not inter-group comparisons were possible.

Since a linear association was predicted, Kendall's rank order correlation coefficients (tau) were performed, and converted into Z scores. (No corrections for ties were required).

Results

Table 44. Kendall's rank order correlation coefficients, converted into Z scores, indicating the association between subjects' loadings on the second component, (derived from principal component analysis of responses to the Q sort items) and their sociometric status, in each of the three age groups.

Sex \ Age	8.5	9.5	10.5
Boys	1.98 (p < .05)	1.43 (N.S.)	2.66 (p < .01, 1 tail)
Girls	.52 (N.S.)	1.09 (N.S.)	2.25 (p < .05)

Comments

As shown in Table 44, in three out of the six groups, a significant positive correlation was found between subjects' sociometric status, and their loadings on the second component, which was interpreted as being the "social experiential" dimension of the self image. All the other results obtained, though not significant, are in the expected direction. However, testing the significance of the sum of Z scores, under the null hypothesis, would be meaningless, due to the unequivalent meaning of the second component for each of the groups.

The findings obtained in this section are interesting, in that they suggest that the subject's loading on the "social experiential" component, is a function of his social status in the group. The more accepted the subject is by his peers, the higher is his positive loading on the "social experiential" component.

This finding seems to be interesting in that a separate dimension of the self image, as measured by the Q sort technique, and statistically defined by the highly loaded items of the second component, was found to be a direct function of the child's social status in the peer group, independently measured by the sociometric technique.

Although inter-group comparisons cannot be made, the findings may be interpreted in a developmental frame of reference, since the association was found highly significant in the two oldest age groups. These findings may suggest

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that the social experiential dimension of the self-image

becomes a "mirror" of the objective social position in the

peer group.

Combining the findings obtained in previous sections

of the study, with those obtained in the present section,

It seems that during middle childhood, the child's social

status in the peer group becomes "mirrored" in his self-

image, not only in that it affects his self-acceptance,

but also in that it determines the degree to which social

experiences with peers become salient in the child's self-

image.

Conclusions and Further Implications

On the basis of the main findings, obtained in the
present study, it seems now relevant to consider to
what extent do these findings yield empirical support,
for the theoretical basic assumptions, made by
phenomenological theories.

I The Social World of the Peer-Group as a Centre
Point in the Present Study,

A fundamental assumption governing the design of the
present study, has been that during middle childhood an
important developmental stage occurs, as the child's
social world changes radically, from a small social
world, centred in the family, to an expanding world,
with a second centre in the peer group.

The changes in the child's social world are in turn
believed to have some crucial effects upon the child's
self image, in that satisfactory relationships with peers,
as well as peers' approval of the child, become more and
more essential for his achievement of an adequate concept
of self. Thus, it is believed that the process of
achieving a stabilized and congruent self-image is
accentuated, as the child becomes increasingly involved
with the peer group.

However, the fundamental role of family relationships in establishing children's self perceptions, cannot be ignored. A primary fundamental assumption, governing the theoretical approach of the present study is that the child's home, and its social and emotional climate has the earliest and greatest influence on the child's social development, as well as on his self-perceptions.

However, the present study has set out to investigate the second centre of social environment, and its effects upon children's self-image - that of the peer group.

A number of theoretical, as well as methodological considerations govern the aim of the present study to limit the investigation of children's social environment to that of the peer group, thus referring to the peer group as a central point of children's social experiences during middle childhood:

One theoretical assumption, which has already been emphasized, is that during this period of life an important developmental stage occurs, as the child is able to view himself in comparison to his peers, and to use his peers as a standard, against which he measures, and evaluates himself. A further assumption, governing the design of the study is that the social environment of the peer group is relatively independent from that of family relationships, and can therefore be studied separately.

Further methodological considerations are in favour
of such approach: As discussed in the survey of literature,
the field of self-concept investigation has been criticized
by a number of authors (Crowne and Stephens, 1961; Marshall
Lowe, 1961 and Wylie, 1961) particularly with regard to
item selection. In this respect, Crowne and Stephens
argue that the items selected for study, should be a
representative sample of self-referential statements of
the population to be studied. In fact, they argue that
ideally, from a phenomenological point of view, the
subject should generate his own list of self descriptions,
and the values he attaches to them.

Furthermore, the definition of the population, from
which a representative sample is to be selected, should be
referable to the theory in which the self concept is
embedded. Sources of criticism along the same line of
thought, are pointed out by Wylie (1961), who suggests
that studies concerned with more specific areas of the
self-image, may yield more powerful findings.

To what extent were these sources of criticism taken
into account, by the design of the present study?

1) In the present study the self-acceptance measure, as
well as the hypotheses predicted are based on some well-
defined theoretical assumptions (basically maintained by
phenomenological theories), in which the self-concept is
a central construct.

2) A relatively high degree of representativeness in
the sampling of items was achieved by selecting these
items from a more strictly defined universe of self-
referential statements, those limited to social
experiences of children with their peers. These
self-referential statements were in turn related to
a limited definition of a social environment, that of
the peer group within the social environment of school.
3) Since it is recognized that indeed from a
phenomenological point of view, what is required is
that subjects generate their own list of self-descriptions,
such lists were obtained, by interviewing each child
individually. From the individual lists of self-
descriptions, a representative sample of self-referential
statements of the population to be studied was selected,
in order to enable inter-individual, as well as inter-group
comparisons.

Thus, the self-image, as investigated in the present
study is limited to the social self-image of children in
middle childhood, or more specifically, children's self-
evaluations with regard to their peer relationships, and
with regard to social situations in the peer-group
environment of school.

II Developmental Approach to the Study of the
Self Image of Children in Middle Childhood.

In the present study strong emphasis is put upon
developmental changes in the self-image, which children
undergo during middle childhood. In this respect, a
fundamental assumption governing the design of the study
has been, that an important developmental stage occurs,
as the child is able to view himself in comparison with
his peers. As a result, an additional significant aspect
of self-awareness occurs when the child becomes critical
of his own behaviour, as assessed from socially derived
reflected appraisals of his peers.

To what extent do the findings obtained support the
developmental approach taken?

Four different lines of evidence are available:

1) It was found that during the stage of middle childhood,
which was covered by a sample consisting of four age groups,
the amount of self-acceptance linearly decreases with age.
Self-acceptance was measured by the child's relative total
amount of "positive" self-evaluations, as against his total
amount of "negative" self-evaluations (as derived from the
Q sort technique).

2) A closely related, though not entirely identical
developmental process, was tapped by the real self -
ideal self congruency measure (as derived from the
repertory-grid technique). With this measure, a
quadratic trend was found, indicating a gradual small
increase in self-acceptance, from age 7.5 to 9.5,
followed by a sharp drop in self-acceptance at the age
of 10.5 years. This finding is in accordance with
Fallon's (1965) finding, that the number of children
with extremely high amounts of self-acceptance, (as
defined by the upper quartile of the distribution),
significantly decreases with age.

A basic assumption concerning the development of the
self-concept is confirmed by these findings: They strongly
suggest that as children grow towards maturity, their self-
concepts become more realistic and accurate, in that more
negative self-evaluations are admitted into the self, and
accepted as part of the self-image.

These two findings may be discussed in terms of the
importance given by phenomenological theories, (particularly
those of Carl Rogers and Combs and Snygg), to ideas such
as accurateness of self, maximal openness to experience, and
the richness and availability of the perceptual field.
The findings suggest that maturity and accuracy of self,
are associated with the capability of accepting into
awareness any, and all aspects of reality. This capacity

to confront life openly, and without undue defensiveness,
is gradually achieved by the child, as he develops the
ability to admit evidence into awareness. Such ability
is seen as essential for the achievement of an adequate
concept of self.

3) The developmental changes that children undergo in
their self-image during this period, is further supported
by the finding that children gradually achieve a higher
amount of certainty and consistency with regard to their
self image. In this respect a parallel developmental
process was indicated in the present study, in terms of
a gradual decrease with age, in the amount of uncertainty
as measured by the Q sort technique. Uncertainty about
self was defined in the present study as the amount of
consistency, revealed by the subject, in evaluating
himself (referring to each pair of items twice; once in
a positive and once in a negative connotation). The findings
may therefore be discussed in terms of Carl Rogers' concept
of congruency of self, as well as Combs and Snygg's concept
of consistency of self. It is argued by these authors that
in order to achieve an adequate concept of self, it will
require that the individual develops a high degree of
consistency within the phenomenal self. (Combs and Snygg,
1959), or, in Rogers' terms, congruency of self is achieved,
if all experiences are accepted into one consistent and
integrated system.

The finding of a linear increase in children's amount of certainty, or consistency within their self-image, may be discussed further, in terms of the achievement of a higher differentiation in children's self-evaluations, which develops from a general and global concept of self, into more specific, and therefore more accurate self-perceptions. Thus, the findings suggest that children's self-concept at this age, develop from a global self-awareness, to a relatively sensitive and differentiated degree of self-awareness.

The findings may also be discussed in comparison to those of Staines (1958). In his measure of self-acceptance, uncertainty was measured in terms of the subject's sortings of the items into a third category: "I don't know". Staines argued that the amount of the subject's uncertainty, indicated the amount of his psychological security. As found in the present study, Staines also found that more "psychologically secure" (or well-adjusted) subjects showed a lower amount of uncertainty.

4) A developmental trend was also found in the amount of children's interactions with peers during play situations, as measured by a time-sampling observation technique. Thus, in a sub-sample of two criterion groups, consisting of the most accepted, and the most unaccepted children of the whole sample, it was found that the amount of social interaction with peers at play situations, linearly increases with age, in both popular and non-popular children.

The finding suggests that a larger amount of differentiation in social behaviour, as well as a more complex pattern of peer-interaction, is achieved gradually during middle childhood.

III The Relation Between the Self-Image and Peers' Acceptance

Sullivan's view that the self-concept has it's origin in interpersonal relationships, since it is shaped by the reflected appraisals of significant others in the individual's social environment, has been adopted as a basic assumption governing this part of the study.

To what extent do the findings obtained support this view, coined by Cooley as the "looking glass self", and later adopted by all phenomenological theorists, who similarly view the self concept as a social product, arising out of the experiences with other people in the phenomenal field.

1) On the whole, a highly significant curvilinear relation was found between children's self-acceptance, (as measured by the Q sort technique), and their acceptance by their peers (as measured by the sociometric technique).

2) Furthermore, it was found that the significance of the curvilinear relation between the two variables, linearly increases with age.

These two findings may be discussed:

a) In reference to the findings obtained in other related studies.

b) In reference to the amount of support they provide for the theoretical assumptions, pointed out previously.

As described in the literature survey, contradictory findings were obtained by various studies, concerning the relation between self-acceptance and adjustment in general, and the relation between self-acceptance and social adjustment in particular.

The curvilinear relation, obtained in the present study between self-acceptance and sociometric status, is in accordance with Reese's (1961) finding. He also provides clear evidence of a curvilinear relation between the two variables, in children of the same age. The curvilinear relation, found between self-acceptance and sociometric status, may suggest that very high self-acceptance may be associated with certain behaviours, which are not accepted by peers, since they are interpreted by children as indicating a "showing off", or a snobish attitude.

On the other hand, in another study by Zelen (1954), a small linear correlation was found between the two variables. This result was interpreted by the author as meaning that more self-acceptant children are better able to devote their energies to group activities, and to co-operate more fully with others. It may be possible that high self-acceptance scored in Zelen's instrument

(the Who-Are-You technique) is equivalent to moderate
amounts of self-acceptance as measured by the Q sort
technique, employed in the present study. However,
further investigation is needed, to establish the
relation between scores obtained from various techniques,
which measure self-acceptance.

It was further found in the present study that the
child's sociometric status indicates a wide range of
social adjustment, which includes; the amount of children's
reciprocal choices, the degree of their insight or empathy
into peers' choices, and the amount of their social
interactions with peers. On the basis of this finding,
it seems pertinent to relate the relation borne out between
self-acceptance and sociometric status, to studies concerned
with the relation between self-acceptance and the broader
area of adjustment. In this respect, a number of findings
are in accordance with the curvilinear relation between the
two personality dimensions.

With children the study of Block and Thomas (1955) has
shown that more adjusted children accepted more unflattering
statements about themselves. A curvilinear relation between
self-acceptance and adjustment was also borne out in a study
by Taylor and Coombs (1952) with adults. These studies
suggest that both extremely high, and extremely low amounts
of self-acceptance are associated with maladjustment, whereas
moderate amounts of self-acceptance indicate good adjustment.

On the other hand, as discussed in the literature survey, in a number of studies a linear relation was found between the two variables (Brownfain, 1952; Lipsitt, 1958). Fallon (1965) found that high and moderate scores of self-acceptance in children, obtained from Staines' (1958) Q sort technique, are related to lower scores in anxiety and neuroticism, obtained from Cattell's C.P.Q. However, this finding, that high and moderate amounts of self-acceptance are associated with good adjustment, seems to be in contradiction with her other finding, that high self-acceptance decreases with age (which was interpreted by her as indicating the development of a more realistic, and less repressed self-image).

It seems that a curvilinear type of relation avoids such contradiction. Since high self-acceptance is shown to be associated with poor social adjustment, it can be interpreted as indicating an unrealistic and defensive picture of self, which was established as a result of repressed perceptions of reality.

Furthermore, the finding of a curvilinear, rather than linear relation between self-acceptance and adjustment, evidently proves that in fact, there is no contradiction between a positive view of self, defined by moderate amounts of self-acceptance, characteristically held by the adequate person on one hand, and an accurate and realistic concept of self, typically assigned to the adequate person, on the other hand. Again, it may be possible that high

amounts of self-acceptance, derived from Staines' measure,
which was employed in Fallon's study, are equivalent to
moderate amounts of self-acceptance, obtained from the
Q sort technique, which was employed in the present study.

Another explanation to the differences in findings,
may lie in the possible differences between the personality
patterns covered by the C.P.Q. measure of adjustment
(anxiety, neuroticism, and extraversion), and the behaviour
patterns, covered in the present study by the sociometric
indices. Further investigation is needed, in order to
establish the relation between these global areas of
behaviour.

The findings described previously may now be discussed
as to the support they provide to the theoretical approach
taken.

a) Defining children's adequacy in terms of indices of
social adjustment, it was found that more adequate children
show moderate rather than extreme amounts of self-acceptance.
These results tentatively suggest that children's basic need
to feel positively about themselves, and at the same time
to see themselves in a realistic and accurate way - are
not mutually antagonistic concepts, but rather complement
one another.

Since self-acceptance was measured in terms of children's
"balance" between positive and negative self-evaluations,
on the basis of the findings obtained from this measure,

it may be concluded that it is only when children build
resevoirs of positive self-perceptions, as a result of
their acceptance by their peers, that they are able to
accept themselves, and at the same time develop honest
and realistic evaluations of themselves. By being
accepted in the peer group, it seems that these children
feel positively enough about important aspects of self,
to be able to balance at least a certain number of
negative concepts.

On the other hand, the findings suggest that it is
the child who feels unwanted and rejected, who cannot
afford to be accurate in assessing himself. Thus,
children who feel afraid that no one likes them, need
to defend themselves against all criticism, and therefore
react by either extremely positive and rigid amounts of
self-acceptance, or by showing an extreme and rigid pattern
of self-rejection, characteristically associated with a
high amount of uncertainty about their self-evaluations.

b) To what extent do the findings, obtained in the present
study, provide evidence to the view, that the self concept
is basically a social product, arising from the child's
social interactions with significant people in his
phenomenal field.

A two-way interaction effect between the self-image
and the social environment seems to account for the results
obtained in the present study, better than does a simple
one-way causal relationship. A number of further theoretical

considerations seem to support such explanation:

1) All theories concerned with the self-concept stress
its dynamic nature. That is, the self-concept is
believed to be a product of social experience. However,
once it is established, it is in turn expected to shape
behaviour and experience, thus inevitably affecting
social relationships as well. These cyclic effects
assigned to the self-image, would therefore make any
attempt to demonstrate causal relationships empirically,
a rather difficult task.

The cyclic effects, which characterize the self-image
may be described in terms of the social field, as well as
in terms of the more general area of problem solving,
and coping with life situations:

a) The finding obtained, support the view that more
adequate children possess a more accurate self-concept,
which implies a greater openness to experience.

Obviously, these children are provided with more
realistic and objective data about themselves and about the
world which surrounds them. It may therefore be assumed
that in turn, a more accurate perception of the world,
enables the adequate persons to behave more decisively,
and to set more realistic goals for themselves. In turn,
more realistic goals are more likely to be successfully
achieved, thus providing a source for more positive feelings
and self, as well as more acceptance and openness to experience.

b)　Similarly, the dynamic nature of the self-image may affect social experiences:　The significant relation found between self-acceptance and acceptance by others may indeed support the phenomenological assumption that others' acceptance is essential for accepting oneself. However, a parallel assumption held by all phenomenologists, and confirmed by research, is that an increased capacity to accept self facilitates the acceptance of others (Sullivan, 1953; Rogers, 1951).　In fact, this is the interpretation given by Zelen (1954), to the positive linear correlation he found between the two variables.

The cyclic or dynamic role, which is believed to be played by the self-image in the development of personality, may be visualized by the following two diagrams:

I

More Positive
view of self

more acceptance
and openness to
experience

more likely
to achieve
goals

more accurate
assessments of
self

more realistic
goals

II

More Positive
view of self

feeling free from
threat, own
feelings of worth
are fulfilled

more likely
to be accepted
by others

more acceptance of
others, freer to fill
needs' of others
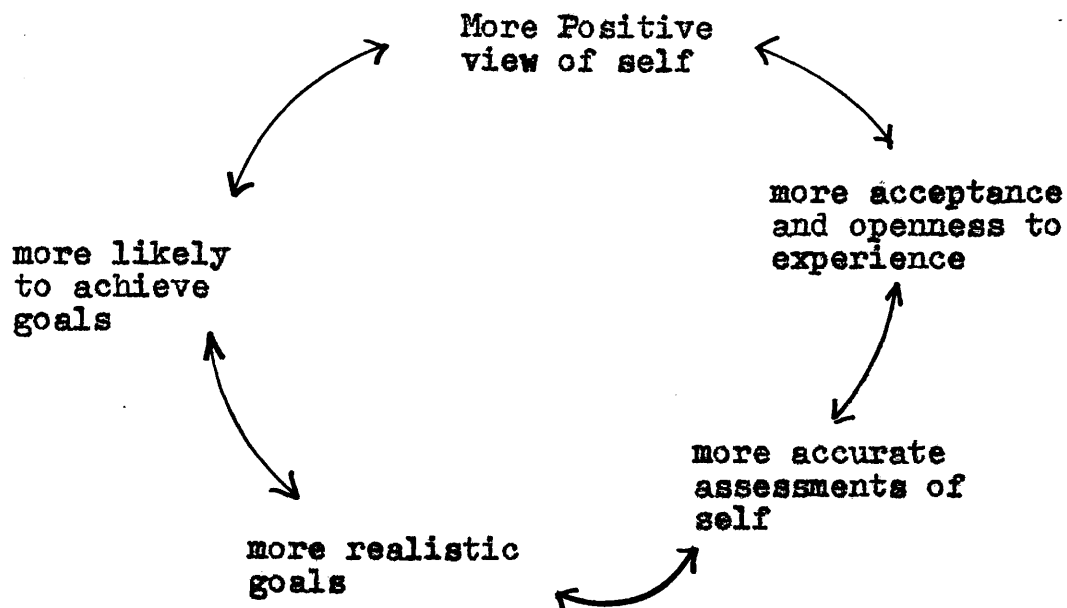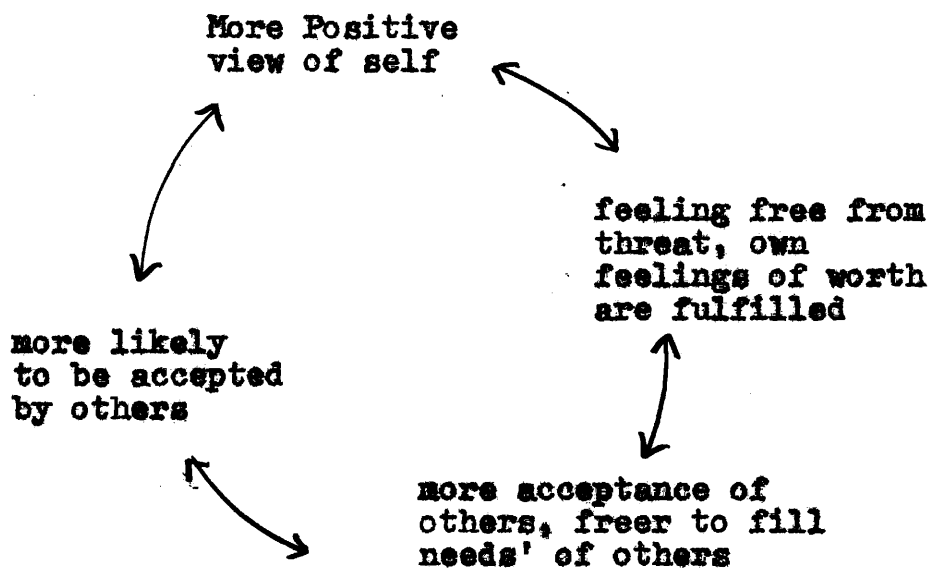
Footnote: The first diagram is presented in the 1962 year
book "Perceiving, Behaving, Becoming" - of the
ASCD association.

The two-way interaction effect, which is believed to give a better explanation to the relation found between self-acceptance and acceptance by peers, than does a one-way causal relationship, has not been tested directly by the present study.

However, some developmental processes, which were found in the relation between the two variables, and further in the social orientation toward self, seem to bear out some implications, as to the increasing part held by social experiences with peers, in moulding the child's self-image. Thus, social experiences become gradually "mirrored" in the way the child perceives and evaluates himself.

The following lines of evidence are in support of such conclusion:

1) It was found that the significance of the relation between children's self-acceptance and their acceptance by their peers, linearly increases with age: Whereas at the age of 7.5 a lack of any relation between the two variables was indicated, an increasing relation was found in the older age groups, reaching a highly significant relation between the two variables at the age of 10.5 years.

The linear increase in the significance of the relation between self-acceptance and acceptance by peers, may suggest that gradually, through a process of learning from social experiences, the child's social position in the peer group

becomes mirrored in his self-image, in that it increasingly
affects the way he perceives and evaluates himself. It
may further imply the important role of satisfactory
relationships with peers, in facilitating self-acceptance
in children.

2) Furthermore, evidence to this implication may be drawn
from results obtained with the repertory-grid technique,
measuring a social versus personal orientation in evaluating
self and others.

a) A linear increase with age was found in self-identification
(in terms of the ideal self) with socially oriented rather
than personally oriented constructs (characteristics).

b) A parallel linear decrease with age was found in subjects'
self identification (in terms of the ideal self), with
personally oriented constructs (characteristics).

These findings support the hypothesis of a developing
social orientation, in terms of the ideal self, during
middle childhood. Again, the findings may suggest the
increasing salience of social experiences with peers, in
determining the ideal self-picture of children during
middle childhood.

These results are not in complete accordance with those
reported by Carlson (1963, 1965). In his study, the majority
of pre-adolescent subjects were found to be personally
rather than socially oriented, with no evidence of sex
differences. However, pre-adolescents were treated by

Carlson as an undifferentiated whole sample, whereas in
the present study, they were differentiated into four
age-groups. Although it was found that as a whole, pre-
adolescents are not socially oriented, when divided into
four age groups, a marked social orientation was found to
increase as a function of age. This finding indicates
a gradual developmental trend, which has it's origins in
pre-adolescence, and as such is opposed to Carlson's
finding, which indicates a shift in this direction in
adolescent girls only.

3) More detailed support to a developing differentiation
in the self-image, according to a personal versus social
orientation, in evaluating both peers and self, is
obtained from principal component analysis, of the
"consensus" grids of the eight groups under investigation.
In this respect, the first of the two components of each
group's "consensus" grid, which was found to account for
most of the variance (over 80%), provided a scale for
measuring the degree of acceptance - rejection of peers.
In this scale the socially oriented construct "to have a
lot of friends", was found to be closest in orientation to
the "ideal self" construct, and as such, to the favourable
end of the scale. On the basis of principal component
analysis, it was also suggested that the salience of
socially oriented constructs in evaluating peers and self,
is more strong in girls than in boys.

In addition, the second component found with the repertory grid measure indicated the emergence of two clusters, separating between socially oriented, and personally oriented constructs. (The clearest evidence of such clustering was provided by the two oldest age groups)

4) The two dimensions derived from principal component analysis of subjects' responses to the Q sort measure, may also provide some meaningful evidence to the assumption, that during middle childhood social experiences with peers become "mirrored" in the self-image. In this respect:

a) The first component (accounting for over 20% of the variance) was found to have the same psychological "meaning" for all subjects. On the basis of the content of most highly loaded items on this component, it was interpreted to be mainly concerned with self-esteem, which is derived from the child's perpetual comparison making, of himself as against his peers. Through this process, children's standard of excellence, as well as their feelings of self-acceptance and worth are achieved.

b) On the basis of the content of most highly loaded items on the second component, this component was interpreted to be mainly concerned with the social experiential dimension of the self-image, which is believed to be a product of reflected appraisals of peers.

Testing the association between subjects' loadings on this component, and their sociometric status, in three out of the six groups tested, a significant positive correlation was found between subjects' loadings on the social-experiential dimension of the self-image, and their sociometric status. This finding suggests that the child's position in the peer group plays a fundamental part in establishing his self-image, not only in that it affects his amount of self-acceptance, but also in that it determines the degree of salience of social experiences, in his self-image.

With regard to the measures employed in the present study, the degree of equivalence of three different measures of self-acceptance; self-esteem (derived from the interview technique), self-acceptance (derived from the Q sort technique), and real self - ideal self congruency (derived from the repertory-grid technique), was presented as an empirical question, which has to be tested, and solved by investigation. In this respect, self-acceptance (derived from the Q sort technique) was found to be positively associated with the variable defined as real - ideal self congruency. On the basis of this finding, it was suggested that the two measures tap closely related, though not entirely overlapping dimensions of the self-image.

Referring to the question of the applicability of the Q sort technique, on the whole, the technique was found applicable with the sample employed, although the set of one-hundred items seems to be slightly cumbersome for use

with the youngest children in the sample, (7.5 years old).
It is suggested that in future investigation, a better
use of such technique with children younger than eight
years, may be done with a smaller number of items,
selected on the basis of highly loaded items on the
first and second component.

The presentation of bipolar pair of items, given
randomly to the subject, was found applicable, and
yielded valid and meaningful results.

Finally, the curvilinear relation between self-
acceptance and sociometric status, which was borne out
in the present study, is based on correlational findings.
A two-way causal relation between the two personality
dimensions was offered as a better explanation of the
findings obtained, than one-way causal relation. However,
since causal relationships were not investigated directly
in the present study, the implications derived from the
correlational findings obtained, are limited. Therefore,
in future research more experimental methods, using
manipulative strategies with children, are needed in order
to throw more light on the developmental processes involved
in the establishment of the relation between the self-image
and the social environment.

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RATING CODE FOR SELF CONCEPT INTERVIEW

I. BEHAVIOR WITH NEW PEOPLE

1) Start to talk to new people   Wait until they start to talk

2) Very Shy   Very Confident

3) In general other people like me   Others do not like me

4) I am a lot of fun to be with   It's not fun to be with me

II. FRIENDS

1) Names

2) For how long: Over 5 years, 3 years, 1 year, A few months, Less than a few months.

3) Where are they from: Family, neighbourhood, school, class, others.

4) Why do I like them:

5) Why do they like me:

6) I am popular   I am not popular

7) I want to be more popular   I do not want to be more popu.

8) Who is popular?

III. ACCEPTANCE OF OTHERS

1) Kind and generous to friends, sometimes kind, not kind to friends

2) Share things with others, share things only with friends, I don't share.

3) Selfish   Sometimes Selfish   Never selfish

4) Who is selfish?

5) Bossy   Sometimes bossy   Never bossy

6) Who is bossy?

7) Aggressive   Sometimes aggressive   Never aggressive

8) Who is aggressive?

IV. <u>SCHOOL</u>

1) <u>I usually work hard,   I am sometimes lazy,   I'm usually lazy.</u>

2) <u>I like to do projects on my own, with a few children,</u>

<u>with many children.</u>

3) <u>Why?</u>

4) <u>Other children copy my ideas, Sometimes I copy them and Sometimes</u>

<u>they copy me, I copy others ideas.</u>

5) <u>I find it difficult to talk in front of the class.</u>

<u>I find it easy.</u>

I talk to other children about my problems:

6) <u>Always   Sometimes   Never</u>

7) <u>To whom?</u>

8) <u>I am near the top of the class, I am average, I am near the</u>
<u>bottom.</u>

9) <u>I would like to come top of the class, to be average, bottom.</u>

<u>Why?</u>

V. <u>SELF AND PERSONALITY TRAITS</u>

I lie or cheat

1) <u>Often   sometimes   occasionally   never</u>

2) <u>I like to please people   I don't like to please people</u>

3) <u>I like to be noisy   I like to be quiet and calm</u>

4) <u>I am very independent   Sometimes independent   Never independed</u>

VI. <u>SPECIFIC EMOTIONAL DEPENDENCIES</u>

1) <u>I laugh and smile a lot,   average,   a little</u>

2) <u>I would like to laugh more   to be the same,   to laugh less</u>

3) <u>I talk too much   too little</u>

4) <u>I am usually too serious   usually not serious</u>

5) <u>I would like to be more serious, just as I am,   less serious</u>

6) <u>Usually I am happy,   Sometimes happy and   Usually unhappy</u>
<u>Sometimes unhappy</u>

Why? _____

_____

7) <u>Usually I am shy even with people I know,   Sometimes shy,</u>

<u>Never shy.</u>

8) <u>I am often afraid,   Sometimes afraid,   I am never afraid</u>

Why? _____

9) <u>I am often in a bad temper, Sometimes, Often in a good temper</u>

10) <u>I am often nervous,   Sometimes nervous,   Never nervous</u>

VII. <u>SELF ACCEPTANCE</u>

1) <u>I wish I were like _____</u>

2) <u>Always   sometimes   never</u>

3) <u>Why? _____</u>

_____

4) In what ways?   1   2   3

<u>In everything,   in a few things: appearance, abilities, skills,</u>
     4   5
<u>intelligence, property.</u>

5) If I were a good witch/wizard, I would change in myself:

<u>everything,   a few things: abilities, personality traits,</u>

<u>appearance, skills, property, nothing.</u>

6) I would change by brother/s / sister/s:

<u>not at all   only a little   send them away from</u>
                                       <u>home.</u>

7) I would change my parents

<u>not at all   just a little   into new parents</u>

8) I would change the class

<u>Change the teacher, take out a few children, would not change</u>

9) <u>I would like to be younger   my age   older,   anything</u>

VIII. SPORTS AND GAMES

1) I like best to play alone, play with a few children,

play with a lot.

2) Play outdoors, play sometimes outdoors and play indoors
sometimes indoors

3) Play with older children, my age, younger children

IX. SPECIAL TALENTS

1) I have got a special talent, I have no special talent

2) I am good at: music, dancing, drawing, painting, building,

others,

3) Other children admire me for my talent, No one admires me

4) I admire... I do not admire anybody

Appendix 2

Instructions for the Q Sort Technique

"We are going to play a game with cards (experimenter shows the cards to the subject). On each card a sentence is written, which says something about children like you. Now, I am going to read each card to you, and you have to tell me, if what is written on the card is true about you, or, not true about you.

If you think that what is written on the card is true about you, please say 'true', and we shall put the card together here (experimenter puts a label "true of me" on the left hand side of the table).

And if you think that what is written on the card is not true about you, please say 'not true', and we shall together put it there (experimenter puts the label "not true of me" on the right hand side of the table).

Do you understand? So let's try."

It is explained to the subject that in cases of doubt about the right category of a card, the subject should put the card in the category which is "nearer" to what is "true about him".

Appendix 3

List of Q sort items

1) a) I am one of the best in sports and games.

   b) I am usually quite bad at sports and games.

2) a) Whenever I meet new people, I always start talking
      to them.

   b) Whenever I meet new people, I always wait, until
      they start talking to me.

3) a) Usually, all the children want to play with me,
      whenever I ask them.

   b) Usually, all the children don't want to play with
      me whenever I ask them.

4) a) I never get into trouble, because I am always good.

   b) I always get into trouble.

5) a) I like the playground when it is crowded with children.

   b) I hate the playground when it is crowded with children.

6) a) I find it easy talking in front of the class.

   b) I find it difficult to talk in front of the class.

7) a) I never have arguments with others, because I get
      on well with other people.

   b) I don't get on well with other people, because I
      often have arguments with others.

8) a) I am never shy with anybody, because I like meeting
      new people.

   b) I am shy only with people I don't know.

9) a) I don't think I have to be more friendly, because
   I have got enough friends.

   b) I think I have to become more friendly, because
   I haven't got enough friends.

10) a) I am one of the best in the class at running races.

   b) I am quite bad at running races.

11) a) Usually at play time I have got a lot of children
   to play with.

   b) Usually at play time I have no one to play with.

12) a) All the children in the class are my friends.

   b) Most children in the class are not my friends.

13) a) I have got more friends than the other children.

   b) The other children have got more friends than I have.

14) a) I am not at all shy, even with new people, because
   I am always sure of myself.

   b) I am very shy with everybody, even with people I
   know well.

15) a) Most people like me a lot.

   b) Most people dislike me.

16) a) I never play only by myself, because I can always
   find somebody to play with.

   b) Usually, I have to play only by myself, and I am
   already used to it.

17) a) It is a lot of fun to be with me.

   b) It is sometimes boring to be with me.

18) a) I am never selfish to my friends, I am always
   generous and kind to them.

   b) I am sometimes selfish to my friends.

19) a) I like sharing my things with anybody who asks me.

b) I don't like sharing my things with other people.

20) a) I never beat up other children for nothing, because I hate fighting.

b) I sometimes beat up other children even for nothing.

21) a) I like all the children in my class.

b) I dislike many children in my class.

22) a) I am never bossy, because I always let other people do what they like.

b) I am bossy, because I like telling other people what to do.

23) a) When children start hitting me, I just leave them alone.

b) When somebody hits me, I'll always hit him back.

24) a) I am usually happy at school.

b) I am usually unhappy at school.

25) a) Usually I prefer working on my own than with other children.

b) Usually I prefer working with other children, rather than on my own.

26) a) I want to come top of the class, rather than be in the "middle".

b) I'd rather be in the "middle" of the class than come top.

27) a) For me lessons are more important than games.

b) For me games are more important than lessons.

28) a) I have better ideas than the other children.

b) Other children have better ideas than I have.

29) a) I like being at this school.

   b) I'd rather go to a new school instead of this one.

30) a) At school everything is quite easy for me.

   b) At school everything is quite hard for me.

31) a) I am more clever than other children.

   b) Other children are more clever than I am.

32) a) I like coming to school more than staying at home.

   b) I'd rather stay at home than come to school.

33) a) I am one of the best in the class at drawing.

   b) I am quite bad at drawing.

34) a) I am one of the best in the class at arithmetic.

   b) I am no good at arithmetic, because it is too
      hard for me.

35) a) I am very good at reading and writing.

   b) I am quite bad at reading and writing.

36) a) I like being at school more than staying at home,
      because at school there is so much to do.

   b) I like staying at home more than coming to school,
      because at home there is so much to do.

37) a) I never copy other people's work, because I can
      work by **myself**.

   b) I sometimes copy other people's work, because I
      cannot do the work by myself.

38) a) I like making up stories.

   b) I dislike making up stories.

39) a) I always listen to the teacher.

   b) Usually, I don't listen to the teacher, because
      I am busy with other things.

40) a) I never tell lies, because I am always honest.

   b) I tell lies quite often.

41) a) I think that in a few things I am a special boy/girl.

   b) Nothing is special about me, I am just like all
   the other children.

42) a) I never wish to look like somebody else, because
   I like my face.

   b) I don't like my face, I wish I had a nicer face than
   I have now.

43) a) I'd rather play with children my age, than younger ones.

   b) I'd rather play with younger children, than children
   my age.

44) a) I never wish to be like another boy/girl, because
   I like it the way I am.

   b) Sometimes I wish I were another boy/girl, because
   it is better than being myself.

45) a) I always work very hard.

   b) Usually, I am quite lazy.

46) a) I think that some children want to be like I am,
   because they think that I am lucky.

   b) I think that nobody wants to be like me, because
   I am unlucky.

47) a) I'd rather be my age, than younger.

   b) I wish I were younger than I am.

48) a) My Mum always makes me happy.

   b) Usually my Mum makes me unhappy.

49) a) My Dad always makes me happy.

   b) Usually my Dad makes me unhappy.

50) a) My brother/or sister always makes me happy.

   b) Usually my brother/or sister makes me unhappy.

Appendix 4

Q Sort Scoring Sheet

Name: _____

Age: _____

Item No	1	2	3	4	5	6	7	8	9	10
a										
b										
Item No	11	12	13	14	15	16	17	18	19	20
a										
b										
Item No	21	22	23	24	25	26	27	28	29	30
a										
b										
Item No	31	32	33	34	35	36	37	38	39	40
a										
b										
Item No	41	42	43	44	45	46	47	48	49	50
a										
b										

Appendix 5

Instructions for Sociometric Test

First Part

"I would like to ask you four questions:

1) If you were to move to a new class, which three
children from your present class, would you like
to move with?

2) Which three children from your own class, would
you like best to play at play time with?

3) What do you like doing best at school? _____
Which three children from your class would you
choose to do it with?

4) What do you like doing best after school?
(When you go home?) _____
Which three children from your class would you
choose to do it with?"

Second Part

"Now I am going to ask you exactly the same questions
again, but this time, what you have to do is to guess which
three children, out of all the children in your class,
might choose you:

1) Guess who might choose you to move with him to another
class? (you can make three guesses).

2) Guess who might choose you to play together at play time? (three guesses)

3) Guess who might choose you to do his favourite thing at school? (three guesses)

4) Guess who might choose you to play together after school, when you go home?"

It was explained to the subject that both choices and guesses of peers, from their own classroom had to be made.

Page number 326 at top right. Appendix 6, Construct Analysis title. Name/Age/School fields. An 8x16 grid with columns A-H and 1-8. Then blank lines below.

Appendix 6

Construct Analysis

Name: _____   Age: _____   School: _____

	A	B	C	D	E	F	G	H	1	2	3	4	5	6	7	8
1																
2																
3																
4																
5																
6																
7																
8																

Appendix 7

Instructions for Repertory - Grid Test

"We are going to have a test with photographs.
This test will show if you can tell how people are like
from their faces.

You see, all these eight boys (girls) in the
photographs are about your age.

Now, you have to look at all these boys/girls here,
and decide which one of them looks most like a boy who
has a lot of friends."

(The subject makes a choice)

"Right. Now, choose a boy who doesn't look at all
like one who has got a lot of friends".

(Second choice is made by the subject)

"Now choose again the boy who looks most like one
who has a lot of friends....."

When the subjects sortings of the eight elements,
according to the first construct are completed, the same
instructions are repeated for all the other constructs.

Appendix 8
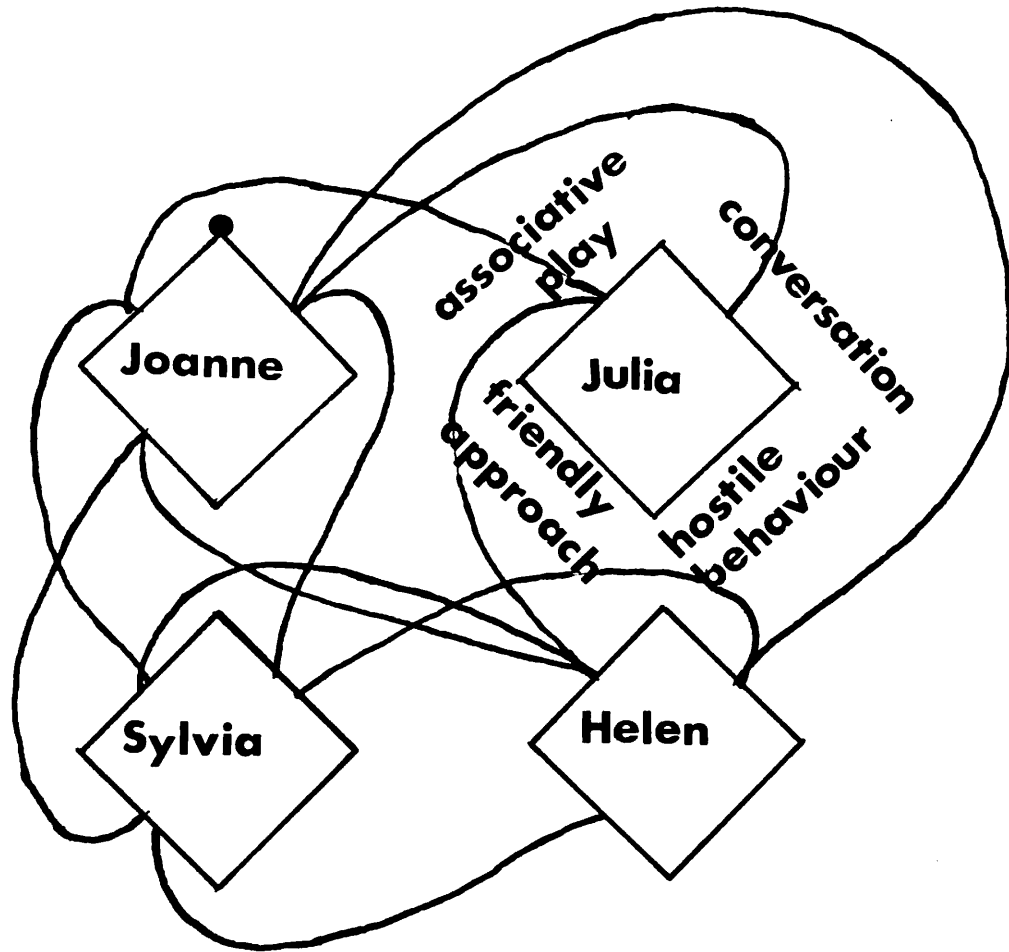
playing
alone
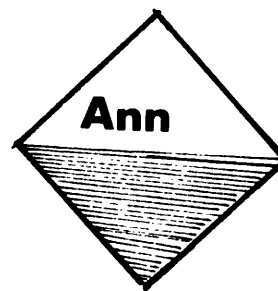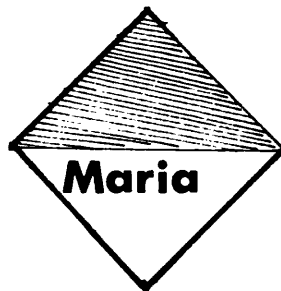
standing
alone

Figure 9

A two-minute observation diagram

Appendix 9

Analyses of variance of differences between rankings
of the group, tested against the interaction between
subjects and their element rankings, for each construct
separately. (see note at the end of appendix).

Girls, age 7.5

Construct 1

Total variation due to:	SS	d.f	variance estimate	F
Differences between elements	323	7	46.96	11.18 (p < .001)
occasion/element interactions	511.3	133	4.2	

Construct 2

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	170	7	24.29	4.82 (p < .001)
occasion/element interactions	670	133	5.04	

Construct 3

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	249	7	35.58	8.00 (p < .001)
occasion/element interactions	591	133	4.45	

Construct 4

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	227	7	32.43	6.36 (p < .001)
occasion/element interactions	677	133	5.10	

Construct 5

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	225.4	7	32.2	6.96 (p < .001)
occasion/element interactions	614.6	133	4.63	

Construct 6

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	182.6	7	26.09	5.29 (p < .001)
occasion/element interactions	657.4	133	4.95	

Construct 7

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	123.6	7	17.66	3.28 (p < .01)
occasion/element interactions	716.4	133	5.39	

Construct 8

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	246	7	35.28	7.91 (p < .001)
occasion/element interactions	593	133	4.46	

Girls, age 8.5

Construct 1

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	539.4	7	77.0	31.46 (p < .001)
occasion/element interactions	342.5	140	2.45	

Construct 2

Total variations due to:	SS	d.f.	variance estimate	F
Differences between elements	218.2	7	31.1	6.58 (p < .001)
occasion/elements interactions	663.7	140	4.74	

Construct 3

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	221.0	7	31.57	7.0 (p < .001)
occasion/element interactions	632.0	140	4.51	

Construct 4

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	248	7	35.4	7.83 (p < .001)
occasion/element interactions	634	140	4.52	

Construct 5

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	122.9	7	17.55	3.23 (p < .01)
occasion/element interactions	759	140	5.42	

Construct 6

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	317	7	45.2	11.24 (p < .001)
occasion/element interactions	564.9	140	4.02	

Construct 7

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	331	7	47.28	12.06 (p < .001)
occasion/element interactions	550.9	140	3.92	

Construct 8

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	439	7	62.7	19.9 (p < .001)
occasion/element interactions	442.8	140	3.15	

Boys, age 9.5

Construct 1

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	166.0	7	23.7	4.86 (p < .001)
occasion/element interactions	616.9	126	4.89	

Construct 2

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	147.5	7	21.0	4.08 (p < .001)
occasion/element interactions	650.4	126	5.17	

Construct 3

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	171.6	7	24.5	4.94 (p < .001)
occasion/element interactions	626.3	126	4.97	

Construct 4

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	37.0	7	5.3	(N.S.)
occasion/element interactions	692.9	126	5.5	

Construct 5

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	191.7	7	27.4	5.69 (p < .001)
occasion/element interactions	606.2	126	4.82	

Construct 6

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	249.5	7	35.6	8.18 (p < .001)
occasion/element interactions	548.4	126	4.36	

Construct 7

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	327.16	7	46.7	12.5 (p < .001)
occasion/element interactions	470.8	126	3.74	

Construct 8

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	373.7	7	53.4	15.85 (p < .001)
occasion/element interactions	424.2	126	3.37	

Boys, age 10.5

Construct 1

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	377	7	53.86	14.4 (p < .001)
occasion/element interactions	547	147	3.73	

Construct 2

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	177.1	7	25.3	4.97 (p < .001)
occasion/element interactions	746	147	5.09	

Construct 3

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	207.8	7	29.7	5.97 (p < .001)
occasion/element interactions	731.1	147	4.98	

<u>Construct 4</u>

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	257.9	7	36.8	7.75 (p < .001)
occasion/element interactions	699.0	147	4.76	

<u>Construct 5</u>

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	111.1	7	15.88	2.88 (p < .01)
occasion/element interactions	812.9	147	5.53	

<u>Construct 6</u>

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	132.0	7	18.9	3.51 (p < .01)
occasion/element interactions	791.6	147	5.39	

<u>Construct 7</u>

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	127.1	7	18.17	3.36 (p < .01)
occasion/element interaction	796.8	147	5.42	

Construct 8

Total variation due to:	SS	d.f.	variance estimate	F
Differences between elements	253.8	7	36.2	7.95 (p < .001)
occasion/element interactions	670.1	147	4.56	

The two way analyses of variance presented in appendix No. 9 show that in all groups, and for each of the constructs the differences between the element rankings, as tested against the interaction between element rankings and subjects (the residual) are significant.

These results indicated that a high consensus was found among subjects in ranking the elements in terms of the constructs.

This finding enabled the further construction of a "consensus" grid for each of the groups. Each of the "consensus" grids consists of the average element ranking, of the group, in terms of each construct.

In the present thesis, only a small part of the results given by the print-out of the "Ingrid 72" programme (1) have been presented. These were limited to:

1) The percentage of the observed variation, for which the first and the second components were found to account.

2) The construct "vectors" of the first and the second components.

This was done since in the consensus grids the first two components were found to account for over 90% of the total variance. The same procedure was followed with the Q-sort results, since only the first two major components were found to account for a relatively high amount of the variance, suggesting the possibility of two psychologically meaningful independent dimensions.

The complete print-out of the programmes which consists of the complete data obtained in the present study is available from the author directly. This programme specifies:

1) The total variation of each construct about the construct means.

2) Correlations between constructs.

3) Total variation of elements.

4) Distance between elements.

5) The component space, limited to n dimensions (specified as the number of components from 1-n) its variation in terms of sum of squares by components.

6) Finally, the specifications for the elements are listed under the headings: ELEMENT, VECTOR, LOADING and RESIDUAL, and after them - the specifications for the constructs as: CONSTRUCT, VECTOR, LOADING, RESIDUAL.

In the present thesis the specifications for the constructs in terms of the appropriate constructs' "vectors" have been used for interpreting results, and are presented in tables 27-30. These indicate the proportional salience of each of the constructs in the first and second components. The analysis from which these were derived was carried out using a programme devised by Slater (2), (3). Similarly, the two components extracted from subjects' responses to the Q-sort technique were interpreted on the basis of items' appropriate "vectors" (coefficients) in the first and in the second component. The complete print-out of the Q-sort results is also available directly from the author.

The General Outline of Principal Component Analysis

Imagine a matrix of m constructs by n elements. Let a component be a linear combination of the construct scores for a particular element, that is the sum of the product of each score and a certain coefficient.* The "vector" of this component is merely a list of the l's. The variance a component accounts for is the sum of squares of these linear combinations over the elements.

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* such that $(1^2) = 1$

The first principal component is defined by that set of coefficients for which the variance accounted for is maximal (in which case it equals the largest "latent root" of the matrix of correlations.)

Subtracting the mn products mentioned previously from the original mxn matrix produces a matrix of residuals, of which further linear combinations can be made in exactly the same way. Repeating this process on each successive matrix of residuals gives m principal components, which account for progressively smaller and smaller variance. The total of the variance accounted for by each principal component, will equal the total variance of the original variables. Obviously, if the elements are rated similarly in terms of a large number of constructs the first principal component will account for most of the variance. Slater's programme actually makes a principal component analysis of the scores of each element on each construct, as well as one of the scores of each construct on each element.

Since the extracted components are the same in both cases, this allows the user to determine whether certain elements are to be identified with certain constructs, by comparing their coefficients on any component.

Since a "loading" is equal to a coefficient times the square root of the appropriate latent root, this is equivalent to comparing loadings.

References

1) SLATER, P. Notes on Ingrid 72

  A program available for analysing grids individually,
  under a grant from the M.R.C. (Privately printed,
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2) SLATER, P. (1973). Composite diagrams and systems of
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3) SLATER, P. The principal components of a repertory
  grid. (Privately printed under a grant from the
  M.R.C., available from the author at the:

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