The Development of Identity
in Adolescence

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In recent years, the development of identity in adolescence has become a popular issue in developmental psychology. In the present study seven hypotheses were formulated on this subject and tested. The period of adolescence observed was limited to one year during which the subjects left a boarding school for a new role in society. Eighty-one sixteen year olds were interviewed using the repertory grid method six months prior to leaving school, immediately before departure, and then a third time six months later. The interview data was analyzed in terms of five operationally defined dependent variables of identity: construing, identifications, perception of self sameness, perception of continuity, and identity diffusion. The hypotheses regarded the effect of the independent variables of transition from school, vocational commitment, temporal orientation, early environmental disruptions, and sex, on the measures of identity.

The hypotheses were only partially confirmed, yet four effects in the development of identity during this specific period of adolescence were found. Reconstruing was observed after the transition from school in those with considerable identity diffusion prior to leaving school. Identifying with the peer group affected identity diffusion before leaving school. Vocational commitment affected the identity development of girls but not boys; and other sex differences were found in several measures of identity. These findings were discussed in terms of existing theories of adolescence and identity outlined in this thesis, and led to the description of a focal model of the development of identity in
adolescence. The findings also revealed some of the coping processes adolescents use in making the transition from school to a new role in society. Finally, the findings also led to new ideas about adolescence and identity.
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This study concerns itself with two intellectual issues, and at the same time attempts to understand a very real practical problem. The intellectual issues are those of adolescence and identity; the practical problem is the adolescents' transition from school to a new role in society.

The period of adolescence forms the bridge between childhood and adulthood. It is that crucial period of change when certain physical, cognitive and behavioural characteristics have to be acquired to meet the psychosocial criteria of adulthood. At the same time the study of adolescence must search for the continuities, as distinct from the changes, that make up the link between child and adult psychology. Furthermore, the observations of psychopathology in adolescence have contributed to controversial assumptions about the pattern of necessary normal development during this period, which are not supported by recent empirical work on normal adolescents. The juxtaposition of change and continuity and the problem of assessing what is normal behaviour for teenagers are the main causes of the difficulties in finding an appropriate theory of adolescence. The term adolescence has been used to cover the ten or twelve years between puberty and the early twenties, however the present study is limited to one year, approximately at the centre of this period, when the adolescent, aged sixteen, is compelled to make a physical transition from school to a new role in society. During this year there has to be both change and continuity, and by studying the transition from school, one is observing one of the necessary steps towards adulthood.

One of the basic problems of psychology is making generalizations about people's behaviour, when every person is unique and different from
every other person. One of the main reasons for a person's uniqueness is his identity, objectively perceived by his physical characteristics and his position in his social environment, but also subjectively experienced by each and every individual. The extent of the intellectual problem of understanding identity is indicated by the volume and diversity of the literature on the subject. It has been the focus for study of philosophers, especially the existentialists, sociologists, social anthropologists, psychoanalysts, social psychologists, and the writers of plays and novels of many different nations. Regardless of discipline, the common question asked is, how do individuals become what they are? This in turn leads to two more questions - how do others define them? And how do they (the individuals) perceive themselves? Identity becomes of particular interest in adolescence, since the cognitive, social, and behavioural changes observed during this period of life cause changes in the person's objective and subjective identity, and yet at the same time the formation of identity is one of those processes that provide continuity between childhood and adulthood. Thus, by investigating the pattern of identity development in normal adolescence, this study is concerned with two theoretical issues.

In order to build up a theory of how identity develops in adolescence, terms have to be defined empirically and predictions have to be made which are verifiable. The repertory grid method enables this to be done. This approach has the further advantage of providing valuable data on the qualitative nature of adolescent identity and identifications since the adolescents describe in their own words how they perceive themselves and how they think others perceive them.

As noted, this investigation is concerned with a specific period in adolescence, in the middle of which the subjects leave school: the hypotheses that are made and tested concern the development of identity
during this period, and, specifically, the effects of transition from school, vocational commitment, temporal orientation, early environmental disturbance and sex on identity. In this way the thesis addresses itself to the theoretical issues of adolescence and identity, and also to a practical situation that every adolescent in the West has to face.
1. ADOLESCENCE

The founding father of the scientific study of adolescence was undoubtedly G. S. Hall, whose work was published at the beginning of this century. He was influenced by Darwin to recognize the genetic and maturational determinants of behaviour; but he also recognized the equal importance of cultural factors and the effect of society on adolescents' behaviour. He suggested that adolescence is a period of extreme storm and stress ("Sturm und Drang"), due to the interaction of genetic and cultural forces, and he uses this concept to explain his observations of typical oscillations in adolescents' behaviour, for example, between energy and lethargy, exaltation and depressive gloom.

After Hall, the psychoanalysts continued to focus on the maturational aspect of storm and stress, and it is they who are most responsible for adolescence being viewed as a disturbed state. The psychoanalytic theories of adolescence will be examined below.

Long before Hall, however, in the 4th Century B.C., the Greek philosophers had provided descriptions of character development through youth to adulthood. Aristotle recognized the importance of the development of ability to choose. Voluntary and deliberate choice was seen as necessary for the attainment of maturity. The steps that lead to cognitive and volitional independence have since been studied in detail - Piaget's theory of intellectual development explains how, through a combination of cognitive maturation and education, the child, when reaching adolescence, is able to conceive alternative propositions and hypotheses and to make an intelligent choice. Piaget's contribution to the theory of adolescence, as well as the contribution of his followers, is also examined below; they are cognitive theories since they focus on the maturation of cognitive (intellectual) abilities.
Adolescence is a relatively recent concept used to describe youths who were neither children nor adults. The process of how these youths stop being children and become adults is described in theories of socialization. These theories focus on the effect of cultural factors, i.e. the environment, on adolescents. These, too, are examined.

These three perspectives of adolescence are then integrated in an attempt to understand adolescence in terms of a practical problem which they all inevitably face.

1.1 PSYCHOANALYTIC THEORIES

Although Freud was the founding father of all psychoanalytic theory, he had relatively little to say about adolescence. Instead, he focussed on the first five years of life and the development of sexuality. He described the "task" of adolescence as being "the attainment of genital primacy and the definitive completion of the process of non-incestuous object finding" (Spiegel 1951, p.380). He hypothesized a struggle between the biological-instinctual id forces and the socially oriented superego. In other words, Freud recognized the need of the adolescent to find a love object outside his family. He also presumed there to be a conflict between the maturation of natural physical urges and the adolescent's appraisal of how he might be socially permitted to cope with these. Thus there are several themes on which neo-Freudians concerned with adolescence have been able to elaborate:— (1) the theme of inner turmoil and conflict caused by id and superego forces, (2) the theme of extra-familial object-finding, and (3) the effect of social forces on the development of psychic structure. However, whatever the central theme of psychoanalytic theories,
they all agree that development proceeds in a predetermined sequence through stages, each stage having a maturational task which must be worked through and which is pre-conditional for advancing to higher levels. It is also agreed that besides a physical maturation, a psychological maturation, i.e. alterations in psychic structure, inevitably accompanies adolescence. The psychic structure is described in terms of id, ego, and superego.

1.1.1 INNER TURMOIL

Internal adjustments to developmental changes in psychic structure are considered both inevitable and normal to the extent that the absence of adolescent struggles is considered to be a source of concern. Adolescence is seen as a "developmental disturbance", "an interruption of peaceful growth", due to forces of physical impulses (id) and the necessity of finding new love objects. The inner turmoil, it is suggested, is experienced due to weakening of the ego; and the success with which the adolescent conflicts are coped with is believed to be dependent on how the ego organization meets the new id advance. This theory is fostered by many psychoanalysts whose patients (a nonrandom, articulate, sensitive population) apparently suffer, or have suffered, this turmoil (e.g. Blos 1962, A. Freud 1958, Geleerd 1961, Josselyn 1954, Winnicott 1965). Whereas Freud considered puberty to be merely a recapitulation of the infantile sexual period, later psychoanalysts recognized that this is over-simplistic, since by adolescence the ego is believed to assume new regulatory functions, such as mechanisms of defense. The adolescent behaviours observed by these psychoanalysts are, for example, anxieties over sexuality, body image, acceptance by peers, competency, dependency (or independence) rationality; defense mechanisms to cope with these anxieties, such as intellectualization; the "struggle to feel real", and the struggle to establish personal identity.
However, these theories of inner turmoil consider only internal factors in adolescent development, i.e., they perceive the turmoil to be maturationally inevitable regardless of the external, environmental situations. Thus Anna Freud writes:

"It has struck me as unfortunate that the period of adolescent upheaval and inner rearrangement of forces coincides with such major demands on the individual as those for academic achievements in school and college, for a choice of career, for increased social and financial responsibility in general" (1969, p. 9).

She does not even consider that the environmental stresses may be the cause, or a contributing factor at least, of the disturbances observed in adolescence.

In contrast, Erikson, also a psychoanalyst, does make allowances for the influence of society. His "psychosocial theory" is further described below, but must be briefly considered here, since again adolescent conflict is deemed inevitable for healthy development. He hypothesizes that there are three crises of "wholeness" whose resolution determines the stages to follow. The first is separation from mother, the second is development of the superego (by identifications with models), and the third occurs in adolescence, in the ego, when the wholeness should become a "sense of inner identity". This wholeness is described as feelings of continuity between both (a) past childhood and anticipated future and (b) that which a person conceives himself to be and that which he perceives others to see in him and to expect of him. Identity is described as the "unique product which now meets a crisis to be solved only in new identifications with age mates and leader figures outside the family" (Erikson 1968). Adolescent behaviours of physical intimacy, decisive occupational choice, competition, and psychosocial self definition are those that are accounted for in terms of resolution of a crisis of identity.

Yet, empirical studies of non-psychiatric adolescent populations
show that such conflicts and crises are not as widespread and inevitable as these psychoanalytic theories claim. The studies suggest, in fact, that only 10-20 percent of adolescents experience inner turmoil.

A longitudinal study was done by Offer & Offer (1969, 1970, 1975) of seventy-three typical American middle class adolescent boys, aged 14 years and followed through until they were 22 years old. Psychiatric interviews and psychological tests were carried out at intervals throughout the eight years. Coping behaviours and identity were examined amongst many other observations both before and after the subjects' leaving high school. The data showed an evolution and continuity in styles of coping. "Stability, not change, is the overriding characteristic in the psychological patterns of reaction of these modal adolescents" (Offer 1969, p. 222).

At the end of the study Offer & Offer divided their subjects into three groups - those showing 'continuous growth' (23 percent), those showing 'surgent growth' (35 percent), those showing 'tumultuous growth' (21 percent), the remaining (21 percent) being unclassifiable: Only those in the 'tumultuous growth' group gave any evidence of inner turmoil, but Offer & Offer suggest

"... that the tumultuous youth behaves in a similar manner throughout his life. Tumult is aggravated during transitional periods, and in that sense, adolescence and young adulthood qualify as protagonists for those who are prone to meet changes with emotional upheaval" (Offer & Offer 1975, p. 185).

The adolescents with inner turmoil had the least stable backgrounds compared to all the other subjects, more difficulties and satisfactions in their lives, and more anxiety reactions. These findings are in keeping with the finding of continuity in styles of coping. Continuity was found in problem areas and in responses to problems.

Another American study, a cross-sectional study, largely of adolescent girls also disputes the extent and normality of adolescent inner turmoil (Douvan & Adelson 1966).
Similar findings of continuity are shown in a British longitudinal study of normal and psychiatric youth (Graham & Rutter 1973, Rutter et al 1976). Where psychiatric problems were manifested at 14 - 15 years most have arisen in early childhood. The few whose problems begin in adolescence are mainly girls, are mainly suffering from emotional disorders (as opposed to conduct or mixed disorders), and mainly have unfavourable family circumstances (mental disorder in mother and marital discord or disruption). Many of these adolescents were found to be alienated from their parents and it was suggested that early alienation from parents may be aetiologically important. The percentage of adolescents who do show psychiatric problems at 14 - 15 years, however, is only slightly greater than at 10 years and is just over 10%.

Observations from college student counselling services both in America and in Britain are of unhappy, depressed, anxious students presenting themselves with reports of intellectual conflicts (e.g. wrong choice of course, religious conflicts etc.), sexual conflicts, and family conflicts (e.g. re parental interference) (Allport 1968, Nixon 1961, Ryle 1969). The underlying common denominator is understood to be a problem of the individual wanting to behave as he wants to, to be what he is, to be autonomous when he thinks he is unable to. It is only a small percentage of college students who experience this turmoil and who seek advice. Bandura (1972) and Nixon (1961) suggest the figure to be only 10 percent.

Finally, studies of primitive societies (e.g. M. Mead 1961) also fail to provide support for the theory of inner turmoil.

Thus, to conclude, it seems that inner turmoil is a reality for a minority of normal adolescents but for a majority of adolescents presenting themselves for psychoanalysis. For this reason, psychoanalysts were falsely led to believe that inner turmoil is inevitable and a necessity
for mental health. Those who do experience turmoil have probably suffered anxieties in earlier childhood too, due to adverse environmental conditions.

1.1.2 EXTRA-FAMILIAL OBJECT FINDING

It is suggested by Freudians that the Oedipus complex is revived at adolescence but that parents are no longer acceptable love objects - appropriate extra-familial love objects have to be found (Spiégel 1951). A process similar to the infant's establishing of object relations is therefore repeated at adolescence, only with the addition that the infantile objects have to be relinquished to make place for the new adolescent love objects.

The hypothesis that change of object choice is the adolescent's specific maturational task and conflict is described by Blos in terms of a "second individuation process". This process is said to provide a continuity in development throughout heterogeneous phases of psychic structure change in adolescence. The first individuation is hypothesized to be completed by the third year of life with the attainment of object constancy. In the second individuation the internalized infantile objects should be replaced by new external extra-familial love objects, e.g. the friend. The adolescent individuation is an "emotional disengagement from internalized infant objects". Libidinal drives increase, parental ego support decreases, leaving the individual with a weak ego. Blos explains:

"The disengagement from the infantile object is always paralleled by ego maturation. The reverse is equally true, namely, that adolescent inadequacy or impairment of ego functions is symptomatic of drive fixations and infantile object dependencies. The accumulative ego alterations that parallel drive progression in each adolescent phase accrue in a structural innovation that is identified here as the second individuation process" (1967, p. 165).

He then goes on to explain that the degree of maturity which is ultimately attained depends on how far the individuation advanced, or where it came
to an impasse, being left incomplete. This emotional disengagement is taken to imply that the growing person takes increasing responsibility for what he does and what he is. Blos, like Anna Freud and the other psychoanalysts, mostly considers pathological cases, especially cases of subjective alienation. Offer & Offer (1975) find Blos' second individuation theory useful to describe their post-high school subjects. The adolescents' relationships with their parents and with peers of the opposite sex were investigated by questioning both the parents and the adolescents themselves. Throughout the study the majority of the group were found to share their parents' basic values, such as goals and aspirations, morals, political standards, but not the more superficial likes and dislikes of fashion and music. Their emotional disengagement from their parents was observed to be a gradual process with no dramatic change. Thus by the time the adolescents reached the age of 19 - 20, Offer, Marcus & Offer conclude that: "Our subjects can be seen as approaching the end of the second stage of individuation. They are separating from their internalized parental images but are not yet firmly established in their own world of mature object representations" (1970, p. 922).

Another psychoanalyst, Jacobson (1961), describes the same process of establishing extra-familial love objects in terms of "secondary autonomy". Autonomy refers to ego autonomy rather than autonomy of the individual as a whole. Jacobson assumes that there is a continuous maturation of the ego throughout childhood and adolescence, i.e. 'autonomous ego development'. At puberty the increased id forces and the consolidation of the superego are believed to cause the ego to have to make adjustments. These are made, it is suggested, not through identifications but by direct contact with the environment and the development of internal control. Thus, identifications with parents recede in favour of autonomous thought
processes which are possible in adolescence due to new cognitive capacities. The adolescent realizes that there are incest taboos and that he must seek extra-familial love objects. Jacobson, however, provides only a descriptive account of adolescent moods and intrapsychic restructuring in psychoanalytic terms with no empirical evidence at all.

Actual observations of adolescents were made by Douvan & Adelson (1966) who interpret their findings in psychoanalytic terms and in terms of ego synthesis and resynthesis in the development of autonomy. However, they refer to three different types of autonomy - emotional autonomy, achieved by casting off infantile ties; behavioural autonomy, achieved through internal control, deciding for oneself; and value autonomy, achieved when one can formulate one's own attitudes and values. Douvan & Adelson found that 14 - 16 year old boys, but not girls, were actively trying to establish all these types of autonomy and their independence from their parents. Parental interest, harmony and affection were seen to relate positively to the establishment of adolescent autonomy. Rather than seeking autonomy, girls were observed to desire friendships based only on surface qualities related to common activities at the age of 11 - 13, and based on a need for trust and security at the age of 14 - 16, whereas at 17 - 18 years personal identity is believed to be established, presumably closely followed by an intimate relationship with one person only. The study was mainly of girls aged 11 - 18 and included only a small population of boys aged only 14 - 16.

It is possible that the interpretation of adolescence in terms of the psycho-dynamics of a process of individuation or autonomy development is a meaningful theoretical framework in the context of psychoanalytic therapy. However, outside this context there is ample empirical evidence to show that adolescents break their family ties usually only very gradually and form new and meaningful relationships within their peer
group. Eventually, usually not until late adolescence, an intimate bond is formed between two people of the opposite sex.

The empirical literature covers many aspects of this development; there are studies of adolescents' identification with parents, of dependency on parents, on transfer of dependency from parents, on "the generation gap", on conformity in adolescent peer groups, on the changing nature of adolescent peer groups, on the importance of a close friendship in adolescence . . . and in these studies sex differences are usually observed.

Apart from the relevant studies already mentioned by Offer et al and by Douvan & Adelson, only one other, a recent cross-sectional British study of school boys and girls aged 11 - 17 years by Coleman (1974), will also be briefly described. A projective technique was used, where subjects were asked to complete sentences and responses were interpreted as constructive or negative, and in terms of the common themes expressed by the 800 subjects. Coleman found that both boys and girls experienced conflict (assessed by percentage negative themes in responses) about their parents and desire to be independent from them, while at the same time attempting to form peer relationships. The study shows that the qualitative nature of the conflict is different for girls and boys. Boys seek behavioural autonomy, freedom from constraint, independence of action, and the peak of this conflict with parents was seen to be between 15 - 17 years. Prior to this, boys expressed more negative themes about heterosexual relationships. In contrast, the peak time for conflict with parents for girls was expressed in terms of inner autonomy and "being oneself" rather than behavioural autonomy. In both sexes, autonomy themes increased with age. Qualitative differences in heterosexual relationships were interpreted to show that boys are more aggressive, whereas girls are more affiliative, but fears of solitude and rejection by the peer group decreased with age for both sexes.
Interestingly, the sex differences in the type of autonomy desired was not replicated in later studies by Coleman and his associates (Coleman & Zajicek 1980; Coleman, George & Holt 1977). Using different techniques, and adolescents aged 10 - 16 years, he found that the areas of potential conflict were principally behavioural, in mundane issues such as tidiness and time to be home for both sexes. He also unexpectedly, in view of the psychoanalytic literature, found that adolescents desired support and understanding from their parents. Thus, on the one hand, they want behavioural autonomy, while at the same time, on the other hand, they want parental support and understanding. These findings are not incompatible; on the contrary, they demonstrate that the process of establishing extra-familial love objects does not necessarily involve rejecting one's parents. (Rutter et al 1976 found that only about 5 percent of a large sample of adolescents reported actual rejection of their parents.) It must be a gradual process where intensities of relationships are altered by new identifications with new models. The role of the quest for behavioural autonomy in this process may be taken as a proven fact from these studies, but the female desire for inner autonomy is opened to question both by Coleman's later studies and by Douvan & Adelson's study. However, these studies assessed attitudes and no overt behaviour: neither conflict nor frustration was assessed in any way, and besides, what an adolescent may tell an unknown interviewer and what he really feels may be totally incompatible. Research on the issue of "being oneself" and its role in adolescent development will be discussed in the next chapter.

1.1.3 PSYCHOSOCIAL DEVELOPMENT

The roles that the family, and the structure of society outside the family play in early child development are amply recognized by all
psychoanalysts, but their roles in later personality development - in adolescence and adulthood - are usually left to social psychologists or sociologists. However there are a few notable exceptions. The "psychosocial" theory of E. H. Erikson (e.g. 1956, 1959, 1968) and the society-oriented theories of Horney (e.g. 1951) and Fromm (e.g. 1956) are all embedded in the psychoanalytic school of thought.

Erikson's theory has already been referred to in the above discussion of inner turmoil. The theory is based on an "epigenetic principle" which states "... that anything that grows has a ground plan, and that out of this ground plan the parts arise, each part having its time of special ascendancy, until all parts have arisen to form a functional whole" (1968, p. 92).

The functional whole that particularly interests Erikson is "identity" - personal identity or ego identity - and his theory is basically one of the "epigenesis" of identity. Thus, the ground plan is the development of identity, and eight developmental stages are postulated to itemise the parts that arise, achieve special ascendancy and contribute to the functional whole. Each part exists in some form before its decisive and critical time. For ascendancy to be reached Erikson believes that there must be a conflict, or crisis, which is never completely resolved but which is the point of focus of any particular stage. The ego develops from conflict to conflict, and its healthy development is dependent on the nature of the resolution of each conflict at each stage. For example, the first stage is in infancy. The part which contributes to identity formation and that reaches ascendancy at this stage is "mutuality of recognition". Mutual recognition in later life is believed to be a direct function of the development of trust in infancy. Thus, Erikson postulates the first crisis as being one of trust versus mistrust. If this crisis is unsuccessfully resolved, with mistrust gaining the upper hand, then the
infant is left in a state of autistic isolation instead of mutual recognition, and in adolescence and adulthood the symptom of time confusion, as opposed to temporal perspective, will contribute to an overall sense of identity confusion. In a similar way, Erikson's theory describes eight stages, with eight specific crises, and in each case the specific contribution of the previous stages to the development of identity and the "part-symptoms" of confusion which arise out of the crises of the previous stages.

Erikson, however, does not stop at the crisis of identity - this occurs at the fifth stage only, which usually comes at adolescence. Identity is forever revised throughout the life cycle which includes another three stages. Erikson believes that the ability to cope with each identity issue that results from change in one's role in life, e.g. at marriage, parenthood, or retirement, is dependent on the degree of success with which the adolescent identity crisis was mastered. Thus, "ego identity is never 'established' as an 'achievement' as something static or unchangeable", but it is a "forever to-be-revised sense of the reality of the self within social reality" (Erikson 1968, p. 24, p. 211).

Erikson postulates that the essential prerequisites for identity achievement, which are secondary outcomes of early stages in psychosocial development, are: mutual recognition (stage one), will to be oneself (stage two), anticipation of roles (stage three), and task identification (stage four). Autistic isolation, self-doubt, role inhibition, and sense of futility correspondingly result in identity confusion. The symptoms of identity achievement which are derived from achievements of earlier crises are: temporal perspective (stage one), self certainty (stage two), role experimentation (stage three), and apprenticeship (stage four). Similarly, the symptoms of identity confusion which are derived from earlier undifferentiated or poorly resolved crises are: time
confusion, self consciousness, role fixation, and work paralysis.

After the crisis of identity reaches ascendancy, the epigenesis continues. Three more crises are supposed to occur - "intimacy versus isolation" (stage six) with the effect of "sexual polarisation" versus "bisexual confusion" on the evolving identity; "generativity versus stagnation" (stage seven) with the effect of "leader, and followership" versus "authority confusion" on the evolving identity; and finally, "integrity versus despair" (stage eight) with the effect of "ideological commitment" versus "confusion of values" on the evolving identity.

Erikson's theory has been described here in such detail as it is currently the most popular theory of adolescence, and it will often be referred to in this thesis. Like the other psychoanalytic theories, it was developed through contact with intelligent, creative, predominantly middle class adolescents seeking help through psychoanalysis for problems of identity. Their problems were symptomized by time confusion - a confusion over continuity between present, past and future. "Who am I" and "Where am I going" were the sort of questions that they were asking. They were uncertain of themselves and unable to stick to work. Erikson himself went through this crisis in his own adolescence, wandering around Europe in his late teens trying to find where he belonged, what he wanted to do and who he wanted to be. He has also applied his theory of identity development to historical personalities, e.g. Luther, G. B. Shaw.

The other two psychoanalytic theories that are socially orientated, both stress that identity formation is a basic human need, a central and essential issue, but they do not focus on adolescence as the crucial time for its development. Independently, but in parallel to Erikson, Fromm writes: "... sense of identity develops in the process of emerging from the 'primary bonds' which tie him to mother and to nature ... identity is not just philosophical, it is a real need ... the
source of intense striving . . . [which] sometimes is stronger than the need for survival" (1956, pp 61-63).

Loss of sense of identity was referred to as "alienation from self" and both Fromm and Horney blamed internal contradictions in society and family structure for this occurring. Most psychiatrists would agree that loss of sense of identity and identity confusion are symptoms or even syndromes of mental illness, but this does not necessarily mean that the converse is true as Erikson, Fromm, and Horney suggest, i.e. that a sense of identity has to be achieved in order to be a mentally healthy adult.

It is open to question, however, how applicable this theory is to contemporary adolescents who do not present themselves for psychoanalysis, i.e. the vast majority of adolescents. It has already been shown above that the presence of crisis, or inner turmoil, is not very widespread in adolescence. But perhaps, nevertheless, identity is a central and essential issue in adolescence; even though its formation is a continuing process throughout life. To investigate this point, studies had to be made of identity in mentally healthy adolescents and adults. Problems of definition of identity and methods of assessing 'sense of identity' will be discussed in the next chapters. Here, however, the evidence for its importance in normal adolescence will be considered.

**Empirical evidence**

The studies of Offer & Offer, Douvan & Adelson, and Coleman were all of 'normal' adolescents who, as a group, were mentally healthy. It has already been said that Offer & Offer found that adolescence is a period of gradual change, "evolution, not revolution". As regards identity (assessed by a self image questionnaire and by identity scales), by the time the adolescents were 19 - 20 most of them did not yet have a clearly delineated sense of identity, nor had they established true lasting
intimate relationships (Erikson's stage six crisis). Only a few of their subjects (all male) displayed conflict or crisis over identity (Offer, Marcus & Offer 1970). In another important longitudinal study, by Marcia (1968, 1970, 1976), of late adolescents (male college students) in America, psychiatric interviews were used to categorize subjects according to their identity with respect to presence or absence of crisis and commitments. Presence of crisis and commitments was taken to signify achievement. Absence of crisis and commitments was taken to signify identity diffusion. He found that "... achieving an identity during the college years may or may not yield continued identity achievement, while not achieving an identity in college seems to mean not achieving identity in the subsequent 6 or 7 years" (1976). Those not achieving identity, i.e. those with identity diffusion, proved to be the most stable group over the six years of the study. Marcia assumes that as long as boys lack vocational commitment, they cannot achieve identity. They can, however, achieve identity ("foreclosure") if they have not experienced crisis. He also found that only to the extent that identity status remains constant (and instability was as high as 47 percent for the group as a whole) is identity concommittant or a precursor to intimacy. In other words, at least Erikson's idea that identity is forever being revised is given support, i.e. identity formation is a continuing process. It is noteworthy that these studies were of boys only, not of girls.

Douvan & Adelson (1966) found a sex difference in the process of identity formation. The identity of 14 - 16 year old boys was found (from interviews and questionnaires) to be a function of assertiveness and achievement, whereas in girls personal identity was being achieved at 17 or 18 hand in hand with their desire for love, i.e. for girls identity and intimacy are interrelated. Erikson admits to a sex difference in the formation of identity since he writes that "... something in the
young woman's identity must keep itself open for the peculiarities of
the man to be joined and of the children to be brought up" (1968, p. 283).

The sex difference is given a psychoanalytic interpretation; female
identity formation involves, he says, "... selecting what is to be
admitted to the welcome of the inner space" (1968, p. 283); whereas
male identity is considered to be the result of projection into "outer
space" being accomplished in behavioural and ideological conquests
(1968, p. 274).

Sex differences in identity formation were also found in a study
by Hauser & Shapiro (1973) of self images of a small number of normal
and psychiatric adolescents under the age of 17 (early and middle
adolescents) and over the age of 17 (late adolescents). The correlations
of girls different self images decreases with age, whereas those of the
boys increased with age. These differences are not explained by psycho-
analytic theory, instead a sociocultural interpretation is favoured in
terms of different sex roles and expectations. They confirm the suggestion
that girls delay identity achievement until the intimacy stage has been
reached so that they may incorporate their partner's values and commitments
into their own. Therefore the relationship between stages five and six
(identity and intimacy) is not a simple "if p then q" relationship for
both girls and boys.

Another investigation of adolescent identity also revealed interesting
data. Coleman (1974) and Coleman, Herzberg & Morris (1977) studied
populations of school children and found no developmental changes in
present identity, but that anxiety over future identity increased with
age. No sex differences were found. Anxiety over future identity is
presumably very realistic since the children were about to leave school
and were unsure of what changes awaited them or how they would cope. But
the stability and lack of anxiety of present identity suggests that
Coleman's subjects were not at Erikson's stage five, in an identity crisis.

The studies of mentally healthy school age adolescents (i.e. children up to the age of approximately 17 years) therefore provide little support to the theory that identity is a central or essential issue in early or middle adolescence. Identity has not yet reached ascendancy and is not generally a topic of conflict or crisis. Studies of college students of 19, 20 and older suggest that identity reaches ascendancy for some in late adolescence. It seems a little meaningless to refer to an adolescent stage in which identity formation is critical since most, if not all, of adolescence is free from this problem for most adolescents. This theory must therefore be inappropriate as a theory of normal adolescent development. Also, the temporal sequence of the postulated stages is misleading since the sequence of industry - identity - intimacy is muddled by interactions. For boys there appears to be an interaction of industry and identity in the mid-teens, identity being to a large extent a function of vocational achievement; whereas for girls there appears to be a later interaction of identity and intimacy, identity being to a large extent a function of intimacy (and not intimacy a function of identity as the stage sequence suggests).

To conclude, it seems quite clear from these studies that inner turmoil only occurs in a small minority of adolescents and therefore the inner turmoil theory is inappropriate as a theory of normal adolescence. Similarly, it seems clear that the establishment of extra-familial love objects does not usually involve rebellion against parents although as part of the process, peer relationships certainly gain in frequency and strength. Identity formation is accepted as a continuing process throughout life, but the changes that occur within this process in adolescence are less clear. Erikson's model appears to dramatize the role of conflict, while oversimplifying the progression from stage to
stage. Empirical work suggests that female adolescent identity formation may be qualitatively different from the process in adolescent males. The present study investigates this suggestion.

1.2 COGNITIVE THEORIES

Whereas the psychoanalytic school, introduced by Freud, focuses on psychic changes, the cognitive school, led by Piaget, studies a very different concomitant to the physical changes of adolescence by observing the growth of logical thought. Piaget, like the psychoanalysts, describes psychological development in a series of stages which progress in a maturational order, and where each stage is reached by working through the former one. In this case the common thread developing between stages is not sexuality or an ego process, but it is logical thinking, and the stage is described in terms of the logical operations that should be learnt in order to deal with increasingly more complex problems, or with simple problems in more efficient ways (e.g. Inhelder & Piaget 1958). There are four major stages postulated - the first two are "pre-operational" in that they involve no internalization or reversibility in the child's behaviour. The first stage, the sensori-motor stage (up to 2 years), represents the development of perceptuo-motor coordination in dealing with external objects. The second stage, the representational stage (up to about 6 years), includes the beginnings of organized symbolic behaviour - especially language. Manipulations of the external world are observed to be purely intuitive. The third and fourth stages involve the use of "operations", i.e. categories, or propositions, by which the person's world (external and internal) can be organized and understood.
From the age of 7-11 years the child acquires the ability to carry out "concrete operations" by learning to categorize the properties of the immediately present object-world. His thinking is tied to reality and oriented in the present, and he is incapable of thinking about his own thought. He forms hypotheses which he holds to be true, until proved false. The adolescent child, however, reaches the final stage of development of logical thought, i.e. that of "formal operations". This is when the ability to use hypothetical reasoning is acquired. This means that the adolescent can form hypotheses of possibilities, manipulate them and compare them with reality. This is estimated to be established by the age of 15 or 16, after which no new mental systems were believed to develop. However, Piaget's most recent thinking has led him to question if there is not perhaps further cognitive development between 15 and 20, although as yet he has found no definite answer. He recognizes that this period marks the beginning of professional specialization which leads to cognitive specialization, such that a lawyer is unlikely to understand problems of relativity while a physicist is unlikely to understand legal reasoning. In other words, Piaget concludes that his fourth stage (formal operations) can no longer be characterized as a proper stage, but would seem to be a structural step in the direction of specialization (Piaget 1972). Furthermore, empirical studies of formal operations in adolescents and college students (e.g. Elkind 1962, Hobbs 1973, Tomlinson-Keasey 1972) cast doubts on the universality of formal operations at this age, since a large number of adolescents could not conserve volume. Elkind (1962) rationalized his findings on this subject by suggesting that adolescents do achieve formal thought, but do not use it in all situations. This is easy to suggest but difficult to prove. One would have to explain, if the adolescent can use formal thought, why he does not make use of it in all situations. Piaget now believes that there must be a further common
cognitive structure that develops in cognitive specialization (regardless of the direction of the specialization) between the ages of 15 and 20 years, but he cannot as yet describe it.

Inhelder & Piaget (1958) argue that the appearance of formal thought is a "manifestation of cerebral transformations" due to neurological maturation - that the maturation of the nervous system merely sets the limits of intellectual possibilities and impossibilities at each stage. However, they also clearly acknowledge the role of education in this development, supporting the notion of a nature-nurture interaction. The importance of social factors is recognized, and indeed, adolescence is defined not in physical terms of puberty, or cognitive terms of formal thought, but in social terms, i.e. it is "the age at which the individual starts to assume adult roles". The Piagetian approach to adolescence stems from this basic assumption; with the development of formal thought having a central function in adolescent role learning. Thus, Inhelder & Piaget write: "... the adolescent's adoption of adult roles certainly presupposes those affective and intellectual tools whose spontaneous development is exactly what distinguishes adolescence from childhood" (1958, p. 339).

In the previous section it was explained that Erikson also observed temporal perspective in adolescence, but his psychosocial model treats temporal perspective as an adolescent symptom of a relationship of trust (as opposed to mistrust) between mother and infant. In contrast, Piaget treats temporal perspective as a symptom of abstract thought and formal operations. Regardless of infantile trust, if the adolescent achieves powers of reflection and has received the necessary education to know how to use them, then he should be able to think about the future and make plans. Whatever the theoretical explanation of temporal perspective, it is a fact that adolescents in our culture are socially expected to
begin to think about their future, make plans and commitments. This aspect of becoming an adult is widely recognized by psychoanalysts, sociologists and cognitive theorists likewise. This theme, introduced in the previous section in the context of Erikson's theory, will be returned to in subsequent sections as it is believed by the author to be a central issue in adolescent development.

Again, similar to the psychoanalytic theories, Piaget believes that adolescence must involve conflicts:

"... the adolescent is the individual who in attempting to plan his present or future work in adult society also has the idea (from his point of view, it is directly related to his plans) of changing this society, whether in some limited area or completely. Thus it is impossible to fill an adult role without conflicts ..." (1958, p. 339).

But, unlike the psychoanalysts, Piaget explicitly considers both student adolescents and working adolescents, believing that the same process occurs in both populations, the latter achieving a lower degree of abstraction but nevertheless meeting conflicts while striving for adult status. Rather than inner turmoil, the Piagetian use of 'conflict' here refers to adolescent disagreements with adults or adult society, i.e. a 'generation gap' type of conflict. It has already been mentioned that recent empirical studies show little evidence of such conflict, e.g. the work of Coleman and his co-workers, and of Douvan & Adelson has already been quoted. Similarly, research findings in Bandura's (1972) investigation of this problem suggest that this issue has been exaggerated in theories of adolescence.

One final proposition in Piaget's theory of adolescence is (not unlike Blos' notion of individuation) that adolescence involves a "decentring process" from a situation of "egocentrism". The concept of "egocentrism" is first introduced in the description of the sensorimotor stage, but reappears in subsequent stages. "Egocentrism" refers to a
lack of differentiation in some area of subject-object interaction. Adolescent egocentrism is observed in the "... relative failure [of the adolescent] to distinguish between his own point of view as an individual called upon to organize a life program and the point of view of the group which he hopes to reform" (1958, p. 343). Adolescent dreams of a glorious future or of changing the world are characteristics of egocentrism. Maturation of thought processes is then believed to allow a refocusing of perspective and for the adolescent to get beyond this lack of differentiation, and return to reality. This return to reality is called "decentring". Piaget explains that adolescent decentring is brought about not only through cognitive maturation, but also through using social relationships for testing hypotheses about reality. Finally, and most important, the focus of the decentring process is when the adolescent undertakes a real job or serious professional training and changes from an idealistic reformer into an achiever.

Piaget's notion of egocentrism has been elaborated by Elkind in an attempt to link developing cognitive structures with personality dynamics. Elkind's description of adolescent egocentrism is broadened, as are the gamut of behaviours that are characterized by it, in order to include both cognitive and affective dimensions. He defines adolescent egocentrism as "the lack of differentiation between objects towards which the thoughts of others are directed and those which are the focus of his own concern", observed as "the belief that others are preoccupied with his appearance and behaviour" (1974; p. 91). Elkind proposes that the adolescent constructs an "imaginary audience" - his newly acquired thought skills allow this - and this hypothesis is used to account for the typical adolescent behaviours of self consciousness, self admiration, and feelings of uniqueness. Intellectual ideals can now also be constructed and these are suggested to lead the adolescent into arguments and to problems in
decision making. (The theme of adolescent conflict reappears here too.) Like egocentrism, decentering is also understood to involve both cognitive and affective dimensions. Thus, adolescent egocentrism is thought to be overcome by a two-fold transformation brought about through a combination of maturation and experience: (i) on the cognitive plane - "by gradual differentiation between pre-occupations and thoughts of others" and (ii) on the affective plane - "by gradual integration of feelings of others with his own emotions".

This theory makes sense but lacks empirical backing. Egocentrism, like individuation, is a theoretical notion of a process, useful only in as far as it can provide a theoretical context for empirical observations.

Another elaboration of Piaget's theory is Kohlberg's theory of moral development (e.g. Kohlberg 1969). Piaget (1932) had traced the development of moral judgement through the four principal stages (up to age 16), showing, briefly, that pre-adolescent morality is objective, judgements being formed on the basis of behaviour observed; whereas adolescent and adult morality is subjective, judgements being formed on the basis of values behind the behaviour. From a wealth of observations and investigations, Kohlberg has drawn up a developmental progression of levels of moral judgement, a series of stages with a predetermined sequence. The first two (corresponding to Piaget's stage of concrete operations) are purely objective, the 'preconventional' or 'premoral' level, and children up to the age of 10 are believed to use this mode of judgement. The next level, in which most adolescents and even most adults function, is the 'conventional' level. This is characterized first by a stage of 'interpersonal concordance orientation', i.e. conformity and seeking to win the approval of the social group; and then by a stage of 'orientation toward authority, law and duty', i.e. faith in existing authority and
maintenance of social order at any price. Finally, Kohlberg postulates a 'postconventional' or 'autonomous' level which only a minority may reach. This is characterized first by a stage of 'social contract orientation', i.e. formation of principles of rights and concern for community welfare; and then by the ultimate stage of 'universal ethical principles orientation' involving decisions of conscience based on self-chosen ethical principles that place highest value on human life and dignity. These last two stages require abstract thought, and may only be reached provided the person both uses abstract thinking, and has passed through all the previous stages. Reaching the last two stages depends on cultural, socioeconomic and political variables. Kohlberg assumes that progression from stage to stage involves a reorganization and restructuring of earlier moral thinking modes, brought about through role-taking. By observing, interacting, and identifying with others a person is caused to rethink and restructure his views, possibly by trying out those of others. Empirical evidence exists for the temporal sequence of Kohlberg's stages (e.g. Turiel 1966, 1969), and positive correlations have been found for the relationship of role-taking ability and moral development. Kohlberg & Blatt (1972) and Turiel (1969), by exposing subjects to arguments, have shown that when cognitive dissonance is incurred by presentation of different sides of an argument, then the person may be caused to restructure and reorganize his views, thus enabling progression to the next stage. Role experimentation is believed to occur throughout childhood (starting with the first identifications, possibly at the age of about 4 years) and Piagetians believe that it leads to cognitive changes only when maturation of cognitive abilities allow a new perspective for understanding arguments. Thus a child faced with abstract propositions would not understand them and therefore would have no cause to reorganize his views. Once he is able to grasp the
abstract proposition, he has to rethink his position.

Bandura & McDonald (1963) investigated the transition from objective to subjective moral judgement in 5 - 11 year olds, and found a gradual change which was considered to be mainly due to changes in reinforcement contingencies and effects of modelling, rather than the effect of maturation from a stage of preoperational to a stage of operational thought. They showed that moral judgements can be modified by appropriate models, thus confirming the relationship between role-taking and moral development, but at the same time opening to question the notion of stages of cognitive development. Bandura and his co-workers do not deny physical maturation and growth; they merely argue with the theory that it occurs in stages rather than in a gradual process.

From all the studies of moral development, it is understood that adolescents are expected to function at the "conventional" level, but that in late adolescence a transition may be seen in some towards the "autonomous" level - the transition occurring through role experimentation. Kohlberg explains that concrete operations are necessary for conventional morality, and formal operations are necessary for autonomous morality. In addition, he provides evidence for a relationship between intelligence and moral maturity. (1969). Therefore one should look at college or university populations if one wants to observe the transition to autonomous morality. One assumes that those people who become adults with conventional morality (as most without further education apparently do), either have not reached Piaget's fourth stage of formal operations, or have received insufficient education for them to use these abilities to restructure their views, or, a third possibility is that they have not been exposed to models with autonomous morality.

Thus, to conclude, issues that arise from cognitive theories of adolescence are embedded in the unknown nature of cognitive development
in late adolescence - from 15 to 20 years. Temporal perspective, decentring of egocentrism, and autonomous morality are believed to be outcomes of adolescent cognitive maturation which in turn is dependent on intelligence, professional specialization, and role-taking experiences. Adolescents leaving school are faced with a necessary transition towards adult roles, as they are expected to take decisions about professional specialization. This inevitably means planning ahead - future temporal orientation - and making hypotheses about the realities of their future - decentring egocentrism. The present study observes the transition from school and the ability of the adolescents to anticipate future events.

1.3 SOCIALIZATION THEORIES

The literature on the topic of socialization stretches through the social sciences. The common denominator of the different approaches is the functional definition, i.e. that socialization is a process which enables an individual to fit into society and form adequate relationships with other members of his group or culture. Socialization theories of adolescence differ from psychoanalytic and cognitive theories in that they are not stage theories. Socialization theories are not concerned with innate predetermined sequences of stages; instead they focus on environmental changes, on the process whereby the social environment becomes reasonably predictable to the others who constitute that environment. The most popular dependent variable in theories of socialization is 'role enactment' (Sarbin & Allen 1968) and therefore a few words about role theory must be briefly mentioned.
In their extensive review of role theory, Sarbin & Allen define a role as "an organized set of behaviours that belongs to an identifiable position" (1968, p. 545). The behaviours are activated when the position is occupied; this is the meaning of 'role enactment'. The basic psychological function of roles is to provide the individual with a fairly specific model for social interaction. A model exists in the sense that any role is defined in terms of its relation to other roles, as the role of "parent", for example, is defined in relation to that of children. Thus, "role enactment always occurs in the social context of complementary roles" (Sarbin & Allen 1968, p. 545). Finally, each role is associated with norms of behaviour, so that role enactment means that the role player must have learnt the appropriate behaviours that are socially expected from the particular role that he is enacting. Any one person will have a number of roles which he uses as models for social interaction. For example one may play the role of father, husband, son, employer, sportsman, and Catholic, with one or other role having pre-eminence in any specific social interaction, depending, of course, on who the others in the interaction are. There is always a danger that role conflict may arise between these different roles due to conflicting expectations associated with multiple role enactment; or that role conflict may arise within a specific role, due to confusion or lack of definition of the accepted norms of behaviour associated with that role. Role learning means learning the appropriate behaviour for the appropriate situation, but it also means that the expectations both for the specific role (e.g. "parent") and for the complementary roles (e.g. children) must be learnt.

Socialization is a process that must go on all through life. Group pressures on an individual and expectations of him change throughout his life, as do his values, reference groups, and his expectations of himself and others. The changes may be partly due to inner mental maturation,
but they are also partly due to external changes in environment and circumstances. Socialization is observed when roles change, such as when a toddler becomes a schoolboy, when leaving school to take up work as an adult, marrying and becoming a spouse, becoming a parent, being promoted etc. For this reason role enactment is useful as the major dependent variable in theories of socialization.

There are three different perspectives to the study of adolescent socialization: (1) by focussing on how society socializes the individual, (2) by focussing on how the individual adjusts to society, and (3) by focussing on the interaction of (1) and (2), as in the special case of social learning.

1.3.1 SOCIETY: SOCIALIZING: THE INDIVIDUAL

Anthropological studies of some non-Western societies have shown that a person's position, or role, in that society is already defined for him and therefore his behaviour will depend on the social structure of the culture (e.g. M. Mead 1961). There may be initiation ceremonies, or "rites-de-passage", that adolescents have to experience, which mark the social transition from childhood to adulthood. 'Adolescence', chronologically situated between childhood and adulthood, is peculiar to our modern Western society. In more primitive societies, socialization to adulthood simply involves being taught and learning the prescribed role. The role is "ascribed", rather than self-chosen and "achieved".

Some psychiatrists blame modern society for the peculiar behaviour of its members (e.g. Fromm 1956, Laing 1967). The apparently maladjusted behaviour of the normal adolescent has been explained by the fact that society has not defined the role that he has to adjust to. The adolescent is in a state of role conflict since neither the role of adult nor the role of child provides an adequate model for his social interaction. The
adolescent lies in between, as a "marginal man" - marginal to both groups, in a "social no-man's land" (Lewin 1939). In the early sixties this notion was replaced by the belief that there had developed an adolescent sub-culture, in American industrial society, separate from childhood and separate from adult society (Coleman 1961). The adolescent society was to be found in the peer group; in the interests, activities, and values that the teenagers shared, and in the pressures to conform to these. This theory arose out of extensive research (mainly sociological in nature), parts of which have since been re-analyzed and re-interpreted to show that there is little evidence for arguing that a separate youth culture exists (e.g. Epperson 1964). However, as Jahoda & Warren (1965) point out, a youth culture is not a 'thing' which can be verified to be or not to be - it is just a concept that is useful for research. It may, for example, be useful to think of the peer group as a local society which defines its own roles for the adolescent to try out, and thus prepare himself for role enactment in adult society.

Another social explanation put forward for the adolescent's apparently maladjusted behaviour is in terms of role expectations. Adolescents are labelled by modern society in negative generalizations (e.g. "sloppy", "rebellious") and adolescents may merely live up to these false expectations - a "self-fulfilling prophecy" (Bandura 1964).

1.3.2 INDIVIDUAL-ADJUSTS TO SOCIETY

There are two theoretical perspectives on how the adolescent makes necessary social adjustments in his transition from childhood to adulthood. One comes from sociologists. Brim (1965, 1966), by applying sociology to personality theory, describes personality in terms of role learning and social interaction. Personality is understood in terms of "self-other systems", by observing the subject's perceptions of himself
and his behaviour (self), and his perceptions of the social system in which he lives (other). Considering these perceptions as a system, Brim proposes that personality changes as self perceptions change, and also as his perceptions of his social environment change. In other words, Brim is concerned with the situational adjustments that cause personality to alter, and that are inherent in adolescent and adult socialization. Situational adjustments are the adjustments a person makes when he takes on characteristics required by the situations in which he participates or wants to participate; he turns himself into the kind of person the situation demands. Brim's theory is developmental in that he notices the qualitative changes in socialization from childhood through adolescence to adulthood. The qualitative changes he describes in the passage from adolescence to adulthood are: the change from idealism to realism, the change from egocentrism to decentring, and also the change towards greater concern with role-specific expectations and overt behaviour rather than values, once values have been formed. He analyzed questionnaire data of adolescent role prescriptions and self-other systems, and concluded that the adolescent personality is partly a function of ascribed roles, and partly a function of the degree to which he is "person-oriented" or "role-oriented" in his social interactions.

Becker (1964) extends Brim's theory to describe the shift from childhood to adulthood in terms of both a process of situational adjustment, but also a process of commitment. "Commitment" is defined as being "when the externally unrelated interests of a person become linked in such a way as to constrain future behaviour". The process of becoming an adult involves a process of gradually acquiring a variety of commitments which constrain one to follow a consistent pattern of behaviour, e.g. choosing a job, getting a job, starting a family.
Children do not have to commit themselves in this way.

The other perspective comes from the social psychologist, Lewin, in terms of his "Field Theory". A person's "field" is his psychological position in a cognitively structured or unstructured region. Adolescence is seen as a period of transition since there is a change in group-belongingness, from the child group to the adult group, i.e. a "social locomotion". This involves, at the cognitive level, a shift from a position of known structure to an unknown, unstructured position. "The unfamiliar can be represented psychologically as a cognitively unstructured region. This means that the region is not differentiated into clearly distinguishable parts" (Lewin 1939, p. 137), and hence the adolescent's uncertainty of behaviour. Both the external - the new reference group, and the internal - his new sexually mature body, are unknown fields.

This hypothesis is used to explain typical adolescent behaviours of cognitive extremes - shyness, sensitivity, aggression, intellectual conflicts - yet specifying that if the field dynamics are different then these behaviours need not appear. Extrapolating this, one finds that if the adolescent moves from a known field to another clearly socially defined known field then these uncertainties of behaviours need not appear, which is confirmed by anthropological studies.

Lewin, like the other theorists, also notices that the transition involves that the adolescent is expected to plan ahead. Again, time perspective is observed to increase with age (cf. cognitive theories of adolescence), and cognitive maturation should, by adolescence, permit the differentiation of reality from unreality, i.e. 'real' versus 'ideal' goals. Yet the adolescent has to plan in a field which is unknown - he is both (a) uncertain about what can be done behaviourally and (b) uncertain about what should be done, i.e. he is unsure of his values and ideals. The adolescent, therefore, finds it difficult to make
commitments. It is the wish for cognitive structure that Lewin hypothesizes is the cause for the adolescent's readiness to follow anyone with a definite pattern of values.

Whether the concept of "field" is useful or not does not need to be discussed. What is important is that both Lewin's perspective and the sociologists' note the importance and yet the difficulty of commitment in adolescent socialization. Lewin's contribution is important in that he actually spells out the adolescent's difficulty in predicting the future when it involves transitions to both physical and social unknowns.

A qualitative study of the transition from high school to college was done by Silber et al (1961(a), 1961(b)). The subjects were not selected randomly, they were a handful (N = 15) of middle class, intelligent, well-adjusted, high school girls and boys who planned to attend college. Both the subjects and their parents were interviewed at intervals prior to actually going to college. All but one of the subjects went to college, not as a result of a conscious choice, but as it had been assumed (on the part of the family) that this is what he would do, and he expected this for himself. However, the subjects chose their college and attempted to discover as much about the new (unknown) environment as possible. They did not deny experiencing anxiety. Summarizing their findings, Silber et al write:

"Some students viewed their worrying as something useful, as if worrying extended control over the uncertainties in the unknown situation. Some of the students' behaviour before going to college could be understood as providing a reference point for dealing with anticipated distress in the future. The knowledge that one was capable of earning money and holding down a job in the adult world could be a useful reference point in dealing with future concerns about the element of dependency in the role of student. Anxiety about some future contingencies could be dealt with also by rehearsing in fantasy how one would deal with that situation ahead of time" (1961(a), p.365).
Also, in purely qualitative terms, Silber et al observe a process "of matching the self-image with what is anticipated ahead".

The process of trying to predict passage to a new role is called "anticipatory socialization", classically described by Merton & Kitt (1950) in the following words: "For the individual who adopts the values of a group to which he aspires but does not belong, this orientation may serve the twin functions of aiding his rise into that group and of easing his adjustment after he has become part of it".

Anticipatory socialization must be much easier for Silber et al's subjects than for, say, working class subjects aspiring to go to college, or for any school child leaving school to go to a new job. In the last two cases the future must be much more of an unknown than it is for Silber's subjects whose parents and teachers could provide considerable information to reduce the uncertainty about the future. Similar to Silber's findings, sociological studies of ambition and occupational choice of working class British adolescents show that the typical pattern is not for jobs to be entered on the basis of consciously worked out ambitions. Instead, ambitions are adapted to the occupations that young people find themselves able to enter (e.g. Roberts 1968). This is almost totally due to environmental constraints, since adolescents appear to have realistic expectations of their work prospects (Paul 1976). In other words, their commitment to their vocation really only begins once they are in their occupation. A study by Krauss (1964) of working- and middle-class school leavers, using a pre-coded questionnaire to provide data, showed that twice the percentage of working class subjects (30 percent) (compared to middle class subjects) did not want to go to college or technical school, i.e. preferred to go straight out to work. (Thus correspondingly fewer working class adolescents chose to go on to further education.) Krauss interprets his findings in terms of social
mobility - for a working class adolescent to aspire to go to college, the physical change also involves a change in social status. This therefore doubly increases the unknown elements concerning the future. Of course there could be many other explanations of why working class adolescents don't go on to further education. Coleman, Herzberg & Morris (1977), as has already been mentioned, showed that prior to leaving school adolescents displayed an increasing amount of anxiety about their future identity.

There is, therefore, plenty of empirical evidence to support the theory that the individual adjusts to society by making situational adjustments; but that making commitments in adolescence about a future that is unknown presents difficulties and is probably a source of worry and anxiety, even when anticipatory socialization is possible.

1.3.3 SOCIAL LEARNING THEORIES

Social learning theories assume that learning is primarily a function of environmental and social factors, rather than biological or maturational factors. From a wealth of carefully controlled experiments and observations carried out by Bandura and his colleagues, the developmental progression of social learning has now been thoroughly described. Social learning involves either direct or indirect teaching to conform to cultural expectations of what is acceptable behaviour. The developmental progression observed is that the infant initially learns through a process of 'shaping', as a result of rewards and punishments received; then later he learns also through a process of 'initiation', by copying the actions of others; and then, as role-playing begins, he also learns through a process of 'identification', by copying the actions, or beliefs, of others because he wants to be like the model who is doing the acting (e.g. Bandura 1969, Gewirtz 1969).
Adolescent social learning is considered to be no different from childhood or adult social learning except in the sociocultural expectations that surround adolescents, and in the models they choose for identification. Social learning theories predict adolescent behaviour changes only in as far as there are changes in the social training situation, e.g. in family structure, peer group expectations, and other environmental factors. Aggression in adolescence, when it occurs, is understood to be a consequence of specific antecedent conditions in child-rearing patterns and parent-child relationships.

Whereas Bandura and his co-workers are principally concerned with learning behaviour, Kelvin (1971) is equally aware that values are the consequence of social learning. Influenced by Piagetian theory, Kelvin proposes that once abstract concepts can be formulated, social learning can also be achieved through "internalization". This is the process and condition whereby the norms of the group or society become the individual's own norms (behaviour or values). Early socialization is purely behavioural and the child has no choice of who does the shaping or teaching and of what social context he is being socialized into. Although early identifications set the scene for the initial development of values, the adolescent in later socialization has a choice of whom he wants to identify with, which values he wants to adopt, and which roles he wants to internalize, although there will always be certain environmental constraints (cf. Berger & Luckman 1971).

From a slightly different approach, Sarbin & Allen (1968) also differentiate between early and later socialization. The term "socialization" is reserved for what happens in early childhood, i.e. learning rudimentary practices for becoming a socialized member of one's culture, where the object is the acquisition of elements of ascribed roles. Roles children enact are ascribed, i.e. assigned to them.
Children are shaped into their roles as children. In contrast, "enculturation" is the term used for later socialization when adolescents and adults learn achieved, nongranted roles. They can do this as a result of anticipatory socialization, and because they have gathered experience from previous role enactment, thus facilitating the learning of new roles.

In other words, issue is taken with Bandura over childhood and later socialization being one continuous process. Yet, the choice of model in identification is understood by social learning theorists to depend on different types of reinforcement, which are more or less obvious to an outside observer. Such theorists therefore convincingly assume that both children and adolescents choose their models, but that in children the reinforcements governing this process are more obvious and more external than those in adolescence. Anticipatory socialization can be re-defined in terms of identification with a model in a group to which he aspires to belong to, without changing the meaning of the term. New roles may be learnt as a result of prior identifications with different models. But the question that remains is if adult roles are generally achieved rather than ascribed, as Sarbin & Allen suggest. The results, already mentioned, of studies of occupational choices of school leavers show that only about 50% of British school leavers realize their ambitions and achieve the role of their choice, but once in employment, few want to leave their job (Roberts 1968). Besides, the dynamics of everyday social interactions often result in roles being ascribed. Thus adolescent and adult socialization may include both achieved and ascribed roles; so the dichotomy between socialization and enculturation is of little use as a developmental model.

The developmental perspective that remains is one of socialization
progressing through social learning by shaping, imitation, identification, and internalization, such that all these processes may be used in adolescent and adult socialization. Since it does not deny maturational changes which undoubtedly occur - some social learning theorists attach more weight to maturation than others - it seems quite a plausible model to use to understand the continuities in development from child to adolescent to adult.

To conclude, the socialization theories focus on the environmental changes that surround the adolescent. Integrating them, one may obtain a picture of an adolescent having to make adjustments to new situations, and roles, in which he finds himself either through his own choosing ('achieved') or not ('ascribed'). He learns how to behave in new situations by being taught, imitating, or identifying with models already in that situation, and has learnt his new role when he internalizes the behaviours expected. The peer group prevents him being in a "social no-man's-land" and provides models for some behaviours. Adult society expects adolescents to begin to make commitments and to think about the future, but since the future is often largely unknown, it becomes a source of worry and a problem. However, once a commitment is made, usually with help from others, then the adolescent is able to socialize into his new role and maintain his commitment.

Adolescent socialization may be observed while watching the transition from school and following the adolescents into their new environment. Specifically, adolescent socialization may be observed by studying situational adjustments to known and unknown fields; the making of commitments, and the social learning process of making new identifications.
1.4 TOWARDS AN INTEGRATED PERSPECTIVE OF ADOLESCENCE

Before concluding, one final model of adolescence, based on empirical work already quoted (Coleman 1974), should be given credit, since it attempts to integrate to some extent these different perspectives.

Let us refer to Coleman's focal theory, where

"... at different ages particular sorts of relationship patterns come into focus, in the sense of being most prominent, but that no pattern is specific to one age only. Thus the patterns overlap, different issues come into focus at different times ..." (1974, p.10).

Like Erikson's stage, Coleman's focus is defined by an ascending conflict. Adolescence, says Coleman,

"... is characterized by a fundamental process of reorientation in a wide range of relationships, and there is even a possibility that the individual's developmental status may be judged by his standing vis-a-vis this process. ... Perhaps the most helpful and meaningful approach is to consider that the adolescent inevitably faces a series of potentially conflictful relationship situations, all of which at times create problems for him." (1974, p.145).

Yet, other periods in life, not only adolescence, may be characterized by a process of reorientation in a wide range of relationships. Coleman's focal theory provides a useful description of adolescence, but has no predictive value; its flexibility precludes predicting what issue will become a focus, and when.

1.4.1 ADOLESCENCE AS A STAGE OF TRANSITION

It seems unnecessary to have to categorize adolescence as a separate stage or as part of continuing processes in the life cycle - in some ways it is a stage in a predetermined sequence of events, while in other ways it is a part of continuing processes.

One continuing process is clearly socialization, the process by
which the growing person learns to fit into society and form adequate relationships with other members of his group or culture. This can be understood to occur through social learning, (in the form of shaping, imitation, identification and internalization), throughout life, enabling the individual to make adjustments to new physical and social situations.

Another process that does not stop at adolescence is cognitive development. During adolescence, a combination of maturational factors and educational opportunities determine the direction and the qualitative nature of further cognitive growth. At this time the acquisition of logical thought processes is observed, but further education and/or professional specialization will continue this growth to enable the individual to form hypotheses and solve problems that he will meet in everyday life, e.g. whether on a building site, or in a university. Where professional specialization is quickly achieved the process may grind to a halt (although not irreversibly), but where further education continues, so may cognitive growth continue. The notion that adolescence is the stage that terminates cognitive growth is no longer held, in view of the effects of professional specialization. Similarly, there is evidence that the development of morality beyond adolescence is subject to environmental conditions as well as maturational factors within each individual, and there is not a particular level of morality that could define only a stage of adolescence. However there is a third reason for believing that cognitive development continues beyond adolescence. The acquisition of abstract thought processes permits introspection and the appraisal and successive reappraisals of self definitions. Personality changes throughout life are dependent on these cognitive developments. As new relationships, roles, and situations are anticipated, so new patterns of thought and action must
be developed. Thus cognitive growth must be conceived as a continuing process which does not tail off in adolescence, but which may go on throughout a person's life.

A specific case of cognitive development is the process of identity formation. Everyone feels some sort of identity, a "sense of reality of one's self within social reality", and therefore this theoretical concept cannot easily be dismissed. Attempts which have been made to define and assess it will be examined in the next two chapters.

Adolescence involves physical and social transitions which have considerable psychological effects on the growing teenager, and in this context this period may be conceived as a stage. The onset of adolescence is marked by the physical change of puberty, affecting boys and girls in different ways. They have to make psychosocial adjustments to the physical transition of puberty - they have to get to know their changing bodies and learn the behaviours associated with new roles that as a consequence society ascribes to them. The next inevitable physical transition is that of leaving school which every adolescent in modern Western society has to face at the earliest at fifteen or sixteen. Adolescence may therefore be conceived as a chronological stage, rather than a cognitive or psychoanalytical stage, defined by the physical transition of leaving school. It is socially defined in terms of transition from the role of school boy (or girl) to another role. The present study investigates exactly this transition. Analysis of the above theories reveals the psycho-social adjustments that are expected to surround the transition.
1.4.2 THE PSYCHO-SOCIAL ADJUSTMENTS OF THE ADOLESCENT

(a) Inner Turmoil

It was shown that there is little support for a model of normal adolescence based on inner turmoil and psychological crisis. In most adolescents psychological crisis is not due to leaving school. Rather, it is due to a multiple of factors in the child's up-bringing. Those adolescents who had experienced disturbed early years due to familial disruptions in the home may be expected to experience difficulties in adjusting to the physical crisis of transition from school. This leads to one of the hypotheses of this study.

(b) Identification with the Peer Group

The establishment of an intimate relationship with someone outside one's own family is a necessary fact. Since it may be observed in other animal societies, it can be considered an evolutionary phenomenon. Inbreeding has well-known genetic disadvantages. Psychoanalytic theory is not applicable to sub-human societies; some other theory must be found to explain how incest taboos function in animal societies, and then it should be possible to extrapolate it to human societies. Although animal behaviourists have observed this phenomenon, they have not as yet reached an understanding of it. However, the peer group provides a source for new relationships and extra-familial identifications, for experimenting with different types of intimate relationships before commitment to one in particular is felt to be necessary and desired. The peer group has the important functions of permitting role-play, and, also, providing both psychological and social support throughout the adolescent transition. It provides models for behaviour, but it also provides a sympathetic environment since all the other adolescents are also facing the same hurdle. It ascribes a social definition to each individual,
but also allows the adolescent to achieve his own self-definition. The adolescent has to evaluate which friends can serve as models for behaviour, and which friends can help him. He has a choice in his friends, and whom he chooses as models. When he leaves school, especially a boarding school, circumstances may cause him to choose new friends and new models, while old ones are no longer present or appropriate. Thus adolescents in this social transition are expected to form new identifications. This forms another of the hypotheses of this study.

(c) **Self Definition**

A new environment will cause the adolescent to be defined in new social interactions. His appraisal of how others perceive him in these new situations may be different from his appraisal of how others used to perceive him, and so he may be led to change his self definition in one way or more. This forms another hypothesis of this study.

Just as the environmental transition is from known to unknown followed by adaptation so that unknown becomes known, so the adolescents' self appraisal may turn to uncertainty at the time of social transition, but in successful socialization to the new environment, the uncertainty should be reduced by re-appraisal. In the following chapter it will be shown that this process of self re-appraisal in the light of new identifications and social interactions is fundamentally the process of identity formation.

(d) **Commitment and Thinking Ahead**

Preparing for leaving school requires thinking ahead on the part of the adolescent, and making a commitment about his choice of what to do on leaving school. Where the adolescent is unable to make a
vocational commitment for after leaving school, it would be expected that he would have difficulty in perceiving a sense of self continuity over time (between present and future), because, being uncommitted, the future is likely to be unexpected - he cannot be sure how to prepare for it, or how he may change as a result. This forms another hypothesis of this study.

Similarly, those who are vocationally committed are probably those who are more prepared to think about the future, i.e. have more future-oriented temporal perspective. Temporal perspective has been mentioned in psychoanalytic, cognitive and social theories of adolescence. Regardless of the theoretical perspective, it is a fact that the adolescent is expected to think ahead. He knows he is about to leave school and that he has some say in the decision about what happens next. He is required to commit himself to professional specialization, or to some occupation that will enable him eventually to live as an independent adult. His intelligence, his school and home environments, and the opportunities offered by the society he is entering, all impose constraints on what he can do in the way of professional specialization or occupation. In social terms, failure to commit himself to his future role means that the adolescent is extending the transition period. As soon as he is committed, he can begin to socialize into his new role. This same process has been called 'decentring' in the cognitive theories. In these theories the adolescent was observed to differentiate out his own point of view so that "the focus of the decentring process is when the adolescent undertakes a real job or serious professional training".

The role of temporal perspective in the adolescent's transition forms the basis to yet another hypothesis in this study. This and the possibility of sex differences in the psycho-social adjustments of the adolescents will be further spelt out in chapter three.
1.4.3 A DEFINITION OF ADOLESCENCE

To conclude, adolescence is conceived as a stage of physical transition from school to new roles in society. The psycho-social adjustments expected to surround this transition involve preparing for passing from a known environment to an unknown one, and adapting as the latter becomes known. Adolescents in this social transition are expected to form new identifications and to make qualitative changes in their definition of themselves; they are also expected to think ahead and to form vocational commitments. In the next chapter it will be shown that these psycho-social adjustments are basic to the process of identity formation.
2. IDENTITY

In this study issue is taken with the popular notion that identity is an independent variable in adolescence. But what is identity?

Every human being has his own bodily feelings that he is aware of, his bodily characteristics, a feeling of continuity in time, and patterns of behaviour that others are aware of, a name, etc., aspects that allow both he himself and anyone else to be aware that he exists and is unique. Every Tom Smith knows he is different from every other Tom Smith, even if they are identical twins. Most people feel (the subjective reality) that there is something intangible that is the essence to their existence that no one else can experience and that is expressed in their uniqueness. They feel a "sense of the reality of the Self within social reality". This is the notion of "identity" that has become so popular since Erikson first put forward his theory in 1956. However, the concept of identity is popular not only amongst psychoanalysts faced with adolescents showing clinical problems of identity confusion, but also amongst sociologists, social psychologists, existential psychiatrists and philosophers, and social anthropologists - indeed anyone interested in the uniqueness of human being. The word "identity" has been used with different qualifiers, such as "self identity", "personal identity", "ego identity", "negative identity", and "vocational identity", to convey different meanings, depending on the context in which it is used. First, therefore, different definitions of identity will be discussed. However, since most approaches to the problem of understanding identity include a notion of "self", it is necessary to briefly discuss some theories of self, and the relationship between identity and self.

A person's physical and mental uniqueness exists from birth onwards, but, as it was suggested in the previous chapter, his identity may become
of interest to him when he reaches adolescence. The development of awareness of identity and the dynamics of the changes of self perception throughout the life cycle are the topics covered in the different theories of how identity develops. Theories of identity development differ according to the conceptual framework used. Thus, the different theories of the development of identity will also be discussed.

Operational definitions of identity and attempts to assess identity will be evaluated in the next chapter.

2.1 DEFINITION OF IDENTITY

The one characteristic that underlines every definition of identity is that sameness is implied. Thus the letter 'A' has an identity of 'A' whether written as a capital, in lower case, italic, or Gothic lettering. It may look physically different in each script, but it is consciously perceived as the same, as the letter 'A'. In the same way when the concept of identity is applied to people, a perception of sameness (conscious or unconscious) is involved. Most people react differently in different contexts and circumstances; they portray different aspects of themselves and may not display behavioural consistency at different times and places (as in 'A', 'a', and 'a'). Yet there may, all the while, be consistency at the subjective level, (as each is perceived as the letter 'A'), the higher level where different behaviours are organized according to values, categories and concepts. Identity refers to this latter consistency. Thus, Erikson describes identity as "... the accrued confidence that inner sameness and continuity are matched by the sameness and continuity of (one's) meaning for others ..." (1950, p 228). In this definition, three
points are made. First, an individual must perceive himself as having "inner sameness and continuity", i.e. he must, over time, presume himself to be essentially the same person he has been. Second, the surrounding persons in one's social milieu must perceive a "sameness and continuity" in the individual also. And finally, the individual must have "accrued confidence" in a correspondence between the two lines of continuity, subjective and objective. His perception of the person he sees himself as being must be validated by feedback from his interpersonal experiences, so that there is an interaction between subjective and objective identity.

2.1.1 OBJECTIVE vs. SUBJECTIVE

Theories of identity differ according to whether they focus on objective perception of sameness, by observers; or whether they focus on subjective perception of sameness, by the person himself behaving; or whether both aspects are included in understanding identity.

Objective, public, social identity is how a given person is differentiated from others. It is what is experienced and observed by others about oneself. This is the view taken by some sociologists. For example, Goffman writes: "When a stranger comes into our presence, then first appearances are likely to enable us to anticipate his category and attributes, his 'social identity' ..." (1963, p. 12). An "identity peg" is used by Goffman to describe an attribute or category that an observer uses to mark the person's uniqueness. "Personal identity" is considered to be the sum of a person's identity pegs: "Personal identity, then, has to do with the assumption that the individual can be differentiated from all others and that around this means of differentiation, a single continuous record of social facts can be attached, entangled ..." (1963, p. 73). Both social and personal identity are understood to be defined by the observer, by others in a social interaction, or on a larger scale, by
society. A person’s identity, in this context, is therefore seen to be the result of the overall assumptions made about him by those who are consciously or unconsciously categorizing him. So identity is considered to be a social perception and as such it would vary according to the social situation. However the sociologists studying objective identity would undoubtedly admit that the person may apprehend his social and personal identities (form subjective perceptions). Therefore it makes most sense to consider identity as having both objective and subjective components. Thus, "Identity is objectively defined as location in a certain world and can be subjectively appropriated only along with that world." (Berger & Luckman, 1971, p. 152).

Subjective identity refers to a private inner perception, sense, or feeling, based on one’s experience of one’s self. It is what is experienced and felt by the person himself about himself. This is the view taken by some psychoanalysts. Thus, Lichtenstein writes that the concept of identity "characterizes the capacity to remain the same in the midst of change." while the "... sense of identity is the consciousness of such continuity of sameness." (1961, p. 193).

"Ego identity" is defined by Erikson as "... the awareness of the fact that there is a self sameness and continuity to the ego's synthesizing methods" (1956, p. 23) and, elsewhere, that identity is "... a subjective sense of an invigorating sameness and continuity" (1968, p. 19).

Block (1961) has shown the importance of the subjective sense of sameness and continuity by the fact that those who lacked this sense were significantly more maladjusted (as reflected by CPI scores).

Identity is understood by many psychoanalysts to be an inner feeling of continuity and individuality: yet they also refer to some aspects of identity which may be objectively observed. For example, Erikson also considers the objective identities associated with race, religion, and sex. In fact, Erikson pays homage to the interaction between subjective
and objective components when he describes the sense of inner identity as a feeling of progressive continuity "... between that which he conceives himself to be and that which he perceives others to see in him and expect of him." (1968, p. 87)

The inter-relationship between subjective and objective components is also recognized by existential psychiatrists and philosophers. Thus, Laing writes: "'Identity' is that whereby one feels one is the same, in this place, this time as at that time and at that place, past or future, it is that by which one is identified." (1961, p. 70) Laing and other existentialists understand subjective identity as having two dimensions: being-for-oneself and being-for-others. (What others observe is the objective identity.) There is believed to be a constant interaction between these types of being.

2.1.2 STRUCTURE vs. PROCESS

To return to the notion of consistency that underlines every definition of identity - this notion is similar to notions of equilibrium and homeostasis that exist in natural sciences. As in other fields of natural science, inconsistency usually has a negative connotation and is an undesirable state. Thus, people constantly have to assimilate new ideas, perceptions and experiences and one of the main functions of the mind is the organization of ideas which are felt to be consistent with one another (Lecky, 1945). This raises the question whether identity should be regarded as a structure - single, multiple, or Gestalt - with the defining characteristic of consistency and sameness at different times and in different situations; or whether it should be regarded as the continuing process of mental organizing to achieve consistency - a process which continues throughout life.

Whereas the sociologists view identity as a sort of structure, and
some psychoanalysts view it as a motivating force, several important theories of identity treat it as both structure and process.

The sociological perspective is that identity is not a process; it is basically a conceptualization of a person by an observer. To the extent that the person's behaviour is consistent with the categories the observer has used to conceptualize him, that person is perceived to have an identity. Identity viewed this way is little more than a label of a person's attributes and of the roles that he is perceived to play.

Another approach to understanding identity is to view it as a structure that crystallizes out in any specific social interaction, and which can be modified and re-crystallized in any other social interaction, i.e. "once crystallized, it (identity) is maintained, modified, or even reshaped by social relations" (Berger & Luckman, 1971, p. 194). Similarly, Douvan & Adelson (1966), while recognizing the evolution of identity all through life, refer to "identity crystallizations", and different types of identity, implying that identity is a structure of some sort.

In contrast, Fromm (1956) and Horney (1951) consider identity to be a need, and in this sense it is a motivating force and not a structure. Fromm writes that "... it (identity) is a real need and is a source of intense strivings ..." (1956, p. 63).

In other psychoanalytic theories, identity is seen to be an ego process with the ego function of synthesis and integration in relation to reality, (social reality). It is understood to be a process going on all through life, constantly synthesizing and integrating observations, judgements and perceptions of and about oneself. Thus, "ego identity ... is a particular and selective integration of experience defining self." (Shapiro, 1966).

Often, however, identity is used to describe both structure and process. Erikson, although repeatedly proclaiming that identity is a
process, also uses the same word to refer to a structure which may be achieved. It is a process in that it is always changing and developing but at the same time, it is considered to be a product of the process - a sense of sameness. A similar confusion arises in the writings of Horrocks & Jackson, where identity is considered to be a temporary structure, a "self-hypothesis", but at the same time an organizing process:

"In other words, the identity assemblage is more than just the sum of identity concepts; it is the interrelating, processing, and organizing process of self experience. This structure (a hypothetical construction) involves the assumption that identity concepts are hierarchically organizably into systems ..." (1972, p. 172).

The confusion arises from the fact that in referring to an identity, one must be referring to a metaphysical structure - a sense of sameness of self, be it subjective, objective or a combination of both; whereas at the same time it is recognized that this structure varies according to social situations, and hence a process must be postulated to maintain consistency and continuity in the forever changing metaphysical structure. By reserving the word 'identity' for use only when a structure is implied, and using 'identity formation' to refer to the process of integrating and differentiating self perceptions, perhaps the confusion need not arise. One may consider identity formation as Erikson indeed does, to continue throughout life, and the product, identity, is a temporary crystallization of the person's conceptualization about himself.

2.1.3 IDENTITY vs SELF

Finally, the definition of identity varies with the definition of self. Theories of self reveal the same inter-disciplinary differences as those of identity. Thus, when self is used to refer to the experiencing
subject (the subjective feeling of self), as for example in the theories of the psychoanalysts Fromm, Hartmann and May, it is virtually synonymous with the psychoanalytic understanding of subjective identity. On the other hand, when self is used to refer to the object of one's experience (the observed self), as for example in the theories of the sociologists Cooley and Rosenberg, it is virtually synonymous with the sociological understanding of objective and social identity.

Similarly, theories of self differ according to whether self is considered to be a structure of personality - single, multiple, or Gestalt - or whether it is considered to be a process with interacting components. In the theories of Jung and Maslow, for example, the concept of self is taken from Eastern philosophy and is used to denote a spiritual entity, a supreme oneness of being, with both conscious and unconscious elements. At the same time, a motivating force to achieve this supreme oneness of being is hypothesized and incorporated into the concept of self. At the other extreme are the theories of James, Mead and Sullivan where the self is understood to be a cognitive system organizing social experience within personality, i.e. organizing self perceptions. In between are structural views of self, such as that of Rogers who views the self concept as an organized configuration of perceptions of self which are admissible to awareness. The most popular theory of the self process is described by Mead (1934) in terms of the "I"-know-the-bodily-"me" relationship. "Me" is the object of my perceptions and evaluations and therefore includes notions such as 'self image', 'ideal self', 'self awareness', 'self concept' that abound in the literature. The "me" is seen to be formed from integration of feedback from the social environment. I gain information about "me" from what others tell me about myself and how others react to me. I form a picture for myself of how others see "me". However, at the same time, I maintain a notion of myself as the
"I" - the agent in myself that does the knowing and perceiving, perhaps unconsciously. The "I" is not directly available to others, the "I" is only seen via the "me". Thus the self process is based on the interaction of the individual with itself, its physical environments, and its social transactions with others. Developmentally, first the "I" has to be differentiated out as separate from the "me". Then, "I" has to learn to perceive continuity in all the different aspects of "me" that it discovers in different social situations. The achievement of this particular perception is obviously part and parcel of the self process, yet the realization of continuity of self in different social situations and at different times is usually referred to as "identity". It seems therefore that self theories refer to the same ideas as those in theories of identity and, furthermore, reveal the same interdisciplinary differences.

Although the words 'self' and 'identity' can often be used interchangeable, the two words are not totally synonymous. Horrocks & Jackson discuss the relationship between identity and self as follows:

"An identity is a result of a dynamic cognitive process of selecting meaning components of various self-concepts to form an assembly of self-meanings. In this manner identities emerge from combinations of self-concepts. The self-process produces an identity hypothesis with the result that the individual is able to verbalize to himself and others who and what he is. Thus, an identity is a self-construct evolving from the physical-physiological development of a living organism possessing awareness, hence, mind." (1972, p. 60).

In this view the meaning of identity is different from that of self, it is regarded as a product of the self process. The "dynamic cognitive process" is the process of integration, the essential characteristic of the identity formation process, and not usually a conscious process. (It may become conscious in the case of existential questioning - the verbalization of the question "who am I?" and the active search for a verbal answer. This is discussed fully in section 2.2.3 below and has been found to occur in only a minority of people.) Horrocks & Jackson must
be correct in assuming that identities emerge from combinations of
self concepts (see section below), yet the next assumption, that the
emerged identity allows it to be verbalized is disputable. Is it, as
they suggest, that a person has an identity hypothesis at the ready which
can be verbalized when necessary: or is it that it is the necessity to
verbalize that brings the identity to awareness? As a little girl once
said to Graham Wallas, the author of "The Art of Thought", "How can I
know that I think till I see what I say?" (Blakemore 1977). The
process of identity formation to integrate self perceptions is continuing
throughout life, but not consciously, and the product may be tapped at
any point in time when it is required. Conscious awareness of identity
therefore exists only when the need for verbalization is felt; at any
other time, identity is an undifferentiated feeling which is not conscious.
Indeed, Weinreich (1975) noted that his adolescent population found it
very difficult to verbalize identity hypotheses; they were obviously
not at the ready as Horrocks & Jackson suggest.

The Concise Oxford Dictionary defines "self" as "person's or thing's
own individuality or essence, person or thing as object of introspection
or reflexive action..."; whereas identity is defined as "Absolute
sameness; individuality, personality...". Therefore, one could conclude
that although self and identity may be used synonymously to refer to a
person's individuality, the word identity differs from the word self,
however, in that the former implies sameness whereas the latter implies
introspection. By combining the two words into 'self-identity' one
achieves a concept implying a person's individuality but also his

feeling of sameness.

a) Self-identity. Proshansky & Newton (1968) use self-identity to refer
to the combined product of inter-related conscious and unconscious beliefs
and feelings that a person has about himself. By a process of social learning, every person identifies and evaluates his self. Similarly, from a totally different theoretical perspective Norris & Makhlouf-Norris (1976) propose a 'self-identity-system' as a hypothetical construction by which a person identifies and defines himself relative to others. Both these uses of self-identity demonstrate that a self-perception is involved, but omit to specify the characteristic of a feeling of sameness which must be inherent if the word identity is mentioned. Erikson (1968) uses 'self-identity' to refer to the integration of the person's different self-images and role-images to achieve a feeling of continuity and sameness. It is from the converse, 'identity confusion' that the characteristic of sameness was understood to be of importance in self-identity, since identity confusion is observed when a sense of sameness and continuity of self is lacking. Erikson, however, prefers to speak of 'ego-identity' rather than self-identity since ego implies an unconscious organizing structure, so that ego-identity may be used to imply a process by which self perceptions are organized to achieve a sense of sameness. Above, though, it was suggested that 'identity formation' be the label of the process of organizing and integrating self perceptions to achieve the feeling of sameness and continuity that is basic to a person's identity. Hauser (1976) provides an interesting approach by referring to an overall process of identity formation composed of two subprocesses—one being 'structural integration' synthesizing and consolidating self perceptions, and the other being 'temporal stability', involving the perception of continuity of self perceptions. (He also describes various identity variants, the different forms of identity that result from the process.)

'Identity' in this thesis, is used to refer to 'self-identity', the product of the process at a specific point in time. It is the perception
that one is the same, that there is continuity of the self in different places at different times. Other forms of identity, such as social identity, female identity, negative identity, are self perceptions, just as self-esteem and self-consciousness are self perceptions, i.e. they are aspects of the person's self, aspects of his individuality. These other types of identity are the direct result of identifying with a reference group. They refer to a feeling of sameness between oneself and that group: or, in the case of negative identity, a feeling of sameness with the opposite of that group. Objectively, all these other types of identity are that by which one is identified by others whereas self-identity is one's own feeling of sameness within oneself, between one's own self perceptions.

b) Ideal Self. One aspect of "me" that has not so far been mentioned is what is known as "ideal self" - the "me" that an individual wishes to be. For an overall feeling of sameness one would require a minimal discrepancy between the perception of one's ideal self and the network of other self images. Hauser & Shapiro (1973) include this self perception when investigating the structural integration involved in the identity formation of psychiatric patient adolescents and a non-patient control group. As would be expected, they found significant differences in the structural integration of ideal self in the two groups. However, Katz & Zigler (1967), looking at the converse, i.e. real and ideal self disparity, suggest that the relationship of ideal self with other self images may not be a simple one. They found that the experience of discrepancy is a function of defense mechanisms, of the level of cognitive development, and therefore of age and intelligence too. They found an increasing discrepancy with age but did not study adolescents over the age of 16 years. After 16 one would expect the process of identity
formation to function to reduce such a discrepancy, since an adult who wishes to be other than what he thinks he is would surely have little self-satisfaction and low self esteem, or a negative identity - hardly a favourable state of affairs. In fact, Gruen (1960) found a correlation between self-ideal, self discrepancy and self-uncertainty, yet no correlation between self-uncertainty and his measure of identity - a finding he dismisses by suggesting that his measure of identity is inadequate. Weinreich (1975), however, assumes that it is the discrepancy between ideal self and identifications that results in identity diffusion; implying that perception of congruence between ideal self and identifications results in a cohesive identity. But his work with immigrant adolescents caused him to observe that the existence of an identity problem does not necessarily mean the existence of such a discrepancy. Norris & Makhlouf-Norris (1976) describe the situation where the ideal self is the opposite to how a person sees himself, as 'self alienation', which they suggest may often be observed in certain neurotics, and alcoholics. They also explain that, in contrast, when there is congruence and no discrepancy observed between ideal and actual self images, then the person is showing that he is just as he wants to be and has no desire for change in himself. Being clinically oriented, they further add that this case is infrequent, being observed in cases of personality disorder, drug addicts, and normal people. They seem to assume that self satisfaction and acceptance is unlikely even in normal people.

All in all, the ideal self should be regarded as a self perception which should be integrated into the identity Gestalt, in identity formation. Yet, a feeling of lack of sameness between ideal self and other self perceptions may not be necessary or sufficient to cause identity diffusion - instead, merely low self-esteem may be observed.
c) **Identification.** Yet another confusion arises from the word identification. Identification may be subjective - the product of identifying with someone, i.e. regarding oneself as sharing the same characteristics with another person. Or, on the other hand, identification may be objective - the product of being identified, i.e. recognized. In rather complicated language, Horrocks & Jackson differentiate between identification and identity:

"Identification is the cognitive affective process of selective organization of perceptions which become preferential to one individual in a given transaction."

"Identity is the individuation of perceived, unified ideas or elements differentiating an individual from his identification. Identities are conceptualizations of self that develop out of combinations of fragmentations of identifications." (1972, p.53).

Since identification appears to be a basic source for identity formation this topic needs further discussion in the next section.

Identification like self and identity can be defined as a form of an "I see me" relationship with the subjective "I" perceiving the objective "me" as like another person. The "I see me" relationship may be considered to be the basic unit of a self perception since this is really what it is. In which case identification is a self perception in relation to another person, reached by a process of (1) I want to be like other person, P, (2) I therefore act like P, (3) I therefore see myself as like P. Identity may be defined as a product of the integration of self perceptions and is therefore an integrated self perception. However this definition of identity is insufficient since, for example, self-esteem is also a product of the integration of self perceptions. Self-identity must be defined to also include a sense of sameness of self, a sense of continuity of self in time. At any particular point in time it may be temporarily crystallized into an integrated self perception by which a person defines himself in interaction with other people. The process by which identity is formed and the qualitative changes in identity over
time (identity development) are given fuller attention below.

2.2 IDENTITY FORMATION

Most people would readily agree that identity formation is a process that continues throughout the life cycle, although theorists differ as to the point in time on which they choose to focus. Thus, the psychoanalytic oriented theorists focus on the childhood development of identifications, whereas the sociologists focus on the effect of role changes in the passage from one social status to another, and are more interested in adult identity formation. Finally, Erikson is responsible for the popular belief, now challenged, that identity formation occurs unconsciously in childhood and adulthood but it meets a crisis in adolescence, which is the period where identity must be sought for. Thus, there are several themes in the theories of the formation of identity. One stresses the role of identifications whereas another stresses the role of social interactions. In the first case, identity formation is seen as a historical, maturational process, identity resulting from the person's history of identifications. In the other case, it is seen to be a situational process, where identity depends on the immediate social situation and is a direct function of that social interaction. A third approach, however, is that where identity formation is observed to occur as a result of a period of searching, or existential questioning, i.e. when the person asks himself questions of the nature "who am I?" and is concerned about being a person.
2.2.1 THE FUNCTION OF IDENTIFICATIONS

The formation of identity via identification is understood by many psychoanalysts to be a developmental process of continual internalizing and synthesizing prior identifications. Historically this process is seen to begin with the mechanism of "introjection" (the primitive incorporation of another's image) in the primary mother-infant bond. The quality of this bond is believed to predetermine at least partially the quality of later relationships. Once the infant realizes he is a separate entity from his mother, i.e. once he has a concept of himself as "I" separate from mother, he can begin to make identifications. Identification is the copying of actions (and eventually attitudes and values) of another person (a model), the copying being motivated by the regards or satisfactions associated with being like the model. (The element of motivation differentiates identification from simply imitation of behaviour.) When an individual, A, identifies with another, B, A (often unconsciously) wants to be like B and therefore is led to think, feel, and behave as though the characteristics of B belong to him. The growing child will identify with different models in his environment, he will identify with significant others. The copied behaviour (or values) become the individual's own behaviour (or values) by the process of internalization. The selection of behaviours to be internalized and the synthesis of former identifications is understood to be an ego process. This is the approach reflected in the writings of psychoanalysts such as Fromm, Lichtenstein, and Shapiro. Jacobson, in particular, devotes almost a whole book to explaining the development of identifications in terms of "self" and "object images" starting from the initial mother-infant symbiosis, through childhood and adolescence to adulthood. She summarizes her maturational approach to identity formation as follows (in very Freudian language!):
"Identity formation must, at any phase, reflect man's complicated instinctual development, the slow maturation of his ego, his uneven superego formation, and the intricate vicissitudes of those object relations and identifications with his family and his social milieu . . ." (1965, p. 32).

This theory of identity formation arose from observations made in clinical practice and still provides a useful context for psychoanalytic therapy. There have been many experimental investigations to show that imitation and identifications do in fact occur in children and adolescents (for example the many studies by Bandura and his colleagues). The relationship between identifications and identity is hypothesized, even assumed, and is inherent in the definition of identity. Identification is a specific type of self-perception. The integration of self perceptions in identity formation must include the integration of present identifications and former identifications. There are two studies which specifically look at identifications in relation to identity, but both take the theoretical perspective that identity is formed from synthesized identifications, making conclusions about identity from assessments of identifications (Norris & Makhlouf-Norris, 1976; Weinreich, 1975). This is obviously not the same as showing that identity, assessed independently from identifications, is related to prior identifications. Yet, identifications have been shown to exist and they may be considered as an important origin of self-perceptions that are integrated in identity formation. Identifications occur through either direct social interaction or observation of social interaction, and therefore this theory does not deny the function of social interaction in identity formation.

2.2.2 THE FUNCTION OF SOCIAL INTERACTION

In contrast to the psychoanalytic theories just mentioned, there is another approach in which the individual's developmental history is not directly relevant. Consider the social interaction between two people,
A and B. Each makes assumptions about the other (assigning "identity pegs") such that A is identified as A, and B as B. Thus the identity of each as perceived by others - their objective, or social identity - is a product of social interaction. This is the perspective taken by some sociologists. Situational factors such as role expectations, behaviour settings and public esteem are stressed rather than the individual's own perceptions or motivations. For example, Strauss (1969) describes the development of identity in terms of transformations of the individual's status.

Yet, both sides of the social interaction should be considered. A is often able to apprehend B's perception of him, and is thus able to appropriate the identity B ascribed to him and incorporate it into a subjective identity. Thus, for example, Laing writes: "A person's 'own' identity cannot be completely abstracted from his identity-for-others ... other people become a sort of identity kit, whereby one can piece together a picture of ONESELF" (1961, p. 70). The same conclusion is drawn by Berger: "A person realizes himself in society, i.e. he recognizes his identity in socially defined terms and these definitions become reality as he lives in society." (1966).

There have been many experimental studies (especially within social psychology) to show the effect of others on the self image of a particular member in social interaction. Since self image and identity often refer to the same concept, these studies may be considered to lend support to the hypothesis that identity is (at least in part) a function of social interaction. Sherwood (1965) specifically tested the hypothesis that a person's self identity is a function of his subjectively held version of his peer group's actual ratings of him. His study was conducted in a human relations training group (T-group). He measured changes in self identity by using bipolar adjective rating scales and related these changes
to similar ratings provided by group members. The results supported
the hypothesis; the changes also depended on the degree of significance
of the others for each subject and the extent to which peer perceptions
were communicated to the subject. It should be noted, however, that
what Sherwood measured and labelled 'self identity' is exactly what
others (e.g. Manis 1955) have measured and labelled 'self concept'.
Whatever the label, though, what Sherwood and others have shown is that
certain self perceptions can be altered in social interaction. Sherwood
defined self identity as "the totality of a person's self attributes at
a given moment in time", where a "self attribute" is "a cognition (used
in perceiving oneself and others) which a person assigns to himself";
he assumes that a person uses the same, or similar, cognitive categories
in perceiving themselves and others, and probably on the basis of this
assumption of cognitive consistency he feels able to use the word
'identity'. In his study he showed that social interaction may cause
changes to occur within the cognitive categories that are assumed to be
constant, but he does not show that his assumption is correct that there
are no changes between categories; nor does he show that the categories
themselves arise through social interaction. This approach is not
developmental, nor is it longitudinal. What has not been shown by any
of these social interaction studies is whether the changes are permanent
or temporary, or whether there occurs a synthesis of old and new self
perceptions to form a new identity Gestalt.

Whereas those interested in identification indirectly imply that
social interaction must have an important function in identity formation,
(since identification is a social process), the same conclusion may be
drawn from the self-attitude change studies of sociologists and social
psychologists. Furthermore, since objective identity must be the product
of social interaction, and assuming that there are both objective and
subjective components to self identity, then social interaction must have an important function in identity formation.

2.2.3 THE FUNCTION OF EXISTENTIAL QUESTIONING

A third approach is where identity formation may be observed to occur as a result of existential questioning by the individual, i.e. the person's identity is formed when he begins to ask himself questions about "who am I?" and is concerned about being a person.

"Man's Search for Himself", the title of a book by the psychoanalyst May, is understood by existentialists to be the predicament of modern man and is a popular theme in contemporary literature (e.g., in the works of Kerouac, Arthur Miller, Salinger, and Sartre). "Man is nothing else but that which he makes of himself" is the first principle of existentialism. Sartre further explains:

"... (human beings') lives are spent in quest of a self-definition which they cannot find in the terms in which they seek it. If they do find a definition, it will be a matter not of discovery but of decision: whatever we are is what we have decided to be and we cannot therefore really be it since the option is always available to decide otherwise." (as quoted by Danto, 1975, p. 35-6).

Thus a person's identity is what he chooses to make it. The healthy well-adjusted adult is therefore believed to take responsibility for his actions, makes decisions, and becomes aware of pressures imposed on his actions, but he chooses whether or not he will yield to them or oppose them. Thus he chooses who and what he is. Obviously there are internal and external constraints (genetic and environmental) but the individual in Western society is believed to have a choice in his identity, and furthermore, that it is the result of a conscious active search. "Sense of identity" is defined by May (1969) as an "appreciation for being something rather than merely doing something", and this is considered to be the result of a "struggle to be" which occurs within the person.
Identity formation is understood in terms of the experience of becoming a person, which is believed to occur in three developmental stages: (1) 'innocence' (i.e. before consciousness); (2) 'rebellion' (i.e. to establish inner strength in one's own right; and (3) 'creative consciousness of self' when the person 'creates' himself and chooses whom to be.

Although this borders on philosophy, existential questioning and the active search in "becoming a person" has been clinically observed by psychotherapists such as Erikson, May, and Rogers, and it has doubtlessly been experienced by all those who write about it whether in fiction, philosophy or psychology.

There are obviously several ways of answering the "who am I?" question - I am pretty, I am a female, I am a teacher, I am a Marxist. All are different aspects of being. La Voie (1976) suggests a developmental sequence in the type of answer that is sought for this question. In early adolescence, it is proposed that the question is asked as an expression of concern with one's body, so that this question in the first place leads to the formation of physical identity. The next step in identity formation via the "who am I?" question, La Voie suggests, is to establish sexual identity, understanding and accepting one's gender. Then, later, the question refers to vocational (occupational) identity, and ideological identity. La Voie assessed identity achievement using an incomplete sentences test (Marcia, 1966) and with a battery of other questionnaires, he assessed many other psycho-social dimensions. His data analysis showed significant differences between adolescents having achieved sexual identity and those with identity diffusion. His subjects were American middle class high-school children of three age-groups between 15 and 18 years old. He concludes that:

"The adolescent who has progressed in resolving for himself/herself the 'who am I?' question seems to be an individual who is confident of his/her sexual identity, who
has acquired a sense of basic trust and industry, is well-adjusted psychologically, has a more integrated personality, uses defenses in an adaptive-positive manner, and perceives physical, moral, personal, family, and social self more positively. The adolescent who has achieved an identity also is more self-acceptant and more perceptive of how she/he acts... (and) appears to be a more adaptive and better-adjusted individual psychologically."

(1976, p. 381).

Matteson (1977) also found a high percentage of 18 year olds already committed about sex roles.

The next step, the search for vocational identity has been observed in college populations. For example, Waterman et al (1971, 1974) carried out a longitudinal study of identity in students of engineering during their four years of college. In this case, subjects were male and of lower middle class socioeconomic backgrounds. By a structured interview and an incomplete sentences test, (again, Marcia 1966), both vocational and ideological commitment were assessed, and also whether the subject has experienced or was in the process of experiencing active questioning about committing himself. They found that by the end of the first year there was an increase in the number of students experiencing crisis about their vocational commitment, while at the same time not being vocationally committed. However, by the end of the four years, there were significantly more students who had resolved the crisis and were committed to a vocation, although there still remained a percentage who were uncommitted and were not experiencing crisis (i.e. showing identity diffusion). Waterman et al also found that by the end of the first year most of their subjects were neither committed nor questioning their ideological identity. This suggests that occupational crisis and commitment occurs developmentally prior to ideological crisis and commitment. Marcia labels the period of active struggle, crises and search to answer unresolved questions as the period of "moratorium". He assesses that approximately 30% of today's college students are in this stage, and that identity can only be achieved once this crisis period
of questioning has been experienced. Matteson (1977), in a study of identity of 17-18 year old Danish students in further education (with upper/upper-middle class backgrounds) found that over half were in a state of exploration, or searching over identity related issues, while just over a third had reached commitment (especially in the areas of sex roles and values). A comparable American study yielded lower percentages of those in exploration, and those committed, showing a cultural difference. Matteson also suggests a developmental trend in identity formation in late adolescence from crisis to commitment. This would mean a progression from foreclosure, through diffusion to moratorium and finally identity achievement. Yet, no evidence to support such a hypothesis was found from his female subjects, and his experimental design (cross-sectional) needs to be modified before conclusions can be drawn.

The search for physical and sexual identity in early and middle adolescence can be understood in terms of the adolescent having to come to terms with his developing body, being caused to integrate new perceptions of himself as others begin to treat him as an adult rather than child. The search for vocational and ideological identity observed in college populations can also be understood quite easily. Most college students when still in high school intended and were expected (by school and family) to go on to further education. It is usually only after they leave school (and often home, too) and have to adapt their expectations to a new college environment with different expectations, that they have to think for themselves. In the new environment they have to define themselves to new people and be defined by new people, and they have to organize these new perceptions. Finally, through school they knew their future lay in further education, but once there they may no longer know what their future should or will be, especially if they are studying a
nonvocational subject. In other words, identity can be a problem (and hence a moratorium arises), for the verbally intelligent university student when his intentions have crumbled, disappeared, or even never been formed. However, Silber et al (1961) and Coelho et al (1963a), whose work has already been quoted, observed the adjustment of 15 high school students on their transition to college. They report a rosy situation where well adjusted high school adolescents wanting to go to college cope very nicely with the transition. New self perceptions are integrated without a struggle and without moratorium. Offer and Offer (1975) also report an unconscious gradual identity maturation, problems only existing if they had existed previously to leaving school.

Another situation where identity may be subject to moratorium is where there is a dissonant context. For example, Simone de Beauvoir wanted to be a writer but the social milieu in which she grew up could not accept this, and she therefore had difficulty integrating the social perceptions and definitions ascribed to her and those she chose privately for herself. The identity conflicts of individual members of minority groups in a dissonant context with their wider society is well documented, both in contemporary literature and in sociological and clinical observation. For example, in the situation where blacks are socializing into a society with white values, or immigrants are socializing into an established community (e.g. Fannon, Mikes, Rosenberg). Here the individual may have well defined intentions but which are not socially acceptable in the dissonant context. Awareness that the individual's problem is in fact an identity problem is probably achieved, again, only by the introspective articulate person, at the earliest in his late teens.

One further point: to reach an answer to the "who am I" question in terms of physical characteristics or even roles played involves a
lower level of thought than to reach an answer in terms of ideology of the nature of being. Cognitive theory and the studies that support it tell us that only a minority of the total population reach the highest level of abstract thought, and most of this minority is to be found amongst university graduates. Waterman & Waterman (1976) again using Marcia's technique, studied the nature of vocational identity of the fathers of their engineering student population. They found that most had entered vocational commitment without experiencing any active questioning and had entered whatever job arose ("extrinsic motivation"). Those who had experienced a period of crisis of this nature had the most education, and had themselves chosen their work, ("intrinsic motivation"). Thus, for those men who went straight from school to work, identity formation was not the result of an active search. The development of the introspective "who am I?" question must be directly related to the development of abstract thought processes. Those who usually think in a concrete way presumably do not themselves ask the question, but if requested to answer, would probably reply in concrete terms - "I am a man" or "I am a carpenter" or "I am funny". Those who usually think in an abstract way are much more likely to introspect and to look for abstract answers of the sort that the existentialists are interested in.

Thus, to conclude, it seems that identity may be a result of active questioning and searching for a small population of highly intelligent and creative individuals in certain circumstances; but it is not a necessary step in identity formation, and because it is applicable only to a small population, it is not a satisfactory model of identity formation.
2.2.4 ERICKSON'S THEORY OF IDENTITY FORMATION

The eight developmental stages of the "epigenesis of identity" will not be reiterated here since they have been described in some detail in the previous chapter. From the numerous quotes already taken from Erikson's writings, it may already be clear to the reader that he recognizes the above three functions in his theory of identity formation. Thus, he recognizes the importance of the history of identifications a person has made, and, furthermore, he proposes the presence of an ego process to internalize, synthesize and integrate these into a subjective identity. Identity formation, he says, "... arises from selective repudiation and mutual assimilation of childhood identifications and their absorption in a new configuration ..." (1968, p. 159).

He also recognizes the importance of social interaction in helping the person in his self-definition. He believes that personality must be studied in a social context, (hence his psycho-social theory), and that identity must arise from a synthesis of roles and images a person has in his social environment. Identity formation is a process "... by which a person judges himself with respect to how he sees others as judging him in comparison to themselves, and, he judges their way of judging him." (ibid, p. 22).

Finally, central to Erikson's theory is that there is an inevitable period of crisis in identity formation, expressed as a period of self-questioning. Although every child has a form of identity, Erikson believes that there comes a time, usually in late adolescence when a person must seek his identity - he must answer for himself the questions of where he came from, who he is, and what he will become, thus searching for a sense of sameness and continuity. Parents raise their child according to their own values but at some point the growing child (by this time usually an adolescent) has to form his own identity separate
from his parents. He has to decide on his own way of life. Erikson believes that unwillingness to work on one's own identity formation may result in a lasting sense of isolation and confusion; though he also admits that there are many adolescents who suffer no dramatic conflict. He also admits, as has already been mentioned, that there may be a sex difference in the process.

Erikson's apparently comprehensive theory of identity arose through his own experience of identity crisis, and through his clinical work. He has studied identity crises of historical persons but has made no systematic test of his theory. Yet it has become extremely popular; it has been elaborated by others and has been put to test in systematic investigations.

It has been elaborated by Marcia (1966, 1967, 1968, 1970, 1976). Marcia accepts Erikson's psycho-social theory and also assumes the developmental necessity of the presence of an identity crisis when the social constraints of adulthood begin to be felt by the adolescent. The social constraints are the commitments the adolescent has to make, such as obtaining a job or marriage. Thus Marcia views the process of identity formation in terms of two phenomena; crisis and commitment. "Crisis" refers to times during adolescence when the individual seems to be actively involved in choosing among alternative occupations and beliefs; "commitment" refers to the degree of personal investment the individual expresses in an occupation or belief. Commitments must be formed, according to both Erikson and Marcia, in occupation and ideology. Erikson explains that "In most instances, however, it is the inability to settle on an occupational identity which disturbs individual young people" (1963, p. 262), and he conceives of ideology "as a necessity for the growing ego" (1956, p. 97).

Marcia's theoretical contribution lies in his specifying separate
statuses along Erikson's identity - identity diffusion continuum in terms of both crisis and commitment. Each status characterizes a style of coping with the identity crisis of normal development. One, the status of identity achievement, is reached when a crisis period of active questioning has been experienced with the result that the individual has reached a decision and is now committed to both an occupation and an ideology. Another status, already mentioned, is the "moratorium" status which describes those people currently engaged in active questioning and decision-making with commitments vague, exploratory, tentative, or completely lacking. These people are aware of their confusion and their searching; it is a period of conscious crisis. A third status is that called "foreclosure" which is used to refer to those who seem to have experienced no crisis at all, but who nevertheless have firm, often parentally determined commitments. Finally, there is a status of people with no apparent commitments to anything and no active struggle made to evaluate or consider alternatives, "identity diffusion". He acknowledges the possibility that one may be in two statuses at once, for example, if one had reached vocational commitment but was still searching for an ideology.

Marcia has developed a technique for assessing identity status by means of a structured interview and an incomplete sentences test, and provides data on its reliability and external validity. Validity is in terms of corresponding differences between statuses of locus of control, authoritarianism, anxiety, vulnerability to self-esteem manipulation and self-esteem itself. (Marcia 1967, Marcia & Friedman 1970). Donovan (1975) has attempted to relate the statuses to different types of inter-personal styles. However almost all his subjects fell into either the foreclosure or the moratorium category and therefore conclusions could only be drawn about these two groups - the former being talkative,
compliant and covetous of the regard of peers, while the latter were rebellious. Interpersonal behaviour measures were extracted from tape-recordings of an undergraduate class of "interpersonal behaviour" students, perhaps not a random sample. Podd (1972) attempted to relate identity status to moral development. He found no clearcut relationship, although two thirds of his subjects who had reached the highest level of moral development had also achieved a mature identity; and two thirds of those in a transitional stage of moral development were in a state of identity diffusion. The work of La Voie using Marcia's technique has already been mentioned.

Marcia showed that the percentage of identity diffused college students decreases significantly during four years of BA study while there is a corresponding increase in the percentage of achievers (Marcia 1968), a finding repeated later by Waterman et al (1974) using the same technique for assessing identity status. This supports Marcia's initial hypothesis that there may be a developmental trend in identity formation, for example, from diffusion to moratorium to achievement, or from foreclosure to moratorium to achievement. However, Marcia's most recent work (1976), a follow-up of his college subjects six years later, caused him to re-think his categorisation of identity typologies in favour of a continual process of identity formation. He has recently found that contrary to his earlier theory, achieving identity in college does not necessarily predict remaining in this status after college, although not achieving identity in college implies not achieving it in the subsequent 6 or 7 years. This supports Erikson's theory that identity evolves and develops throughout the life cycle. He also found that the identity achievers who did not remain as such had become foreclosures, with no sign of earlier assessed crisis, and dismisses the possibility of initial mis-classification in favour of the development of greater closedness and
rigidity which irons out the period of earlier openness and questioning. Marcia assumed that identity achievement must occur via experience of crisis, and perhaps this is his mistake. Nowhere does he test this assumption. His latest study shows that the most stable group over the six years are those who have not experienced crisis—those that he labelled as having foreclosure and diffusion. Furthermore, the two longitudinal studies quoted earlier of transition from school to college (those of Offer et al. and Silber, Coelho and colleagues) show that well-adjusted adolescents do not experience crisis, but form commitments through discussion and with the agreement of their parents. Those who were not well-adjusted at school were likely to experience problems later on. The situations in which crisis is more common have already been discussed. It seems fair then to conclude that both Erikson's and Marcia's theory is inaccurate in making the assumption that crisis reflects "normal" development and is necessary for identity achievement. Marcia now suggests that instead of identity status development, one should study identity formation in terms of rigid—flexible and closed—open life-styles; but this does not get away from the fact that, except for the moratorium status which is a process category, the focus is on the outcome of identity formation, and does not involve studying the process itself.

One more finding of Marcia's should be mentioned before going on to the work of others. His latest study also assesses the relationship that Erikson postulates between identity achievement and the quality of intimate relationships in adulthood. Marcia could support this theory only to the extent that identity remained stable, showing that significantly more identity achievers had formed intimate relationships compared to foreclosure and diffused subjects who tended to form stereotyped relationships or to be isolate. However, his results only awake scepticism
and demand further investigation since he had only a handful of subjects. Also, it must not be forgotten that Marcia's subjects were men only and that Erikson warns that the relationships between identity and intimacy may be more complicated in women. Although the interview covers various areas of possible crisis and commitment (occupation, religion, politics, and in a recent study by Nevid et al, 1974, also sex) the findings are lumped together in a verdict of overall crisis and commitment from which the identity status is concluded. Matteson (1977) provides evidence that one particular content area may be stable while another is undergoing crisis, and therefore it is a false assumption to group them into a single event.

Another elaboration of Erikson's theory is to be found in the work of Hauser (1972, 1973, 1976), who concentrated on basic aspects of Erikson's theory that are completely ignored by Marcia. This time the focus is on Erikson's belief that identity formation is a process of consolidation and synthesis of self images (including identifications and social images), to maintain continuity of one's sense of self over time. Hauser defines identity formation as designating "... specific processes of an individual's self images, namely (1) their structural integration and (2) their temporal stability. Changes in either or both of these processes are indicative of specific types of identity formation." (1976, p. 166). Hauser proposes that "structural integration" is the translation of the observation of synthesis and consolidation into a measurable function. It is "the network of an individual's self-images at any moment". Operationally, this is measured as the average of all of an individual's self-image correlations at a particular testing. Hauser interprets the other basic aspect of identity formation, "temporal stability" as "constancy of self-images, the degree to which present self-concepts resemble those of the past". Operationally this can be
measured by correlating self image descriptions before and after a time interval. The average before and after correlation of all self-images is understood to reflect "temporal stability".

Hauser labels the "specific types" of identity formation in terms not dissimilar to Marcia's - "progressive adolescent identity formation", "identity diffusion", "identity foreclosure", "negative identity", and "psychosocial moratorium". The first, progressive identity formation, is understood to be the prototype of normal adolescent development:

"In Erikson's formulation during preadolescent periods gradual increases in the synthesis of identifications as well as in personal and social continuity are occurring. What is different about adolescence is that these processes are no longer in the background experience of the individual. He is now more intensely aware of and dealing with the synthesis and continuity of his self-images" (1976, p. 167).

Operationally this is observed when both the structural integration and temporal stability processes are increasing in magnitude. Identity diffusion refers to that state where there is a failure to achieve adequate synthesis and continuity of self-images, and therefore both processes are observed to decline in magnitude over time, or appear to be persistently low in magnitude. In a similar manner, Hauser provides operational definitions for the other types of identity formation.

Hauser, like Marcia, has put his theory to test by using a different technique and a different sample. He used a Q-sort method to study various self-images of a small number of black and white lower socio-economic class high school boys who were not planning to go on to college. The boys were tested and interviewed from start to finish of high school. He found that the black boys were characterized by unchanging configurations of self-images; both content and interrelations of self-definitions remained the same over the years, showing no change in temporal stability or structural integration, which is consistent with the definition of identity foreclosure and (from examination of content) negative identity.
In contrast, the whites showed a progressive integration of different self-images and stabilization of content. Reasons for this racial difference in identity formation are offered, in terms of the adolescents' perceptions of their environment, being less favourable and less positive in the case of black adolescents. Another similar study to assess structural integration was done using psychiatric and non-psychiatric control adolescents. This time the design was cross-sectional, not longitudinal, with a group of subjects in early or middle adolescence (under 17 years old), and another group in late adolescence (over 17 years). He found as expected, significantly less structural integration of self-images in the psychiatric population, and further, he found no effect of age or sex in psychiatric or control subjects. However is it a fair assumption that the finding of structural integration in non-psychiatric and non-minority group adolescents represents synthesis? Hauser has assessed congruence, not synthesis. It is Hauser that is doing the synthesizing of reported self-images, and not a case of his observing the person's synthesizing. Furthermore, structural integration is assessed from a measure of congruence of self-images which include social images, but do not include identifications. In their theory both Hauser and Erikson believe in the necessity of synthesis of prior identifications in identity formation, and Hauser partly explains black identity foreclosure in terms of identifications and role models.

Weinreich (1975) fills this gap, left by both Hauser and Marcia. He chose to study the case of the adolescent who finds himself in a dissonant context—a case, it has been suggested, where an identity problem may be expected. In contrast to Hauser and Marcia, he attempts to assess with whom his subject identifies, the interrelationship of identifications, and the conflicts that may exist between identifications and accompanying values. Instead of a lack of structural integration,
or lack of self-questioning and commitments, identity diffusion is understood in terms of identifications. It is regarded as "... a function of the extent to which the individual's identifications with others straddle values associated both with people he would mostly wish to emulate and those he would more likely wish to reject". Identity diffusion is further defined as: "... a dispersion of conflicts associated with his current identifications with others". Operationalized, identity diffusion is the product of current identifications and contra-identifications. Contra-identification occurs when the person perceives in the other certain attributes which contrast with those he would wish to emulate. Weinreich studied a population of school-leavers, girls and boys, some from immigrant families and others from English families. His hypothesis was that immigrant adolescents experience more disjunctions between values of home and those of the broader community (a dissonant context) and therefore will show greater identity diffusion than the non-immigrant adolescents. The hypothesis was supported by the female immigrants. In contrast, though, immigrant males showed little identity diffusion and high self-esteem. This high self-esteem was interpreted as "defensive" since subjects denied differences between people, especially in terms of colour and ethnicity and generally attempted to play safe and avoid any conflicts. He concludes that high identity diffusion or very low (i.e. "defensive" self-esteem) both can indicate problems, since some degree of identity diffusion is normal. However, he seems a bit too keen to rationalize his hypothesis. Surely defensive self-esteem is an adaptive coping mechanism which eradicates a problem and may be the sign of a well-adjusted personality and therefore low identity diffusion need not be considered a problem. Furthermore, Weinreich comments that "... the most pervasive feature is a lack of self-assessment and as unwillingness to describe himself or acknowledge
how others might see himself . . .", implying that identity diffusion was really not a problem for any of the adolescents; it was a problem, though, for Weinreich.

One of the earliest studies of Erikson's theory of the epigenesis of identity was carried out by Howard (1960), who investigated identity conflicts in adolescent girls (aged 14 - 17 years). She tested Erikson's theory that resolution of adolescent identity crisis is dependent on a number of conflicts which arise from earlier stages. For example, it has already been explained that the first stage in infancy presents a crisis of trust vs mistrust. The symptom of this crisis is observable in adolescence in the formation of time perspective or time distortion. Likewise each stage has a symptom observable in the identity crisis, and this is what Howard was interested in. An eight-page questionnaire was used, testing the whole range of problems associated with identity and relationships. Approximately 20% of the subjects showed conflict in each area associated with earlier stages (time distortion, identity consciousness, work paralysis, sexual identity, diffusion of ideals). Furthermore, if conflict was experienced in one area, it was likely to be experienced in all areas, except in the case of sexual identity. In this case, conflict was uncorrelated with other conflicts, and more subjects expressed this conflict than any other (58% of the sample). This finding could be considered to lend support to La Voie's notion of the importance of the formation of sexual identity in middle adolescence. However, Howard's study is hardly a rigorous investigation - she draws conclusions about the presence of a generalized phenomenon of identity diffusion with conflict in all areas, but she does not show this in her results, and gives virtually no numerical data. Also, she does not separate out the 14 year olds from the 17 year olds, although she should surely have looked to see if there is a developmental difference or if there is an age effect
in the 20% experiencing generalized conflict, or the 58% experiencing conflict over sexual identity. All in all, Howard's study has been used as support for Erikson's theory of epigenesis of identity, but the actual results provide too little meat for the conclusions drawn.

Another study of the same topic was done by Rasmussen (1964) using navy recruits. The identity scale again assessed conflict areas expected from each stage, up to stage six (intimacy vs isolation). He found a significant correlation between resolution of intimacy and crisis (stage six) thus supporting Erikson's theory. Rasmussen separated out from the rest of the group those subjects who had resolved their crises favourably and had therefore achieved identity. This chosen group were some two years older (mean age 19.5 years) than the others, were better educated, more intelligent and better adjusted. The relationship between intelligence and identity needs explaining. Perhaps these subjects understood the questions better and were able to portray themselves more favourably. However, socioeconomic variables were not controlled for, perhaps these subjects came from a more middle class and sheltered background. Rasmussen further found that, contrary to theory, time perspective for these subjects only was not related to the resolution of crises in subsequent stages; a finding he again does not explain. It implies, however, that identity formation is not a function of the experiences throughout childhood and adolescence, and later, adulthood. Yet, on taking a closer look, Rasmussen assessed time perspective by asking a question about delayed gratification of a desired object - he did not question feelings of continuity or commitment, aspects of time perspective that Erikson mentions, and that are known to be more related to the outcome of identity. Thus, Rasmussen's study does not contribute very much to our understanding of identity.
From the theories and observations quoted in this section, it may be concluded that (a) identifications are important sources of self perceptions which need to be integrated in the process of identity formation; (b) one learns about oneself from observing how others react to oneself and how others perceive one, and therefore social interaction may be considered to play a basic role in identity formation; and (c) existential questioning and crisis is not a necessary step in identity formation, although it has been a popular theory.

2.3 THE DEVELOPMENT OF IDENTITY IN ADOLESCENCE

It will be clear to the reader, by now, that Erikson is chiefly responsible for identity being considered a central issue in adolescence. It is generally agreed that the process of identity formation is a continuing life process, like the socialization process referred to earlier, and is not specific to adolescence. Yet, Erikson's notion that adolescence is the stage when identity becomes the focus of a developmental crisis receives little empirical support. Whether or not there is a crisis, adolescence (as defined in the previous chapter) is undoubtedly a period where identifications change, where social status and roles change, and is therefore the period when one would expect most dynamism in the process of identity formation.

2.3.1 DEPENDENT VARIABLES OF IDENTITY DEVELOPMENT

"Identity formation" is the process by which identification and other self perceptions arising from social interactions are organized and integrated to be temporarily crystallized at any time into identity.
For the purposes of this study, "identity" is used to refer to self-identity. It is an integrated self perception which must involve both a sense of sameness about one's self, and a sense of continuity of oneself in time. When a person's self perceptions at a particular given moment do not reflect such a sense of sameness and continuity, one may refer to that person's identity, at that particular time, as being in a state of identity diffusion. Identity is forever being revised by the usually unconscious process of identity formation, and it (identity) evolves with changes in a person's circumstances and experiences. It is temporarily crystallized in conscious awareness at a particular time and place when it is required, forming again in a new altered crystallization at another time and place when it is again required. Therefore, the dependent variables of identity development are

1. the person's identifications,
2. the person's self perceptions in real or imagined social interactions,
3. the feeling of self-sameness,
4. the feeling of self-continuity, and
5. the state of diffusion between self perceptions.

The first four of these variables may not necessarily be interdependent, but the last is a direct function of (3) and (4) and may also be dependent on the first two. The relationships are investigated in the study.

"Identity development" refers to the pattern of qualitative changes in successive crystallizations of identity which occur as a result of the continual synthesizing process. A developmental trend of changes in the focus of self perceptions which are integrated into identity have been suggested by La Voie (1976). This proceeds from a focus on physical identity around the time of puberty when the youth notices physical changes in himself; then a focus on sexual identity when he becomes aware of his sexuality; followed by a focus on vocational identity when he feels
that career choice is required; and finally ideological identity when
the young adult becomes interested in moral issues and ideology. Thus
issue is taken with the Eriksonian view of identity as an independent
variable in adolescent personality development subject to its own
independent crisis, with characteristics of the mature adult personality
considered to be directly dependent on adolescent identity development.
Instead it is suggested that adolescent identity development is dependent
on real objective physical changes (which, of course, are subjectively
experienced) - in early adolescence, bodily changes, followed in middle
adolescence, by role changes, and followed in late adolescence, for a
small minority, by cognitive changes (in the development of morality).

2.3.2 INDEPENDENT VARIABLES: IN THE DEVELOPMENT OF IDENTITY IN ADOLESCENCE

Concentrating on middle adolescence, the transition from school to
a new role in society, one of the principal adolescent role changes discussed
in the previous chapter, must have an appreciable effect on the development
of identity. Changes in the social environment, causing changes in
identifications must necessarily set the identity formation process in
motion, making the adolescent consciously or unconsciously revise his
self definition. The first two hypotheses of this study will deal with
the expected effect of transition from school on self definition and
identification. First, adolescents are expected to make qualitative changes
in their definition of themselves when in social transition caused by
leaving school, and, second, adolescents are expected to form new
identifications when in social transition caused by leaving school. The
third hypothesis will concern the assumption that changes in self
definition and/or identification affect the diffusion of self perceptions.
It was proposed at the end of the previous chapter that these changes are
expected to cause some lack of congruence between self perceptions, but
as the process of adjustment to the new environment proceeds, so the self perceptions are expected to be integrated to return to a feeling of self sameness and continuity over time.

La Voie suggests that the development of identity at this stage is dependent on vocational choice. Indeed, vocational choice will provide a role label for a new form of identity, e.g. 'schoolboy' changes to 'farmer' or 'mechanic', and therefore, as already predicted, self definitions and identifications are liable to change. Vocational choice may determine the qualitative nature of a new identity crystallization. However, it has been proposed in the previous chapter that it is the maturation of the cognitive ability to think ahead, and the required motivational factor of vocational commitment that are the independent (and probably interdependent) variables of the identity formation process which has been thrown into renewed dynamism by the social transition from school. The integration of revised self definitions and identifications to achieve a feeling of self sameness and continuity over time is expected to be a function of the ability to think ahead and to make vocational commitments. This approach is different to the Eriksonian view of adolescent temporal perspective being a part-symptom of the identity crisis which empirical studies have shown is not typical of the average adolescent. The fourth hypothesis will test the proposition that an adolescent who is unable to make a vocational commitment for after leaving school will have difficulty in perceiving a sense of self continuity between present and future. Thus the adolescents without commitments would also be expected to show greater diffusion between self perceptions. Adolescents who have made vocational commitments before leaving school should have less difficulty in perceiving a sense of self continuity between present and future.

The fifth hypothesis of this study will consider temporal orientation
to be an independent variable in the development of identity, so that adolescents with future temporal orientation are expected to experience a greater feeling of self continuity over time than those with present or past temporal orientation. The probable interrelationship of thinking ahead and vocational commitment will also be investigated.

Although it has been argued above that crisis and turmoil are not characteristic of normal adolescent development, they usually occur where there have been earlier problems. Leaving aside the psychoanalytic approach that disturbed early years lead to later personality problems, there is clinical evidence that marital problems and parental discord disrupting the home of small children is very likely to lead to those children displaying personality problems. In such cases an identity problem, i.e. poor integration of self perceptions, may be expected. Thus those adolescents who had experienced disturbed early years due to familial disruptions in the home are expected to show greater identity diffusion than other adolescents who had not (the sixth hypothesis).

Finally, to return to the role changes of middle adolescence, the transition from school to college student or to work is presumed to be a similar process for both boys and girls, both of whose ultimate aim is a wage packet whether from a professional job or not. Girls are brought up nowadays with a stress on being financially independent and not, as some years ago, to quietly get married and be dependent on a husband. At the age of sixteen both sexes are looking for a role in society that is career-related, and both are looking for a relationship with a partner. The sex differences discussed in the previous chapter may be expected in later adolescence but not in the period of this study. The seventh hypothesis will assume that no sex differences will be found in the formation of vocational commitments and in the development of identity at the stage of adolescence being studied.
Thus the independent variables in the development of identity of 15-16 year old adolescents are the transition from school to a new role in society, the formation of vocational commitment, the maturation of future temporal perspective and the early experience of environmental disruptions. The sex of the adolescent is also potentially an independent variable. Obviously there may be others, notably personality and motivational variables, but the present study is limited to the above important ones which arise from the theories of adolescence and identity. As a function of these independent variables, adolescents are expected to alter and re-form their identity in adjusting to the social changes they inevitably face.
3. ASSESSMENT OF IDENTITY

Most of the experimental studies of identity have already been mentioned. They can be divided into three categories as follows:

(1) Studies measuring integration or diffusion of identity. These include Marcia's assessments of identity statuses, Hauser & Shapiro's work on structural integration, Weinreich's work with immigrant children on identity diffusion and the Norris' work, in a clinical setting, on the self-identity system.

(2) Studies investigating the basic characteristics of consistency or continuity of self perceptions. These include studies of the stability of self concept over time, such as those by Coleman, Engel, and Monge. They also include studies of the effect of other peoples' perceptions on one's own self perception, such as those by Rosenberg, Sherwood and Tomé.

(3) Studies correlating internal and/or external variables with a measure of identity. These include correlations between characteristics of identity specified by Erikson in his epigenetic theory (time perspective, self certainty, etc.), such as in the work of Constantinople and Howard. Many studies have been made of the relationship of internal variables such as anxiety and self-esteem with identity. These again include the work of Marcia, Weinreich, Hauser & Shapiro, and Coleman. There are also studies relating identity to different aspects of sociability - maladjustment, psychosocial effectiveness, interpersonal style, sex-role identification. These include the work of Block, Rasmussen, Donovan, and LaVoie.

A variety of different methodologies are used in each category, ranging from relatively unstructured to structured techniques. First, the methodologies will be discussed and evaluated in terms of validity, reliability and operational definitions. Finally dependent and independent variables in the design of the investigations will be compared.
3.1 METHODOLOGIES

The relatively unstructured techniques include psychiatric interviews which are taped and judged for clinical impressions of identity. They also include projective techniques such as free association to pictures, and sentence completion tests, where responses are judged according to categories chosen by the experimenter. Marcia's Ego Identity Status Scale, which has been used in so many identity studies, (in all those of Marcia, the Watermans, LaVoie, Matteson and Donovan) uses both of these methods. Bronson (1969) uses a different psychiatric interview to assess identity diffusion in a college population in order to test aspects of Erikson's theory. Coleman used projective techniques, both free association to pictures, and sentence completion tests.

The more structured techniques include:

a) questionnaires, providing an overall score of identity or identity conflict. This method is used by Constantinople, Howard, Rasmussen, and Gruen, each having devised their own identity scale.

b) Q-sorts, where subjects sorted statements to provide a description of themselves. This is the technique used by Hauser in his studies of identity formation. Another psychologist to use this technique is Engel (1959) who was interested in the stability of the self concept in middle adolescence.

c) semantic differential, where subjects rate themselves on pairs of polar adjectives, and then the ratings are factor analysed. This technique was used by Offer & Offer to assess identity (the Identity Scale by Hess, Henry, & Sims, 1968, designed to be used with actors). Another study of the stability of self concept in high school adolescents, by Monge (1973) also used this technique.

d) grid technique, where subjects rate themselves on pairs of polar adjectives of their own choice, and then the ratings are subjected to
various statistical analyses. Although similar to the semantic differential, this method is based on different theoretical assumptions and has wider possibilities of interpretation of data. This method has been used by Weinreich, and by Makhlouf-Norris & Norris.

The contribution of each individual study has usually been commented upon at the point in the preceding text where it has been described. In order to evaluate the methodologies, one has to evaluate the validity and reliability of what is being assessed.

3.2 VALIDITY

Validity is a concept that has arisen from the concern of psychologists that a test is really measuring what it is purporting to be measuring. The "internal validity" of a particular test is the extent that the resulting assessment is in fact an assessment of what it is believed was being assessed: the content of the test must provide relevant material, (hence also "content" validity). Thus, in each of these methodologies, are the questions asked of the subject relevant to an assessment of identity, and is it really identity that is being assessed? In the case of the questionnaire studies of identity, each investigator asked different questions, but claimed it was identity that was being assessed. Since the questions were chosen from Erikson's theory in each case, there may in fact be a certain similarity of content, but to be sure, however, the same subjects would have to be administered the different tests, and then it would remain to be seen if they (the subjects) distributed themselves along the identity achiever-diffusion continuum in an identical fashion on each test. Where other methodologies have been used, the internal validity of the measure of identity depends on the extent to which elements of the assessment (interview questions, or adjectives to be rated) are relevant to the issue being assessed and meaningful to the subject.
A method (such as Hauser's Q-sort, and the various grid techniques used) where subjects provide their own material to be rated should ensure that the material is indeed meaningful to them. The interpretation, instead of being made by the subjects, depends on the investigator and the analysis he chooses. How can he be sure that what he is assessing is relevant to identity? Obviously the first step in answering this question is to have quite clear and tight operational definitions derived from the theory, of what identity is and therefore what one is setting out to measure. The validity of the assessment technique depends on how effectively identity is operationally defined and whether it can provide means of testing hypotheses derived from the theory. In view of the importance of this topic, it will be dealt with separately under its own heading in section 4 below. To recall, however, the basic characteristic of identity is the subject's own perception of his own continuity of self over time and therefore a cross-sectional study of the content of self perceptions of different age-groups (e.g. Coleman 1974, Monge 1973) has little validity as a study of identity. It was also noted earlier that in the studies of the effect of others' perceptions of one's self perceptions, most of the studies are assessing the same concept although one investigator calls it "self concept" and another calls it "identity".

Another source of validity lies in the extent a test correlates with other components of the same construct being measured, ("concurrent" validity). It has been mentioned that there have been many correlational studies relating to identity, but they frequently confuse what is a characteristic of identity and what is a variable dependent on the outcome of the identity formation process. For example, lack of time perspective, and bisexual confusion may be considered to be characteristics of identity diffusion whereas work paralysis may be a dependent effect arising from the state of identity diffusion. This confusion is evident in the
questionnaire methods, and in Bronson's structured interview study, where the components of identity are intercorrelated and summated to provide an overall measure of identity diffusion.

Yet another aspect of the validity of an assessment is whether it can predict a future outcome, (hence "predictive" validity). The only test of predictive validity of an assessment of identity has been done by Waterman & Waterman (1972), who show a relationship to exist between three out of four identity statuses of college freshmen and subsequent academic achievement - the error in prediction being about 20%. Yet, it will be remembered that Marcia's latest work (1976) showed that the status of identity achievement did not have the stability that was predicted, and except for the identity diffusion category, achieving a given status in college did not predict one's status six years later.

Kelly uses the term validity to refer to the usefulness of a test or measure. Fransella & Bannister (1977) have described how various grid methods have in fact proved useful in a variety of settings. Usefulness has been shown by the fact that the method has led to successful treatment in numerous clinical settings, (e.g. Fransella 1972, Ryle & Lipshitz 1975).

3.3 RELIABILITY

The word 'reliability' implies consistency. A thermometer is reliable if it will always measure the boiling point of pure water to be 100°C. But it may not be reliable if it always measures body temperature to be 37.2°C since body temperature naturally fluctuates. Body temperature cannot therefore be used to test the reliability of the
thermometer, since consistency is not expected. A thermometer that always measured body temperature to be 37.2°C would be of little use to medicine. This simple example shows that if change is expected in what one is trying to measure, then consistency of the measure does not imply reliability of the measuring instrument (the test). Thus Kelly defines reliability as "that characteristic of a test that makes it insensitive to change". Since any follow-up study in developmental psychology is interested in change, one does not want to use an assessment tool that would be insensitive to change. When change is observed, one has to try to determine what it signifies. If one is interested in change, one is not interested in the consistencies between measures, but in the inconsistencies.

3.3.1 ERROR

There remains the possibility, however, that the inconsistencies, or changes, observed are due to error, from variables not accounted for. The mathematical psychologists, therefore, define reliability in terms of the proportion of 'true' variance and 'error' variance in obtained test scores (Cronbach 1951). Reliability has been defined traditionally as the extent to which a test measures what it purports to measure. High reliability means minimal error. Methods of quantifying reliability arose out of the need for consistency in questionnaire testing, where change was not expected; for example, in intelligence testing. Therefore, if the test is reliable, one assumes that error is random, so that error scores on two occasions are uncorrelated, average error in large samples of test scores is zero, and error scores and true scores are uncorrelated. Thus, approximations to reliability are achieved through measures of consistency and not directly of error. The most commonly used measures are:
a) 'retest reliability' ($r_{tt}$) - the correlation between a test given on two occasions sufficiently close together not to be affected by change in the individual,
b) by parallel forms - the correlation between two versions of the same test, and
c) by some mathematical coefficient of internal consistency, or homogeneity, such as Cronbach's alpha (Cronbach 1951), but applicable only to questionnaire tests.

These measures assume that where consistency is not found, error is causing the variance, and several sources of error may be guessed at. Even if one is not interested in consistency of responses, one has to be aware of the possibility of errors in one's assessments.

Sources of error are frequent. They exist

1) in the subject. For example systematic error may be the result of a 'response style' - the subject may have a particular way of responding that may distort results. This is a problem particularly in questionnaire tests when the subject may simply be guessing the answer. In projective tests and grid methodology it may mean that only a sample of his mental functioning is tapped.

2) in the subject population - different individuals have varying degrees of consistency in their manner of responding. For example, clinically different populations may respond differently. Retest reliability calculated from comparison of grids given to populations of normal, psychiatric and thought disordered populations (test - immediate retest) differentiated the first two populations ($r = 0.6 \pm 0.8$) from the third ($r = 0.2$), (Bannister & Fransella 1966). Similarly an assessment technique standardized on men may not be reliable for assessing women, and therefore may not differentiate between the two sexes, when differences do in fact exist, (Constantinople 1969, Matteson 1977).
3) in the experimenter, or tester.
   a) He may be inconsistent in his issuing of instructions, questions, or in his use of verbal or nonverbal cues to different subjects or on different occasions. This is a problem in any testing situation, except when instructions are written down and there is no contact with the tester.
   b) He may be inconsistent in his recording and treatment of behavioural events, and in his interpretation of his records. This problem is again minimal when the test is a highly standardized questionnaire which provides scores which have been externally validated. It is maximal where an unstructured interview is being used for assessment. The following example demonstrates this problem. In psychiatric interviews done by Marcia (1966) three judges, using a scoring manual, reached 75 per cent agreement, which was considered satisfactory. But the Watermans, using the same method and scoring manual, achieved on one occasion (1974) only 63 per cent agreement between their judges and about 15 per cent of the interviews were rejected as "unsorable" due to lack of sufficient inter-judge agreement. Monge, however, being aware that analysis of scores provides a source of error, did three different factor analyses on his semantic differential data and only drew conclusions from the agreements between analyses.
   c) a different tester may produce different test scores.

4) in the interaction of subject and tester. For example, the subject may develop a 'response set', i.e. according to the knowledge he has of what the assessment is about, or his anticipation of the tester's motives and objectives, he may set about giving responses that he thinks will present himself in a particular was - he may become more or less cooperative, or may give responses which he thinks are most socially desirable. Thus the MPI (questionnaire) has been shown as much to provide scores of sociability and impulsiveness (unintentionally) as
much as scores of extroversion and neuroticism (which it intended).
This is a problem not only in questionnaire tests, Q sorts and semantic
differentials, but also in projective and interview assessments. In
grid methodology it may result in incomplete sampling of elements and
constructs and therefore contribute to providing a narrow or skewed
picture of the subject.

Bannister (1965) attempted to estimate the stability of aspects of
construing by varying the validation of subject's construing. Subjects
were asked to rank order photos on personality constructs for 20 trials.
One group of subjects were told that their judgments were accurate and
another group were told that their judgments were inaccurate. The first
group had a grand mean reliability coefficient (from a total of 19
comparisons for each of the subjects) of 0.74 whereas the second group
had a grand mean coefficient of 0.56. This shows the effect of the
subject - tester interaction on the stability of constructs. Also,
Fransella & Bannister (1977) use this to show that reliability is a
function of psychological processes of individuals (and not a characteristic
of a test), since it varies with the subjects's conviction that they are
doing well or badly in the task they are undertaking.

These are important sources of error in any methodology, and therefore
it is recommended that other information-gathering techniques are also
used. In this sense reliability becomes an aspect of validity.

Thus Fransella & Bannister conclude;

"... it seems sensible, therefore, to regard 'reliability'
as the name for an area of inquiry into the way in which people
maintain or alter their construing and to estimate the value
of the grid not in terms of whether it has "high" or "low"
reliability but whether or not it is an instrument which
enables us effectively to inquire into precisely this problem"
(1977, p.91).
3.3.2 CHANGE

Instead of providing measures of reliability, therefore, one may examine predictable stability and predictable change and try to understand what is signified by these observations.

In a developmental study of identity one expects change, and a methodology that is sensitive to change must be used. Questionnaire techniques may be reliable for providing measures where stability is predicted, assuming the error factor is shown to be minimal. Yet once there are alterations in the experimental set-up so that changes in the measures are predicted, then there may be new unaccounted sources of error, invalidating the assumption that the technique is reliable. Furthermore, questionnaire techniques may give only gross measures of change, unless individual items are analysed. In the latter case, there must be some knowledge about the homogeneity of items, or error may arise from the fact that the response to one item is often guessed, or always tends to the affirmative due to the wording of the question. Questionnaire techniques are therefore not highly suitable for assessing predictable change. The unstructured techniques, as has just been mentioned, are particularly sensitive to errors due to inconsistencies on the part of the interviewer, and due to possibly incorrect interpretations of the situation by either subject, or interviewer, or both. The psychiatric interview, sentence completion and free association methods (all unstructured techniques) are all subject to errors of the interviewer's intuition at interpretation and scoring, as well as being susceptible to response sets. Q-sorts, semantic differentials, and grids are also vulnerable to these sources of error, but the grid technique has a few distinct advantages over all the other methods for the assessment of change.

The grid method is sensitive to change. It taps a person's construing of aspects of his social environment at a particular point in time (the
time of the test); at another point in time change would be expected as a function of an endless variety of thoughts, perceptions, and experiences that had occurred in between. It is similar to body temperature - it fluctuates from hour to hour and day to day due to an immeasurable number of factors. The fluctuations probably do not exceed 0.1°C and therefore one would need a thermometer sensitive to such small changes.

Although it is subject to the errors described above, like other methods, the grid method is more sensitive to change for two reasons. First, it makes use of the subject's own constructs and not those of the experimenter which are very likely to be different. Therefore changes in his own terms can be tapped. Any questionnaire technique uses the tester's constructs, or the tester's interpretation of what he thinks the subject's constructs are. Any projective or unstructured method requires the tester imposing his own constructs on the subject's responses in order to make comparisons between one text and the next, or one subject and another. Isaacson & Landfield (1965) analysed self-ratings for meaningfulness of personal versus common constructs (Q-sort statements) and their results showed the greater meaningfulness of one's own personal language - the common constructs were found to be less relevant.

Secondly, it shows which constructs are stable and which are transitory. Some constructs may be important at one particular moment in the face of a particular stimulus, which, when the stimulus disappears, may also disappear and thus no longer be important. For example the construct "hardworking - lazy" may be an important construct in the months preceding a vital exam, but as soon as the exam is over, it may be completely irrelevant. Thus items chosen for a questionnaire, Q-sort, or semantic differential may have been relevant at the time of choosing but when the test is administered or re-administered they may no longer be relevant.

To measure change by the inverse of a measure of consistency is to
assume that error, which cannot be quantified, is nonexistent. But why not measure change directly? Many different measures of change may be extracted from grids - the test-retest correlation coefficient depends on what measure is being used. The coefficient may be anything from -1.0 to +1.0. The most common test-retest coefficient ($r_{tt}$) used is that provided by the DELTA programme for comparing the matrices of two or more grids with identical elements and identical constructs. This is the general correlation coefficient calculated from the mean covariances. For intervals of less than a week, Bannister & Mair (1968) have obtained general correlation coefficients of between 0.6 and 0.8. This is an overall measure of consistency, but it may be more interesting to look at specific correlations, for example, the stability of constructs over time, or of elements over time, or the pattern of construct relationships, etc. (Fransella & Bannister list a sample of eight different measures that could be extracted from test-retest grids.) A test of stability of constructs is done by doing a test-retest of a grid using the same elements and observing whether the same constructs are elicited. In this way Hunt (1951) found 70% of the constructs were reproduced and Fjeld & Landfield (1961) found a correlation of 0.80 between first and second sets of elicited constructs.

The only longitudinal study (the others are cross-sectional) of stability of self concept in adolescence is Engel's, who, using Q-sorts, obtained a ten day $r_{tt}$ of 0.68 and a mean item by item correlation after two years of 0.53 which was interpreted as "relative stability" of the self concept. The assumption is, of course, that the variance in the first correlation was only due to error, and not at all to change. But it is impossible to know how much the decrease in correlation after two years is due to error or to change. Constantinople (1969) calculated $r_{tt}$'s from a six week interval for groups of items from a questionnaire
representing each Eriksonian stage. The $r_{tt}$ for items measuring identity diffusion was found to be only 0.45, due to error - or were there environmental and/or psychological changes during that interval that would account for such a low figure? Obviously the length and content of the time interval involved in $r_{tt}$'s must be taken into account. Some studies give the retest immediately after the test (e.g. Bannister & Fransella 1966) and others give the retest after a week, a month and several months. If the time interval is very short, consistency may be achieved largely through memory, particularly if there are only a few elements; if the time interval is long, lack of consistency may be due to all sorts of experiences in between.

The second coefficient of reliability mentioned was that obtained from parallel forms of test. This cancels the effect of specific tester. However, the question remains of how one can know that parallel tests really are parallel. Parallel tests of grids have been done by using new sets of elements for subsequent grids and observing if the same constructs are elicited from these. Bannister has obtained reliability coefficients of 0.70 and 0.76 in this way. (Fransella and Bannister 1977).

The third coefficient of reliability mentioned, the mathematical coefficient of homogeneity, is inappropriate to grid methodology since it is calculated on the basis of the sum of the variances of individual parts of a test, and tests the assumption of homogeneity of these parts. In grids, one expects heterogeneity, with different variances for different parts and heterogeneity is therefore not assumed to be a source of error or change. Another mathematical coefficient is the Spearman & Brown split-half reliability, where the test is divided into two random halves, and the halves are intercorrelated. This could easily be done on a grid, but one would not expect much correlation at all. The INGRID 72 analysis of grids provides the correlations between constructs and will therefore
show how heterogeneous the constructs in fact are. Rasmussen assessed this type of reliability for the questionnaire of identity that he developed, and obtained (acceptable) correlation coefficients of the order of 0.85.

Reliability can also be discussed in terms of theoretical definitions, in terms of operational procedures derived from these, and the relationships between these procedures. When one is measuring temperature using a thermometer, everyone knows what temperature is (it can be scientifically defined) and one can be sure that the measure in degrees is in fact a measure of temperature and not anything else. However if one is measuring (or assessing) identity, or self concept, the definition of such a psychological concept has to be clearly spelt out, or everyone would attach differing meanings which is what indeed has happened. Furthermore one has to try to convince oneself and others that the measure obtained is in fact identity, as defined, or self concept. However, this is the sense in which reliability becomes an aspect of validity, and it has been discussed above.
3.4 OPERATIONAL DEFINITIONS

Operational definitions of identity are in fact relatively rare. A large number of studies use clinical symptoms, described by Erikson to be characteristic of identity diffusion, as sufficient definition. In these cases the investigator alone or a team of judges agreed that the overall picture of clinical symptoms conveyed by an interview or questionnaire portrayed presence or absence of identity diffusion. This clinical symptom approach is that taken in the studies of Bronson, Constantinople, Howard, and Rasmussen. Bronson is interested in dependent variables such as anxiety and self-uncertainty, whereas the others stick more closely to those variables itemized in Erikson's epigenetic stages. The validity of these measures of identity therefore depends on the validity (which is taken for granted) of Erikson's theory of identity, which, in turn, is based on clinical experience and intuition, and has not arisen from scientific study. This approach is also that taken in the studies of Marcia, Donovan, LaVoie, and the Watermans', although these depended on Marcia's definition of the clinical symptoms of identity statuses, in terms of commitment and crisis, rather than Erikson's definition of clinical symptoms. The clinical symptom approach involves defining identity in terms of a conglomeration of dependent variables, which in themselves are complex psychological phenomena in need of operational definitions if consistency is to be achieved between judges or investigators.

The more analytical approaches where operational definitions are present use self descriptions. In one approach (using a Q-sort technique) the definition of identity is operationalized in terms of "structural integration" and "temporal stability" of self perceptions which are names used for ordinary correlations between different self perceptions
(Hauser 1972, Hauser & Shapiro 1973); in another approach (using grid method) identity is operationalized in terms of identifications with significant others (Norris & Makhlouf-Norris 1976, Weinreich 1975).

Another group of studies assume that identity is synonymous with self image, which is assessed as a conscious self perception, e.g. Block (1961), Coleman, Herzberg & Morris (1977).

In all these studies the experimenters decide what someone's identity is - it is not the subject himself who decides. The self perceptions are assumed to be conscious, but their integration to form identity is assumed to be unconscious. (Erikson believes the integration of self perceptions to be an ego process.) Therefore, for the experimenter to reach a subject's identity he (the experimenter) must make interpretations from the self perceptions the subject provides him with. The clinical psychologist makes a subjective integration of the subject's self perceptions in making a clinical judgement of identity, whereas the analytical psychologist relies on an objective integration - mathematical manipulations of the data the subject provides. One is therefore then led to ask whether the same variable is being measured, whether the same product is reached by these two different methods of integration, and, furthermore, whether this integration done by the experimenter is equivalent to the unconscious integration of the subject. These problems apply not only to the study of identity, but also to the study of many of the complex variables recognized in human personality. A multivariate approach to identity assessment using all of the above methodologies on each subject might reveal correlations between different assessments of identity but this has not as yet been done. Any attempt to assess an unconscious process, other than through hypnotism or the use of certain drugs, requires the use of projection and interpretation which also poses problems to those concerned with validity and reliability. One can attempt to form a theory
of identity and find a mathematical coefficient \( i \) which will be useful to test the hypotheses derived from the theory. One need not preoccupy oneself with whether \( i \) is identity. It is sufficient justification to use \( i \) if \( i \) can successfully test the hypotheses of the theory. Therefore a definition, method, and measure will be considered appropriate if they are able to test hypotheses derived from a theory. This is basically Kelly's approach. The only case of this in the study of identity is to be found in the work of Weinreich (1975). Concerning himself with the specific problem of identity diffusion in immigrant adolescents, his theoretical definition of identity is that it is "... a function of the extent to which the individual's identifications with others straddle values associated both with people he would mostly wish to emulate and with those he would more likely wish to reject." (1975). These two types of identifications are referred to as "current-identifications" and "contra-identifications". Weinreich then operationalizes this to reach a definition of an identity diffusion index which is taken to be equal to the geometric mean of current- and contra-identifications discovered using a grid method. This index is then used to calculate a measure of overall current identity diffusion by summing the product of the index obtained from each identification and the weighting, which, in turn, depends on both "importance" and "remoteness" of the individual being identified with. This complex calculation (done by computer), was found by Weinreich to be useful for investigating the topic and supporting hypotheses of immigrant identity diffusion. However, he found these measures to be most useful when doing case study analyses, and not for aggregate group analyses, since he found that the relationship between measured identity diffusion and his recognition of a clinical identity "problem" was not a simple linear relationship. In view of these findings and the difference in
the area of investigation, Weinreich's measures were not considered suitable for this study.

In the theoretical discussion of identity in the previous chapter it was concluded that identity is a type of self-image - it is an integrated self perception. Since it is constantly being revised and reformed (through the ever-continuing process of identity formation) it must be defined in a developmental context; the integrated self perception is reached through social interaction and identifications with significant others. Yet there must always be an underlying feeling of sameness and continuity over time. An operational definition of identity used in this thesis, that encompasses these aspects is developed in the next chapter in terms of the perception of sameness between self perceptions at a given moment. The development of identity over time must be observed in terms of congruence between self perceptions at one given moment (self sameness), and over time (self continuity), in terms of changes in identifications with significant others, and self definition.

3.5 INDEPENDENT AND DEPENDENT VARIABLES

Regardless of theoretical perspective, there are certain obvious independent variables which must be accounted for in the design of a study of identity.

3.5.1 AGE

An "adolescent" could be any age between twelve and twenty-one, and indeed the studies cover this wide age range. Some studies use high school children as subjects (e.g. Coleman, Howard, LaVoie) whereas others
(e.g. Bronson, Constantinople, Marcia, Offer et al, Matteson, and the Watermans) use college students as subjects for assessing identity.

Indeed, a variety of age effects have been found, both in longitudinal and cross-sectional studies. Thus, Hauser interprets the white boys in his study as displaying a progressive integration of different self images and stabilization of content of these self images from the age of 15 to 18. Hauser & Shapiro found that correlations between perceptions of self and future self increased with age (from early-middle adolescence, where subjects were under 17 years, to late adolescence, where subjects were over 17) for boys, but slightly decreased with age for girls. They also found the same pattern of age x sex interaction in the correlations of perceptions of self and how peers see self. Rosenberg found that locus of self knowledge becomes more internal with age - thus at 8 years the child thinks his parents know best what he is like whereas by 18 he thinks that he himself knows best what he is like. Coleman, Herzberg & Morris (1977) found that anxiety about future identity (but not present identity) increases from 12 to 16 in working class schoolboys. Coleman also found that identification with the peer group decreases with age. Since there are bound to be individual differences in development, these findings suggest that having a homogeneously aged population is desirable, but not sufficient - subjects should also be their own controls, so that the design of the study of identity should be longitudinal rather than cross-sectional.

3.5.2 SEX

In the first chapter of this thesis the question of sex differences in adolescent identity formation was raised. Erikson's psychoanalytic viewpoint on this topic was stated with the empirical support offered by Douvan & Adelson's finding that female identity is a function of
forming intimate relations in the late teens. In contrast, Hauser & Shapiro interpreted their finding that girls delay identity achievement (compared to boys) by looking for sociocultural reasons. However, the majority of studies of adolescent identity, surprisingly, do not control for sex as an independent variable. Coleman, Herzberg & Morris, Hauser, and Offer's studies used only male populations; Howard used only females; Bronson's and Douvan & Adelson's subjects were predominantly female. In Marcia's many studies, either only men or only women were interviewed, as in the Watermans' many studies, with one recent exception (Waterman & Nevid 1977).

A few studies, however, have revealed sex differences. Douvan & Adelson, comparing 14-16 year olds, found sex differences in orientation to future, i.e. in vocational identity. Since they did not study boys over the age of 16, their conclusion about female identity in older girls are not made in comparison with older boys. Another study of school children, however, by Coleman (1974), revealed sex differences in the focal areas of conflict but no sex differences in identity. Yet, looking at late adolescence, in a study of college students (Waterman & Nevid 1977), it was found that in all areas except sex (i.e. occupation, religion, and politics) female identity follows basically the same pattern as male identity. Specifically, more females than males were found to have experienced crisis over premarital sexual ideology, which is explained by differing cultural standards for the two sexes. Erikson's psychoanalytic view of sex differences is refuted by Matteson's (1977) study of Danish 18 year olds, and a similar American study that he quotes. He argues that if Erikson's psychoanalytic interpretation (of women having a biological predisposition to inward concerns, "inner space", compared to the male predisposition to behavioural and intellectual conquest) were correct, then sex roles and values would be expected to be less important than occupational
or political areas, regardless of culture. Matteson points out that both empirical studies (Danish and American) show conclusively that the two areas of sex roles and values are central to the identity process in both girls and boys.

Thus in the few instances where sex differences in identity development have been found, sociocultural reasons can also be found, such as differing ascribing of roles, and both different subjective and objective identifications. Consider the case of a British adolescent leaving school at the age of sixteen. The suggestion was made in the previous chapter that the identity of such an adolescent is a function of vocational commitment. Thus, if he does not know what role he is preparing for himself, or what role he is going to accept, he will have difficulty in defining the social reality within which he can feel a sense of reality of himself. The observations, that led to the conclusion that girls' identity is a function of intimacy, were of girls who wanted to make the transition from the role of schoolgirl straight to the role of wife, therefore they refrained from vocational commitment and delayed socialization into a new role until they formed an intimate relationship that permitted the new role. In some societies, e.g. the middle class society of America in the sixties observed by Douvan & Adelson, this was accepted, even perhaps expected, for girls, which could account, socioculturally (as opposed to psychoanalytically), for their findings. However, now, in England, more and more girls are recognizing the need, and even wanting, to form vocational commitments first, and delay the transition to the role of wife for a few years, as boys delay the transition to the role of husband for a few years, too. (The transition may be doubled when commitment is made to go to another school for further education, after which, again, the adolescent has to decide which role to adopt.) If this explanation is plausible one would not expect to see
a sex difference in the identity development of 16 year old school leavers. The present study attempts to test such a hypothesis. Alternatively, if Erikson's theory were indeed correct, then one would expect more girls than boys to remain uncommitted about their future.

3.5.3 SOCIOECONOMIC CLASS

Studies of identity itself tend to be with relatively homogeneous populations with respect to socioeconomic class, i.e. either working class subjects or middle class subjects are used. Within these groups subjects are sometimes divided into black vs white populations, immigrant vs non-immigrant, healthy vs psychiatric populations, i.e. studies of special cases of identity formation in minority groups are compared with a majority, or referent group. Effects of socioeconomic class have been seen on the internal variables which are presumed to influence identity formation - especially self esteem (e.g. Rosenberg 1965), aspirations (e.g. Krauss 1964), locus of control (e.g. Waterman & Waterman 1976) and time perspective (e.g. Shapiro 1973).

There are undoubtedly effects due to specific variables in the environment, at a more elementary level. For example in the case of an adolescent, there is first the family environment. Besides the parents' socioeconomic status, factors such as birth order, parental harmony, parental interest, support and expectations, and the family perceptions of the adolescent: all, in some way or other, contribute to the qualitative nature of the adolescent's self perceptions and his integration of these. Second, there are variables arising out of the school environment (apart from the school's position in the wider society), both from peers and from teachers. The peers provide reference group norms and values - providing, like the family and teachers, sources for identifications. They also
provide pressures to conformity and feedback to the adolescent of how he is perceived by others. The teachers, like parents, may vary in their interest, support and expectations of the adolescent, and the latter's appraisal of the teacher's perception of him will also contribute to his self perception. The effects of these variables on different aspects of adolescent development have been documented by Conger (1973), Douvan & Gold (1966), and Dragastin & Elder (1975), but not specifically their effects on identity. Of course, the effect of peer perceptions is included in the studies of the effect of social interaction on identity.

3.5.4 INTELLECTUAL MATURITY

It has been suggested that the qualitative nature of identity depends on the level of cognitive development of the individual. Podd (1972) has attempted to show a relationship between identity status and moral development. Yet, by showing that only half the identity achievers were using the most mature level of moral reasoning and that less than a third of the students with identity diffusion were using the least mature level of moral reasoning, the relationship can only be tenuous. Tomé (1972) found that adolescents were accurate in assessing what their parents thought of them. In cognitive terms (not used by Tomé) this shows decentring, a differentiation of the point of view of others. The ability of the adolescent to see himself from the perspective of others is a characteristic of formal operations. However, the study was sociological and no developmental trends were shown between self concept and cognitive functioning. Marcia & Friedman (1970) found (and quote three other studies) no relationship between IQ and identity status. The deficiencies of Rasmussen's study (1964) of identity have already been mentioned in the previous chapter, and therefore his finding of a relationship between IQ and identity should not be taken too seriously. Indeed it would be a
dangerous conclusion to draw, likely to entail the ethical arguments that have surrounded the race and intelligence relationship suggested by Jensen and Eysenck, amongst others. The studies of Pödd and Rasmussen imply that achieving identity is a status reserved for the most intelligent or the intellectually most mature, leaving the less desirable states of identity for lesser beings. An alternative, and more acceptable hypothesis that could arise out of cognitive theory is that the qualitative nature of identity varies according to intellectual maturity along a continuum of concrete - abstract. Thus those who are less intellectually mature will have identities that focus on concrete physical characteristics of self perceptions, whereas those who have reached the highest levels of thought will have identities that focus on abstract characteristics of self perceptions. It is intellectual maturity, the ability for logical thought, reasoning, and introspection which will be a variable in adolescent identity formation, rather than IQ, since IQ is assumed to remain more or less constant throughout these years.

3.5.5 TIME PERSPECTIVE

It has already been noted that Erikson regards time perspective as a part symptom of identity - lack of time perspective being observed in individuals suffering identity confusion. Lewin, as explained in the previous chapter, prior to Erikson, recognized that time perspective becomes topical in adolescence, and proposed that the further ahead the youth is able to think into his future, the better he will be able to cope during the adolescent transition period. Piaget also recognized the adaptive function of time perspective in adolescence, believing that only at this late stage of cognitive development is thinking about the future possible.

The concept of time perspective includes both "extension".
i.e. duration of time over which an individual projects his thoughts, plans, feelings, etc. into the past or future, and, "future orientation", i.e. direction of temporal experience (if one's concern is directed more to the past, present, or future) (Shapiro 1973). The notion of time perspective stems from Freud's "reality principle" whereby a child becomes able to postpone immediate pleasure for some future gratification. Hartmann elaborates: "The reality principle . . . implies something essentially new, namely the familiar function of anticipating the future, orienting our actions according to it, and correctly relating means and ends to each other. It is essentially an ego function and surely, an adaptation process of the highest significance."

There have been several studies of age differences in time perspective, using a variety of techniques. Klineberg (1967), for example, used six different methods to extract both quantitative and qualitative data of both aspects of time perspective from children aged 10 - 12 years and adolescents of 13 - 16 years, both normal and maladjusted groups. He provided overall confirmation for his hypothesis that images of the distant future are available for projection of wish-fulfilling fantasies in childhood, but these become progressively more constrained by realistic considerations with the attainment of adolescence, although the reverse was found in the maladjusted group. Thus extension of time perspective decreased with age, but future orientation became more realistic. Stein, Sarbin & Kulik (1968) also showed that extension of future time perspective is less in delinquent adolescents than nondelinquent. Lessing (1968) and Neugarten (1969) also found greater extension of time perspective in children than adolescents. This finding has been accounted for but the fact that the latter studies use tests that are not free of a culturally determined response bias. Yet, controlling for this, Lessing (1972) still found that from the ages of 9 to 15 years the extension of
future time perspective diminishes. She suggests these results are due to two reasons. One, the fact that by 15 there is less distance from milestone events which characteristically serve as the predominant content of event-oriented future imagery, and secondly, the fact that the adolescents are more realistic in their fantasy about the future. She does not assess the future orientation aspect of time perspective - whether adolescents are more future orientated than children, which Klineberg shows. It is therefore perhaps not so much the distance ahead that can be perceived that is of importance in adolescent adjustment, but the willingness to think and plan ahead and to orient oneself towards the future. In a study of mood and personality, Wessman & Ricks (1966) found that men who are able to plan their future well in advance are happier than those who are unable to commit themselves to a future. Douvan & Adelson, to recall, found a sex difference in the extent that adolescents were reality-oriented to the occupational future - boys making more realistic plans for their future occupation. Coleman, Herzberg & Morris, also quoted previously, found increasing anxiety in adolescents over who they will be in the future.

Finally, various psychologists who accept Erikson's assumption that time perspective is a part symptom of adolescent identity, have included a few questions about time perspective in their overall questionnaire to assess identity. It has already been mentioned that Rasmussen found no correlation between the responses to the time perspective questions and the overall identity score. Howard, however, found that time distortion did correlate with identity conflict in school girls. Bronson's findings support his hypothesis that late adolescents showing identity diffusion are uncertain about the relationship between past and present notions of self.

Both the theories and the experimental findings lead to the conclusion
that in childhood thinking ahead is possible but it does not consist of realistic planning of what is to come. In adolescence the future is nearer and therefore temporal perspective extends only over a short period ahead, but future orientation becomes more realistic. Psychological problems therefore are more probable not when the person is still thinking of the future in terms of childhood fantasies, but when the adolescent can realistically appreciate that his future is unknown - when he is for one reason or another unable to plan ahead (i.e. form commitments). If identity is defined in terms of an integrated perception of past and future self perceptions (as it is here), then it must be dependent on temporal orientation. If Erikson's theory were correct (that time perspective is a part symptom of identity) then it would be expected that if an integrated identity is observed, then future orientation is too, i.e. if future orientation, then an integrated identity.

3.5.6 COMMITMENT

The importance of vocational commitment in adolescence has frequently been mentioned in the previous chapters. Marcia suggests that identity formation is dependent on commitment and crisis. Therefore it is really identity that is the dependent variable and commitment is the independent variable. Lewin has pointed out that adolescents are expected to think ahead and make commitments, which as children was not the case. Making commitments about the future, however, may be especially difficult when the future is unknown, and thus forms a potential source of worry for them. However, once a commitment is made, the adolescent is observed to be good at socializing into his new role (Roberts 1968).

In order to be able to form vocational commitments, realistic time perspective is required, being orientated to the immediate future. An
adolescent who is realistically orientated in this way and can plan ahead to make vocational commitments should have no problem in developing an integrated identity, a feeling of continuity of self over time since the future is not totally unknown. On the other hand, when the adolescent's time perspective is still in the stage of childhood fantasy with unrealistic ideas about the (distant) future then he will undoubtedly have a problem in forming vocational commitments and, in turn, an integrated identity. Since the future is perceived as distant, such adolescents may prefer to remain with temporal orientation directed to the past or the here and now. Therefore future orientation is necessary but not sufficient for a feeling of continuity. Future orientation and commitment, however, should be sufficient.

Commitment is obviously also subject to motivational variables, for example, locus of control. Internal locus of control is when one takes responsibility for one's actions, whereas external locus of control is manifested by the person blaming his external environment (others, or the situation) for his behaviour (Rotter 1966). Waterman & Waterman (1976) provide tentative evidence of the relationship between locus of control in career selection and identity status. If an adolescent expects his-school or career officer to find him a job then he is not choosing his future vocational identity, he is merely accepting a commitment that is being made for him. If he is unsatisfied he can blame others for his failure. In the opposite case the adolescent chooses his future vocational identity and takes responsibility for his choice by directing his actions towards that goal.

Commitment must surely also depend on how realistic is the person's achievement orientation and his motivation for achievement. Achievement orientation includes value orientations such as a concern with social mobility and a development of behaviour patterns which aid pursuit of
long term goals. Achievement orientation also includes educational and vocational aspirations (Krauss 1964, Rosen 1959).

3.5.7 DEPENDENT VARIABLES

Dependent variables that have been popular in studies of identity are:

a) Other parts of the self process, e.g. "self esteem"

The complicated relationship between self and identity has already been discussed at length in the first chapter. Other parts of the self process may affect the qualitative nature of identity. High self esteem is defined by self respect, whereas low self esteem is a lack of self respect - self rejection, self-dissatisfaction, and self-contempt. As has been pointed out above, one may lack self respect but not be confused about one's identity. Marcia has studied the relationship between identity and self esteem. In one study (1967) he found no relationship at all. In a later study (1970) he found that identity diffuse subjects had low self esteem, yet female identity achievers had the lowest self esteem. A person may perceive himself as having self esteem or being self conscious just as he may perceive himself as being extrovert or neurotic. These are all self perceptions which are integrated to form the person's overall feeling of identity. They form important characteristics by which one can label someone's identity as positive or negative, and they form "identity pegs" by which one can describe a person qualitatively. Other parts of the self process therefore provide self perceptions that each person needs to integrate into his identity Gestalt.
b) **Anxiety**

Internal tension has been observed in identity diffuse adolescents (Bronson 1969), and anxiety over future identity has been observed in normal adolescents (Coleman, Herzberg, & Morris 1976) but there is no reason to believe that anxiety is a dependent variable in identity formation. It may be a symptom of an identity problem, although identity diffusion, with no crisis, need not be accompanied by anxiety. Plenty of evidence has been provided above to show that identity formation need not be accompanied by inner tension and anxiety. Anxiety may be another self perception that contributes to the overall identity.

3.6 **CONCLUSION**

Many attempts have been made, using a variety of techniques, to assess identity. Validity of an assessment technique was discussed in terms of how effectively identity is operationally defined and whether the definition can provide means for testing hypotheses derived from a theory. However, operational definitions are relatively rare, and even when they do exist, it is clear that the interpretations of the concept of identity differ, making it unlikely that the same variable is being measured by the different methods. Furthermore, in every method there are several sources of error, although error can not usually be measured directly. In studying the development of identity, change is expected between assessments and therefore a method which is designed to be sensitive to change is most reliable. The grid method is designed to be sensitive to change and has already proved useful in assessing change. The method itself, as well as its relationship to the theory and operational definition
of identity is the topic of the next chapter.

The assessment of identity requires first a clearly formulated theory of identity from which hypotheses are derived. Secondly, a clear operational definition of identity which may be used to test the hypotheses. Thirdly, an appropriate method which can be used to provide measures to test the hypotheses.

The theoretical definition of identity developed in this thesis can now be stated as such: Identity is an integrated self perception, incorporating a feeling of self-sameness and continuity over time, reached through cognitive appraisal of self-involved social interactions and identifications with significant others. The process of integrating self perceptions is the process of identity formation, considered to be ongoing throughout life. Environmental changes which affect a person, such as social, economic or political changes, and new patterns of socialization which may provide new feedback to a person's self appraisal will require the identity formation process to be set in motion. At such a time changes in identity are expected and therefore such a time is ideal for the study of the development of identity. The development of identity over time is observed in the pattern of qualitative changes in identity that result from the process of identity formation. Specifically, identity must be defined in five dimensions, a change in any one of which will alter the person's identity Gestalt. These five dimensions are all operationally definable, as will be shown in the next chapter. They are the person's identifications, self perceptions, feeling of self sameness, feeling of self continuity, and the state of diffusion between self perceptions.

The independent variables that are of interest in the study of the development of identity in adolescence are transition from school, vocational commitment, temporal orientation, early environmental disruptions and sex.
From this formulation of identity, the hypotheses concerning the effects of the independent variables on the development of identity which were introduced at the end of the previous chapter can now be spelt out. The first two hypotheses to be derived from such a theory deal with changes that are dependent on the social transition caused by adolescents leaving school.

1. Adolescents are expected to make qualitative changes in their perceptions of themselves when in social transition caused by leaving school. Thus new constructs are expected to be formed, and self ratings on the old constructs will be altered.

2. Adolescents are expected to form new identifications when in social transition caused by leaving school. The third hypothesis concerned the interdependence of the dependent variables. The state of diffusion of self perceptions is a direct result of the feelings of self sameness and self continuity; if one feels that how one sees oneself is different from how one thinks others see oneself, i.e. the lack of a feeling of self sameness, or if one feels that in the future one will be different to what one is now, i.e. the lack of self continuity in time, then one's self perceptions are diffuse. Changes in self perceptions or identifications change a person's identity and therefore are expected to affect the other three dimensions of identity. There is no apparent reason why one dimension should be affected more than another, and as two are combined into the third, identity diffusion, it should be sufficient to examine the effects of changes in self perceptions and identifications on this only.

3. Changes in self perceptions and identifications are expected to cause changes in the diffusion of identity. The fourth, fifth and sixth hypotheses deal with changes in identity that are dependent on psychosocial adjustments that are necessary for the adolescents to cope with this social transition. The fourth and fifth are concerned with the perception
of continuity over time.

4. For adolescents in social transition due to leaving school, their identity is expected to change as a function of their vocational commitments. It is suggested that an adolescent who is unable to make a vocational commitment for after leaving school will have difficulty in perceiving a sense of sameness of self between present and future.

The hypothesis regarding the effect of temporal orientation becomes two-way according to which theoretical perspective is taken.

5(a). According to Erikson's theory it would be expected that those with future temporal orientation will have a greater feeling of self continuity than those with present or past temporal orientation.

5(b). An extension to this hypothesis is derived from this thesis: it is expected that the perception of self continuity is a function of both future orientation and vocational commitment. The future orientated adolescents are expected to have formed vocational commitments, and those with vocational commitments are expected to be more future orientated than those without.

If the adolescent has experienced discontinuities in his early home environment, then he may have difficulty in integrating self perceptions later.

6. Those adolescents who had experienced disturbed early years due to familial disruptions in the home are expected to show greater identity diffusion than other adolescents who had not.

Finally, following the discussion on sex differences above and in chapter one,

7. No sex differences are expected in the ability to form commitments, or in identity development.
4. METHOD

The present investigation sets out to assess changes in aspects of identity, over a year in which changes are expected. Therefore a technique that is sensitive to change must be used. It sets out to observe consistency (or lack of consistency) between certain self perceptions, and continuity (or lack of continuity) between certain self perceptions over time. Finally, it also sets out to observe a subject population whose perception and interpretation of these concepts may differ from that of the investigator. In the foregoing analysis of the assessment of identity (chapter III) it was concluded that the only technique which is designed specifically to measure change is the grid method. It is particularly suitable for the present investigation for several reasons. It can show which identifications and self definitions are stable and which are transitory; it can provide a measure of consistency between different self perceptions, and a measure of the sameness of a given self perception over time; and, in addition, the subjects' own terms are used and qualitative change in identifications and in self definitions may be observed in the adolescents' own language, rather than in that of the investigator which is likely to be different. This last advantage is particularly important in view of arguments (e.g. Coleman, 1961) that adolescence is a subculture with its own language. In other structured techniques, where the concepts are provided by the experimenter, the questions to be answered, or words to be sorted or rated are assumed to be interpreted in the same way by all subjects, which is often not the case; furthermore these may not be the concepts that the subject uses as his basis for identification and identity formation. Unstructured techniques, however, rely on the examiner interpreting the language of the replies. When the grid method is used, replies do not necessarily have to be
interpreted. The discussion of techniques for assessing identity in the previous chapter reveals that the grid method is as susceptible as the other methods to the problems of estimating validity and reliability, but there is no reason to believe that it is more so. It was chosen as an appropriate technique for assessing aspects of identity in view of the advantages mentioned above.

4.1 THE GRID METHOD

4.1.1 THE THEORY BEHIND THE METHOD

The grid method is a theory related method which emerged from Kelly's "Personal Construct Theory", (1955, 1970). The assumption underlying Kelly's model of person perception is that each individual, in the course of his social development, evolves a unique system of cognitive dimensions, or "personal constructs", for interpreting and predicting behaviour. The basic postulate of the theory is that "A person's processes are psychologically channelized by the ways in which he anticipates events", (1970, p.9). An individual characterizes himself and others in terms of his own personal constructs. A person's constructs are the interpretations he imposes on events or people ("elements" in the environment) he perceives and experiences. Consider being shown an abstract painting. Until one can find a suitable way of construing it - suitable constructs to describe it - one will be unable to interpret it. A person's construct system therefore places limits on a person's understanding and appreciation of his environment.

Before explaining about grid methodology, it should be added that a "construct" is not a "concept". They both form the basis for grouping
together certain things and differentiating them from other things; but a concept defines ways in which things are naturally alike and really different from other things, whereas a construct is an interpretation that a person imposes - a way of seeing some things as being alike and yet different from others. Constructs are dichotomous; they are the basis for perceiving likenesses but at the same time differences, (while excluding certain things as irrelevant to the contrast involved). For example, a dog is a concept applied to a variety of animals which possess certain characteristics which allow these animals to be naturally grouped together under the label of "dog". A person perceiving a particular dog may interpret him as being lazy since he is like those who bask in the sun all day and unlike those that are energetic. His perception of the dog is a personal event. The personal construct of lazy/energetic may have a different meaning to another person.

The grid technique was devised to investigate a person's system of constructs by eliciting the constructs in terms of statements of similarities and differences of elements (people or events) and then assessing the association between the constructs and/or the elements. The grid method has been defined as "... any form of sorting task which allows for the assessment of relationships between constructs and which yields these primary data in matrix form", (Bannister & Mair 1968). A useful description of the grid method is given by Fransella and Bannister (1977):

"The grid is perhaps best looked on as a particular form of structured interview. Our usual way of exploring another person's construct system is by conversation. In talking to each other we come to understand the way the other person views his world, ... what is important and unimportant and in what terms they seek to assess people and places and situations. The grid formalises this process and assigns mathematical values to the relationships between a person's constructs." (p. 4).

All forms are designed so that statistical tests of significance can be
applied to the set of comparisons each individual has made.

It is able to provide a measure of content - what interests or concerns the person - and of structure - the type of organization he has created to deal with these things. The grid method also allows an examination of what constructs an individual uses in a particular context and therefore as contexts change over time, it allows observation of change of content and/or structure as perceptions and experiences change. Further advantages are that the method does not involve preconceived dimensions (on the part of the experimenter), or assumed meanings, and there is no answer that is judged right or wrong by anyone except the person himself. Each individual does his own sampling for content and provides his own data. The interpretation needed by the experimenter depends on his requirements. For example, for therapy the data is treated as idiographic, for research the data may also be treated as nomothetic. In the latter case each subject may be his own control and therefore the experimenter's interpretation of the subject's construct system need only be minimal. Finally, the method is basically projective as the person's performance is regarded as a projection of his outlook.

One may consider that each individual has his own unique psychological space, defined by the constructs he uses for anticipating events. To refer back to Kelly (1969):

"... an event seen only in terms of its placement on one dimension is scarcely more than a mere datum. And about all you can do with a datum is just to let it sit on its own continuum. But as the event finds its place in terms of many dimensions of consideration it develops psychological character and uniqueness." (p. 118).

Thus the more constructs which can be applied to a given event (for example, a self perception, or a perception of another significant person), the more clear and distinct its meaning within the context of the system. It was Bieri who first introduced into personal construct
theory the idea of analysing a person's construct system in terms of the differentiation between constructs, i.e. "cognitive complexity". Bieri proposed that:

"Cognitive complexity may be defined as the tendency to construe social behaviour in a multidimensional way, such that a more cognitively complex individual has available a more versatile system for perceiving the behaviour of others than does a less cognitively complex person." (1966, p. 14).

In a cognitively simple construct system constructs will be similar and the events may be clustered together, undifferentiated, in a small psychological space; or, there may be a few or only one at a distance, identified by the opposite poles of these constructs. In a more complex construct system the constructs will be different and the events may spread out in several directions making a large psychological space.

Kelly's personal construct theory provides a conceptual framework within which people who are each different can be compared and therefore a conceptual framework also for the study of identity. In both personal construct theory and in the foregoing discussion of identity (chapter II), the individual's uniqueness is a basic assumption. Kelly's "individuality corollary" postulates that "persons differ from each other in their constructions of events", (1970). If the word "events" is replaced by "self perceptions" (and self perceptions are events) this corollary is relevant and basic to identity. In the language of personal construct theory a person's self perception is how a person anticipates himself; a person's identity is his perception of his own anticipated sameness in different social situations, and at different times. What is of interest in studying identity is the person's perceptions of himself and of other people in relation to himself.

One major point is worth mentioning. Although the grid method was derived from personal construct theory, it is a very flexible technique
with a variety of applications and possibilities for data analysis (described in the next two sections) and it need not be used only in the context of personal construct theory (Fransella & Bannister 1977).

4.1.2 APPLICATION OF THE METHOD

There are various ways of assessing personal constructs. The general technique is to write down an event on each card (such as a person or role), the "element", and then the subject is requested to pick three, saying how two are similar to each other yet different from the third. This is the basic "Repertory Grid Test" (rep-test). The variations of the rep-test exist in (a) the nature of the elements that are chosen - for example, if only role titles are chosen as in the "role construct rep. test"; or if the elements are specific named people; (b) the presentation of the elements - for example, "full context form", where all elements are displayed at once and the subject is asked to choose any combinations of three; or the "minimal context form", where the subject is presented with groups of three elements in a certain order of the investigator's choosing; (c) the technique of directly ascerting links between constructs - for example, Hinkley's implication grid technique (Bannister & Mair 1968), where the hierarchical network of construct implications is obtained, by probing why constructs are chosen and their resistance to change, a technique utilisable only with highly intelligent and articulate subjects; or indirectly by calculating correlations between elements ratings on the grid, or by subjecting the grid matrix to principal-component analysis (Slater 1977).
The technique used in the present study is that used by Ryle (1969) with university students, some of whom presented identity problems. The rep. test using elements of the subjects choosing (except for three self perceptions included by the investigator) was considered to be most suitable since this provides a representative sample of the people who are significant to each subject and thus the people who are potential models for identification. Since there are individual differences in who is significant for whom, it was important to let the subjects choose them themselves. Elements were presented in the full context form in order to obtain full sampling of constructs. Ascertaining links between constructs is not of primary interest in this study, and if required could be calculated from the grid later, (i.e. without specifically asking the subject) using the ordinary rep. test results.

The results are customarily put into grid form by putting the elements at the head of each column, and each bipolar construct that has been elicited at the left of each row. The subject is then requested to rate each element with respect to each construct. The matrix can then be subjected to statistical analyses.

4.1.3 ANALYSIS OF GRID DATA

There are also various ways of analysing rep. test results. As in the analysis of any data, the statistical test chosen depends on the nature of the data and the requirements of the investigator. Thus, rep. grids have been subjected to cluster analysis and factor analysis; correlation between certain parts of the matrix; and there exist computer programs for various other forms of analyses (Slater 1977).

In the present study product moment correlations between certain parts of the matrix were carried out, i.e. between the ratings of the self elements, self (S) and self as others see me (OS), and between the ratings of S and self as I will be in the future (FS).
The DELTA program (Slater 1977) compares grids and provides correlations between grids, including the correlation between self elements on the same grid at two tests, e.g. test and retest ($r_{tt}$ for S, OS, FS).

The subject defines each element by rating it on a set of ($n$) constructs. Thus each element may be considered as a point in an $n$-dimensional construct space. The coordinates of the point correspond to the ratings assigned to each element. The "distance" between two points (elements) in such a space can be calculated from their coordinates in that space by analogy with expressions derived from simple coordinate:geometry (Slater 1972, 1977). The INGRID 72 program performs this calculation and gives the distance between any pair of elements. Any pair of elements which are separated by a small distance are seen (by the subject) to be similar, since those elements at small distances will have very similar ratings on the same constructs within the same psychological space. Likewise one can say that the subject identifies himself as being dissimilar to those at large distances. In between are those elements perceived as neither similar, nor dissimilar, but indifferent. (This assumption is also held by Norris & Makhlouf-Norris 1976, who use rep. grids to study identity.)

Since a person's identity cannot be isolated from his identifications and appreciation of how others perceive him in social interactions, his identity should be observed in the context of his perceptions of significant others. These perceptions, as well as his self perceptions, reflect the person's psychological space. Therefore rather than look at the correlations between self perception ratings, as others have done, one can also look at the distance between elements in the psychological space. If a person's identity is diffuse then different self perceptions will not be clustered together in the psychological space - they will be scattered, i.e. diffuse. The area in the psychological space subtended by the self elements therefore
may be used as a representation of identity diffusion. This is not the same as imposing integration clinically or analytically, as explained in the last chapter. The process of integration of self perceptions to form identity ("identity formation") is considered in Erikson's theory to be an ego process, which is not conscious, and no attempt to evaluate this will be made.

Being interested in change, it is meaningful and interesting to use each subject as his own control, and by treating the data nonparametrically one can look simply at whether the distance, area, or correlation has increased or decreased over time.

Changes in constructs and identifications can be quantified by calculating the percentage change (C%) from consideration of the number of new constructs or elements added and the number of old ones omitted. The qualitative changes in construing over time is more difficult to assess as almost every construct is worded differently, in terms meaningful to each subject, and to find a general pattern of change for the group would require imposing categories on these constructs. This has been done frequently (e.g. Landfield 1971, Sperlinger 1976, Duck 1973) by developing a system of well-defined categories and then requesting judges to classify constructs according to the system. Inter-judge agreement will reflect the reliability of the categories.

4.2 OPERATIONAL DEFINITIONS

An operational definition may be derived once a theoretical definition has been formulated, and an appropriate method chosen. The two previous chapters have led to a theoretical definition of identity, a choice of
method and a statement of hypotheses. The theoretical definition of identity proposed was that identity is "an integrated self perception, incorporating a feeling of self-sameness and continuity over time, reached through cognitive appraisal of social interactions and identifications with significant others". This is observable in the person's perception of his own anticipated sameness, reached through social interaction and identifications with significant others.

It is generally assumed that the process of integration of self perceptions is unconscious and therefore not directly observable, and the point has already been made that in all the studies of identity it is always the experimenters who decide what someone's identity is from his reported self perceptions and not the subject himself. Therefore, rather than try to create one measure of a person's identity, (i.e. a measure of a crystallization at a given moment from the ongoing identity formation process), which may alter at the next social interaction, it is more meaningful to measure the important variables by which a person's identity may be defined - perceptions of self sameness and continuity over time and their diffusion or integration, identifications, and pervading all these perceptions, the constructs used in self definition and social interactions - and from these one can draw conclusions about the development of identity.

4.2.1 THE DEPENDENT VARIABLES:

The dependent variables of identity to be operationalized and measured are, to recall,

(a) the person's identifications,
(b) the person's self perceptions,
(c) the feeling of self sameness,
(d) the feeling of self continuity, and
(e) the state of diffusion between self perceptions.

(a) The person's identifications

It will be recalled that the role of identification in identity formation and development was discussed fully in chapter II. Identification was described as a special self perception; it is the perception of oneself as similar to another person (a model) as a result of wanting to be like that other person. At a given moment, the subject identifies most closely with the person to whom he perceives himself to be most similar. The adolescent's world is composed of a number of people who are significant to him, being models, or potential models for identification. These people are "significant others". In personal construct theory one may consider these significant others to be distributed in a certain pattern in a person's psychological space at a given moment in time. At another point in time, changes in identifications may be assumed if the pattern is observed to change - i.e. if new significant others are chosen and old ones are dropped; or if the subject perceives himself to be most similar to a different person. A person identifies most closely with the significant other at the smallest distance from self in a person's psychological space.

(b) The person's self perceptions

Also basic to identity formation is the effect of social interaction on self definition. Although largely unconsciously, one uses a limited number of constructs to define oneself and others in social interaction. By comparing and contrasting elements, the basic technique of the repertory grid method, the constructs a person uses to define himself are produced. The process of comparing and contrasting requires the subject to imagine social interactions between three people of his choice and to anticipate their behaviour. The subject is expected to report behaviour he perceives
as characteristic of the particular people in the interaction, including himself when he chooses himself as an element in the triad. In this way a person's self definition is operationalized in terms of the constructs he uses to define himself and others in social interaction.

(c) The feeling of self sameness, and
(d) The feeling of self continuity

For an integrated perception, the person must anticipate sameness between how he sees himself (S) and how he perceives other people to see him (OS). However, he must also anticipate continuity between how he sees himself (S) now, and how he sees himself in the future (FS). Therefore, an integrated self perception is experienced when sameness is anticipated between S and OS (S-OS) and continuity is experienced between S and FS (S-FS). Anticipation of sameness and continuity is operationalized in a high correlation between S and OS ratings, or S and FS ratings.

These correlations, obtained from a Q-sort method instead of a grid, were also used by Hauser and his colleagues (e.g. 1972) to quantify "structural integration" and "temporal stability". "Structural integration" was operationalized as the average of all of an individual's self image correlations at a particular testing, whereas "temporal stability" was operationalized as the average intertest correlation of his self images. Marcia's identity status categories were operationally defined in terms of increase or decrease of these two averages. However, it has already been pointed out that an arithmetic mean of correlations is not a measure of "integration", but this does not preclude the assumption that self image correlations are meaningful measures of aspects of identity, being measures of feelings of self sameness and continuity over time. Rather than providing a measure of identity at any one moment the correlations (S-OS and S-FS) obtained in the present study are measures of a person's
anticipated sameness of self which are necessary for an integrated self perception.

The concept of psychological space defined by a person's constructs was discussed in the previous section of this chapter. Inter-element distances have been used to quantify identity both by Norris et al (1976) and by Weinreich (1975), as described in the previous chapter. In both cases complicated statistical analyses were performed in order to test hypotheses derived from the peculiarities of specific populations, i.e. regarding "self-alienation" of neurotics, and "contra-identifications" of immigrants. The present study, although using the grid method, deals both with a different population and with different hypotheses for which the statistical analyses of Norris and Weinreich were not designed. Similarly to the correlations mentioned above, the inter-(self) element distances may be considered direct measurements of aspects of identity, prior to integration. The feeling of self sameness can therefore also be operationalized by S-OS distance, while the feeling of self continuity can likewise be operationalized by S-FS distance. Both these measures, the correlations and the distances, are derived from the same raw data - the grid matrix. However they are the products of two separate mathematical analyses (as will be explained in the last section of this chapter) and may therefore be used to provide cross-validation for any trends or effects that may be found.

(e) The state of diffusion between self perceptions

In some studies, rather than attempt to measure identity, identity "diffusion" has been operationalized (e.g. Weinreich 1975, Hauser 1972). Identity diffusion refers to a generalized state of poorly integrated self perceptions, a feeling of lack of continuity of self in time and lack of self-sameness (Erikson 1968). Hauser's (1972) operational
definition of identity diffusion is the "progressive decline in structural integration and temporal stability". Although his measures have been criticised, low correlations between self elements both at one given moment and over time certainly reflect the lack of a feeling of self sameness and continuity. Similarly large distances between self elements in a person's psychological space reflect the lack of perception of similarity between self elements (Norris et al 1976). If the self element distances are large, the self elements are scattered, or diffuse, and the area they subtend in the psychological space will be large. Where there is no diffusion, the self elements will be perceived identically, they will occupy the same point in the psychological space, and therefore the area they subtend will be zero. In this way identity diffusion can be operationally defined as the area in the person's psychological space that is subtended by the self elements, S, OS, FS. This can be calculated easily from the distances between the three elements. This is an arbitrary index, just as Weinreich's index of identity diffusion is arbitrary, which in the context of the theory of identity can be useful to test hypotheses derived from the theory. Weinreich's index was similarly meaningful in his theory and investigation, but he himself points out its limitations (discussed in the previous chapter). By devising an index of identity diffusion one is devising an index of a state of poor integration of self perceptions and not a measure of the process of integration.

To conclude, referring back to the theory - identity is "an integrated self perception, incorporating a feeling of self sameness and continuity over time, reached through cognitive appraisal of self-involved social interactions and identifications with significant others". There is no a priori interdependence of dependent variables, with the exception that the state of diffusion is dependent on feelings of self sameness and
continuity. The third hypothesis is concerned with the inter-relationship between the other two dependent variables and identity diffusion. The dependent variables of identity to be observed are, now operationalized, as follows:

(a) the person's identifications, operationalized by the distances between significant others and the self element,
(b) the self perceptions used in defining oneself in social interactions, operationalized in the construct dichotomies produced in comparing and contrasting triads of elements,
(c) the feeling of self sameness, operationalized in a high correlation and low distance between S and OS perception-ratings,
(d) the feeling of self continuity, operationalized in a high correlation and low distance between S and FS perception-ratings,
(e) a measure of the lack of integration of self perceptions, identity diffusion, has been operationalized as the area subtended by a person's self elements (S-OS-FS) in his psychological space (this measure being largely a function of the two previous dependent variables).

4.2.2 INDEPENDENT VARIABLES

In the previous chapter six independent variables were discussed as being important to the qualitative nature of identity at any point in time. Hypotheses have been put forward regarding the effects of transition from school (rather than age), sex, time perspective, and commitment, and early environmental disruption on the identity of a population of sixteen year old school leavers. If the other independent variables of age, socioeconomic class and intellectual maturity are kept constant then the hypotheses made may be verified. The principal dependent variable is identity, observable through its two components of perception of continuity
of self over time, and perception of continuity between how one sees oneself and how one interprets others as seeing oneself, and being formed from the integration of new identifications with old ones, and the integration of feedback from social interactions.

a) Transition

Transition from school is observed in the differences between tests, tests one and two being carried out before adolescents left school, and test three after they had left. All the adolescents in the study will be undergoing a change in physical environment. They will be observed both before and after leaving a boarding school which had been a home for several years and which had become a sheltered and predictable environment. After several years in one place, with the same friends and teachers, they will be having to leave either to go another school or college or to employment, where they would be forced to re-establish themselves socially by forming new relationships and by facing new social experiences. The physical change of environment is expected to be accompanied by psychological adaptation, and to be observable in the development of identity. Since identifications and social interaction are basic to the process of identity formation, changes in identifications and new social definitions are expected to reveal changes in identity.

The physical change of environment is not a variable that is measured. It occurs when the adolescent leaves a particular school, never to live there again. It occurs in all the subjects a couple of days or weeks after test 2.
b) **Temporal Perspective**

Existing measures of temporal perspective range from the completely unstructured and open-ended, where subjects are asked to describe events they anticipate in the future, to structured, itemized questionnaire tests. In between there are numerous semi-structured tests - projective tests using pictures, and story- or sentence-completion tests. The unstructured tests have been used to assess "extension" of time perspective (as described in the previous chapter), as well as "coherence" - "the degree of organization of events in future time span" (Wallace 1956), and "density" - "the number of events the subject anticipates regardless of period of time considered (Kastenbaum 1961). These three measures have been shown to be interrelated and used together may provide evidence that a group of subjects have a concern for future events. However these measures were found not to be related to another measure of time perspective - "directionality", a construct similar to temporal orientation (Kastenbaum 1961, Platt et al 1971). Ruiz et al (1967) found no significant intertest correlations when comparing five different semi-structured tests of time perspective, and therefore concluded that the tests are not measuring the same construct. Similarly, Shapiro (1973) after considering some dozen different measures of time perspective, concludes that each assesses a different aspect of the construct, which must be a very complex variable. Therefore there are problems of validity
if the data is to be used nomothetically. Only one test ("Time Reference Inventory", Roos & Albers 1965) has provided an adequate retest reliability. To add to the problems of finding a reliable and valid measure of time perspective, numerous studies have shown differing effects of moderator variables such as events prior to testing, personality differences (e.g. anxiety), IQ, and social class (Shapiro 1973). The first step in solving the problem of assessing time perspective is to accept that it is a complex variable which can be split up into various components - such as extension and temporal orientation, as described in the previous chapter. The second step is to ascertain the use to be made of the assessment. If the data is to be used idiographically, for instance for psychotherapy, then the qualitative output of an unstructured or semi-structured test may be valid. If, however, the data is required for making generalizations about groups of subjects, then a more quantitative measure is necessary. Attempts to measure extension reliably have met with limited success. Lessing (1972) points out that the different studies relating extension with delinquency, underachievement, emotional disturbance, and age, are contradictory. In a pilot study by the author, an analogue scale "time bar" technique for assessing extension was used, following Rychlak (1972) and Shapiro (1973). It provided a measure of subjective experience of different time intervals. Results from the trial group of 23 sixteen year olds (before leaving school) showed that yesterday and tomorrow are experienced at approximately the same distance away whereas eight years hence appeared to be much nearer than eight years ago. In between, one year hence and one year ago are again approximately equidistant, whereas six months hence appeared nearer than six months ago. Although Shapiro shows this technique is reliable by including a control weight bar technique involving comparative judgements of weight instead of time, the pilot study referred to above was so obviously susceptible to limitations placed by
both cognitive and motivational factors. (It was especially subject to response style.) Therefore, though potentially interesting, its use was omitted from the final investigation. The projective techniques are weakened by the necessity of interpretation by the tester, and data produced would have to be considerably simplified in order to be treated for nomothetic analysis. Coleman (1973), for example, has done precisely this, by sorting his sentence completion data into "positive" or "negative" themes. In a time perspective study, data could be analyzed according to "past" or "future" themes, but it may be difficult for the judge to know where on the continuum of creativity/imagination and realistic assessment of past/future the subjects' responses lie. Although also susceptible to error due to response style, the Q-sort measure of temporal orientation used by Braley & Freed (1971) has advantages over other tests. Seventy statements were rated by ten independent judges for temporal orientation. Thirty three were shown, in this way, to have adequately reliable meaning. Of these, twenty five were selected to provide a quasinormal distribution of past to future statements. The statements to be rated therefore have some content validity, having been selected on the basis of the reliability with which they were judged to display their deviation from these assumed norms. The subjects are required to rate each statement according to how like or unlike it is to their own feelings, and therefore each item provides information about the subject (idiographic data). By comparing the ratings of like "actual self" and like "ideal self" the test has been used to differentiate normal and psychiatric populations, with significant results (Braley & Freed 1971, Shapiro 1973). In view of the shortcomings of the existing techniques for assessing time perspective, it was decided to make do with only this one measure, the Q-sort measure of temporal orientation. Temporal orientation is defined as the direction of temporal experience - if one's concern is directed more to the past, present, or future.
c) **Commitment, sex, environmental disturbance**

These other independent variables were assessed from data obtained from subjects in a structured interview. Vocational commitment had to be assessed post hoc, since an observer can only know that the commitment really is such when a person's behaviour is seen to be directed towards the goal of the commitment. Thus vocational commitment is defined as applying to those who (prior to leaving school) expressed definite vocational plans they intended to follow (after leaving school) and were indeed seen to follow these plans. The sex of the child was obvious. Early environmental disruptions occurred when there is parental death or marital discord observed by the child prior to his going to boarding school. The questions asked in the interview were collected as a result of many exploratory interviews with adolescents in the year preceding that of the study, as described in section 4.3.1.

**4.2.3 THE HYPOTHESES**

The hypotheses in this study may be operationalized as follows:

(1) Adolescents are expected to make qualitative changes in their construing of themselves when in social transition caused by leaving school. Thus,

a) new constructs are expected to be formed and old ones dropped (quantified by C%\^c; qualified by a group of categories) and

b) self ratings on old constructs will be altered, observable in the correlation of each self element on the same grid at different tests (r\_tt of S, OS, FS for each grid tested and retested).

(2) Adolescents are expected to form new identifications when in social transition caused by leaving school (quantified by C%\^e; qualified by a group of categories).

\* C%\_c is defined on p. 161; C%\_e is defined on p. 169.
(3) Changes in construing and identifications are expected to cause changes in the identity diffusion index, S-OS-FS area.

(4) For adolescents in social transition due to leaving school, their identity is expected to change as a function of their vocational commitments. It is suggested that an adolescent who is unable to make a vocational commitment for after leaving school will have difficulty in perceiving a sense of sameness of self between present and future. Thus
   a) non-committed adolescents will have lower S-FS correlations and larger S-FS distances than committed adolescents and
   b) non-committed adolescents will show greater identity diffusion (i.e. S-OS-FS area) than committed adolescents.

(5) a) Adolescents with future temporal orientation (high scores on the Q sort measure) are expected to experience a greater feeling of self continuity over time than those with present/past temporal orientation (medium or low scores on the Q sort measure), and will therefore have higher S-FS correlations and smaller S-FS distances.
   b) Adolescents with vocational commitments are expected to have more future temporal orientation (high scores on the Q sort measure). Adolescents in this category are expected to have higher S-FS correlations and lower S-FS distances than those not in this category.

(6) Adolescents who reported experiencing disturbed early years are expected to have larger areas of S-OS-FS in their psychological space than those not in this category.

(7) No sex differences are expected in the number of adolescents who formed vocational commitments and those who did not. So no sex differences are expected in the size of the S-OS-FS area in the psychological space, in S-OS or S-FS correlation or distances, in the formation of new identifications, or in reconstruing.
4.3 THE INTERVIEW

4.3.1 PILOT WORK

The first interviews were completely unstructured, with adolescents found in Bethnal Green High Street in London's East End during school hours. They were asked to describe the sort of person they saw themselves as being, and to discuss their worries about their past, present and future. Responses were very limited, however, implying a very restricted and population-specific language code. Persons were described in terms of physical characteristics - "male", "tall", "curly hair", etc., or in general terms using a "you-know-what-I-mean" type of language - "nice", "fun to muck about with". Worries were centred in the here and now - about being kicked out of the club, about current trouble with the police. The six 15 year old boys interviewed were truanting and therefore formed a rather special sample.

The second batch of interviews were more structured in an attempt to produce more systematic data and took place, also in London's East End, in an establishment for children in long term care. The adolescents interviewed were six 15-16 year olds, both girls and boys who were just prior to leaving school and residential care. This time adjective pairs were provided for the subjects to rate (those used initially by Hess & Goldblatt 1957). Subjects were asked to use a five point scale to rate (1) yourself as you see yourself, (2) yourself as you think others see you, (3) yourself as you think you will be in the future, and (4) yourself as you would not like to be. In this way some quantitative information could be produced for studying aspects of adolescent identity. The subjects, however, found that they could equally well rate themselves at both poles.
of the adjective pairs supplied. It was obvious from both these samples of adolescents that the language they used was very different to that of the interviewer, and also different to that of other populations of adolescents for which the adjective pairs may be relevant. (Coleman, George & Holt (1977) showed that 8 out of the 20 pairs were topical in a study of generation gap between adolescents and parents). It was necessary to add further adjective pairs to complete the adolescents' self assessments. Again, this group reported worries very much connected to present events. Their ideas about the future were generally described by the head of the establishment as being "totally unrealistic".

These two small studies revealed much. First and foremost, the subjects were not undergoing any identity crisis or conflict - personal self identity was not a source of worry, and they were not consciously aware of it. Furthermore, they found considerable difficulty discussing it in the terms of the tester. A study of identity would have to involve the adolescents' own language, and would have to be indirect, since they were not consciously aware of their self identity. Secondly, the subjects of both samples were realistically worried about their present. Once that could be sorted out, then presumably they could worry about the future, but, those who did think about the future thought of it in terms of their own fantasy and wishful thinking. Commitments for their future were made by others for them. Both samples were very atypical of the norm of British sixteen year old school leavers. A suitably meaningful control group, closer to the norm would be required for a broader understanding of the topic of development of identity in adolescence.

The third pilot study, therefore, was carried out in a local authority boarding school which included adolescents with emotional and family problems, but also included a control group of "normal" adolescents in an identical environment. As in the second pilot study, the subjects were
just before leaving school, after being in a stable and protective environment for several years. This time, the six subjects were interviewed to extract data for a repertory grid, as described by Ryle (1969) and data was analyzed in the same way - extracting maps of the adolescents' position in their own world of significant others. It was found that the subjects enjoyed talking about their friends and significant others, and their relationships with them. By the time the data had been extracted for the repertory grid, information had also indirectly been produced about attitudes to the future and the adolescents' understanding of himself. However a structured interview was included to validate this information by asking directly, as well as to collect other pertinent information. Thus questions 1 and 2 were validational. A multiple choice format was found to help the subjects answer the sections (a) and (b) of the first question, whose topics, by coming after the repertory grid test, were, although difficult, already familiar. In the repertory grid test, the subject had rated himself as in the present and self in the future. In question 2 he was asked directly whether he consciously expected to change, thereby validating the discrepancies found in the grid. Question 3 was included to assess the independent variable of vocational commitment providing a more meaningful measure (in this study) of extension of time perspective, providing a qualitative, rather than quantitative, measure.

Permission for the study to take place in local authority schools had to be obtained from the local authority itself. In order for such permission to be granted it was suggested by the headmaster of the school in which the third pilot study was run, that rather than ask for access to confidential files about environmental disturbance (for which permission would certainly not be forthcoming), the subjects be asked directly for any information required. It was therefore agreed to ask questions 4, 5 and 6 and to obtain in this way an overall assessment of early environmental
disturbance.
The independent variable of sex was obvious.
The questions at each test are listed below.

4.3.2 STRUCTURED INTERVIEW QUESTIONS

Test 1
1. If you had a choice in these two, which would you prefer?
   (i) being able to completely understand yourself as you are now, or
   (ii) being able to see into the future?
   (a) Are you worried about the sort of person you are? What worries you?
   (b) Are you worried about the future? What worries you?
2. Do you think you will change (as a person)? Why? How?
3. Have you made plans about what to do when you leave school? If so, what are they? Have you done anything towards them?
4. What worries you most about (a) the past, (b) the present?
5. Would you say that your past, then, was happy or unhappy and why?
6. When did you first go to boarding school and why?
7. Age
8. Name

Test 2
(i) Do you think you have changed, as a person, since I last saw you? If so, in what ways?
Repeat questions 1, 2, 3, and 8 from test 1.
(ii) Address and telephone for follow-up.

Test 3
Repeat question (i) from test 2.
Repeat questions 1, 2, and 8 from test 1.
(a) What is your present occupation? How long do you intend to remain
in it? What are your plans for the future?

(b) What were your CSE and GCE exam results?

4.4 THE DESIGN

In order to assess development - change over time - the design chosen was longitudinal, where subjects were observed three times over the period of one year. A repertory grid method was used to assess aspects of adolescents' identity on three occasions; approximately six months prior to their leaving local authority boarding schools at sixteen, a few weeks prior to their leaving school, and approximately six months later, after having left.

Subjects were allowed to choose the elements (their "significant others"), but were asked also to include the elements "self" (as I see myself now), "self as others see me", and "self as I will be in the future", since these are the self perceptions that are presumed to be integrated to form the identity Gestalt. Constructs were elicited by asking subjects to choose triads of elements displayed in full context form, and to describe similarities and differences within the triads. The grid matrix was produced by rating the elements on the constructs on a 7 point scale. The standard INGRID-72 program for analyzing repertory grid matrices supplied the inter-element distances and therefore also the distances between the three self perceptions. The DELTA program, and a pocket calculator were used for calculating correlations.

A structured interview was used to assess vocational commitment and early environmental disturbance. Part of the initial interview was repeated after the second and third repertory tests. After the first repertory test, a questionnaire to measure temporal orientation was
administered to the subjects as a group in each school.

4.5 SUBJECTS

Eighty-one children beginning their final year of school in September 1974 served as subjects. They formed the whole of the fifth form (except for two who refused and one who was away sick) of one Essex local authority boarding school, and a random thirty from a total of fifty-one of the fifth form of another similar Essex local authority boarding school. The random thirty were chosen by assigning a number to each child in the fifth form and using random number tables. The schools are described identically in their prospectuses as

"... a secondary boarding school for boys and girls, maintained by the Essex Education Committee. The object is to provide the facilities and advantages of boarding education, for pupils of a wide range of ability.

"In selecting pupils for the school, the Committee look for boys and girls of good character and reasonable intelligence, judged by school record, who have qualities of personality and aptitude to enable them to use to the full the educational advantages offered at the school."

Both cater for 250 children, equal number of each sex, from the age of 11 to the end of the fifth form, i.e. usually to the age of 16. The catchment area for both schools is identical - the county of Essex, which stretches from the predominantly working class East London, eastwards to the sea at Southend, and north, through agricultural areas to Saffron Walden, Chelmsford, Colchester, and the port of Harwich. The children interviewed came from all parts of the county. The curriculum of each school is very similar, both schools are preparing the children for the "Certificate of Secondary Education" (CSE) and the "General Certificate
of Education" (GCE) at 'O' level, in a variety of subjects, and the exam results are in a similar range. The mean measured IQ of the intake of each school is again similar and average (mean NFER verbal and nonverbal scores = 106, with s ranging from 11 to 12). Approximately one third of the children in each school are boarding due to having been in a one-parent family situation - due to the father dying, divorcing or being unknown. Approximately one quarter of the children in each school are boarding due to the father being in a job abroad, usually in the Forces. The remainder are boarding for a variety of personal reasons - such as dissatisfaction with the local comprehensive, or distance to nearest school, or for psychological reasons. This information was gleaned from both schools about their intake students, and was corroborated by replies to question 6 in the interview by the subjects themselves. Apart from the fathers in the Forces, the other fathers were approximately 50:50 in white-collar professional jobs (teachers and engineers) and in blue-collar jobs. Thus the population of subjects were middle and working class.

The initial sample of this study consisted of 43 boys and 38 girls. The subjects were all white, except one of West Indian origin, and all were English born.

In November 1974 their mean age was 15 years 10 months and therefore 16 years 5 months at the time of leaving school. There was a drop-out of thirteen subjects on the second testing session (just prior to their leaving school); 5 refused, 5 had left school early, 2 were going abroad for several years, and 1 had dropped back to double the year at school, thereby leaving a population of 33 boys and 35 girls. In the follow-up the following autumn, a further 8 refused, and 19 could not be interviewed either because they had not answered a letter requesting to see them again, or because they were more than 200 miles away. Thus, the final sample was reduced to 19 boys and 22 girls (a total of 41 adolescents). * 35% of the total sample at the first testing session admitted to experiencing

* see Appendix VII
environmental disruptions prior to coming to boarding school. The percentage of the sample at the second and third testing was 37%. The ratio of girls to boys in this group (i.e. having experienced environmental disruptions) was 3:2. The reason for such a ratio can only be guessed at. Rutter et al (1976), in his study of adolescent turmoil shows that there are over twice the number of boys compared to girls who experience psychiatric disorder before the age of 10 years, and this psychiatric disorder was usually due to family pathology and parent-child alienation. Later onset of psychiatric disorder, recognizable by the age of 14 years, but not at 10 years, was found to be almost equally prevalent in both sexes. Since the schools' main intake of new students is at the age of 11 years, it is possible that only a small percentage of boys who had experienced early environmental disruptions could be admitted, on the grounds that psychiatric disorder was already manifest in the others, and special schooling was recommended.

Without access to the schools' files on the children of the study, and without actually giving intelligence tests to the children, no specific information can be given on intelligence. However the schools' policy is to cater for children of "average" intelligence, which as has been mentioned above, is reinforced by the mean intelligence quotient of the schools' intake. The subject population, for whom data was obtainable from, achieved a mean of 3.7 'O' level passes ($n = 63, s = 2.6$).

Table 1 shows the occupation that the subjects entered on leaving school.
Table 1: Occupation of subjects after leaving school

<table>
<thead>
<tr>
<th></th>
<th>at another school</th>
<th>in vocational training</th>
<th>at work</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boys</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N = 36)</td>
<td>47% (n = 17)</td>
<td>31% (n = 11)</td>
<td>22% (n = 8)</td>
</tr>
<tr>
<td><strong>girls</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N = 35)</td>
<td>46% (n = 16)</td>
<td>31% (n = 11)</td>
<td>23% (n = 8)</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N = 71)</td>
<td>46% (n = 33)</td>
<td>31% (n = 22)</td>
<td>23% (n = 16)</td>
</tr>
</tbody>
</table>

Only one subject remained unemployed and later became self-employed. At the time of the third interview, 14% (n = 10) were occupationally unsettled, having just changed jobs, or intending to change jobs in the next month or two. Of those who went on to another school, several were studying for '0' levels, but most were beginning 'A' level work. The fields that these adolescents had in mind for their careers included nursing, teaching, veterinary science, naval architecture, law, drama, and religion. Those in vocational training include subjects who have become apprenticed to a firm, studying their profession on a 3 or 4 year contract; and those who went on to a technical college to acquire the necessary qualifications for a profession, e.g. by following a secretarial course. The careers that these adolescents were working towards included hairdressing; window designing; electronic engineering; being a technician, a craftsman; the army, the police force; hotel reception; and secretarial work. Of those who went straight to work, several are doing clerical work, one is farming, one is working in a supermarket, one is a machinist in a factory.
How specific is the population, and therefore how generalizable are the results obtained in this study? Comparison of this population with all of Britain's sixteen year olds can be done by referring to three sources. Two are HMSO publications - "Schools in Britain" and "Statistics of Education", 1977 (2), 'School Leavers' which gives figures for 1974-5 school leavers. The other is The National Development Study carried out by the National Children's Bureau where 16,000 children born between 3 - 9 March 1958 were followed up in the school year ending in summer 1974. The children were sixteen, and the study was only a year prior to the present study, meaning that valid comparisons can be made.

First, the vast majority (considerably over 90%) of schools in Britain are, as those of the sample of this study, maintained by local authorities from public funds. The majority of secondary schools have fewer than 1000 pupils and are co-ed, just as in this sample. The majority of secondary schools cater for mixed abilities within the normal range of intelligence, as here. The county of Essex is classed in the HMSO regional classification as "other South-East (excluding GLC)" and the academic level of school leavers of this region is the highest in Britain since 25.6% of school leavers continue to full time education. This percentage is, for example, twice as high as some of those for the North of the country. Thus in this aspect, the figure of 46% of the sample continuing in full-time education is considerably higher than the national average. Similarly the sample's 'O' level performance was better than the national average, where 50% of school leavers in 1976 did not get one 'O' level pass. The 1976 statistics show that 26% of school leavers achieved 1 - 4 'O' level passes, as most in this sample. This apparently shows that the academic level of this sample is higher than the national average. However it in no way compares to the tiny minority of sixteen year olds in public schools, who concentrate on academic
achievement, and represent most of those leaving school with 'A' level passes. The sample is comparable, in academic achievement, to over a quarter of Britain's school leavers, which is a formidable number of adolescents.

Yet, the sample is specific in one aspect - because the schools are boarding schools. None of the references quoted above mention boarding schools except in the bracket of public schools which are financially independent and form a tiny atypical percentage of secondary schools, and in the bracket of ESN or 'other special school' which house even less than 1% of Britain's sixteen year olds. 1% of those in the National Children's Bureau's (NCB) study were actually in care of local authorities. Therefore the fact that the adolescents in the present study were boarding makes them different from the majority of British adolescents. The results of this study can be generalized only to the extent that the boarding school is not an independent variable in the development of identity in adolescence. Controlling for this would have necessarily considerably increased the sample size, but should be done in a further study of this topic.

The parental occupations of the sample are comparable with those of the NCB sixteen year olds where 34% were in white collar jobs and 43% in skilled manual jobs. Another point of similarity is that 96% of the NCB adolescents were British born, and of European or Caucasian origin, so that in this respect the present sample is again representative.

The NCB study also had to admit refusals by subjects to cooperate in the study. Most of the questionnaires were filled in at some point in the last six months before leaving school, and 6% of the subjects refused. Therefore the drop-out rate of the present study is not alarming (likewise, 6% before the children left school, but 12% after leaving school).
Again, the percentage of children from disturbed homes is not alarming, since the NCB study found that 18% of their adolescents lacked one natural parent present. It is reasonable to assume that many more had experienced environmental disturbances even though both parents were still about. But of course, the fact that the schools provide boarding means that a good percentage of children with this problem will attend.

Finally how typical are the occupations of the school leavers in this study? The 1976 statistics show that 62% of school leavers seek employment, 11% continue to higher education, and 10% enter vocational courses. However these statistics include many who leave school over the age of sixteen, and therefore they do not provide a fair comparison. The NCB study was carried out before the children left school. However it was shown earlier that the children of the present sample have a higher than average academic achievement and therefore it is not surprising that more than the British average continue to further education and fewer sought employment.

4.6 Procedure

Subjects were initially told, by the headmaster in one school and by the deputy head in the other, that a psychologist who was conducting research on school leavers would like to interview them, and would be grateful for their participation. They were told that all information would be treated as strictly confidential. Anyone with strong reasons for not participating in the research project was given the option to refuse by informing the head (or deputy head).

Subjects were given three individual interviews with the same
interviewer, the author. The first was at some time between October 1974 and January 1975, approximately six months before their leaving school. The second was between June and early July 1975, a few weeks or days before their leaving, and the third was between late October 1975 and January 1976. The standardized test of temporal orientation was administered to the subjects as a group in each school in January 1975, on completion of the first set of interviews, with the instructions of the authors of the test, as explained in Appendix VIII.

In one school, the first and second interviews were held in a little room full of material about careers for school-leavers, next to the headmaster's office. Subject and interviewer sat in easy chairs near a coffee table. The interviewer came to the school during school hours, returning home in the evenings. She had virtually no interaction with any member of staff in the school, besides the headmaster. In the other school, the first and second interviews were held in a small classroom which was not in use. Subject and interviewer sat near each other, near a desk. As this school was some distance away, the interviewer lived in the school for a week to do test one, and again for a week to do test two. Staying in the sick bay, she again had little contact with other members of staff. At mealtimes several teachers inquired about the study and were given similar explanations to those received by the children. The follow-up interview was done almost anywhere that could be arranged - usually over a cup of coffee in a coffee shop, but sometimes in the adolescent's home, in the interviewer's car, or in an empty common room at school or college. The adolescent was always allowed to choose where he could feel most at ease and at the same time feel he could talk without being overheard.

Every interview took the same format of questions and repertory grid and lasted approximately 60 - 75 minutes. It was initially necessary to
repeat that the study was of school leavers, involved a large population, and that information subjects imparted was converted to letters and numbers for computer analysis without their names being involved. Subjects were shown a grid matrix on IBM paper prepared for card punching, where rows were labelled A, B, C ... followed by ratings - a meaningless display to a layman. Confidentiality was stressed and subjects were encouraged to ask questions if they were doubtful about participating. It was frequently necessary to explain the difference between psychologist, psychoanalyst and psychiatrist and to calm fears caused by such labels. They were told that there were no right or wrong answers - that they should speak freely in the way that they believed and felt to be true. They were told that it would be a longitudinal study and that they would be interviewed again in the summer and yet again the following autumn, and their cooperation was requested. Thus, an attempt to put the subject at ease was made during this introduction which was then followed by the questions of the structured interview (see section 4.3.2 above).

The repertory grid test was then carried out. The subject was first asked to name all the people who were important to him in one way or another and each name was written on a separate card. The tester supplied three more: "self" (S), explaining this to mean as the subject sees himself now, "self as other see me" (OS) and "self as I will be in the future" (FS), explaining that this should refer to how the subject thinks he will be, and not how he would like, or wish, or want to be. These cards are the elements. The number of these the subjects chose was not limited by the tester.

With all these cards displayed in front of the subject, he was then asked to pick any three and to explain to the tester how two were similar, yet different from the third. Subjects were encouraged to
choose as many different combinations of three to compare and contrast. Meanwhile the tester noted the similarities and differences (the constructs). Again, the number of triads the subjects chose was not limited by the tester. Having elicited both elements and constructs, subjects were then asked to rate each element for each construct (which the tester read back to the subject) on a 7-point scale displayed in front of the subject where one pole of the construct represents one end (1) and the opposite pole of the construct represents the other end (7), as shown below.

very quite a little neither a little quite very
/------/------/------/------/------/------/------/
1 2 3 4 5 6 7

For example, if the element being rated was "brother" and the construct was "nervous - stable" and the subject thought the brother a little stable, this element would have been rated 5 for this construct. In this way a matrix of ratings was obtained, representing the subject's own judgements in his own terms of people he had chosen as being significant. This form of the repertory test was repeated on two subsequent occasions (immediately prior to leaving school, and after the adolescents had left). In the subsequent tests, elements and constructs were elicited afresh, although S, OS, and FS were again provided. In order to be able to calculate consistency or change, the elements and constructs which had been included on the prior testing yet excluded in the subsequent testing were provided by the tester for the subject to rate again. Grids were then ready for analysis.
In this thesis, when the word "test" is used unqualified, it refers to a period during which the rep. grid test and the structured interview was carried out. "Test 1", "test 2", "test 3", therefore refer to the time (Oct.'74 - Jan.'75, June-July '75, and Oct.'75 - Jan.'76 respectively) at which the rep. grid tests were carried out. "Grid one" refers to the grid elicited at test 1, and which was re-rated at test 2 for the purpose of calculating test-retest correlations (see p.176). "Grid two" refers to the grid elicited at test 2, and which was re-rated at test 3. The grid elicited at test 3 is "grid three".
4.7 PROCEDURE FOR ANALYSIS OF RESULTS

The dependent variables of identity, it will be recalled, are the self definitions, identifications, the two aspects of perceptions of self sameness and self continuity and identity diffusion. Using these measures the hypotheses stated earlier may be tested.

4.7.1 SELF Definitions

Self definitions were elicited through the eliciting of constructs. Quantitative, percentage change over time of constructs is calculated from the number of old constructs omitted from the first test \(N_\) divided by the first total number of constructs \(T_1\) and the number of new constructs added \(N_\) divided by the new total \(T_2\) in the following simple formula:

\[
\frac{(N_+)^2}{T_2} + \frac{(N_-)^2}{T_1} \times \frac{100}{1} = \text{percentage change, C%}
\]

Some pilot work was needed for the qualitative analysis of constructs. It was mentioned earlier that Landfield (1971) proposed a classification system involving twenty-two categories which he described in detail, giving examples of what constructs can or should not be included. He also provided a dictionary of possible constructs with their possible categories.
However, Landfield's vocabulary is American and very different to that of the adolescents in the present study. Thus one word may have a different meaning in English to American, let alone the fact that it may have a different meaning to different subjects using the same word. A modification to Landfield's classification was made by Sperlinger (1976) in a British study. Landfield's procedure was modified so that (a) construct dimensions were rated, rather than rating the two poles of the construct separately; (b) constructs were placed in what seemed to be their most appropriate category, rather than placing them in all the categories that might be considered appropriate; (c) a "non-classifiable" category was added - to include, for example, constructs where the two poles indicated two different categories; (d) Landfield's categories, "Comparative" and "Qualifiers" were excluded. Sperlinger had constructs categorized in this way by two independent judges, and achieved agreement between them on only 58% of the constructs categorized. The judge has to make a subjective decision about the meaning of each construct, which defeats one of the purposes of using grid methodology. It seems, therefore, that to classify constructs in this way is of limited reliability.

Another method of classifying constructs from grids has been used by Duck in his (British) studies of student friendships (Duck 1973, Duck & Allison 1978, Duck and Craig 1978). Duck has adapted Landfield's categories of "Factual Description" ("A characteristic so described that most observers could agree that it is factual. A fact would be a characteristic not open to question."), "External Appearance" ("Any statement describing a person's appearance which may be either more objective or more subjective.") and "Social Interaction" to form four categories, i.e. (a) "Fact" to include objective descriptions, (b) "Physicalistic" to include Landfield's "external appearance", (c) "Role" to include status and self referent constructs, and (d) "Interaction" to include
constructs focussing on behaviour in face-to-face ongoing social interaction. All Landfield's other categories have been lumped together to form a fifth category, "Psychological". Interrater reliability for assigning constructs to categories, calculated from 3 independent raters, was found to be high and significant. They were able to assign all constructs to one or other of these categories. The most important category of constructs used by 15½ year olds in a Rep. test used to investigate personality similarity in friendship choice was "Fact" accounting for 47% of constructs, followed by "Psychological" accounting for 22% of constructs (Duck 1973). In a longitudinal study of friendship choice of first year university students (an older sample of subjects), "psychological" and "role" constructs were found to be those predicting friendships eight months later (Duck & Craig 1978). Indeed, other researchers have found a trend with age from the dominant use of factual, concrete constructs, to greater use of psychological constructs (Bigelow 1973, Brierly 1967, Little 1968).

In spite of these reservations, Sperlinger's modification of Landfield's classifications was done on the constructs of a random 15 subjects. The categories of "Social Interaction" and "Forcefulness" were the categories of constructs most frequently used by all subjects throughout the year, also the most frequently used categories by Landfield's college subjects. "Social Interaction" was defined by Landfield as including "any statement in which face-to-face, ongoing, continuing interaction or lack of face-to-face, ongoing, continuing interaction with others is (clearly) indicated" (1971). "Forcefulness" was defined as including "any statement denoting energy, overt expressiveness, persistence, intensity, or the opposite, e.g. aggressive, ambition, avoids people, bigoted, creative, critical, devil-may-care, extrovert, sense of humour, impulsive, independent . . ." (1971). "Forcefulness" was also a frequent category in Sperlinger's study,
but the category of "Emotional Arousal" was more popular than that of "Social Interaction"—hardly surprising as half the subjects were depressed patients. ("Emotional Arousal" was defined to include "any statement denoting a transient or chronic readiness to react with stronger feelings such as anger, anxiety, disgust, enthusiasm, fearfulness, grief, joy, nervousness, surprise, yearning, etc." 1971) The categories that became more frequently used over the year in the present study were "Self Reference" and "Tenderness", defined by Landfield respectively as "any statement in which the person taking the test refers directly to himself", and "any statement denoting susceptibility to softer feelings toward others such as love, compassion, gentleness, kindness, considerateness, or the opposite".

In view of the fact that the psychological constructs are likely to be of interest in a study of identity, it should be of interest to subdivide this category into meaningful components. This can only be done by looking at the constructs elicited.

In this study 2,446 constructs were elicited. To get an idea of what constructs are most frequently used, an initial survey of their content was made. The main themes of the constructs are:

1. personal characteristic referring to ME
2. social acceptability
3. mood, temper
4. interests, hobbies
5. sense of humour
6. ambition, hardworking
7. fashion, appearance
8. intelligence, thinker
9. money
10. same/different ideas
(11) maturity
(12) temporal orientation
(13) independence
(14) family
(15) old-fashioned - young ideas
(16) smoke
(17) music
(18) drink
(19) beliefs - social, religious, political
(20) personality

The last category, personality, was subdivided into ten further categories, characterized by the following words, and their polar opposites - argumentative, nervous, quiet, selfish, life-style, happy, worries, interfering, perfectionist, sensible. (1) to (5) and (20) were used very frequently by the majority of subjects. However these are too many categories to be reliable in any way, so they were intuitively reduced to seven, plus "unclassified", for easier interpretation. Constructs were rated independently by two judges for a sample 32 subjects. The categories and inter-judge agreement are shown in Table 2 below. The inter-judge agreement was calculated as the percentage of the total number of constructs placed in each category that the judges agreed upon. The number of constructs in each category which have been agreed upon is also shown.
Table 2: Pilot categorization of constructs of 32 subjects

<table>
<thead>
<tr>
<th>Categories</th>
<th>judge agreement</th>
<th>number of agreed constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship to me (A)</td>
<td>96%</td>
<td>87</td>
</tr>
<tr>
<td>Sociability (B)</td>
<td>55%</td>
<td>74</td>
</tr>
<tr>
<td>Affect (C)</td>
<td>79%</td>
<td>83</td>
</tr>
<tr>
<td>Interests (D)</td>
<td>92%</td>
<td>71</td>
</tr>
<tr>
<td>Personality (E)</td>
<td>55%</td>
<td>45</td>
</tr>
<tr>
<td>Life style and work (F)</td>
<td>72%</td>
<td>67</td>
</tr>
<tr>
<td>Abstract thought (G)</td>
<td>64%</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>436</strong></td>
</tr>
</tbody>
</table>

Total number of constructs classified: 687. Therefore, 63% overall agreement in this categorization.

There have been numerous attempts by psychologists to define personality by descriptive ratings (not using grid methodology), the best known being that of Cattell (1957). The attempts involved factor analysing personality trait ratings (e.g. Cattell, 1957), peer nomination ratings (e.g. Norman, 1963), simple adjective rating scales (e.g. Tupes & Christal, 1961; Veldman & Parkes, 1970). In the results of four different studies, with different populations and different rating scales, five main factors have been found, described by Hammond (1977, pp 55-6) and confirmed by Sealy (private communication).
Factor 1: "This factor has very high factor loadings (.5 or higher) on 9 rating scales, all of which are concerned with a good-natured, mild trustful, and cooperative approach to interpersonal relations. It has been labeled by French (1953) the Agreeableness factor..." (Hammond 1977). Constructs in this category, for example, would be good-natured - irritable; not jealous - jealous; mild, gentle - headstrong; cooperative - negativistic.

Factor 2: "The eight rating scales with loadings above .50 are concerned with sociability, openness, talkativeness, and energetic assertiveness" (Hammond 1977). This combination has frequently been termed "surgency", coined by Cattell, or "extraversion". Constructs in this category would include, for example, talkative - silent; frank, open - secretive; adventurous - cautious; sociable - reclusive.

Factor 3: "The four rating scales which have high loadings on this factor are concerned with emotional integration and the lack of neurotic manifestations." (Hammond 1977). Constructs in this category would include placid - anxious; poised - nervous, tense; composed - excitable; not hypochondriacal - hypochondriacal.

Factor 4: "This factor has five large factor loadings and four more substantial ones. The main ratings concerned are orderly, responsible, persevering, conscientious, and cautious - all of which imply a deliberate and persistent application to the carrying out of tasks." (Hammond 1977). This factor can be called "conscientiousness". Constructs in this category might be, for example, fussy, tidy - careless; responsible - undesirable; persevering - fickle; scrupulous - unscrupulous.

Factor 5: "This factor has high loadings on intellectual, independent minded, and polished." This factor has been labelled "Culture" by French,
and also by Tupes and Norman. Hammond explains that "Whereas the previous factor was concerned with the means for carrying out tasks, this one is more concerned with the person who is trained to make sophisticated, independent judgements about the means and the ends involved." Thus there is some overlap between the last two factors. Examples of constructs in this category might be; intellectual - unreflective, narrow; polished, refined - crude, boorish; imaginative - simple, direct.

To choose the most meaningful categories it was therefore decided to keep the "interests" and "relationship to me" categories from the author's former analysis, as they appeared to be highly reliable; to add the "fact" and "physical" categories of Duck's and Landfield's since these are not provided for in the other categorizing systems; to break "social interaction" down into "extraversion" and "agreeability", in order to separate out the constructs that could have been slotted equally well into social interaction or personality; to make "affect" more accurate by redefining it as "emotional stability"; and to use the established factors of "conscientiousness" and "culture" for the remaining personality characteristics. However in view of the potentially important characteristic of temporal orientation which does not obviously fit into any of the above, a tenth category for constructs referring to this was added. Furthermore, two sources of error in the analysis of Table 2 were constructs referring to money, e.g. economical, wise-spender; overgenerous - generous with reason, or stingy . . . and constructs referring to maturity, e.g. juvenile - mature; wants to stay a child, or childish - mature, or adult . . . Therefore these two were also given categories of their own. Constructs were then sorted by two independent judges, both psychologists who were presented with each construct on a separate piece of paper in random order (obtained simply by shuffling). Out of
a total of 2,446 constructs elicited, 244 could not be categorised (i.e. 10% of the total, proving the categories to be reliable), either because the judges disagreed as to the appropriate category, or because the construct had to remain unclassified, being judged unsuitable for any of the provided categories. Of these, 49 constructs referred to sense of humour, being not obviously extraversion or agreeableness, e.g. good sense of humour - dry sense of humour, can't see a joke; sarcastic - "a hoot"; makes one laugh - sensible and knows when to stop; jokes about life - serious . . . Since many humour constructs were classifiable as either extraversion or agreeableness, it was decided not to make a separate category of humour.

4.7.2 IDENTIFICATIONS

Quantitative percentage change over time (C%) is calculated for elements as for constructs according to the formula in section 4.7.1, but where N and T refer to the number of elements.

Qualitative analysis of identifications had to be done by categorising the types of elements chosen. The categories were quite easily defined as peer, older peer (17 - 25 years), mother, father, teacher, grandparent, other adult, younger sibling.
4.7.3 MEASURES OF SELF SAMENESS AND CONTINUITY

To provide validation for the analysis of the grid matrix, two different analyses were done of the ratings, which are not directly related and which in the ten pilot tests were found to be significant. Product moment correlations between the ratings of two elements on a grid, or of ratings of the same element at two testings of the same grid, are done in the usual manner of calculating correlation coefficients from the covariance and standard deviations of the two sets of ratings. The correlation coefficient will of course be between -1 and +1. The distances between elements, however, are derived from a far more complicated mathematical calculation devised by Slater (1972, 1977). The theoretical assumption behind the notion of "distance" was explained earlier in this chapter. "Distance" is the label given to a measure of the relationship between elements in a person's psychological "space". The observed distance ($d_{ij}$) between two specific elements ($i$ and $j$) is calculated from the actual ratings of the constructs for those specific elements; these ratings are the coordinates of each element in the construct space. Specifically, $d_{ij}$ is calculated from the sums of squares of normalised residuals - normalised so that the variance for each construct is equal. The expected distance, $e$, is the expected distance between a pair of elements picked at random from the grid and is calculated from the formula $\sqrt{(2V(m - 1))}$ where $V$ is the total variation about construct means and $m$ is the number of elements. The distance measure used in this study is the ratio of $d_{ij}/e$, giving a normalised index. Slater (1977) explains the mathematics of this measure, which has been widely used in the analysis of repertory grids, and has been found to be useful in a variety of settings (e.g., Fransella & Bannister 1977). A minimum of zero indicates that elements are seen as totally similar, a mean of 1
indicates elements are indifferent to each other, while a distance of 2 indicates dissimilarity. The measure of distance between two elements is a measure of relationship in the context of other relationships, and not simply a correlation between two isolated elements. The cosine of the angular distance between two elements is also a correlation (Slater 1977), but it is not the same as the product moment correlation mentioned above, since it is calculated from the normalised residuals, and not from the original ratings of only two elements. Thus where the product moment correlation between two self elements is found to be 1 (i.e. all ratings are identical) the distance between these two elements may be found to be, for example, 0.2 and not zero since the distance is calculated as a function of the expected distance between any pair of elements in the psychological space.

It has already been noted that the relationship between the correlation measures and the distance measures of self sameness and self continuity is not direct. Generally where a high correlation is found, a small distance is found and vice versa. However, as the distance measure is calculated from far more data, i.e. from the expected distance between elements on the grid, in some cases this causes the distance to be different from the correlation, for example, not as small as the correlation is high. Each analysis is valid for the analysis of grid data, and both have been used before. Where the results of one analysis confirm the results of the other, then they must be taken seriously. When they do not, then their validity is open to question.

4.7.4 MEASURE. OF IDENTITY DIFFUSION

Rather than oversimplify the data and take an average of self element correlations (as Hauser has done), diffusion is measured from the scatter of self elements in the person's psychological space. It is calculated
as the area of the triangle defined by the three self elements (S, OS, FS) in this space, from the distances of the three sides; S-OS, S-FS, OS-FS.

4.8 POSSIBLE SOURCES OF ERROR

a) In the subject. The problem of "response style" may exist in the Q sort measure used. In a few cases, it obviously did occur and subjects were asked to redo the questionnaire. However, the questionnaire used is an established test, standardized on students, and as the subjects in this study were of average intelligence they should not have needed to guess answers.

Only a subjective guess may be made at the extent of error caused by response style in the grids and interviews. The experimenter had been introduced to the subjects as a "psychologist" which undoubtedly most associated with "psychiatrist" and many subjects were therefore very nervous. However the distinction was clarified at the beginning with the assurance that no mental problems were being looked for or treated, there would be no right or wrong answers, there would be full confidentiality, and that the study was of a large number of 16 year old school leavers who were to be followed up to see what they were doing after having left. In this way an attempt was made to put subjects at ease. Most subjects were very open and wanted to chat on and on about themselves and their friends, but a very few obviously were not very forthcoming and it was difficult to know whether the full picture was being presented. All of these chose to drop out of the study at test 2 or 3 and therefore those that stayed in probably have little error of this sort.
A possible source of error lies in the use of constructs and rating scales - were the subjects' constructs really bipolar dichotomies as they are assumed to be in the theory that underlies the methodology? Is the rating of 7 at one extreme of the scale really the opposite of the rating of 1 at the other end? Is each construct applicable to each element? These are possible sources of error variance, but they are likely to be consistent for each subject from test to test. Therefore when each subject is used as his own control, which he is if one is looking at his change from test to test, then this error variance may be assumed to be constant. It is only when one subject's ratings are compared with another subject's ratings that error may interfere.

b) In the subject population. This was believed to be psychiatrically quite homogeneous, a "normal" population, where normal refers to not psychiatrically ill and therefore error due to thought disorder is unlikely. Differences in findings between possible subgroups in the subject population are also unlikely to be due to error, if they are significant. There is no reason to believe that those who dropped out of the study are in any way special, since the majority were not followed up due to environmental factors, not due to personality variables. Furthermore, the population was fairly homogeneous, as regards socio-economic class and therefore this was not an independent variable in this study.

c) In the experimenter or tester. For the questionnaire test, printed instructions were given to each subject, and these were also read out to the subjects as a group. The interview questions were absolutely standard, the same wording was used for every interview, and the grid test was also done in the same way each time, as explained in the section on "procedure". Where subjects were more reticent they were helped by repeating the instructions to initiate more sampling of triads, comparisons
and differentiations. This was to try to ensure that as much as possible of the person's construing was in fact represented.

The questionnaire test was scored using the score sheet provided by the designer of the test, and the matrices were filled in by the interviewer as each element was rated on each construct. Elements were written in the subjects' own words and put on to cards which were displayed in front of the subject. Constructs were likewise written in the subjects' own words, and were read back to each subject when the elements were rated. Therefore no scoring manual was needed. The analyses of the grid data is explained above and in the chapter on 'Results'. The only serious question which the grid test raises in this study is whether a different tester would have produced the same results with the same subjects using the same techniques of investigation. This question cannot be answered. However perhaps another tester would have elicited more information from some subjects and less from others, but as a large number of grids were performed, it seems fair to assume that about the same amount of error would have been made by any other tester. The tester was careful not to supply constructs for the subjects, and only their own words were used.

d) In the subject-tester interaction. The problems of incomplete sampling of constructs and elements have been discussed under the separate headings of error in subject, and error of tester, but they also come under this heading. No validational feedback was given - no feedback at all was given to the subjects.
5. RESULTS

The present study is of the development of identity in adolescence. The development of identity, it has been explained, may be observed in (a) changes of self-construing, (b) changes in identifications, (c) the diffusion of self perceptions, (d) the perceptions of self sameness and (e) the perceptions of self continuity over time.

The first section of this chapter deals with assessments of consistency in measures obtained from the grid, in order to ascertain the reliability of the measures used in the testing of hypotheses.

Hypotheses regarding the effect of certain independent variables - transition from school, vocational commitment, temporal orientation, early environmental disruptions, and sex - on the developments of identity have been put forward in the previous chapter. It is now possible to test these hypotheses. In the second section of this chapter the seven hypotheses will be tested one by one from grid data, thereby assessing change in the dependent variables of identity as a function of the independent variables. Strictly speaking, as the hypotheses predict the direction of significant effects to be found in the table of results, one-tailed tests of significance should have been used. However, in actual fact many of the results showed trends in the opposite direction to that predicted, and therefore two-tailed tests were used - where a one-tailed test would have been justified, the significance quoted here would therefore be conservative, and the value of $\alpha$ in $p < \alpha$ would be halved.

In the third section the interview data is set out, for later use (in chapter 6) in assessing the validity of findings obtained by the grid technique.
A note about 'n'

At test 3, due to limitation of time in some of the interviews, grid two was not repeated, only grid three was elicited, which explains why in Table 1 n for grid two is 27 and not 41. Furthermore, unfortunately the grids of 3 subjects, 2 of whom dropped out after test 1, were mislaid after the distances had been calculated but before the correlations had been calculated which explains the discrepancies of n between Tables 18 and 19, 21 and 22, 28 and 29, 30 and 31. This error does not affect the significance test in Table 18, but in Table 22 the missing correlations might have led to the significances found in Table 21 being confirmed. In Tables 28 and 31 it is unlikely that one missing correlation would have altered the significance found.
5.1 ASSESSMENTS OF CONSISTENCY IN MEASURES OBTAINED FROM THE GRID

The grid method was chosen for the advantage of being able to measure change. However certain assessments of consistency were calculated to ascertain the reliability of the measures used in the testing of hypotheses.

5.1.1 TEST-RETEST CORRELATIONS

Since the grid was repeated twice, test-retest correlations ($r_{tt}$) could be calculated for those parts of the grid that were the same, even though the time interval was as much as six months.

a) For elements

A measure of consistency may be made by comparing the ratings on test and retest of specific elements. When comparing the ratings of the same elements on the same constructs the mean general $r_{tt}$ of grid one was found to be 0.64 and of grid two, 0.68 for a random ten subjects, which shows acceptable consistency and which, for an average of 14 and 11 constructs respectively, is significant at the 2% level. However, this correlation for element ratings should be broken down in order to look at the elements of particular interest, which in this study are the elements S, OS, FS (self, self as others see me, and self as I will be in the future). The mean $r_{tt}$'s for these elements are shown in Table 1.
### Table 1: Mean $r_{tt}$ of elements S, OS, FS

<table>
<thead>
<tr>
<th>Element</th>
<th>Grid One Test 1-2</th>
<th>Grid Two Test 2-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>$\bar{x} = 0.64^{**}$ ($s = 0.22$)</td>
<td>$\bar{x} = 0.66^{**}$ ($s = 0.24$)</td>
</tr>
<tr>
<td>OS</td>
<td>$\bar{x} = 0.65^{**}$ ($s = 0.21$)</td>
<td>$\bar{x} = 0.58$ ($s = 0.34$)</td>
</tr>
<tr>
<td>FS</td>
<td>$\bar{x} = 0.58^{*}$ ($s = 0.28$)</td>
<td>$\bar{x} = 0.70^{**}$ ($s = 0.23$)</td>
</tr>
</tbody>
</table>

** $p < 0.02$

* $p < 0.05$

Table 1 therefore provides an overall measure of continuity of self perceptions over time. The relatively lower $r_{tt}$ of FS on grid one and of OS on grid two is of great interest, and will be discussed in the next section. However, for the self element (S) many subjects had correlations higher than 0.90 while the ratings of only three subjects were totally uncorrelated. A correlation of over 0.90 for one's self rating after an interval of six months shows remarkable consistency in the subject's self perception. However, although such correlations have been used as an index of stability of self concept in the study of identity they merely quantify the difference of a repeat rating of a former analysis and are an accurate index of stability only of a former self concept. In the present study, it was found that new constructs were added, and old ones are dropped or restructured, showing that the subjects' self perceptions are in fact qualitatively slightly different at each testing. It should be remembered that $r_{tt}$ of grid one is the correlation of grid one at test 1 and grid one at test 2 and *not* the correlation of grid one at test 1 and grid two at test 2.
b) **For constructs**

The mean general coefficient of correlation, though showing very acceptable consistency, is, however, relatively meaningless since some of the construct ratings were extremely stable. Correlations were as high as 0.98 for certain personality traits, such as "quiet - talkative", whereas others were understandably unstable, such as "thinks ahead - lives for the moment" with correlations approaching zero. Therefore to look only at the general coefficient means that much information is lost. One would expect, however, that a personality trait of talkativeness is unlikely to change drastically over six months while the subject is still at school. A quiet schoolgirl is expected to remain a quiet schoolgirl for as long as she is still at school, but a construct which is the centre of conflict for the subject may no longer assume importance once the conflict has been resolved, and therefore one expects it to be unstable. So in this sense, the grid appears to be a reliable assessment. All of the ten subjects had constructs with \( r_{tt} \)'s of over 0.85 (with a mean high of 0.92) which shows remarkable consistency over six months. Since the grids involved approximately 160 ratings, the influence of memory in providing such high correlations is most unlikely.

5.1.2 **INTER-ELEMENT CORRELATIONS**

Comparisons of grid one at test 1 and grid two at test 2 are not made by comparing ratings of identical elements, since the constructs are no longer identical. The comparison can be made by comparing correlations between pairs of elements (S-0S or S-FS), even though the constructs rated are different. These are shown in Table 2 and again show remarkable consistency over time.
Table 2: Mean Correlations between Self Elements

<table>
<thead>
<tr>
<th></th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-OS</td>
<td>0.74***</td>
<td>0.74***</td>
<td>0.75***</td>
</tr>
<tr>
<td></td>
<td>(s = 0.21)</td>
<td>(s = 0.23)</td>
<td>(s = 0.24)</td>
</tr>
<tr>
<td>S-FS</td>
<td>0.64**</td>
<td>0.67*</td>
<td>0.68**</td>
</tr>
<tr>
<td></td>
<td>(s = 0.24)</td>
<td>(s = 0.28)</td>
<td>(s = 0.30)</td>
</tr>
</tbody>
</table>

*** p < 0.01; ** p < 0.02; * p < 0.05

5.1.3 INTER-ELEMENT: DISTANCES

However, it will be recalled that the grid method enables one to study psychological space, which is defined by characteristics of identifications with significant others. The relationship between two elements can also be thought of in terms of the "distance" of these two elements in a person's psychological space.

One has to ask under what conditions one would expect stable patterns of interrelationships between elements and when one would expect less stable patterns. If the interrelationships of elements are similar from test to test, this must be one measure of stability of a subject's perceptions of his social environment and his own identity. Table 3 shows the mean distances found between self elements at the three testing occasions. It therefore provides an overall measure of consistency between self perceptions at different points in time.
Table 3: Relationships between elements.

Mean Distances between S-OS, S-FS elements at tests 1, 2, 3.

<table>
<thead>
<tr>
<th></th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-OS</td>
<td>0.51 (s = 0.21)</td>
<td>0.55 (s = 0.25)</td>
<td>0.53 (s = 0.31)</td>
</tr>
<tr>
<td>S-FS</td>
<td>0.57 (s = 0.19)</td>
<td>0.63 (s = 0.22)</td>
<td>0.53 (s = 0.28)</td>
</tr>
</tbody>
</table>

The mean inter-element distance found from random number grids of the same size as those elicited in the present study was 1.0. Indeed 95% of the inter-element distances from random number grids are between 0.8 and 1.2. The distances in Table 3 therefore show that the self elements are in fact interrelated.

5.1.4 IDENTITY DIFFUSION INDEX

Table 4 shows the interrelationship of the self elements combined into an index of identity diffusion - the area between the self elements in the psychological space, and again shows consistency over the year.

Table 4: Relationships between elements

Mean Index of Identity Diffusion (area between S, OS, FS elements) at tests 1, 2, 3.

<table>
<thead>
<tr>
<th></th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\bar{x}$</td>
<td>0.13</td>
<td>0.15</td>
<td>0.14</td>
</tr>
<tr>
<td>$s$</td>
<td>(0.09)</td>
<td>(0.10)</td>
<td>(0.12)</td>
</tr>
</tbody>
</table>

Considering that the mean area between three elements on a random grid of similar dimensions is 0.48, the findings in Table 4 provide a measure of the interrelationship of the self perceptions.
The adolescents being studied are in a state of social transition from a known boarding school where they have spent several years, to a new relatively unknown environment. One therefore expects new identifications to be formed (with old relationships becoming less relevant) and therefore the interrelationships of elements are expected to be different from test to test. Indeed, rank order correlations between tests of the distance of elements from S were not significant. Furthermore, as the environment and identifications change, so the adolescent may need to change, too, by forming new constructs and reassessing himself in the light of his old constructs. The expected change of both identifications and construing forms the first two hypotheses of this study.

5.2 ASSESSMENTS OF CHANGE - THE TESTING OF HYPOTHESES

5.2.1 EFFECT OF TRANSITION ON CONSTRUING

The first hypothesis stated that "Adolescents are expected to make qualitative changes in their construing of themselves when in social transition caused by leaving school." Thus,

a) self ratings on old constructs will be altered, observable in the correlation of each self element on the same grid at different tests.

b) new constructs are expected to be formed and old ones dropped.

a) Consistency of self construing

Table 1 showed the mean correlation of each self element on the same grid at different tests. All the $r_{tt}$'s except two showed significant consistency. The previous self definition - the manner in which the subjects perceived themselves - remained fairly constant; yet, the way they perceived others to see them (OS), at test 3, after leaving school was different from OS at test 2. This finding shows realism and adaptation on the part of the subjects. They obviously appreciate
that after leaving school there will be some changes in themselves and that in a new social environment others may perceive them differently from the way they are used to perceiving themselves.

b) Overall measure of change of construing

An overall measure of change, C%, was quantified by the number of new constructs used (N+) and the number of old constructs dropped (N-). Table 5 shows the mean numbers for the group as a whole:

<table>
<thead>
<tr>
<th></th>
<th>before transition</th>
<th>after transition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>test 1 - 2</td>
<td>test 2 - 3</td>
</tr>
<tr>
<td>N_</td>
<td>( \bar{x} = 6 )</td>
<td>( \bar{x} = 5 )</td>
</tr>
<tr>
<td></td>
<td>(s = 2.6)</td>
<td>(s = 2)</td>
</tr>
<tr>
<td>N_</td>
<td>( \bar{x} = 4 )</td>
<td>( \bar{x} = 3.5 )</td>
</tr>
<tr>
<td></td>
<td>(s = 2)</td>
<td>(s = 2.2)</td>
</tr>
</tbody>
</table>

The mean percentage change from test 1 to test 2 was 39.9% (s = 13.5) and from test 2 to test 3 was 37.7% (s = 13.9). This is quite comparable to Hunt's figure of 70% consistency when retesting with the same elements only (Fransella & Bannister, 1977).

These figures give quantitative support to the first hypothesis, since they show that changes in the environment, and even only predicting changes in the environment, may require the adolescent to find new constructs to anticipate new events. These constructs could initially be used for
new experiences in new social interactions, but they could lead to a reappraisal of former self definitions.

c) Qualitative analysis of construing

Qualitative analysis of the constructs was done by categorising them as described in the previous chapter. Table 6 shows the percentage of the total number of subjects using each category at each test. The categories are displayed in the rank order of popularity found at test one.

Table 6: Percentage subjects using each category at each test

<table>
<thead>
<tr>
<th>Category</th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>93</td>
<td>93</td>
<td>98</td>
</tr>
<tr>
<td>Relationship to Me</td>
<td>84</td>
<td>79</td>
<td>83</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>83</td>
<td>81</td>
<td>80</td>
</tr>
<tr>
<td>Interests</td>
<td>79</td>
<td>74</td>
<td>76</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>69</td>
<td>65</td>
<td>71</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>67</td>
<td>71</td>
<td>61</td>
</tr>
<tr>
<td>Culture</td>
<td>44</td>
<td>44</td>
<td>49</td>
</tr>
<tr>
<td>Fact</td>
<td>31</td>
<td>24</td>
<td>7</td>
</tr>
<tr>
<td>Physical</td>
<td>22</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Money</td>
<td>21</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>Temporal Orientation</td>
<td>17</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Maturity</td>
<td>10</td>
<td>16</td>
<td>10</td>
</tr>
</tbody>
</table>
It is easy to see that the order changes very little with time - throughout, the four most popularly used are the categories of constructs referring to extraversion, relationship to me, agreeableness, and interests; followed by conscientiousness and emotional stability, then culture. At test two, temporal orientation moves up in rank while physical constructs are less frequently used, and at test three, fact constructs are also rarely used.

Out of a total of 2,446 constructs elicited altogether, 244 could not be categorised (i.e. 10% of the total), either because the judges disagreed as to the appropriate category, or because they agreed that it had to remain unclassified, being unsuitable for any of the provided categories. Of these 49 constructs referred to sense of humour (only 2% of the total at each test).

The percentage of the total number of constructs in each category at each test is shown in Table 7.
Table 7: Percentage of constructs per category at each test

<table>
<thead>
<tr>
<th>Category</th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>15</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Relationship to Me</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>16</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Interests</td>
<td>13</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>9</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>8</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Culture</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Fact</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Physical</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Money</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Temporal Orientation</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Maturity</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unclassified</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>~100</td>
<td>~100</td>
<td>~100</td>
</tr>
</tbody>
</table>

One word of caution to be added is that many of the constructs included in "Relationship to Me" could have been put into "Agreeableness", e.g. gets on well with me, but since these constructs were egocentric they were categorised separately in the category of "Relationship to Me".
Thus the qualitative analysis of constructs shows that the new constructs used are in fact in the same categories as those that are dropped.

d) **Awareness of construct changes**

That the subjects were aware of the necessity of changing self definitions during the transition year, was apparent from the data gathered in the structured interview reported in section 5.3 below.

The first hypothesis is therefore not fully supported, both the qualitative nature of the constructs and the \( r_{tt} \)'s for S show remarkable consistency implying that the overall change of construing that was indeed found (C%) reflects simple semantic changes in the repertory grid, and not a reappraisal of former self definitions. Slight changes in FS at test 2 and in OS at test 3 are realistic and adaptive to social transition.

5.2.2 **EFFECT OF TRANSITION ON IDENTIFICATIONS**

The second hypothesis stated that "Adolescents are expected to form new identifications when in social transition caused by leaving school".

a) **Consistency of identifications**

Changes in relationships with significant others may occur because the adolescent perceives the others to have changed, and/or because he thinks he himself changed. In this study, the \( r_{tt} \)'s of elements other than self elements show considerable variation between subjects. For example, one subject rated his father consistently the same at all three tests (\( r_{tt} \) test 1-2 = 0.92, test 2-3 = 0.97) whereas another subject
saw his father in quite a different light after leaving school
\((r_{tt} \text{ test 1-2} = 0.64, \text{ test 2-3} = 0.15)\). Similarly some changed their
perceptions of their friends and teachers, which is quite to be
expected, \((r_{tt}'s\text{ for some friends approximated to zero})\), whereas others
maintained very stable perceptions of their friends and teachers
\((r_{tt}'s > 0.92)\). Individual differences are expected, and were indeed
found.

b) **Overall measure of change of identifications**

In order to draw conclusions about the group as a whole, a less
specific measure of change had to be used. All subjects found new
people significant as they changed to a new environment. Some old
friends were dropped, others were kept, and new ones were formed.
The mean number of elements discarded \((N_-)\) and the mean number of
elements added \((N_+)\) are shown in Table 8. (The standard deviation is
approximately 2.0.)

<table>
<thead>
<tr>
<th></th>
<th>test 1-2</th>
<th>test 2-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N_-)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>(N_+)</td>
<td>2</td>
<td>2 - 3</td>
</tr>
</tbody>
</table>

This shows that the process of changing identifications and dropping old
"significant others" occurred already before the adolescents left school.
The identifications dropped were mostly friends, but also teachers, and
those added were almost all friends. The mean percentage change from
test 1 to 2 was found to be 25.2% ($s = 11.0$) and from test 2 to 3 to be
27.1% ($s = 10.7$) for the whole population. This is one way of quantifying
change, although these percentages show that the majority of identifications
from the group as a whole were stable from test to test. The large
standard deviations show the extent of individual differences in
friendship patterns.

c) **Qualitative analysis of identifications**

A more qualitative approach to changes in identification is to look
at the person whom the subjects perceive themselves as being most similar.
An element with a very small or large distance from $S$ means that the
elements must be an important one in the subjects's construct system,
whether his attitude to it is consistently favourable or consistently
unfavourable, or even favourable in some respects and unfavourable in
others. The assumption in this study that the subjects identify
themselves as being similar to those elements at small distances and
dissimilar to those at large distances has been explained in the previous
chapter. Elements at distances close to 1 do not contribute to self-
identification since they are perceived as neither similar nor dissimilar.

The people whom the subjects perceived to be most similar to
themselves are shown in Table 9. Thus the majority of the adolescents
identified most closely with a peer, and this tendency became more
pronounced throughout the year of the study. It was further found that
the person subjects rated themselves as being most similar to was usually
different at each interview. (This was so for 81% of subjects interviewed
at test 2, and 88% of those seen at test 3.) Only one subject identified
most closely with the same person at each interview.
Table 9: Percentage of subjects identifying (by similarity) with certain people

<table>
<thead>
<tr>
<th></th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>peer</td>
<td>43%</td>
<td>56%</td>
<td>66%</td>
</tr>
<tr>
<td>older peer</td>
<td>12%</td>
<td>13%</td>
<td>12%</td>
</tr>
<tr>
<td>mother</td>
<td>7%</td>
<td>7%</td>
<td>12%</td>
</tr>
<tr>
<td>father</td>
<td>15%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>teacher</td>
<td>28%</td>
<td>6%</td>
<td>16%</td>
</tr>
<tr>
<td>other adult</td>
<td>10%</td>
<td>1%</td>
<td>7%</td>
</tr>
<tr>
<td>grandparent</td>
<td>4%</td>
<td>4%</td>
<td>0%</td>
</tr>
<tr>
<td>younger sibling</td>
<td>12%</td>
<td>10%</td>
<td>0%</td>
</tr>
</tbody>
</table>

The mean distance of the most similar person to self was 0.62, 0.61, and 0.58 at tests 1, 2, and 3 respectively (with standard deviations 0.15, 0.18, 0.21).

The people rated as most dissimilar are shown in Table 10.

However, the mean distance of the most different person to self was 1.34, 1.31, and 1.36 at tests 1, 2, and 3 respectively (with standard deviations 0.15, 0.16, 0.17).
Comparing parts of Tables 9 and 10 is shown in Table 11, and several facts emerge. It is clear that whereas adolescents increasingly choose peers as subjects for identification by similarity, they decreasingly find significant those peers whom they perceive to be different from them; more subjects rate at least one parent as being dissimilar to themselves (frequently, approximately 40%, a step-parent or estranged parent), compared to the number of subjects identifying by similarity with at least one parent; and also, significantly more subjects rate authority figures as being dissimilar.

### Table 10: Percentage of subjects rating certain people as most dissimilar

<table>
<thead>
<tr>
<th></th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>peer</td>
<td>32%</td>
<td>28%</td>
<td>20%</td>
</tr>
<tr>
<td>older peer*</td>
<td>9%</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>mother</td>
<td>10%</td>
<td>21%</td>
<td>20%</td>
</tr>
<tr>
<td>father</td>
<td>14%</td>
<td>7%</td>
<td>12%</td>
</tr>
<tr>
<td>teacher</td>
<td>10%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>other adult</td>
<td>5%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>grandparent</td>
<td>10%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>younger sibling</td>
<td>10%</td>
<td>13%</td>
<td>13%</td>
</tr>
</tbody>
</table>

* almost all (87%) are in fact older siblings.
Table 11: Percentages of subjects rating certain people as most similar and as most dissimilar

<table>
<thead>
<tr>
<th></th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>most similar</td>
<td>most dissimilar</td>
<td>most similar</td>
</tr>
<tr>
<td>mother</td>
<td>7% 15% 25% 10%</td>
<td>7% 9% 28% 21%</td>
<td>12% 15% 32% 20%</td>
</tr>
<tr>
<td>father</td>
<td>7% 15% 25% 14%</td>
<td>1% 9% 28% 7%</td>
<td>2% 15% 32% 12%</td>
</tr>
<tr>
<td>authority figure*</td>
<td>28% 39%</td>
<td>16% 46%</td>
<td>22% 44%</td>
</tr>
<tr>
<td>peer</td>
<td>43% 32%</td>
<td>56% 28%</td>
<td>66% 20%</td>
</tr>
</tbody>
</table>

* i.e. parent, teacher, other adult.
In conclusion, adolescents do form a few new identifications when in social transition caused by leaving school, as hypothesized, but there is no evidence that the changes in identifications are a result of the transition. A gradual continual process of small changes in identifications is observed equally between tests 1 and 2 and between test 2 and 3. But despite the transition from boarding school, an average 75% of the adolescents' significant social world remains significant. The 25% change stems from friends who are no longer perceived to be important. The trend observed over the year was that the adolescents increasingly chose peers as subjects for identification by similarity, rather than parents, authority figures or siblings.

5.2.3 EFFECT OF CONSTRUING AND IDENTIFICATION CHANGES ON IDENTITY DIFFUSION

The third hypothesis concerned the inter-relationship between dependent variables. Changes in construing and identifications are expected to cause changes in the identity diffusion index. The results were also analyzed to assess if a relationship exists between reconstruing and changing identifications.

a) Effect of construct changes

It was shown earlier in this chapter that the mean percentage change in construing for the group as a whole from test 1 to test 2 was 39.9% (s = 13.5). Thus, those subjects with more than 39.9% change altered their constructs more than the average for the group: similarly those subjects with less than 39.9% change altered their constructs less than the average. Thus the two groups of greater and less construct changing were created by using the mean percentage change as the cut-off point. When looking at change of constructs between test 1 and 2, 39.9% was the cut-off point, whereas between test 2 and 3, 37.7% was the cut-off point.

Table 12 and Figure 1 show the relationship between change in constructs and identity diffusion. The changes in diffusion for the subject showing
Table 12: Relationship between change in constructs and identity diffusion (area S-OS-FS)

<table>
<thead>
<tr>
<th>Area S-OS-FS</th>
<th>test 1 - 2</th>
<th>test 2 - 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>test 1</td>
<td>test 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>test 1</td>
</tr>
<tr>
<td></td>
<td>$\bar{x} = 0.15$</td>
<td>$\bar{x} = 0.12$</td>
</tr>
<tr>
<td></td>
<td>$x = 0.09$</td>
<td>$s = 0.10$</td>
</tr>
<tr>
<td></td>
<td>(s = 0.09)</td>
<td>(s = 0.10)</td>
</tr>
<tr>
<td>test 2</td>
<td>$\bar{x} = 0.16$</td>
<td>$\bar{x} = 0.15$</td>
</tr>
<tr>
<td></td>
<td>(s = 0.09)</td>
<td>(s = 0.10)</td>
</tr>
<tr>
<td>test 3</td>
<td>$\bar{x} = 0.12$</td>
<td>$\bar{x} = 0.15$</td>
</tr>
<tr>
<td></td>
<td>(s = 0.12)</td>
<td>(s = 0.12)</td>
</tr>
<tr>
<td>significance</td>
<td>N.S.</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Less change in constructs are not significant. However the reduction of diffusion from test 2 to test 3 for the subjects showing more change (>37.7% change) is significant; and the difference between the two groups at test 2 is also significant.

Figure 1: Relationship between change in constructs and identity diffusion (area S-OS-FS)

These results show that where there is minimal reconstruing, so there is also minimal change in identity diffusion. Likewise reconstruing before leaving school has no effect on identity diffusion. However, reconstruing after leaving school results in significant reduction of diffusion. All those who did reconstrue (the group of greater change of constructs) after leaving school had experienced considerable diffusion immediately before leaving school, and therefore for these adolescents, reconstruing was an adaptive coping process.
b) **Effect of identification changes**

As in assessing the effect of construct change (paragraph (a) of this section), the cut-off point for comparing subjects with more than average identification changes and less than average changes is the mean percentage identification change, calculated to be 25.2% between test 1 and 2, and 27.1% between test 2 and 3; as shown previously in section 5.2.2, paragraph (b).

The results appear to show that, like reconstruing, changing identifications before leaving school has no effect on identity diffusion. (However in paragraph (c) below it will be seen that the nature of identifications while the adolescent is still at school affects identity diffusion.) Yet interestingly, after leaving school, it was the group of subjects who least changed identifications who showed least identity diffusion. Specifically, Table 13 shows that those adolescents who changed fewer identifications significantly reduced their identity diffusion from test 2 to test 3; and at test 3 they showed significantly less diffusion, compared to those who changed more identifications. Thus, not changing identifications shortly after leaving school serves to reduce identity diffusion, whereas changing many identifications at this point in adolescence does not appear to be immediately adaptive in coping with the development of identity.

c) **Effect of Peer identification**

Although no effect of identification change on identity diffusion was found while the adolescents were still at school, specific identification with a peer was found to be important. Since the majority of adolescents identified with a peer, or a peer group, the effect of this well-known adolescent characteristic on identity diffusion was investigated. The results are shown in Table 14.
Table 13: Relationship between change in identifications and identity diffusion

<table>
<thead>
<tr>
<th>Area S-OS-FS</th>
<th>test 1 - 2</th>
<th>test 2 - 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt;25.2% change</td>
<td>&lt;25.2% change</td>
</tr>
<tr>
<td></td>
<td>&gt;27.1% change</td>
<td>&lt;27.1% change</td>
</tr>
<tr>
<td>test 1</td>
<td>$\bar{x} = 0.14$ (s = 0.08)</td>
<td>$\bar{x} = 0.14$ (s = 0.10)</td>
</tr>
<tr>
<td>test 2</td>
<td>$\bar{x} = 0.16$ (s = 0.11)</td>
<td>$\bar{x} = 0.15$ (s = 0.09)</td>
</tr>
<tr>
<td>test 3</td>
<td>$\bar{x} = 0.17$ (s = 0.13)</td>
<td>$\bar{x} = 0.10$ (s = 0.11)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N.S.</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 14: Relationship of identification with peer and identity diffusion

<table>
<thead>
<tr>
<th>Area</th>
<th>subjects identifying with peer</th>
<th>subjects not identifying with peer</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>$\bar{x} = 0.10^*$ (s = 0.08) n = 36</td>
<td>$\bar{x} = 0.16$ (s = 0.10) n = 45</td>
<td>2.65</td>
<td>79</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>test 2</td>
<td>$\bar{x} = 0.18^*$ (s = 0.10) n = 39</td>
<td>x = 0.13 (s = 0.10) n = 29</td>
<td>2.03</td>
<td>66</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>test 3</td>
<td>$\bar{x} = 0.15$ (s = 0.13) n = 29</td>
<td>$\bar{x} = 0.13$ (s = 0.11) n = 12</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
</tbody>
</table>

* $t = 3.64$, df = 73, p < 0.001

These results show that six months prior to leaving school (test 1) identifying with a peer is favourable to maintaining an integrated
identity. The peers at this stage help the adolescent achieve a feeling of self-sameness, the adolescents defining themselves in similar terms to the way they define the peer group and the way they think the peer group defines them. Those who do not identity with a peer at this stage show significantly greater identity diffusion. However, as the adolescent anticipates leaving school (test 2) it is only those who do not identify with the school peer group who do not increase identity diffusion. Those who do identify with the peer group significantly increase their identity diffusion at test 2. The reason for this increase, it will be shown, is probably mainly due to the adolescents' uncertainty about the future and their anticipation of change in future self after leaving school.

At test 3 identification with the peer group is no longer important, instead, those who left school with considerable identity diffusion have to reduce this to return to a new identity equilibrium, which is done, it has just been seen, by reconstruing, and not by forming many new identifications, or by necessarily identifying with a peer.

d) Effect of identification changes on construing

No relationship was found between changing identification and reconstruing - those who changed more identifications did not necessarily reconstrue more, nor did those who changed fewer identifications reconstrue less. Looking at those adolescents who showed most change in their identifications, at test 2 - 40% of these and at test 3 - 50% also showed most change in their construing. Looking at those adolescents who showed least change in their identifications, at test 2 - 50% and at test 3 - 60% also showed least change in construing. In fact when subjects were asked why they had dropped former elements and added new ones, the reason was usually environmental - change of dormitory or change of school meant that certain people were no longer seen, and the
relationship that had existed was presumably not strong enough to overcome the small or large physical distance now imposed. When change in elements is due to this physical reason one would indeed not necessarily expect to find a change in construing.

In conclusion, the effects of reconstruing and identification changes on identity diffusion were shown and found to be adaptive, but by no means simple. Reconstruing and only little changing of identifications serve to reduce identity diffusion when diffusion is great, and are effective only after the adolescents leave school. Changing many identifications in the period studied was found not to be useful in the development of an integrated identity. Prior to leaving school reconstruing has no effect, but identifying with a peer does have considerable effect on identity diffusion.

5.2.4 EFFECT OF VOCATIONAL COMMITMENT ON IDENTITY

For adolescents in social transition due to leaving school, their identity is expected to change as a function of their vocational commitments. It is suggested that an adolescent who is unable to make a vocational commitment for after leaving school will have difficulty in perceiving a sense of sameness of self between present and future. Thus,

a) non-committed adolescents will have lower S-FS correlations and larger S-FS distances than committed adolescents and

b) non-committed adolescents will show greater identity diffusion (i.e. S-OS-FS area) than committed adolescents.

a) Relationship between commitment and S-FS perceptions

Tables 15 and 16 show that there is indeed an overall difference between the groups, but there is also a developmental difference. The
Tables are combined in Figure 2 to show the effect.

Table 15: Differences in mean S-FS correlations for Committed and Uncommitted Adolescents

<table>
<thead>
<tr>
<th>Test</th>
<th>Committed</th>
<th>Uncommitted</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>$\bar{x} = 0.67$ **</td>
<td>$\bar{x} = 0.58$</td>
<td>1.30</td>
<td>63</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.22)$</td>
<td>$(s = 0.28)$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 43</td>
<td>n = 22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test 2</td>
<td>$* \bar{x} = 0.61$</td>
<td>$*** \bar{x} = 0.81$</td>
<td>3.07</td>
<td>63</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.30)$</td>
<td>$(s = 0.13)$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 43</td>
<td>n = 22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test 3</td>
<td>$* \bar{x} = 0.79$</td>
<td>$*** \bar{x} = 0.50$</td>
<td>3.40</td>
<td>38</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.22)$</td>
<td>$(s = 0.32)$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 25</td>
<td>n = 15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $t = 2.39$, df = 24, $p < 0.05$

** $t = 4.21$, df = 21, $p < 0.001$

*** $t = 3.86$, df = 14, $p < 0.01$
Table 16: Differences in mean S-FS distance for Committed and Uncommitted Adolescents

<table>
<thead>
<tr>
<th></th>
<th>Committed</th>
<th>Uncommitted</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>* $\bar{x} = 0.56$</td>
<td>$\bar{x} = 0.59$</td>
<td>N.S.</td>
<td>0.56</td>
<td>0.59</td>
</tr>
<tr>
<td></td>
<td>(s = 0.17)</td>
<td>(s = 0.22)</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>n = 43</td>
<td>n = 22</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td>test 2</td>
<td>** $\bar{x} = 0.72$</td>
<td>*** $\bar{x} = 0.54$</td>
<td>&lt;0.002</td>
<td>3.28</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>(s = 0.22)</td>
<td>(s = 0.22)</td>
<td></td>
<td></td>
<td>&lt;0.002</td>
</tr>
<tr>
<td></td>
<td>n = 43</td>
<td>n = 22</td>
<td></td>
<td></td>
<td>&lt;0.002</td>
</tr>
<tr>
<td>test 3</td>
<td>** $\bar{x} = 0.42$</td>
<td>*** $\bar{x} = 0.71$</td>
<td>&lt;0.001</td>
<td>3.85</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>(s = 0.24)</td>
<td>(s = 0.23)</td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>n = 25</td>
<td>n = 15</td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

* $t = 3.81, df = 42, p < 0.001$
** $t = 6.50, df = 24, p < 0.001$
*** $t = 3.12, df = 14, p < 0.01$

Figure 2: Relationship between Commitment and S-FS perceptions
Figure 2 shows that the two different analyses (correlations and distances) show the same effect for the two groups (committed and uncommitted) at tests 2 and 3. In both analyses the test 1 figures reveal large standard deviations, and therefore the significant differences found between tests 1 and 2 within groups, not confirmed by both analyses, need not be regarded. At test 1, then, vocational commitment has no effect on the feeling of continuity of the adolescents. The between group differences at test 2 and 3, however, are highly significant, being the opposite at test 3 from test 2. Similarly within each group there is a difference between tests 2 and 3, forming the effect of a total interaction of commitment x transition from school (which occurs between tests 2 and 3) x self continuity. The committed adolescents experience a feeling of lack of self continuity immediately prior to leaving school which is changed significantly to a feeling of self continuity after they have left school. For the uncommitted adolescents, in contrast, the opposite occurs - also a significant effect. This shows that those who are committed, realistically notice at test 2 the uncertainty of their future self definition - that there is likely to be cause for some redefinition in the new environment that is imminently to be faced, but once in the new situation they again perceive renewed self continuity. Interestingly, those who are not committed do not foresee the lack of continuity that is imminent, they perceive it only once they have experienced it.

b) Relationship between commitment and identity diffusion

Table 17 shows the same effects of commitment on identity diffusion.
Table 17: Relationship between Commitment and Identity Diffusion. Differences in mean S-OS-FS area for Committed and Uncommitted Adolescents.

<table>
<thead>
<tr>
<th>Test</th>
<th>Committed</th>
<th>Uncommitted</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>( \bar{x} = 0.13 ) (s = 0.08)</td>
<td>( \bar{x} = 0.15 ) (s = 0.11)</td>
<td></td>
<td>N.S.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 43</td>
<td>n = 24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 2</td>
<td>* ( \bar{x} = 0.19 ) (s = 0.10)</td>
<td>** ( \bar{x} = 0.12 ) (s = 0.08)</td>
<td>2.87</td>
<td>64</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>n = 43</td>
<td>n = 23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 3</td>
<td>* ( \bar{x} = 0.08 ) (s = 0.07)</td>
<td>** ( \bar{x} = 0.23 ) (s = 0.13)</td>
<td>4.43</td>
<td>39</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>n = 25</td>
<td>n = 16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* \( t = 5.8, df = 24, p < 0.01 \)
** \( t = 4.06, df = 15, p < 0.01 \)

Therefore only test 3 data supports the hypothesis of 4a and 4b, although the results fully show that identity (i.e. the aspects of perception of S-FS continuity and identity diffusion) does change as a function of vocational commitment.

5.2.5 EFFECT OF TEMPORAL ORIENTATION ON IDENTITY

The fifth hypothesis concerned the relationship of temporal orientation and identity.

a) Adolescents with future temporal orientation (low scores on the Q-sort measure) are expected to have higher S-FS correlations and smaller S-FS distances than those with present or past temporal orientation.
b) Any effect of temporal orientation on identity is in fact due to vocational commitment.

The mean actual (as opposed to ideal) temporal orientation score for all the adolescents together was 60.4, with a standard deviation of 19.1. (The mean ideal temporal orientation score for the group was virtually the same, i.e. $\bar{x} = 58.1$, $s = 18.7$). Those subjects with a score below one standard deviation from the mean (i.e. $\leq 41$) formed the subgroup of subjects classified as having "future temporal orientations". Those with a score greater than one standard deviation above the mean (i.e. $\geq 79$) formed the subgroup with "past temporal orientation". All those subjects with scores between 42 and 78 were considered to have present temporal orientation.

a) **Relationship between temporal orientation and S-FS perceptions**

The relationship between temporal orientation and S-FS perceptions is shown in Tables 18 and 19.
Table 18: Relationship between S-FS correlation and temporal orientation

<table>
<thead>
<tr>
<th>temporal orientation</th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{x} = 0.70 )</td>
<td>( \bar{x} = 0.71 )</td>
<td>( \bar{x} = 0.75 )</td>
</tr>
<tr>
<td></td>
<td>( (s = 0.17) )</td>
<td>( (s = 0.21) )</td>
<td>( (s = 0.22) )</td>
</tr>
<tr>
<td>future</td>
<td>( n = 12 )</td>
<td>( n = 11 )</td>
<td>( n = 7 )</td>
</tr>
<tr>
<td></td>
<td>( \bar{x} = 0.57 )</td>
<td>( \bar{x} = 0.62 )</td>
<td>( \bar{x} = 0.64 )</td>
</tr>
<tr>
<td></td>
<td>( (s = 0.28) )</td>
<td>( (s = 0.30) )</td>
<td>( (s = 0.25) )</td>
</tr>
<tr>
<td>present</td>
<td>( n = 35 )</td>
<td>( n = 33 )</td>
<td>( n = 16 )</td>
</tr>
<tr>
<td></td>
<td>( \bar{x} = 0.57 )</td>
<td>( \bar{x} = 0.69 )</td>
<td>( \bar{x} = 0.64 )</td>
</tr>
<tr>
<td></td>
<td>( (s = 0.28) )</td>
<td>( (s = 0.26) )</td>
<td>( (s = 0.27) )</td>
</tr>
<tr>
<td></td>
<td>( n = 44 )</td>
<td>( n = 40 )</td>
<td>( n = 23 )</td>
</tr>
<tr>
<td></td>
<td>( \bar{x} = 0.58 )</td>
<td>( \bar{x} = 0.86 )</td>
<td>( \bar{x} = 0.65 )</td>
</tr>
<tr>
<td></td>
<td>( (s = 0.26) )</td>
<td>( (s = 0.11) )</td>
<td>( (s = 0.35) )</td>
</tr>
<tr>
<td></td>
<td>( n = 9 )</td>
<td>( n = 7 )</td>
<td>( n = 7 )</td>
</tr>
</tbody>
</table>

\(*t = 1.69, \text{ df} = 16, \text{ N.S.}*

It should be noted that the standard deviations in Table 18 are generally large, and therefore no differences are likely to be significant. Furthermore, the table suggests that those with future orientation maintained similar high correlations throughout the year, which was not the case. Most subjects' correlations increased or decreased over time. Thus, this table tells us very little.
Table 19: Relationship between S-FS distance and temporal orientation

<table>
<thead>
<tr>
<th>temporal orientation</th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{x} = 0.55$</td>
<td>* $\bar{x} = 0.69$</td>
<td>$\bar{x} = 0.52$</td>
</tr>
<tr>
<td>future</td>
<td>$(s = 0.15)$</td>
<td>$(s = 0.15)$</td>
<td>$(s = 0.33)$</td>
</tr>
<tr>
<td></td>
<td>$n = 13$</td>
<td>$n = 11$</td>
<td>$n = 7$</td>
</tr>
<tr>
<td></td>
<td>$R = 0.60$</td>
<td>$x = 0.64$</td>
<td>$x = 0.61$</td>
</tr>
<tr>
<td>present</td>
<td>$(s = 0.18)$</td>
<td>$(s = 0.26)$</td>
<td>$(s = 0.25)$</td>
</tr>
<tr>
<td></td>
<td>$n = 37$</td>
<td>$n = 34$</td>
<td>$n = 17$</td>
</tr>
<tr>
<td>past</td>
<td>$(s = 0.18)$</td>
<td>$(s = 0.25)$</td>
<td>$(s = 0.25)$</td>
</tr>
<tr>
<td></td>
<td>$n = 46$</td>
<td>$n = 41$</td>
<td>$n = 24$</td>
</tr>
<tr>
<td>present + past</td>
<td>$\bar{x} = 0.59$</td>
<td>* $\bar{x} = 0.62$</td>
<td>$\bar{x} = 0.57$</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.18)$</td>
<td>$(s = 0.25)$</td>
<td>$(s = 0.25)$</td>
</tr>
<tr>
<td></td>
<td>$n = 9$</td>
<td>$n = 7$</td>
<td>$n = 7$</td>
</tr>
</tbody>
</table>

$t = 2.15$, df = 16, p < 0.05

Table 19 is shown diagrammatically in Figure 3 on page 210 below. Unfortunately, in the future and past orientation groups, the number of subjects is small, and the standard deviations are quite large. The only significant difference found is indeed at test two between past and future groups, with the future orientated subjects perceiving significantly less continuity between S-FS perceptions, the reverse to that expected. (This trend exists in Table 18, but does not reach significance.) The lack of difference between the combined past and present mean and the future is not surprising in view of the fact that the distribution of temporal orientation scores is not skewed with a group of very low scorers.
(future orientated subjects) forming a sub-population at one extreme. Instead the distribution approximates a normal distribution and significant differences may be expected between the 20% at each extreme, but not between 20% at one extreme and all the rest. The fact that there should only be a difference at test 2 will be discussed in terms of differences between the two groups of subjects in anticipatory socialization while still at school, for after leaving school. Thus no support was provided for the hypothesis, which was derived from Erikson's theory.

b) Relationship between temporal orientation, commitment, and identity

Hypotheses 5(a) was extended: it is expected that the perception of self continuity is a function of both future orientation and vocational commitment(5b).

The relationship between temporal orientation scores and commitment is shown in Table 20.

**Table 20: Mean temporal orientation scores for committed and uncommitted subjects**

<table>
<thead>
<tr>
<th></th>
<th>Committed</th>
<th>Uncommitted</th>
<th>t</th>
<th>DF</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>actual temp.</td>
<td>( \bar{x} = 55.5 ) ( s = 18.1 )</td>
<td>( \bar{x} = 67.6 ) ( s = 17.6 )</td>
<td>5.70</td>
<td>48</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>ideal temp.</td>
<td>( \bar{x} = 52.4 ) ( s = 19.9 )</td>
<td>( \bar{x} = 62.3 ) ( s = 17.0 )</td>
<td>5.21</td>
<td>47</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

This table shows that committed adolescents had, as would be expected, significantly greater future orientation than uncommitted adolescents. Differences between actual and ideal temporal orientation scores within
each group were found not to be significant (t = 1.01, p < 0.25; t = 1.37, p < 0.25). Of those subjects with "future temporal orientation" (as defined above) all, except one, had vocational commitments. Looking at the S-FS perceptions again no difference was found on either measure between committed subjects with future orientation and the other committed subjects (see Tables 21 and 22 and Figure 4). Present and past orientated subjects are considered as one group here since otherwise the numbers in certain cells would be too small.

Table 21: Relationship between commitment, orientation, and S-FS distance

<table>
<thead>
<tr>
<th></th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future orientation and committed</td>
<td>$\bar{x} = 0.52$</td>
<td>* $\bar{x} = 0.68$</td>
<td>$\bar{x} = 0.49$ $^{\dagger}$</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.15)$</td>
<td>$(s = 0.15)$</td>
<td>$(s = 0.36)$</td>
</tr>
<tr>
<td></td>
<td>n = 10</td>
<td>n = 10</td>
<td>n = 6</td>
</tr>
<tr>
<td>Present or past orientation and committed</td>
<td>$\bar{x} = 0.58$</td>
<td>$\bar{x} = 0.73$ $^{**}$</td>
<td>$\bar{x} = 0.45$ $^{***}$</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.20)$</td>
<td>$(s = 0.23)$</td>
<td>$(s = 0.22)$</td>
</tr>
<tr>
<td></td>
<td>n = 23</td>
<td>n = 23</td>
<td>n = 13</td>
</tr>
<tr>
<td>Present or past orientation and uncommitted</td>
<td>$\bar{x} = 0.59$</td>
<td>* $\bar{x} = 0.46$ $^{**}$</td>
<td>$\bar{x} = 0.73$ $^{***\dagger}$</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.19)$</td>
<td>$(s = 0.19)$</td>
<td>$(s = 0.21)$</td>
</tr>
<tr>
<td></td>
<td>n = 17</td>
<td>n = 16</td>
<td>n = 11</td>
</tr>
</tbody>
</table>

* $t = 3.08$, df = 24, $p < 0.01$
** $t = 3.96$, df = 37, $p < 0.001$
*** $t = 3.24$, df = 22, $p < 0.01$
$^{\dagger}$ $t = 1.75$, df = 15, $p < 0.1$; N.S.
Table 22: Relationship between commitment, orientation, and S-FS correlation

<table>
<thead>
<tr>
<th></th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{x} = 0.72 )</td>
<td>( \bar{x} = 0.72 )</td>
<td>( *** \bar{x} = 0.77 )</td>
</tr>
<tr>
<td>future orientation and committed</td>
<td>( s = 0.15 )</td>
<td>( s = 0.22 )</td>
<td>( s = 0.23 )</td>
</tr>
<tr>
<td>n = 10</td>
<td>n = 10</td>
<td>n = 6</td>
<td></td>
</tr>
<tr>
<td>present or past orientation and committed</td>
<td>( \bar{x} = 0.61 )</td>
<td>( \bar{x} = 0.57 ** )</td>
<td>( \bar{x} = 0.73 * )</td>
</tr>
<tr>
<td>( s = 0.26 )</td>
<td>( s = 0.24 )</td>
<td>( s = 0.23 )</td>
<td></td>
</tr>
<tr>
<td>n = 23</td>
<td>n = 23</td>
<td>n = 13</td>
<td></td>
</tr>
<tr>
<td>present or past orientation and uncommitted</td>
<td>( \bar{x} = 0.53 )</td>
<td>( \bar{x} = 0.84 ** )</td>
<td>( *** \bar{x} = 0.53 * )</td>
</tr>
<tr>
<td>( s = 0.31 )</td>
<td>( s = 0.15 )</td>
<td>( s = 0.29 )</td>
<td></td>
</tr>
<tr>
<td>n = 15</td>
<td>n = 15</td>
<td>n = 10</td>
<td></td>
</tr>
</tbody>
</table>

** \( t = 3.22, df = 36, p < 0.01 \)  
* \( t = 1.76, df = 21; \text{N.S.} \)  
*** \( t = 1.69, df = 14; \text{N.S.} \)

This table shows the same trends as the previous table, but with less significance.

Again, at test 2 significant differences are found between group means - between (both future and present/past) committed and (present/past) uncommitted. A similar pattern is seen at test 3, although the number of subjects with future orientation who are committed at this point was small and the large variation in their scores prevented the difference between this group and the uncommitted group from being significant.

The trend is the same, and the difference between the present/past committed and the uncommitted is significant on the distance measures.

Tables 21 and 22 are shown diagrammatically in Figure 4, which, when compared to Figure 3, shows quite convincingly that commitment is the primary independent variable.
Figure 3: Relationship between S-FS perceptions and temporal orientation (from Tables 18 and 19)

Figure 4: Relationship between S-FS perceptions, temporal orientation and commitment (from Tables 21 and 22)
5.2.6 EFFECT OF EARLY DISRUPTIONS ON IDENTITY DIFFUSION

The sixth hypothesis stated that those adolescents who had experienced disturbed early years would be expected to have larger areas of S-OS-FS in their psychological space than those not in this category.

No evidence to support such a hypothesis was found. Table 23 show the mean areas for the two groups, and in view of the large standard deviations, Table 24 is included to show the direction of change in identity diffusion for each group of subjects.

<table>
<thead>
<tr>
<th></th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>( \bar{x} = 0.13 )</td>
<td>( \bar{x} = 0.17 )</td>
<td>( \bar{x} = 0.10 )</td>
</tr>
<tr>
<td></td>
<td>( (s = 0.08) )</td>
<td>( (s = 0.11) )</td>
<td>( (s = 0.11) )</td>
</tr>
<tr>
<td></td>
<td>( n = 28 )</td>
<td>( n = 25 )</td>
<td>( n = 16 )</td>
</tr>
<tr>
<td><strong>ND</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>( \bar{x} = 0.13 )</td>
<td>( \bar{x} = 0.15 )</td>
<td>( \bar{x} = 0.16 )</td>
</tr>
<tr>
<td></td>
<td>( (s = 0.10) )</td>
<td>( (s = 0.09) )</td>
<td>( (s = 0.13) )</td>
</tr>
<tr>
<td></td>
<td>( n = 53 )</td>
<td>( n = 41 )</td>
<td>( n = 25 )</td>
</tr>
</tbody>
</table>

Table 23: Mean area of S-OS-FS for subjects with early environmental disturbances (D) and those without (ND)
Table 24: Percentage of subjects of each group decreasing, increasing or not changing S-OS-FS area

<table>
<thead>
<tr>
<th></th>
<th>Test 1 - 2</th>
<th></th>
<th>Test 2 - 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Decrease</td>
<td>Increase</td>
<td>No change</td>
<td>Decrease</td>
</tr>
<tr>
<td>D</td>
<td>46</td>
<td>50</td>
<td>4</td>
<td>69</td>
</tr>
<tr>
<td>ND</td>
<td>43</td>
<td>50</td>
<td>7</td>
<td>44</td>
</tr>
</tbody>
</table>

The change in S-OS-FS area from test 1 to 2 is obviously similarly distributed in both groups. A $\chi^2$ test was done on the distribution of change (using actual frequencies in each cell) of both groups from test 2 to 3, and the difference between the two groups was not found to be significant ($\chi^2 = 2.70$, df = 1, $p < 0.10$). These findings therefore do not support the psychoanalytic approach to the development of identity and instead will be discussed in terms of socializing and stabilizing effect of a boarding school environment.

5.2.7 EFFECT OF SEX ON IDENTITY DEVELOPMENT

(7) The seventh hypothesis stated that no sex differences would be expected in the number of adolescents who formed vocational commitments and those who did not. Nor would sex differences be expected in the size of S-OS-FS area in psychological space, in S-OS or S-FS correlations, identifications, and reconstruing.

No sex differences were found in the number of adolescents who formed vocational commitments - see Table 25 - confirming the hypothesis.
Table 25: Relationship between sex and vocational commitment

<table>
<thead>
<tr>
<th></th>
<th>committed</th>
<th>uncommitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>no. males</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>no. females</td>
<td>22</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 26 shows that there are in fact some sex differences in the use of constructs. $X^2$ tests were done on the actual frequencies of each sex using each category, and the significant differences are shown on the table by asterisks. Thus, although very frequently used by both sexes, even more girls use egocentric (relationship to me) constructs than boys, the effect being most pronounced and reaching significance at test 3. Similarly constructs referring to agreeableness are frequently used by both sexes, but especially before leaving school (tests 1 and 2), even more girls use them than boys. The reverse is true for the use of interests constructs, which, before leaving school, are more frequently used by boys. Emotional stability constructs were more frequently used by girls, significant at test 1. No other significant differences were found.

There was no sex difference in the changing of constructs ($C\%$), the mean change for each group at test 1 - 2 and test 2 - 3 differed by only a little over 1% in both cases.
Table 26: Percentage of subjects of each sex using each category at each test

<table>
<thead>
<tr>
<th>Category</th>
<th>test 1</th>
<th>test 2</th>
<th>test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Extroversion</td>
<td>91</td>
<td>95</td>
<td>91</td>
</tr>
<tr>
<td>Relationship to me</td>
<td>79</td>
<td>89</td>
<td>70</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>72</td>
<td>95</td>
<td>64</td>
</tr>
<tr>
<td>Interests</td>
<td>88</td>
<td>68</td>
<td>88</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>70</td>
<td>68</td>
<td>67</td>
</tr>
<tr>
<td>Emotional stability</td>
<td>56</td>
<td>79</td>
<td>61</td>
</tr>
<tr>
<td>Culture</td>
<td>44</td>
<td>45</td>
<td>42</td>
</tr>
<tr>
<td>Fact</td>
<td>35</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>Physical</td>
<td>26</td>
<td>18</td>
<td>9</td>
</tr>
<tr>
<td>Money</td>
<td>16</td>
<td>26</td>
<td>21</td>
</tr>
<tr>
<td>Temporal-orientation</td>
<td>19</td>
<td>16</td>
<td>30</td>
</tr>
<tr>
<td>Maturity</td>
<td>12</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.025, *** p < 0.0125

The cells left blank had a frequency of ≤ 2 in each and therefore cannot be included in a statistical analysis.
Table 27 shows identifications by similarities according to sex. The numbers in each cell are mostly too small for any statistical analysis, and the differences between the percentages are large due to the small numbers involved. However, none of the differences are significant including, at test 1, the tendency for boys more than girls to identify with a peer or older peer ($\chi^2 = 2.62$, N.S.).

Table 27: Percentage of total number of each sex at each test identifying by similarity with certain models

<table>
<thead>
<tr>
<th>Identification</th>
<th>test 1 M</th>
<th>test 1 F</th>
<th>test 2 M</th>
<th>test 2 F</th>
<th>test 3 M</th>
<th>test 3 F</th>
</tr>
</thead>
<tbody>
<tr>
<td>peer</td>
<td>51%</td>
<td>34%</td>
<td>55%</td>
<td>57%</td>
<td>74%</td>
<td>59%</td>
</tr>
<tr>
<td></td>
<td>(22)</td>
<td>(13)</td>
<td>(18)</td>
<td>(20)</td>
<td>(14)</td>
<td>(13)</td>
</tr>
<tr>
<td>mother/</td>
<td>7%</td>
<td>26%</td>
<td>6%</td>
<td>11%</td>
<td>10.5%</td>
<td>23%</td>
</tr>
<tr>
<td>mother image (n)</td>
<td>(3)</td>
<td>(10)</td>
<td>(2)</td>
<td>(4)</td>
<td>(2)</td>
<td>(5)</td>
</tr>
<tr>
<td>father/</td>
<td>19%</td>
<td>13%</td>
<td>15%</td>
<td>9%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>father image (n)</td>
<td>(8)</td>
<td>(5)</td>
<td>(5)</td>
<td>(3)</td>
<td>(1)</td>
<td>(1)</td>
</tr>
<tr>
<td>older peer</td>
<td>14%</td>
<td>11%</td>
<td>18%</td>
<td>9%</td>
<td>10.5%</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>(6)</td>
<td>(4)</td>
<td>(6)</td>
<td>(3)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>younger child</td>
<td>9%</td>
<td>16%</td>
<td>6%</td>
<td>14%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(4)</td>
<td>(6)</td>
<td>(2)</td>
<td>(5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>(43)</td>
<td>(38)</td>
<td>(33)</td>
<td>(35)</td>
<td>(19)</td>
<td>(22)</td>
</tr>
<tr>
<td>peer or older peer</td>
<td>65%</td>
<td>45%</td>
<td>73%</td>
<td>66%</td>
<td>84%</td>
<td>73%</td>
</tr>
<tr>
<td></td>
<td>(28)</td>
<td>(17)</td>
<td>(24)</td>
<td>(23)</td>
<td>(16)</td>
<td>(16)</td>
</tr>
</tbody>
</table>
The table of identifications by dissimilarity for each sex is not included, as again most of the cells contain very low frequencies, as is obvious if the figures in Table 10 are divided by two. The highest frequencies are again in the peer group section, but there was no appreciable differences between the sexes. There was also no sex difference in the changing of identifications (C%), the mean change for each group from test 1 - 2 and from test 2 - 3 differing by only a few decimal points in both cases.

Tables 28 and 29 show the effect of sex on perceptions of self sameness.

Table 28: Relationship between sex and S-OS correlation at each test

<table>
<thead>
<tr>
<th></th>
<th>boys</th>
<th>girls</th>
<th>t</th>
<th>DF</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>$\bar{x} = 0.72$</td>
<td>$\bar{x} = 0.76$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(s = 0.23)</td>
<td>(s = 0.19)</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>n = 41</td>
<td>n = 37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 2</td>
<td>$\bar{x} = 0.78$</td>
<td>$\bar{x} = 0.71$</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>(s = 0.19)</td>
<td>(s = 0.22)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 33</td>
<td>n = 34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 3</td>
<td>$\bar{x} = 0.65$</td>
<td>$\bar{x} = 0.85$</td>
<td>2.92</td>
<td>38</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>(s = 0.26)</td>
<td>(s = 0.16)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 19</td>
<td>n = 21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 29: Relationship between sex and S-OS distance at each test

<table>
<thead>
<tr>
<th></th>
<th>boys</th>
<th>girls</th>
<th>t</th>
<th>DF</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>$\bar{x} = 0.51$</td>
<td>$\bar{x} = 0.50$</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.22)$</td>
<td>$(s = 0.20)$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n = 43$</td>
<td>$n = 38$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 2</td>
<td>$\bar{x} = 0.55$</td>
<td>$\bar{x} = 0.57$</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.25)$</td>
<td>$(s = 0.26)$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n = 33$</td>
<td>$n = 35$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 3</td>
<td>$\bar{x} = 0.61$</td>
<td>$\bar{x} = 0.46$</td>
<td>1.58</td>
<td>39</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.29)$</td>
<td>$(s = 0.31)$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n = 19$</td>
<td>$n = 22$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The previous two tables do in fact show the same effect, but due to the large standard deviations of the S-OS distances, the difference between sexes at test 3 does not reach significance. The effect - that girls have a greater feeling of self sameness than boys, after leaving school - reaches significance on the correlation measure of self sameness.

Tables 30 and 31 show the effect of sex on perceptions of continuity.
### Table 30: Relationship between sex and S-FS correlation at each test

<table>
<thead>
<tr>
<th></th>
<th>boys</th>
<th>girls</th>
<th>t</th>
<th>DF</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>$\bar{x} = 0.64$ (s = 0.24)</td>
<td>$\bar{x} = 0.64$ (s = 0.25)</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>n = 41</td>
<td>n = 37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 2</td>
<td>$\bar{x} = 0.76$ (s = 0.19)</td>
<td>$\bar{x} = 0.59$ (s = 0.33)</td>
<td>2.59</td>
<td>65</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td></td>
<td>n = 33</td>
<td>n = 34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 3</td>
<td>$\bar{x} = 0.59$ (s = 0.30)</td>
<td>$\bar{x} = 0.77$ (s = 0.27)</td>
<td>2.05</td>
<td>38</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>n = 19</td>
<td>n = 21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 31: Relationship between sex and S-FS distance at each test

<table>
<thead>
<tr>
<th></th>
<th>boys</th>
<th>girls</th>
<th>t</th>
<th>DF</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>$\bar{x} = 0.55$ (s = 0.16)</td>
<td>$\bar{x} = 0.59$ (s = 0.22)</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>n = 43</td>
<td>n = 38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 2</td>
<td>$\bar{x} = 0.57$ (s = 0.21)</td>
<td>$\bar{x} = 0.68$ (s = 0.23)</td>
<td>2.08</td>
<td>65</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>n = 32</td>
<td>n = 35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 3</td>
<td>$\bar{x} = 0.57$ (s = 0.30)</td>
<td>$\bar{x} = 0.51$ (s = 0.26)</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>n = 19</td>
<td>n = 22</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The sex difference in S-FS perceptions is significant on both measures at test 2, showing that boys perceive greater self-continuity than girls immediately prior to leaving school. The opposite effect at test 3 found to be significant in the correlation measure, in spite of large standard deviations, is not found in the distance measure. Figures 5 and 6 show Tables 28 - 31 diagrammatically.

Figure 5: Relationship between sex and S-OS perceptions

Figure 6: Relationship between sex and S-FS perceptions
As the index of identity diffusion is largely derived from the distance measures of tables 29 and 31 which show little effect of sex, so it is hardly surprising that Table 32 shows no significant effect. Table 32 shows that there are no significant differences between the sexes on the measure of identity diffusion.

Table 32: Relationship between sex and identity diffusion (area S-OS-FS)

<table>
<thead>
<tr>
<th></th>
<th>boys</th>
<th>girls</th>
<th>significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>$\bar{x} = 0.13$</td>
<td>$\bar{x} = 0.14$</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.09)$</td>
<td>$(s = 0.10)$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n = 43$</td>
<td>$n = 38$</td>
<td></td>
</tr>
<tr>
<td>test 2</td>
<td>$\bar{x} = 0.14$</td>
<td>$\bar{x} = 0.17$</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.08)$</td>
<td>$(s = 0.11)$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n = 32$</td>
<td>$n = 35$</td>
<td></td>
</tr>
<tr>
<td>test 3</td>
<td>$\bar{x} = 0.16$</td>
<td>$\bar{x} = 0.12$</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>$(s = 0.13)$</td>
<td>$(s = 0.12)$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n = 19$</td>
<td>$n = 22$</td>
<td></td>
</tr>
</tbody>
</table>

To conclude, although, as expected, no sex difference was found in the formation of vocational commitments, there were some minor differences in the development of identity in the year studied, in the use of constructs, possibly in the perception of self sameness, and definitely in the perception of self continuity.
5.3 THE INTERVIEW

One of the most striking observations about the whole-interview, including the repertory grid tests is how difficult the adolescents found it to verbalize about themselves. They had obviously never tried to introspect in the way these interviews necessitated them to, and were in no way similar to the adolescent populations seen by psychoanalysts, whose constant introspection characterizes a state of existential questioning or identity crisis. Instead they were more similar to the adolescents interviewed by Weinreich, who also experienced difficulty in performing self-assessment.

Therefore it is not surprising that more adolescents were worried about the future than about the sort of person they are. At test 1, 2, and 3, 80%, 54%, and 22% (respectively) of the adolescents admitted to worrying about the future. The most common worry expressed about the future at tests 1, 2, and 3, was related to getting a job - whether they would get one at all, what it would be, if it be a good one, if they would be happy and successful in it. At tests 1 and 2, failing exams was a prominent worry, and so was leaving school - especially leaving a sheltered environment and old friends. At test 1, nuclear war and death were also popular worries. For a few, money and where to live presented worries. All these worries are realistic and concern the environment events the adolescents are encountering.

At tests 1, 2, and 3, 42%, 24%, and 22% (respectively) admitted to worrying about the sort of person they are. Only 53% admitted to worrying about themselves while still at school (i.e. either at test 1 or 2 or both). The most common worry about themselves as persons was getting on with other people, involving worries about being liked, how others see them, saying the wrong thing. At tests 1 and 2 specific traits of personality that they perceived in themselves were sources of worry (e.g. being too
rowdy or too selfish). At test 1 being understood and understanding oneself was a problem. These findings are also reflected in the constructs produced (Tables 6 and 7). These worries primarily concern socialization.

No sex differences were found in either worrying about the future or about the sort of person they are. However, since the questions in the interview were direct (no projective technique was used) one can assume that there are personality differences in the willingness to admit to such worries. The percentages quoted are therefore probably conservative estimates. The large majority of adolescents believed they themselves would change (as a person) as a function of leaving school. They believed they would become more mature, more adult, or would change favorably on the personality traits they saw in themselves that worried them. At test 1, 2, and 3, 81%, 79%, and 71% (respectively) of the adolescents said they thought they would change, as a person. Looking back, fewer adolescents believed that they actually had changed. At test 2 and 3, 56% and 63% (respectively) believed they actually had changed since the previous interview. The changes they described were largely in terms of increased maturity - becoming more "grown-up", more responsible, having a wider outlook. Also, many felt changes in their own sociability and in aspects of their character (e.g. "quieter", "nastier" etc.). Thus reconstruing was a conscious process. Yet, their conscious assessment of change may have been concluded from their thinking of one dimension only, which would be quantified by only one point on the 1 - 7 rating of only one of all the elicited constructs, so that \( r_{tt} \) for S may still be very high. Therefore the lack of association between reported feeling of change and \( r_{tt} \) for S is due to the large individual differences in the cognitive assessment of change. Again, no sex differences were found.

One final point that must be made is that those who dropped out of the study in no way formed a special group and were in no observed way different from those who remained.

All these findings will be interpreted in the following chapter.
6. DISCUSSION

Before discussing and interpreting the changes observed in the development of identity, let us first be satisfied that the assessment techniques are valid and reliable.

6.1 VALIDITY AND RELIABILITY OF THE REPERTORY GRID

Can one be sure that what is being assessed is relevant to identity? The validity of the assessment technique depends on how effectively identity is operationally defined and whether it can provide the means for testing hypotheses derived from the theory. Obviously the first step is to know what is meant by identity. This has been fully discussed in chapters II and III leading to the proposal that identity is "an integrated self perception, incorporating a feeling of self-sameness and continuity over time, reached through cognitive appraisal of self-involved social interaction and identifications with significant others". Identity is considered to be a Gestalt, a complex whole that is forever changing and that is never fully in a person's consciousness. It depends, however, on (1) perceptions of self sameness, (2) perceptions of self-continuity over time, (3) diffusion of self perceptions, (4) identifications, and (5) self construing. Therefore rather than attempting to operationalize identity per se, instead the dependent variables were operationalized for assessment. The operationalized dependent variables (spelt out in chapter IV) have been derived directly from the theoretical definition of identity and the grid technique provided the means of testing the hypotheses that have been derived. From the extent that the grid technique can be shown
to be reliable, one may deduce that what is being assessed is indeed relevant to identity.

Three hypotheses could in fact be tested with parallel measures (the dependent variables) that have been deduced to be relevant to identity. If one measure were unable to test the hypothesis it would not be valid. Yet, the hypotheses were tested by multiple measures, providing cross-validation for the findings in most cases.

The first calculations to be made, therefore, were to show that the repertory grid test is reliable, i.e. that consistency may be observed where expected, and therefore measured change may be assumed to be in fact due to real change and not due to error. The measures of perceptions of self sameness, self continuity, and diffusion of self perceptions were all found to be statistically significant. Wherever consistency was expected, it was indeed found to be significant. Four measures of consistency demonstrated the reliability of the assessment technique.

The mean $r_{tt}$'s of the tests, used to show reliability in so very many tests in all areas of psychology, were found to be significant. However the limited meaning of this coefficient in this context was pointed out, and therefore the more specific self element $r_{tt}$'s were examined as well. The mean $r_{tt}$'s for self ratings (S) were found to be significantly consistent. This measure has been used by other psychologists interested in the stability of self perceptions, with very similar results (e.g. Engel 1959, Hauser 1972, Hauser & Shapiro 1973).

The consistency reflected by OS $r_{tt}$'s and FS $r_{tt}$'s is less straightforward. In both cases significant consistency was found for one grid, but not both. If it had not been found for either, while expecting a consistency similar to that shown by the S $r_{tt}$'s, then one would have suspected that the measure was not reliable. However, since in both cases (OS and FS) significant $r_{tt}$'s were found, and noticing the large
standard deviations existing where they are not found, one may suspect that an independent variable is responsible for the change. Indeed, in that case the independent variable of transition could account for the one non-significant $r_{tt}$ in Table 1 of the previous chapter. Thus the figure not reaching significance in Table 1 could be predicted by hypotheses 1 and 4 and therefore does not detract from the reliability shown by the others.

The fact that certain elements and certain constructs yielded very high $r_{tt}$'s after a period of six months, could also be taken to show that the technique can be reliable. However, certain elements and constructs yielded low $r_{tt}$'s. It was explained to each subject that there are no right or wrong answers - he perceives each element at the time of testing in certain ways. If at a different time he perceives the element the same then this shows the high stability of his perceptions about that element. If he perceives it differently then rather than assume he has made an "error", one assumes that his perceptions about that element are unstable. Therefore rather than interpret these consistency coefficients as measures of reliability, it is suggested that they be considered measures of stability of particular perceptions, and, as expected, some perceptions are more stable than others.

Although the $r_{tt}$ is generally considered to be one measure of consistency, it has been pointed out in the previous chapter that the $r_{tt}$ merely quantifies the difference of a repeat rating of a former analysis of a former self concept.

In view of these limitations of the $r_{tt}$, it has been explained that instead of this coefficient, the stability of interrelationships of elements over time be considered in assessing reliability. Comparison
with random number grids showed that the interrelationships found between self elements were not the results of random ratings. The group as a whole showed no significant differences over time between interrelationships of self elements (Tables 2 and 3 of the previous chapter), although stability was found where expected in specific subgroups, as predicted by hypotheses 4 and 5. The interrelationships between other elements were unstable, as predicted by hypothesis 2.

By analyzing the inter-element relationships in two separate ways, the two measures of the relationships can be used to validate each other. In testing hypotheses 4, 5, and 7, both inter-element distances and inter-element correlations were calculated. It will be recalled that the difference between the two measures lies in the fact that one (the correlation) measures the relationship between two elements using the ratings of those two elements only, whereas the other (the distance) is a measure of the relationship between two elements in the context of the others, calculated from normalised data and as a ratio of the expected distance of any pairs of elements in the grid. The correlation is a measure applicable to many data gathering techniques, whereas the distance measure is derived strictly from repertory grid methodology. In two of the data analyses (i.e. temporal orientation x S-FS, and commitment x temporal orientation x S-FS) the distance measures provided more significant results than the correlation measures. In two other data analyses (sex x OS, sex x FS) the correlation measure provided more significant results. (In two cases no effect was found in one measure with a significant effect of p < 0.05 found on the other (temporal orientation had no effect on S-FS correlation, and sex had no effect on FS distance at test 3)). Thus neither measure appears to be more or less reliable than the other. Where both show a significant effect the results are given concurrent validity, whereas in the two cases where no effect was
found in one measure, the effect shown by the other should be treated cautiously.

Finding stability where it is expected and instability where it is predicted by the hypotheses provides evidence of reliability of the technique. But let us not deny the possibility of error, even though it cannot be directly measured. Being aware of this danger, the tester attempted to standardize the interviews. Furthermore, by not limiting the temporal duration of the interview full sampling of the elements and triads could be achieved to try and ensure that as much as possible of the person's construing was in fact represented. Also, the tester was careful not to supply constructs for the subjects so that only their own words were used. So it is hoped that the tester was not an important source of error.

It has been noted about the subjects that those who were unwilling to respond to the interviews dropped out, but that as others also dropped out for physical reasons the drop-out group was in no way different from those that stayed. Those that stayed were mostly very willing to chat about themselves and friends, but found considerable difficulty in the self definition required by the repertory grid test. Rather than interpret inconsistencies in self ratings as error, these should be interpreted as showing the insecurity the subject feels about particular dimensions in himself. Furthermore, one of the basic assumptions of the grid method is that it investigates how the subject anticipates people in his environment and no outsider can say that he provides a "wrong" response. The subjects were even told that there is no right or wrong answer - that they should respond in the way they believed to be true.

However, the most important source of error is likely to be in the use of constructs and rating scales. There were undoubtedly cases where the constructs were not really bipolar dichotomies, or where constructs
were not applicable to each element as assumed in the theory underlying the methodology. Both these types of error were usually apparent at the time of testing and could be eradicated by further sampling of elements. Another likely error is the asymmetrical use of the rating scale - where 7 at one extreme is not really the opposite of 1 at the other extreme. Yet it has been pointed out that the errors that remain are likely to be consistent for each subject from test to test and therefore when each subject is used as his own control this error variance may be assumed to be constant. It is only when subjects' ratings are compared with each other that such error may interfere.

Following these comments on the validity and reliability of the assessments of dependent variables of identity, let us now look at the effect on these of the independent variables.

6.2 EFFECTS FOUND IN THE DEVELOPMENT OF IDENTITY

6.2.1 EFFECT OF TRANSITION ON CONSTRUING

From the discussion of adolescence in the first chapter, it was deduced that adolescents would be expected to make qualitative changes in their construing of themselves when in social transition caused by leaving school. However, the results of the present investigation do not fully support this hypothesis. Instead, remarkable consistency was found in the adolescents cognitive appraisal of themselves. The changes to be found in construing were quantitative rather than qualitative; the analysis of constructs shows that the 40% (approx.) change of constructs hardly involved changes of content of the constructs. The new constructs used were still in the same categories as the old ones dropped.
Furthermore, the nonsignificant $r_{tt}$'s in Table 1 also show that the change is quantitative. On the same constructs subjects rated themselves differently by a few points so that, for example, rather than rating themselves as very moody, on retest they rate themselves as only quite moody, or only a little moody. There was no evidence of a reappraisal of former self definitions for the group as a whole, and the awareness of self changes was also at the level of a shift from quite to very or more to less on the same dimensions. To refer back again to Table 1, the nonsignificant $r_{tt}$'s were interpreted to show realism and adaptation on the part of the subjects. They obviously appreciated immediately before leaving school, that there would be some changes in themselves in the changing future ahead of them; and that in a new social environment, others may perceive them differently from the way they are used to perceiving themselves. However, these anticipated changes and different perceptions are still on the same dimensions as before. Thus the changes are largely from more to less or less to more of established constructs, and are not the result of restructuring self definitions.

The social transition from school had little effect in changing the qualitative nature of the adolescents' construct systems, in spite of the quantitative changes just discussed. Certain generalizations may be made about their construct systems. At the age of sixteen even after leaving school, the subjects were remarkably self centered, observed in the frequent use of "Relationship to me" constructs. This stresses and reflects the adolescents' need for support and recognition, a worry frequently overtly expressed in the structured interview. This finding was also made by Coleman & Zajicek (1980) in their study of adolescent attitudes to authority. Douvan & Adelson (1966) also noticed the importance of trust and understanding in adolescent relationships. The concern with others' attitude to themselves reflects a certain self-centredness and
Whereas 49 constructs referring to humour were unclassified, a further 80 constructs referring to humour were classified, mostly as denoting "Extraversion", but also as denoting "Emotional Stability" and "Agreeableness". Thus about 5% of all the constructs elicited referred to humour, and almost 70% of all the subjects used a construct referring to humour in at least one interview.
lack of objectivity. This is not exactly "egocentrism" as Elkind observed it - a preoccupation with one's appearance and behaviour - it is more an emotional egocentrism, a preoccupation with one's affective changes and an anxiety that in spite of these, or in view of these, the adolescent should still be understood and appreciated. The high S-OS correlations, $r = 0.74, 0.74, 0.75$ (5.2.2, Table 2), could be used as evidence of Piagetian adolescent egocentrism, representing a lack of differentiation between the adolescents' perceptions of S and OS, but, on the other hand, the high correlations may indicate a realistic perception of sameness between S and OS.

However, the frequency of use of "Relationship to Me" constructs shows that the adolescents are decidedly at an egocentric stage, being very interested in the feelings of others towards himself. Hauser & Shapiro (1973) found a much lower mean correlation for S-OS (= 0.60) in older adolescents (> 17 years old).

Another generalization about adolescents observed from the construct systems is the importance of sociability (extraversion and agreeableness). This again is a well-known characteristic of adolescence. In this connection, the importance of the peer group and other identifications will be discussed in the next section (6.2.2).

One group of constructs that remained partly unclassified referred to humour. However, a large proportion of adolescents used humour-related themes in constructs classified as extraversion or agreeableness (e.g. "good for a laugh", "fun to be with", "a hoot"). The common use of adjectives such as "dry", "good", "warped", "twisted", "straight-forward" to describe humour implied that this is a personality trait well recognized and differentiated by the adolescents, according to which they are accepted in the peer group. Humour is an important tool in social interaction for several reasons (e.g. Kane, Suls, Tedeschi 1977). First
and foremost, it causes someone to like you. People like jovial and laughing people, and it is therefore an antecedent to interpersonal attraction. Humour is a recognized technique for initiating and facilitating communication. It can be used successfully as a face-saver, to face failure or when a lie is uncovered or in a social disaster. - if a person sees he has said the wrong thing, he can laugh it off explaining "it was only a joke!". Another use is to disparage an out-group and thereby strengthen the in-group.

Anna Freud presents the theory that a common adolescent defense mechanism is intellectualization, but the present study suggests that in these largely non-intellectual youths, humour might be the popular and preferred method for dealing with anxieties and releasing tension, by setting a "distance" from a problem. Rollo May writes:

"It is not generally realized how closely one's sense of humour is connected with one's sense of selfhood. Humour normally should have the function of preserving the sense of self. It is an expression of our uniquely human capacity to experience ourselves as subjects who are not swallowed up in the objective situation. It is the healthy way of feeling a 'distance' between one's self and the problem, a way of standing off and looking at one's problem with perspective." (1969, p. 54)

Since the adolescent's sense of self is undergoing changes, it is understandable that humour is a useful tool in coping with this process. Ransohoff (1977) has shown how humour, giggling and laughter has been used by young adolescent girls to cope with the psycho-sexual changes they experience following puberty.

Virtually as important as sociability were adolescent interests. These form the basis for friendships and for generational differences. Interests were commonly sport, music and fashion, but there were others. Constructs referring to "conscientiousness", i.e. referring to traits of fussiness, tidiness, responsibility, fickleness, hardworking, were also important in friendships and generational differences, a fact brought
to light by the study of Coleman, George & Holt (1977).

Approximately two thirds of the group used constructs referring to emotional stability acknowledging another well documented adolescent characteristic - emotional instability. Adolescent changes in affect have been noted by most people working with adolescents and form the basis of certain theories of adolescence, as mentioned in the first chapter (e.g. Hall and the subsequent "inner turmoil" theories).

The waning use of "fact" and "physical" constructs compared to increasing use of "psychological" constructs has been found in other developmental studies of constructs (Duck 1975, Little 1968), and is also to be expected from Piagetian theory, where thought processes are believed to become increasingly abstract.

Yet, Piaget defines formal thought as the ability to manipulate hypotheses, also characterized by the ability to think about one's own thought. The subjects of this study (and those of Weinreich's also) experienced difficulties in the introspection required by the rep. grid implying that they were functioning predominantly at a concrete level, confirmed by the observations of Hobbs (1973) and Tomlinson-Keasey (1972) quoted in the first chapter. Approximately half the adolescents used abstract constructs classified as "culture", e.g. intellectual, imaginative, religious. From the constructs used, a minority were obviously concerned with the state of British economy and society, and were interested in political reform, enjoying intellectual discussion on this topic. Others, stimulated by a religious teacher, were interested in religion, and enjoyed debating this subject. The majority of adolescents (greater than 75%), however, were not interested in such discussion, remaining preoccupied with emotional and social relationships and socializing, and/or a serious hobby, such as motorcycles or cricket. It may be that in a year or two more adolescents in this population will mature cognitively and become
interested in such intellectual topics, but it is highly probable that those heading for technical (as opposed to intellectual) specialization will not develop such interests, but will remain with a predominantly concrete level of thinking.

The existence of constructs referring to money reflect real experiences and worries of certain adolescents which were often mentioned in the interview as well.

The findings about temporal orientation - that only one fifth of the subjects thought about this - will be discussed in section 6.6 below.

There were a few sex differences found in the use of constructs, but these were not a function of transition, and therefore will be discussed in section 6.8 below.

In all these respects the adolescents in the study were remarkably similar to the typical adolescent described in psychological literature. Although little evidence for reconstruing of self was found here, the findings relating to the other hypotheses do thankfully clarify the topic of identity development in adolescence.

6.2.2 EFFECT OF TRANSITION ON IDENTIFICATIONS

The role of identifications in the formation of identity has been widely accepted, and it has become part of the theoretical definition of identity. Identifications cannot therefore be ignored in any developmental study of identity.

As expected, both quantitative and qualitative evidence for changes in identifications were found but there was no evidence that the changes are a result of the transition from school. Understandably, large individual differences were found in the consistency of identifications, with certain elements being perceived totally differently after the transition, whilst others remained unchanged. Similarly large individual
differences were found in the permanency of identifications, with some dropping many old ones and forming many new ones, whilst others dropped only one or two. The process of forming new identifications was already evident before the adolescents left school, and was probably not only related to transitions from school: when subjects were asked informally why they had dropped former elements and added new ones, the reason was usually environmental - a change of dormitory between test 1 and 2, and leaving school between 2 and 3. These environmental changes meant that certain people were no longer seen frequently and the relationship that had existed was presumably not strong enough to overcome the small or large physical distance now imposed.

Most of the elements dropped and added were friends. It has already been seen that there are individual differences in the stability of construing individual elements both within subjects, over time, and between subjects. There appear to be two sorts of relationships that adolescents form. One sort is the relationship where affect is prominent, such as with a parent or a "steady" partner, where an important factor of the relationship is being understood, a feeling of trust and care. The other sort of relationship is based on environmental contingencies - being in the same dormitory or the same activities group. Douvan & Adelson (1966) suggest a developmental trend; that the second type of relationship is characteristic of friendships in early adolescence, whereas the first type is characteristic of middle adolescence. Yet, even in middle adolescence, as the environment changes, it is often the case that the friends in the second category are forgotten and replaced by new ones in the new situation. The people with whom the subject has a relationship based on affect are less transient and may remain significant even after a physical distance is imposed.

The qualitative analysis of identifications shows the importance of
the peer group in providing both favourable and unfavourable models. Its function in providing favourable models increased over the period of study, regardless of transition from school, confirming the maturational and social trend frequently observed in adolescents (Coleman 1961, Coleman 1974, Douvan & Adelson 1966, Offer & Offer 1975, Reisman 1961). After leaving school, not surprisingly, no adolescents identified with a teacher or younger sibling. These findings support the theories that the peer group provides role models for adolescent behaviour, i.e. a reference group (Lewin 1939). It has also been suggested (Conger 1971) that peers can understand adolescent problems which parents perhaps cannot, since the former may be experiencing similar emotions, i.e. another function of the peer group is to provide empathy. This was indeed demonstrated by the use of constructs such as "understands me" to describe peers. Douvan & Adelson, also, noted in their study that friendships in middle adolescence were characterized by emotional interdependence, and at this time they were both very intense and very vulnerable.

Another reason for the importance of the peer group is its role in finding extra-familial love objects, a biological necessity that has been discussed in chapter 1. This is what Blos (1967) refers to as the "second individuation process", and what others refer to as the search for autonomy (Douvan & Adelson 1966).

The importance to the adolescent of acceptance in the peer group is evident from the frequency that the subjects used constructs referring to sociability. Again, this has been widely observed by workers in the field of adolescence. Coleman (1974) observed that fear of insecurity exists in the adolescent in his relationship with the peer group in middle adolescence (15 year olds) which fades within two years with the development of desire for autonomy. This developmental trend was not observed in the present study which covered only one year.
The peer group can provide both favourable and unfavourable models (Table 11). Whereas adolescents increasingly choose peers as subjects for identification by similarity, they decreasingly find significant those peers whom they perceive to be different from them. Since an adolescent can choose his friends, it is to be expected that the normal adolescent will make his choice on the basis of his perception of similarity and not on the basis of dissimilarity. So why did the adolescents choose unfavourable elements? Kelly's Sociality Corollary states that "to the extent that one person construes the construction processes of another, he may play a role in a social process involving the other person". Because of or despite the perception of dissimilarity in a certain person, that person may play an important role in an individual's life. This point is demonstrated by the fact that step-parents and estranged parents were frequently in this category.

In fact, more subjects rate at least one parent as being dissimilar to themselves, compared to the number of subjects identifying by similarity with at least one parent; and also, significantly more subjects rate authority figures as being dissimilar. This might be interpreted by using the fashionable and controversial label of "generation gap" (e.g. Friedenberg 1959, Bengtson 1970), which refers to the many differences between the younger and older generations. Empirical studies have shown that the differences of opinion are not on major issues of morality, political or religious beliefs, or even sexual attitudes. Instead, the minor conflicts that occur in day to day life between adolescents and their parents are commonly over issues such as dress, noisiness and tidiness, when the adolescents refuse to meet demands set by the adults (e.g. Bandura 1972; Bengtson 1970; Coleman, George & Holt 1977; Douvan & Adelson 1966). The constructs the adolescents in this study used to describe others significant to them, indeed related to these
issues, and were categorised in the analysis under "interests" (e.g. dress, music) and "conscientiousness" (e.g. tidiness), and even "extraversion" (e.g. quiet, noisy). Both the most commonly expressed and important construct was whether the adolescent was being understood ("Relationship to me"). The significant percentage who rated authority figures (including parents) as dissimilar reflected not so much a struggle for behavioural autonomy - the reason often stated for a generation gap - but rather a strong desire on the part of the adolescent for recognition as an individual in his own right with his own problems. An adult playing an important role in the adolescent's environment, such as a parent or teacher, who denies the adolescent this desire is obviously an unfavourable model for identification, but would be included in the subject's choice of elements. However, rather than use the results found here to support the theory of existence of generation gap, one should point out that the boarding school set-up of this study must necessarily give a different picture than that expected when adolescents live at home. One third of the children are in boarding school due to inadequacies in the parental set-up at home, which it has been seen, has often led to an estranged or step parent to be viewed adversely. Furthermore, when the parents and adolescents do not live under the same roof, it is quite possible that perceived differences may become exaggerated to the point where the adolescent feels that a parent no longer understands or knows him. One last point - the authority figure that the adolescent chooses as a significant other, may well be one that creates tension in him, by exerting only control and giving none of the support that he in fact desires (Coleman & Zajicek 1980).
6.2.3 EFFECT OF CONSTRUING AND IDENTIFICATION CHANGES ON IDENTITY DIFFUSION

The theory of identity incorporates the assumption that identity formation occurs through a process of forming new identifications and integrating new self perceptions into the existing identity Gestalt. Although the process of integrating self perceptions is not assessed, the product, the degree of congruence between self perceptions, is measured by the identity diffusion index. An effect of construing on identity diffusion was found. The results (shown simply in Figure 1 of the previous chapter) show that where there is minimal reconstruing, so there is also minimal change in identity diffusion. Reconstruing before leaving school had no effect on identity diffusion. However, reconstruing after leaving school resulted in significant reduction of diffusion. All those who reconstrued most after leaving school had experienced considerable diffusion immediately before leaving school, and therefore for these adolescents, reconstruing was an adaptive coping process. However, we should ask why a group of subjects displayed such identity diffusion at test 2, unrelated to the extent of prior reconstruing or the formation of new identifications. The answer lies in the formation of vocational commitments, as will be seen in the next section. Reconstruing the new environment after leaving school is obviously preferable to trying to fit new experiences into an old, now often inappropriate, framework of constructs and therefore it is not surprising that reconstruing at test 3 was found to be advantageous in reducing identity diffusion for a group of subjects. The subjects were aware of the necessity of changing self definitions during the transition year and almost two thirds of the population of adolescents admitted to being aware that they had in fact changed after leaving school. However, it has already been pointed out that the change did not necessarily involve reconstruing, but was mostly quantitative.
Although the group of adolescents as a whole did not make qualitative changes in construing, on average they made only 2 new identifications at each test. It was found that a turnover in identifications does not necessarily mean also a turnover in construing. Thus, identifications and construing, two dependent variables of identity development, can be independent. It is understandable that little new construing may be required when the changing identifications are friends based on environmental contingencies.

The importance of identification with the peer group, reflected in the use of constructs referring to sociability as well as the increasing frequency of identifying with the peer group, is in fact found to be reflected in the development of identity. Six months before leaving school the peer group is still a powerful socializer, exerting pressures to conform to its norms and acting as a reference group for behaviour. Thus, the peer group dictates how others see the adolescent and by identifying with the peer the perceptions of others can approximate his own. In fact the relationships of identification with peer and S-OS perceptions are identical to those of Table 14. Those who did not identify with a peer at test 1 showed significantly less S-OS congruence, and significantly less identity diffusion.

Whereas identifying with the peer group six months before leaving school is favourable for the feeling of self sameness and an integrated identity, the opposite was found to be true immediately prior to leaving school, at test 2. The results show significantly that at test 2 identifying with the peer group leads to considerable identity diffusion. One could argue that immediately prior to leaving school, when the adolescents know they are about to disperse, the peer group loses its power as a reference group as each person anticipates a new reference group outside school. The school reference group loses its power to
define the adolescent and therefore cannot help him achieve feelings of self sameness and self continuity. By identifying with someone outside the school, e.g. a parent or sibling, then the adolescent can much more easily maintain the feeling of sameness and continuity since the identifications are not related to the transition from school. However, although there may be some truth in this hypothesis, the main cause for identity diffusion at test 2 was anticipation of change with leaving school, as is clearly shown in the next section, which greatly affects the feelings of continuity of those with future commitments. After leaving school identification with the peer no longer affects the development of identity.

Instead, after leaving school it was the act of changing identifications or rather, not changing them that was important to the development of identity. Those who were able to maintain a similar significant social environment after the transition as before, by not changing many identifications, achieved greater feelings of sameness and continuity compared to those who changed their significant social environment considerably. Furthermore they managed to decrease their identity diffusion appreciably. Therefore, interestingly, changing many identifications after leaving school is not immediately adaptive in the development of identity. It is possible that had the study continued, it may have been found that after a period the rapid change of identifications after leaving school turned out to be beneficial; but this is pure conjecture.

6.2.4 EFFECT OF VOCATIONAL COMMITMENT ON IDENTITY

Although the importance of vocational commitment in adolescence has been recognized by cognitive theorists (e.g. Piaget) and socialization theorists (e.g. Becker and Lewin), it was Marcia who suggested that it has a central role in the process of identity formation. The results of
the present study show that vocational commitments does indeed play an
important role in adolescent identity formation.

The present study found that two thirds of the adolescents had
formed vocational commitments before leaving school. This is very
comparable to the NCB Study findings that 58% of their sixteen year olds
said they had a job decided on before leaving school, with a further 6%
having a "probable job", and yet another 8% having the area of future
occupation decided upon before leaving school (Fogelman 1976).

It was observed here that six months before leaving school vocational
commitment had no effect on adolescent identity development. However
immediately before leaving school and in the follow-up afterwards, vocational
commitment was indeed a significant determinant of the development of
identity. Immediately prior to leaving the committed adolescents
experienced considerable feelings of lack of self continuity between
present and future, causing considerable identity diffusion. However,
a later analysis of sex difference (Appendix VI) revealed that this effect
is found only in girls, and not in boys. Such a feeling is realistic in
view of the fact that they were about to leave an environment in which
they they had lived for several years (boarding school), where the order
of the day and the social environment were predictable. They were aware
that they were about to start a new life in a new environment which at
present was totally unpredictable. In contrast, the adolescents who
were uncommitted immediately prior to leaving school did not perceive
such a lack of congruence in their self perceptions. Their identity
diffusion remained unchanged while they were still at school. Presumably
this is because they were not thinking ahead, as is also shown by their
temporal orientation scores. As they were not predicting the future
there was no cause for uncertainty about themselves in the future or about
their social relationships.
The pattern is reversed after leaving school. When the adolescents were followed up after leaving it was found that the girls in the "committed" group formed significantly more cohesive identities compared to before they had left school; the "uncommitted" group now revealing considerable identity diffusion. The difference between the two groups was significant in both aspects of identity - there was both a greater feeling of continuity of self over time and (see Appendix I and VI) a greater feeling of sameness between how one sees oneself and how one sees others as seeing oneself, for the committed adolescent girls. These subjects had settled for at least two years: they had established new friendships and their immediate future was now predictable. They had become socialized into their new environment and a revised (reconstrued), less diffuse identity had been formed. The uncommitted adolescents, however, on the follow-up after leaving school, were found to have significantly more diffuse identities, being less integrated in both aspects of identity. This is understandable in terms of the fact that these adolescents had not prepared themselves - had not anticipated the changes in socialization that were inevitably to come on the transition from school. After leaving they suddenly had to come to terms with the fact that they had not thought or planned ahead and that their future, now suddenly in the present, had to be adapted to and coped with. Thus, a lack of continuity of self over time is now observed, as these adolescents begin to fact up to the fact that their future is unplanned. Also, they have to recognize that they are losing contact with old friends with whom they knew where they stood, and they are having to define themselves to new acquaintances (whose perceptions of them they are unsure of) in a new environment. (Only at test 3 is there a significant difference between committed and uncommitted on S-OS distance ($\bar{x}_c = 0.42$, $\bar{x}_{uc} = 0.70$, $t = 3.38$, df = 39, $p < 0.002$) the correlation measure showing the same
trend but not reaching significance. Appendix VI shows this effect is sex-linked. The sex difference is fully discussed in section 6.2.7 below.)

The basic hypothesis that identity development is dependent on vocational commitment, at the stage of adolescence being studied here, is therefore fully confirmed for girls only. However, the relationship is not as simple as predicted: committed and uncommitted adolescents show different patterns in their development of identity which are both interesting and plausible.

In the discussion of commitment in Chapter 3 it was reasoned that locus of control is a personality variable which is related to forming commitments. Those who are committed to the future of their own choice must have an internal locus of control. It is possible, however, to become committed to the choice made by someone else for one's own future; yet nevertheless the committed subjects were found to be significantly more internal than the uncommitted subjects (Appendix V). (This provides some external validation for the assessment of commitment.) Perhaps this is why very few committed subjects were dissatisfied in their occupations after school (Appendix III). The uncommitted having more external locus of control blamed others for their choice of occupation and may well have made little effort to try to enjoy it. When a decision is one's own one is more reluctant to admit failure. Some of the uncommitted had already switched jobs at least once, whereas others were intending to do so in the near future. All but one of these dissatisfied adolescents were in fact out at work, and not in any vocational training or further education.

It was also suggested that achievement orientation and motivation for achievement may be related to adolescent identity via commitment. The difference in achievement orientation in the two groups is evidenced
by the fact that so many more uncommitted subjects went straight to work (Appendix IV) and were not working in pursuit of long term goals. Rotter (1966) suggests that people who accept responsibility for their own actions (internal locus of control) are more alert to those aspects of the environment which provide useful information for their future behaviour, take steps to improve their environmental condition, and are more concerned about their abilities. (No significant difference in achievement motive - as assessed by Robinson & Argyle's questionnaire (1970) - was found, but it is likely, as it was administered six months before leaving school, that the subjects assumed the questions related to achievement in school and did not think about achievement outside school. In fact there was no significant difference in the number of 'O' levels gained either (Appendix V) implying that academic achievement is not a variable in commitment.)

6.2.5 EFFECT OF TEMPORAL ORIENTATION ON IDENTITY

The relationship between temporal orientation and identity has been recognized by psychologists in totally different fields - Lewin, the social psychologist; Piaget, the cognitive psychologist; and Erikson, from the psychoanalytic school. The only study of this relationship in middle adolescence (as here) was done with girls by Howard (1960) who confirmed the existence of such a relationship. However, the results of the present study show little effect. The only trend found is at test 2 and is the reverse of what would be expected from Erikson's theory. The trend found is that future oriented adolescents perceive less continuity of self in time than past oriented adolescents and would therefore have more diffuse identities. The reason for this contradictory finding (from Erikson's point of view) lies
in the anticipation of the adolescents about their future - as has been discussed in the previous section. Thus those with future orientation anticipate at test 2 the effect on themselves of the imminent lack of continuity in their environment (due to leaving school), causing larger S-FS distances, and lower S-FS correlations, and not the opposite as hypothesized from Erikson's theory. Those with past orientation did not anticipate at all the inevitable change ahead and therefore perceived great continuity of S-FS in both measures.

It should be remembered that temporal orientation was assessed only at test 1. It was assumed that this is a personality characteristic which reaches stability in adolescence and which may be an independent variable in the development of identity. Thus it was assumed that those with a future orientation at test 2 remain as such throughout the year, and likewise, those with a past orientation at test 1 also remain with a past orientation. However, the only effect of orientation was found at test 2, and in the opposite direction to that predicted. In fact the lack of self continuity perceived by the future orientated is considered to be realistic. Thus the lack of future orientation in time perspective is not found to be a part-symptom of identity diffusion at all, as Erikson proposes, but Erikson's observations were drawn from patients with expressed identity problems, who are in no way similar to the subjects in the present study. Only about one fifth of all the subjects used constructs relating to temporal orientation, such as "plans ahead - lives for now", "acts before thinking - cautious" and the majority of these were adolescents with commitments, especially boys, at test 2, aware of the need for thinking ahead. However, in spite of the pressures to think ahead and form a vocational commitment, temporal orientation is not a personality trait generally recognized by adolescents.

Contrary to the existing theories, it appears as though temporal
orientation may change and that this cognitive factor achieves stability in adolescence only in as much as vocational commitments are maintained, or only in so far as the environment is perceived to be unchanging. From Appendix III (which shows the effect of commitment on subsequent satisfaction with occupational choice), however, one can infer that almost three quarters of those previously vocationally uncommitted are now reasonably committed to their occupation. It is then quite possible that some or even most of these adolescents have therefore become more future orientated. The development of temporal orientation and even the other aspects of temporal perspective - extension of time span, time focus - would be a fruitful area for the study of the still relatively unexplored area of cognitive change in adolescence and adulthood. It is possible, of course, that had temporal orientation been reassessed at each test, a more convincing effect of this variable on the development of identity might have been found. However the interesting effects that have been found have broadened our understanding of this topic. The alternative hypothesis put forward about the effect of temporal orientation on identity suggests that a future orientation is not sufficient to ensure an integrated identity - vocational commitment at this stage in adolescence is the crucial determinant of identity. Table 20 showed that those adolescents who had made vocational commitments were significantly more future orientated than the uncommitted adolescents and the corollary, that virtually all of those with future orientation had made vocational commitments, was also true. However, Figure 4 showed that there was no significant difference in the development of identity over the year of the committed subjects who had future orientation compared to those who had present or past orientation. It shows quite persuasively the superordinate effect of commitment. Thus, it is not temporal orientation, but commitment that is the primary independent variable in the perception
of self continuity.

6.2.6 EFFECT OF EARLY ENVIRONMENTAL DISTURBANCE ON IDENTITY

The stress that the psychoanalytic school places on the role of the early years of life is, of course, well known. However, it is Erikson again who specifies the effects of the early years on identity. Inadequate resolution of earlier conflicts, he postulates, leads to part-symptoms of identity confusion in adolescence. The prerequisites for identity achievement are accumulated even from the experiences of the first year of life. The theory arose from Erikson's clinical observations. Although part-symptoms of identity confusion have been observed in empirical studies (e.g. Constantinople 1959, Howard 1960), these studies are not longitudinal and no information was sought about early childhood. A totally independent and well controlled empirical study (Rutter et al 1976) of normal and psychiatric youth confirmed that psychiatric problems in adolescence (14 - 15 year olds) had mainly arisen in early childhood, but identity confusion was not on the list of psychiatric problems.

The main difficulty in investigating such a theory is the often poor reliability of retrospective data about early childhood. In the present study the interview and grid together provided quite a detailed picture of the adolescents' social set-up, and over 30% described a broken home that had led to their coming to boarding school. The broken home was caused by parental separation due to death or marital discord, and in many cases tension was created by a step parent entering the scene.

The three questions in the interview (4, 5, and 6) together with discussion of significant relationships in the repertory grid test gave quite a detailed picture of the home situation. Only those meeting the
operational definition in Chapter 4 were included in the "disturbed" group and it is unlikely that many would invent such circumstances, so that the reliability of this special group can be assumed to be good. There remains the possibility that some subjects chose not to disclose their home environment situation, but it is likely that such subjects dropped out of the study by refusal to cooperate at the start or after the first interview.

Another point relevant to the question of reliability of this independent variable is that the retrospection involved is relatively little - the adolescents have to think back to before they entered boarding school 5 years previously. One can fairly assume that entering boarding school was a milestone in their lives and that they would quite easily recall events that led to such a step.

All in all, therefore, there is no need to doubt the reliability of the two groups D and ND (those with, D, and those without, ND, early environmental disturbances). However, Tables 23 and 24 show no effect of this independent variable on identity, providing absolutely no support for the hypothesis. There are three possible reasons for this: (1) identity development does not depend on historical occurrences but instead is dependent on on-going social interactions; or (2) the early disturbances did not affect the prerequisites for identity that are assumed by Erikson and therefore did not affect the development of identity; or (3) the boarding school environment has a remarkably stabilizing effect, cancelling the psychological damage inflicted by early instability in the relationships in the home.

The first alternative is the approach of sociologists, such as Goffman, and has been fully discussed in Chapter 2. The theoretical position in this study is that basic to identity development is a perception of continuity between different aspects of self and the very
word 'continuity' involves a historical approach, making identity a psychological structure formed as a result of a history of identifications and social interactions. The second alternative would have to be tested in a longitudinal study and depends totally on the accuracy and validity of Erikson's theory. The third explanation offered is the most plausible. Textbooks of child psychiatry are filled with evidence of the damage caused to the developing personalities of children due to parental death and marital discord, but the permanency of such damage is less reliably documented. It is becoming an increasingly popular theory that new relationships can repair earlier psychological damage (upheld, for example, by Blos, A. Freud, and Hartup). Furthermore, much of developmental social psychology is based on evidence of the determining role played by socialization on the maturing personalities of children, regardless of earlier experiences. The socialization theories of adolescence are given support by the findings in this study of the increasing importance of the peer group in providing models and emotional support. Bronfenbrenner (1970) points out that the effect of the peer group on the adolescent is usually greater when for one reason or another the parents have withdrawn. The rapidity with which identifications change also strengthen the plausibility of the suggestion that the developing personality, the adolescent's identity in particular, is increasingly dependent on present socialization; the immediate past and the future, and the effects of occurrences more than 5 years previously are slowly normalized. However, the picture is not so simple. Some of the adolescents in the D group now have very stable home environments, living with, for example, a mother who has accepted widowhood, whereas there are other adolescents whose early years were comfortable, but who now feel tensions in their home environment due to recent parental discord, or sibling rivalry, or even a deep feeling of not being understood.
Yet another point to consider has been made in an earlier chapter (4.5) that the ratio of girls to boys in the D group is 3:2. A possible reason for this sex difference was put forward, i.e. that the effects of early environmental disturbances on boys were manifested in a more antisocial manner at the time when the children entered boarding school, making fewer boys acceptable for the school. Therefore before drawing conclusions too hastily about the beneficial and stabilizing effects of boarding schools on the development of identity, a control study would need to be done on the effect of present reported harmony in the home, or lack or it, on the identity of boarding school pupils.

The results therefore do not support hypothesis 6, probably because the boarding school environment has had a stabilizing effect on the adolescents.

6.2.7 EFFECT OF THE ADOLESCENTS' SEX ON THE DEVELOPMENT OF IDENTITY

Again, in contrast to Erikson's suggestions, the hypothesis put forward here led one to expect no sex differences in the development of identity. It was argued that sixteen year old school leavers in England of both sexes had similar vocational aims, to obtain a career that would ensure them some financial independence, and therefore the pattern of identity development would also be similar.

No sex differences were found in commitment, identity diffusion or in identifications as predicted. However, there were a few sex differences found in the use of constructs, in the perception of self continuity, and also in the perception of self sameness.

The sex differences in the use of constructs tells us something about the different nature of relationships that the adolescents have, and the psychological significance of these for boys and girls.
Girls more than boys used constructs referring to emotional stability and agreeableness while still at school, and egocentricity ("relationship to me") at test 3 revealing greater emotional vulnerability and sensitivity in their relationships; while boys, still at school, used significantly more constructs referring to interests, than girls. These results confirm conclusions drawn from other studies: Coleman (1974) found that adolescent girls have a greater fear of rejection from the peer group than boys, i.e. a greater affiliative need; Duck (1975) found that adolescent girls' friendships are more a function of psychological dimensions than boys' friendships; Douvan & Adelson (1966) found that girls' friendships were deeper, more intimate and dependent than boys', whereas the latter's friendships were more usually for common interests. An interesting point is that younger children, like adolescent boys, also form friendships on the basis of common interests (Austin & Thompson 1948), and preadolescent children do not form friendships on the basis of psychological dimensions (Duck 1975), in the way that adolescent girls do. It is unclear from the limited amount of research available whether this developmental sex difference in relationship formation continues to adulthood, although the published work of Duck (e.g. 1973a, 1973b) leads one to hypothesize that it does. This developmental sex difference has considerable significance in understanding several areas of social psychology, for example, the predominantly male phenomenon of adolescent gangs, the function and significance of the peer group, the study of intimacy in adolescence and adulthood, sex-role stereotyping, the predominantly female phenomenon of depression following breakdown in relationships.

The sex difference found at test 3 in feelings of self sameness (S-OS perceptions), can be accounted for by the different nature of the adolescents' relationships. At test 3 girls used, more than boys, many
egocentric constructs, referring to themselves, implying, it has been suggested, more verbally intimate relationships than boys have. By discussing their feelings, problems, and emotions with others they are able to form an idea of what others think of them, and hence, the greater observed S-OS congruence. Interestingly, Hauser and Shapiro (1973) also found this same effect - girls had distinctly greater S-OS correlations than boys in the group of adolescents who were less than 17 years old. There was no sex difference however in the over 17 age group. Hauser and Shapiro are unable to explain the sex difference found in the younger group.

The explanation for the sex differences in the feelings of continuity are also not obvious. At test 1, no difference was found. At test 3, as no difference was found on one measure, the difference that was found on the other is given no concurrent validation, and therefore conclusions about sex differences in S-FS perceptions at test 3 cannot really be drawn. At test 2, however, immediately prior to leaving school, boys experienced appreciably greater feelings of continuity than girls. Again an explanation concerned with relationships is possible - perhaps boys feel they can maintain continuity in their interests regardless of the transition from school, and therefore a change of social environment does not change them - they will find others with whom to share these interests. Girls, on the other hand, may feel more unsure about the future of some of their relationships and are more realistic about the lack of continuity about to be experienced on account of the transition from school.

Hauser and Shapiro also found a sex difference in S-FS correlations, with girls having higher correlations than boys in the under 17 age group, and the opposite in the over 17 age group. Since his subjects attended (American) private schools and colleges they form a very
different group from those in the present study, and thinking ahead to transition from school would be an issue for the older group, but not the younger, where the sex difference in S-FS correlations is in the same direction as in the present study at test 2. All Hauser and Shapiro offer in way of explanation is that: "Current societal expectations and discontinuities appear to make it considerably easier for the male to integrate his current and future self-images as adolescence proceeds." (1973, p. 68)

As mentioned above (6.2.4) there is a sex difference in the effect of vocational commitment on feelings of self continuity. Appendix VI shows that the effect occurred only in the girls, and not in the boys. The explanation offered of the effects of commitment on aspects of identity was in terms of anticipation of change and socialization after change. The fact that the effects are now discovered to be only in girls and not in boys is somewhat counter-intuitive, as one might have expected that boys would feel greater social pressures to form vocational commitments, as Hauser and Shapiro appear to suggest. It was argued earlier in the thesis rather, that there are now, equally, pressures on girls to form vocational commitments and become financially independent in some career. The development of identity was clearly found to be a function of vocational commitment, yet now it is evident that commitment has no effect on development of identity in boys. While the explanation offered earlier for the effect of commitment on identity development still holds for girls, an alternative explanation must be sought for the lack of effect found for boys. Perhaps, as apparent in their greater use of psychological constructs and their deeper emotional relationships, the girls are more aware of their personality and have the cognitive tools for introspecting and assessing their self perceptions. Girls seem to do this as a matter of course in their
friendships. On the other hand, the nature of boys' relationships are different, and possibly they have not developed the cognitive skill of introspecting. Alternatively, perhaps they are not interested in assessing their personality, or how others perceive them, being contented with more physical characteristics, as Duck's work suggests. Whichever the case, it is therefore probable that the boys are not using constructs which show change in identity diffusion or perceptions of self continuity or self sameness.

One final possibility is that while vocational commitment has no effect on male identity development, subsequent commitments may yet be shown to have noticeable consequences on this process. For example, the emotional commitment to get married, or to have a child involve role transitions that are quite likely to alter a man's identity. Another example is in the formation of ideological commitment, such as taking a role in a trade union, a political party, or a religious grouping, which may bring about a role transition that affects the way in which a person defines himself and/or the way in which he is defined. Therefore there seems to be a basic difference between both the cognitive and the social systems of adolescent boys and girls, which have come to light through the study of the development of identity in adolescence.
6.3 SOME LIMITATIONS OF THIS STUDY

It is appropriate at this stage to consider some of the limitations of the present investigation. These may be grouped conveniently in three categories: according to the assumptions held, according to what was in fact tested, and according to what was not tested.

(a) Assumptions. One assumption that was made on the basis of the literature (especially Erikson's theory) is that temporal perspective is a stable cognitive style observable in adolescence. This has been questioned above (6.2.5), where it has been suggested that, instead, temporal perspective may change as a function of commitments, or changes in the environment.

Although the rep. test may be used as a test outside the context of personal construct theory, there are certain assumptions about relationships between constructs that are made in this theory that have not been mentioned. Kelly has proposed that constructs are organized into systems:

"Not only are the constructs personal, but the hierarchical system into which they are arranged is personal too... One construct may subsume another as one of its elements... When one construct subsumes another its ordinal relationship may be termed superordinal and the ordinal relationship of the other becomes subordinal." (Kelly 1955, pp. 56-58)

He goes on to emphasize that

"... progressive variation must, itself, take place within a system... one's personal constructs can only be changed within subsystems of constructs and subsystems only within more comprehensive systems." (ibid, p. 79)

Thus, "... developmental change involves a progressive evolution of the system as an operational whole rather than grafting onto the system of new structures from the outside." (Adams-Webber 1970, p. 41)

Unfortunately in this study no attempt was made to assess the
hierarchical organization of constructs, or to assess cognitive
differentiation (e.g. cognitive complexity), which would have extended
this work considerably, but such analyses could still be done at a
later date. The assessment of reconstruing in the present study does
not consider the possibility of a change of meaning of the same
construct on a different test, but this dimension of change is more
likely to be important in clinical uses of rep. tests, than in the study
of normal development.

(b) What was tested. An important question in this type of research
is that of replicability. Another tester, using the same form of rep.
grid test and interview on adolescents in their school-leaving year,
should obtain essentially similar results. However, there is always
the inevitability of tester effect. The sex and personality of the
tester may well affect the ease with which subjects respond. Moreover,
if a different subject population were selected, for example not in
boarding school, then different results may be expected. The possibility
of these types of error have been fully discussed in the third chapter
(3.3.1) above.

One limitation of the study may be the making of overgeneralizations
by treating the grid data nomothetically. This investigation set out
to discover certain patterns in development for groups of subjects, and
not to give an account of individual cases - though the latter could
be done at a later stage. Thus the data was accumulated in such a way
as to present the average between individual differences; and the
generalizations that were made about the patterns of development
observed, were in fact generalizations about the averages. In a number
of instances the standard deviations from the means were large, and it
is probable that for these cases the conclusions drawn may indeed
sometimes be overgeneralizations about individuals.

A further shortcoming of this study may be the specificity of the subject population. The fact that the subjects were at boarding school differentiates them from the vast majority of British school leavers, and one may question whether the pattern of identity development in the year of transition from school is greatly different from that of their counterparts not in boarding school. Intuitively one might expect that the effects found here may be a little more exaggerated than those expected from day school leavers; this is because the transition from school may involve a more extreme environmental change. This study was carried out in boarding schools in order to find matched controls for the independent variable of early environmental disturbances. An interesting extension of this work would be to repeat the investigation with school leavers from a typical day school.

(c) What was not tested. The field of study chosen is so large that it was inevitable that some relevant variables were left out. Anxiety and feelings of conflict were not tested; yet these feelings are of importance in both theories of adolescence and identity, and have been recently extensively investigated in Coleman's work.

Another omission is the effect of sex-role identity in identity development during the year of study. This is a complex variable which should include not only the extent an adolescent feels masculine or feminine, but his/her experience of his/her own sexuality, and experience of intimate relationships. The transition from a non-sexual to a sexual role would conceivably involve some cognitive organizing and adapting that would have significant effects on the development of identity. Some subjects in the present study may have made this
transition while others had not. This was not controlled for.

Considerable modifications in methodology would have been required to cover these two topics, and these would have made the investigation into a far more extensive project. The present study concerns itself rather with some basic issues, if not all, in the theories of adolescence and identity; and in spite of these limitations the results presented here are considered to make a contribution to the understanding of the field. The final chapter discusses this in greater detail.
7. CONCLUSION

The results of this study show four effects in the development of identity in adolescence. The first effect was that of reconstruing, observed after the transition from school in those with considerable identity diffusion immediately prior to leaving school. The second effect was due to identifying with the peer group, observed while the adolescents were still at school. The third effect was due to vocational commitment which affected the identity of girls both immediately prior to leaving school, and in the follow-up afterwards. The fourth effect is that of sex, observed in several aspects of identity development. These four effects, discussed in the previous chapter, will be summarized here, and then their implications for the theory of adolescence and identity development will be considered.

7.1 THE EMPIRICAL EVIDENCE AND ITS INTERPRETATION

7.1.1 RECONSTRUING

Those who experienced much identity diffusion immediately prior to leaving school carried out a significant amount of reconstruing, resulting in a more integrated identity after the transition from school. Those who did not reconstrue, did not reduce their identity diffusion, nor did they need to. Reconstruing was interpreted to be an adaptive response to reduce identity diffusion after the transition from school. (Reconstruing had no effect on identity diffusion before the adolescents left school.)
7.1.2 IDENTIFICATION WITH THE PEER GROUP

Although increasingly more adolescents identified with peers over the year of study, peer identification had a direct effect on identity development only while the adolescents were still at school. The fact that identification with peers had no effect on identity measures after the transition is also an interesting finding. Six months prior to leaving school identification with peers resulted in the favourable state of a feeling of self sameness and only little identity diffusion. Not identifying with the peer group resulted in significantly more identity diffusion and less feeling of self sameness. However, immediately prior to leaving school, the effect was found to be reversed, the identity diffusion of those identifying with peers was significantly increased, and was now notably greater than those not identifying with peers. These effects were discussed in terms of the function and power of the peer group as a reference group, six months prior to the transition; but it was the feeling of a lack of self continuity due to the anticipation of transition and change that was in fact the main determinant of identity diffusion immediately prior to the transition.

7.1.3 VOCATIONAL COMMITMENT

The importance of commitment in the development of identity is shown most persuasively by the results, but the effect was found to be sex-linked. Girls who had made vocational commitments experienced, immediately prior to the transition from school, a temporary diffusion of identity and the feeling of a lack of self continuity in time, followed by a return to an integrated identity with feelings of self continuity and self sameness. The sense of uncertainty shown immediately prior to the transition was considered to be realistic, since the future is really unknown,
and the peer group has lost its ability to help the adolescent achieve feelings of an integrated identity. The temporary diffusion has been discussed as an adaptive reaction to the anticipated transition; it is not a sign of psychological disorder. It is followed by a return to an integrated, reconstrued identity, following socialization into a new environment. In contrast, those adolescents who were not committed (both boys and girls) did not experience temporary identity diffusion, or lack of feelings of self continuity or self sameness, immediately prior to leaving school. Instead, after the transition, these adolescents found themselves suddenly disoriented, having lost their former sense of stability, shown now by the lack of feelings of self continuity and sameness, and a considerable increase in identity diffusion. The fact that vocational commitment had no effect on the development of identity of boys is another interesting finding.

7.1.4 SEX

Throughout the year of the study sex differences were found in the constructs used to describe relationships, showing the different basis for relationships in adolescent boys and girls. Boys' relationships were more characterized by affiliation through common interests, than girls'; whereas girls' relationships were more emotional and egocentric, and more personality-dependent than boys'.

Vocational commitment had a significant effect on the development of identity for girls, but not for boys, on measures of self sameness, self continuity, and identity diffusion, in the manner described in section 7.1.3 above.

Girls seem to be more affected by the transition than boys, the effect being most clearly found immediately prior to the transition when girls anticipate, far more than boys, the imminent lack of continuity
about to affect themselves.

7.1.5 THE OBSERVED DEVELOPMENT OF IDENTITY IN ADOLESCENCE

The adaptive, favourable path for the development of identity in adolescence is therefore for girls, (1) to identity with a peer group at school while it is still a cohesive reference group; (2) to develop vocational commitment, being aware of temporary lack of continuities due to the imminent transition from school; (3) to develop new values and restructure old ideas in socializing into a new environment. This results in (1) an integrated identity six months prior to leaving school; (2) a temporary state of identity diffusion immediately prior to leaving school; and (3) a return to a reformed, revised, integrated identity after the transition. For boys, the second step is omitted, so that the favourable path for the development of identity is to identify with a peer group while still at school, and then, if necessary, to form new values and restructure old ideas after the transition, when socializing into a new environment. For boys, the results may be the same, although the temporary diffusion immediately prior to leaving school would be caused only by identification with the peer group, and not by vocational commitment. However, if no temporary diffusion is experienced at this stage, then no restructuring is needed after the transition. In these ways the adolescents were observed to be adjusting to the social change of transition from school. On the other hand, certain aspects of identity remained remarkably consistent and unchanged: constructs remained qualitatively unchanged, many of the identifications remained unchanged, and the self perception itself (myself as I see myself now) also remained quite unchanged, for the group as a whole.

Let us now look at these findings in relation to the present theoretical issues of adolescence and identity.
7.2 THE THEORY OF ADOLESCENCE

Since the repertory grid method was used to obtain the findings in this study, they should first be interpreted in terms of personal construct theory. They will then be interpreted in terms of the approaches to adolescence described in Chapter 1. Adolescents identifying with the peer group six months before leaving school are able to anticipate certain social relationships, but when facing the role transition from school, those girls with vocational commitments find difficulty anticipating their own perceptions, realizing the imminent discontinuities. After the transition adolescents may reconstrue so as to be able, once again, to anticipate their social relationships. Those who formed no vocational commitments prior to leaving school mistakenly believed they could anticipate their own perceptions, but when the transition occurred, then they experienced the difficulty.

7.2.1 PSYCHOANALYTIC INTERPRETATIONS

The present study was not in the least psychoanalytically orientated and did not attempt specifically to test psychoanalytic hypotheses, except those relating to Erikson's theory. However, the findings relating to the adolescent's identifications with the peer group and parents may be used as documentation of the process of extra-familial object finding. The observations here showed that adolescents increasingly identify with peers; parents may be either positive or negative models – step-parents frequently being the latter; and that adolescents have a great need for emotional support and being understood both by peers and adults.

Rather than intellectualization being a common adolescent defense mechanism, it has been suggested that humour is an important cognitive asset at this stage, worthy of further systematic study for its function
as a defense mechanism as well as a tool for socialization.

No effect of early environment disruptions was found in the assessment of identity diffusion, contrary to Erikson's psychoanalytically derived theory. Instead, the socialization theory of situational adjustments is favoured, whereby later relationships and a stable environment can compensate for an earlier unstable one. This hypothesis, if correct, has considerable importance for psychotherapy, and deserves further research.

7.2.2 COGNITIVE DEVELOPMENTS

Piaget and Kohlberg have each contributed greatly to the understanding of the cognitive development of logical thinking, and morality. The difficulty the subjects experienced in introspection, together with the qualitative nature of the constructs used provide little evidence of abstract or post-conventional thought, while the reorganization and restructuring of earlier moral thinking modes as a consequence of the role change was not tested.

The present study, in contrast, throws light on the cognitive development underlying socialization, showing that adolescence is the stepping stone from childhood processes to adult processes. The discussion of the results of this study lead to three new questions about the cognitive developments of adolescents. The first is about commitment formation, the second is about temporal perspective, and the third is about sex differences in modes of thinking.

(a) Commitment. The role transitions of adolescence are different from those of childhood in one important dimension - they may involve forming commitments. Until adolescence, others make the commitments for the child, in adolescence the burden of responsibility has to be accepted
for the consequences of a transition. It is possible that the vocational commitment is not the first, but that the adolescent has already made a commitment in the transition to a sexual role, as LaVoie suggests (1976). Theoretically, adolescence marks the end of childhood by the emergence of the cognitive powers that enable a person to make commitments. Those adolescents who were committed experienced more future temporal perspective, as expected, and many appeared to be realistic about the future. However, there was also a group of adolescents who did not form vocational commitments and lacked future temporal orientation who cannot be ignored. Cognitive theory would lead to the assumption that these adolescents are less mature, not yet having the cognitive powers to think ahead realistically. Psychoanalytic theory proposes that lack of future perspective (and hence, presumably, commitment) is due to personality dynamics, whose origins were laid down in earlier years - but the present study found no relationship between commitment formation or temporal orientation and the experience of early environmental disturbances.

Finally, from the sociological perspective, the formation of commitments may be assumed to be situation-specific, so that the adolescent is in fact able to think ahead to the consequences on some dimensions and not on others. Just as in the case of role-taking, commitment may be analyzed in terms of being achieved or ascribed. Other studies of transition from school (e.g. Hamburg & Adams 1967, Offer & Offer 1975, Roberts 1968, Silber et al 1961(a), 1961(b)) suggest that many adolescents' commitments are in fact to ascribed roles, by assuming the commitment that has been chosen for them. In this case commitment is purely the result of internalizing a new ascribed role and thus is a learning process and not a new cognitive development of the Piagetian type. This leads to the familiar nature-nurture controversy - is commitment formation or assumption educable, or is it really a function of maturation possible only once
appropriate cognitive structures have developed? The answer to this theoretical question has important practical implications, but it is most likely that the answer involves both maturation and learning.

(b) Temporal Perspective. Whereas there is a relationship between commitment and role-taking, so there is also a relationship between commitment and motivation - specifically, locus of control - and temporal orientation. The assumption that temporal perspective is an unchanging cognitive style, though, is questioned in the discussion of the results (6.2.5). Perhaps, instead, temporal perspective is one of the dimensions along which cognitive development proceeds in adolescence and adulthood, as a function of commitment-making. Following this suggestion it is proposed that cognitive development proceeds in adolescence and adulthood with commitment as the primary independent variable, while temporal perspective is a dependent variable. It may be hypothesized, further, that temporal perspective will depend on whether commitment is achieved or ascribed.

(c) Sex Differences in Modes of Thinking. Of primary interest to the understanding of cognitive development in adolescence are the sex differences found in the use of constructs, which imply that the process develops along different dimensions in adolescent girls and boys. Childhood friendships are made according to propinquity and interaction behaviour. Adult men, apparently also form friendships largely according to interaction behaviour, whereas adult women form friendships more in response to psychological characteristics, forming more dependent relationships. The changing point, the beginning of the emergence of sex differences in relationships is seen here in adolescence. Of course, the conclusions about sex differences are generalizations about the two
different sexes, and there are individual exceptions to the rule, while each person may form most friendships according to the generalization but still have other friendships based on other principles.

Again, there are different ways of explaining such sex differences. A psychoanalytic view proposed by Erikson (1964) centres on the biological difference between men and women. Women have an inner space, an inner receptacle for nurturing, which explains their greater feeling of warmth in a relationship on the one hand, or despair in the failure of a relationship on the other hand. Men, instead, have outer space which is used to conquer, to achieve, and to dominate. In contrast, anthropological studies (e.g. Barry, Bacon & Child 1957) show convincingly that girls are socialized to adopt behaviours appropriate for nurturing, obedience, and responsibility, whereas boys are socialized for self reliance and striving for achievement. Maccoby's comprehensive reviews of sex differences (1966, 1974) show that the differences that are fairly well established are cognitive - girls have greater verbal ability than boys; boys excel in visual-spatial ability and mathematical ability, and are more aggressive. From these facts it may be proposed that the boys' verbal inferiority accounts for the sex differences in this study. The sex differences may be due to the development of different modes of thinking, or cognitive styles, either as a result of a basic maturational difference, or/also as a result of differential role learning and professional specialization, as Kohlberg and Zigler (1967) have suggested. Perhaps cross cultural studies and other primate studies (e.g. of monkey or chimpanzee societies) of sex differences in relationships would help define to what extent the differences are maturational and to what extent they are the result of learning processes. It is clearly worth seeking to understand the sex differences in the cognitive aspect of relationships since this may be the key to well-known sex differences observed in certain psycho-social
phenomena - that adolescent gangs are predominantly male; that certain adolescent psychopathologies are more prevalent in one sex than the other; sex-role stereotyping. The different modes of thinking about relationships must also reveal sex differences in the nature of intimacy in adolescence and adulthood in a different way from that which Erikson suggests, and could be empirically investigated.

7.2.3 SOCIALIZATION

Many of the issues dealt with in the socialization approach to adolescence have been dealt with in the previous section.

By observing the transition from school, we have observed a specific instance of how an individual adjusts to society. In this case, the adjustment is made first by identifying with the peer group (while still at school), then by forming vocational commitments, and finally, by restructuring his perceptions of the social world. Thus, the socialization approach to adolescence is reinforced. Situational adjustments of the type referred to by Brim (1965, 1966) and Becker (1964) have been observed. In Lewin's terms, the adolescent's "field" is observed to be cognitively structured and known when he is socialized in the peer group six months prior to leaving school. When anticipation of the future begins, the field was found to lose some of its cognitive structure which is regained when the field is reorganized. In the absence of anticipatory socialization, the loss of cognitive structure occurs only after the transition. For the girls, the formation of vocational commitments facilitated the anticipatory socialization.

The transition from school usually involves a role transition, from that of school boy/girl to a role holding greater responsibility. Yet the adolescent's social world as they described it remained mostly unchanged, and their interpretation of their relationships also remained qualitatively similar.
7.3 THE THEORY OF IDENTITY DEVELOPMENT

It has generally been agreed that identity formation is a process that continues throughout life. It has been defined as the process by which identifications and other self perceptions arising from social interactions are organized and integrated to be temporarily crystallized at any time into identity. Identifications were indeed found to change and to be integrated into the adolescents' construct systems. A significant stability of self perceptions was found, similarly to many other empirical studies in this field. However, rather than the development of identity being smooth and gradual, the present study leads to the conclusion that the equilibrium of this process is upset by certain factors, and a new equilibrium is returned by various coping processes. Changes in identity were observed as a result of the transition of leaving school, and not as a result of internal existential questioning as others have suggested. The present study has shown that the development of identity in adolescence is dependent on identification with the peer group, the formation of vocational commitments for girls, and reconstruing. Identification with a model or reference group may undoubtedly occur both before and after adolescence; and reconstruing must also be an on-going process of the life cycle. Vocational commitments are not likely to be formed prior to adolescence, though new ones will probably be formed later in, and subsequent to, adolescence.

Let us turn to Erikson's theory, since this is what generated the present wealth of research on identity. Assuming identity formation to continue throughout the life cycle, Erikson deduces that there must be some sort of a ground plan for the epigenesis of identity. However, since the above results suggest that earlier crises may not affect the development of identity later on, Erikson's assumption of stages where each one is the
sine qua non of the next one begins to lose its validity.

Another of Erikson's assumptions - that time perspective is a part-symptom of identity formation - was also questioned here. Erikson suggested that no future temporal perspective can be observed in adolescents with identity diffusion. Here it was found, instead, that future temporal perspective did in fact cause increased identity diffusion immediately prior to leaving school, which was a realistic appraisal on the part of the adolescents of their imminent transition and the uncertainty of the imminent future. Those with present or past temporal perspective revealed considerably less identity diffusion at this stage, thus the opposite to what Erikson has proposed was found here immediately prior to leaving school.

The development of identity in adolescence and adulthood may however be different from that in childhood, since from adolescence onwards it may become dependent on commitments. Vocational commitment was found to alter the development of identity in an adaptive way for girls, but there was no effect for boys. However, it was suggested in the previous chapter that perhaps subsequent commitments will in fact alter the development of identity in men (as well as in women). So Marcia was not entirely wrong to pinpoint commitment as basic to identity formation in late adolescence, and Erikson was therefore not entirely wrong to pinpoint adolescence as a time of changes in identity formation. But both Erikson and Marcia were apparently wrong in interpreting crisis as a period of active conscious questioning. For the adolescents in this study, and probably for the majority of adolescents, this apparently does not occur.

Erikson's epigenetic stages were characterized by ascending conflict leading to a crisis, and the results of attempts to cope with the conflicts are spelt out. Rather than tell us how to cope with each crisis, he leaves the coping to the ego - a hypothesis that would be of little help to an adolescent in the middle of a crisis. He has also proposed the now widely accepted hypothesis that the adolescent crisis focuses on identity
formation, which is observed in the active search by the adolescent for his identity. The review of the literature in the first two chapters led to the conclusion that the notion of identity crisis is applicable only to a minority of adolescents. Yet, before dismissing the concept of crisis as being inappropriate to a model of adolescent identity development, let us take a closer look at the meaning of this term. In the above lines the word "crisis" means "conflict" and the two words could be used interchangeably. However, in psychiatry a crisis is what occurs when one is exposed to unavoidable hazards which have to be managed within a given time allowance.

7.3.1 THE THEORY OF CRISIS

Caplan and Grunebaum (1967), influenced by Lewin's field theory, interpret crisis as consisting of a disruption of equilibrium by disturbances in the life space, requiring a restructuring of the phenomenological field to reach a new equilibrium (comparable to a biological necessity for homeostasis). It has been viewed simplistically as an interruption in cognitive events (Taplin 1971) but it is generally agreed that the disturbed equilibrium is precipitated by and is the reaction to some event in the person's social reality. Some view crisis as the result of a role transition (Rapoport 1962, Viney 1976). These suggest that an individual experiencing crisis is placed in a problem-solving situation to discover new roles to master a new environmental situation which cannot be mastered by existing cognitive categories. Thus each transition from role to role is a potential crisis, and the transition from school studied here is just such a situation.

There are certain characteristics of a crisis that have been frequently observed: (1) a period of disorganization follows the recognition of a crisis, during which the individual tends to be more
receptive to suggestions, influence and support from external sources (e.g. Caplan & Grunebaum 1967, Halpern 1973, Pasewark & Albers 1972); (2) crisis is temporary and requires adjusting to it within a number of weeks; (3) it is a concept without pathological overtones, since all normal people have to experience them and acquire skills to cope with them effectively. One such skill that has been frequently documented is the behaviour of getting advance information about the new situation (e.g. Caplan & Grunebaum 1967, Hamburg & Adams 1967). Anticipatory guidance is recommended by psychiatrists for coping with crises. Specific to major psychosocial transition in youth, the coping behaviours that have been observed are - seeking advance information about new roles and future difficulties and the use of friends to help in this seeking. If an adolescent can commit herself to her future after leaving school, then she can begin the information seeking in anticipation, before the actual transition. Another coping skill has been described by Parkes (1971, p. 102) as "Old patterns for thought and action must be given up and fresh ones developed", i.e. reconstruing.

Crisis resolution is recognized in the return to equilibrium - as achievement of reorganization, psychic or environmental; emotional equilibrium and competence (Viney 1976). Taplin (1971) defines crisis resolution as the realization of expectancies - when the individual is able to make accurate predictions about the outcomes of his own behaviour.

7.3.2 THE TRANSITION FROM SCHOOL AS A CRISIS

In the present study, a period of disorganization (increased identity diffusion) was indeed observed, followed by cognitive restructuring and the achievement of reorganization within a number of weeks. The majority of subjects reported emotional involvement in the form of anxieties about the future. Thus the transition from school is in every way a crisis,
which has been found to have a direct effect on the development of identity. Coping with the crisis in order to resolve it was done by forming commitments and restructuring. By forming commitments the adolescent girls were able to begin the work of obtaining anticipatory guidance before the transition, to recognize the imminent lack of continuity, and to reorganize themselves after the transition. Those who did not form commitments were unable to anticipate the future and did not experience the disorganization until after the transition; it is not known whether they were able then to reconstrue in order to regain a revised and integrated identity and, if so, how long it took. However, a characteristic of the course of a crisis is the time factor—that the equilibrium should be returned to within a number of weeks. In the present study approximately six months after the transition disorganization was still present in the identity of the uncommitted, implying that their coping with the crisis was not efficient.

Erikson is therefore correct in claiming that there is an adolescent psychosocial crisis, but the crisis is environmentally generated, physical, and objective and easily defined. It is due to the transition from school—an important role transition, necessary in the move towards adulthood. Finally, the crisis of transition from school does have a direct effect on the development of identity.

The transition to boarding school would have been an earlier crisis, and (possibly with a less clearly defined temporal course) puberty, and the first sexual relationship with the opposite sex, would also have been crises.
7.4 THE DEVELOPMENT OF IDENTITY IN ADOLESCENCE

Before building up a model of the development of identity in adolescence, let us quickly refer back to Coleman's focal theory of adolescence, where at different times during adolescence particular sorts of relationships come into focus, causing conflict or anxiety in the adolescent (Coleman 1974). The relationship situations that Coleman has studied could also be studied from a different viewpoint, as role transitions. The first focus he describes is conflict over heterosexuality. This can be interpreted as transition to a sexual role. The next focus - fear of insecurity in the peer group - can be interpreted as transition from a peer reference group which has in fact been observed in the present study to occur before leaving school. The third focus he describes is the double conflict over future identity and authority. The anxiety he observed adolescents to experience about their future identity can be understood in terms of the very real unknown ahead following the transition from school to a new role in society. The feeling of lack of self continuity has been found here to be experienced by adolescents either immediately prior to the transition, or after the transition; apparently depending, in girls especially, on vocational commitment. The conflict over authority was not examined here, but could still be understood in terms of role change. These role transitions are predictable in normal adolescence, and are each likely to have an effect on aspects of a person's identity - on the person's self definition, identifications, feeling of self continuity, feeling of self sameness, and diffusion of self perceptions. The present study has shown which aspects of identity have been affected by the transition from school, and has suggested some of the coping techniques that are used by adolescents to regain the stability of self that has been observed in other empirical
studies. The coping processes adolescents use in the transition from school at the age of sixteen were found to be: (1) identification with the peer group prior to the transition, (2) for girls, the formation of vocational commitments, and hence, by deduction, anticipatory socialization immediately prior to the transition, (3) reconstruing after the transition.

The adaptive pattern for coping with a transition, which it has been argued, is to all intents and purposes a crisis, is to anticipate disorganization prior to the transition and to reorganize after the transition. Those who did not experience the disorganization prior to the transition experienced it only after and were unable to regain equilibrium within the reasonable time period of a number of weeks.

Each role transition can be a potential crisis, throwing the identity formation process into disequilibrium, but it is probable that the coping techniques to regain an integrated identity differ according to both maturation and social situations.

Coleman's focal theory is shown in Figure 1 below. It is now proposed that this theory is restated to apply particularly to the case

![Figure 1: Focal theory. Each curve represents a different issue or relationship (from J. C. Coleman (1974) Relationships in Adolescence, Routledge & Kegan Paul).](image-url)
of the development of identity in adolescence. In this case each curve represents the effect on identity (measured by one or several of its dependent variables) of a role transition. The role transition, as a crisis, is characterized by increased identity diffusion, and feelings of lack of self continuity and/or lack of self sameness, which are then reduced by coping behaviours. The starting point of each new curve will depend on the proximity in time of the new role transition to the previous one. The breadth and height of the curve is difficult to predict. The model is shown in Figure 2, and the actual pattern of identity change expected over time is shown in the heavy black line.

![Diagram showing the development of identity](image)

Figure 2: The development of identity. Each curve represents a role transition.

If the transitions were further apart in time, then there would be more time to reduce identity diffusion, and the black line would drop further along the dotted curve. The focus in identity development in this study was due to the transition from school, but another focus in identity development in adolescence would be the transition into a sexual role following an intimate relationship, which may take place either prior to or following the transition from school (or even at the same time). For those adolescents in the present study who formed vocational commitments, the role transition came at the peak of the curve. For the others, the role transition came at the start of the ascending curve (the black line)
and the descending curve was not observed within the time of the study. The coping process by which organization of self perceptions is regained may differ according to each role transition. In the present study it was found that the crisis was better coped with if its effects are anticipated, and by reconstruing. These are likely to be coping processes used in other role transitions too. The effects of identification, however, will be situation specific, and also dependent on maturation, as it is known that the peer group becomes less important with age.

7.5 FUTURE DIRECTIONS

We have looked at continuity and change in adolescence by studying the development of identity over a period in which there is a transition from school to a new role in society. Hypotheses were formulated about various aspects of identity development over this period and were then tested. The qualitative and quantitative data produced provided some interesting and some unexpected findings which well deserve further research. Also, the limitations of this study, described in section 6.3 above suggest some future directions.

The results of this study have led to new ideas about certain theoretical aspects of adolescence, discussed earlier in this chapter. One is that humour is an important cognitive asset in adolescence functioning as a tool for socialization, and a defense mechanism (see 6.2.1 above). The psychology of humour is a relatively new field of study, whose significance has not yet been recognized in developmental psychology. Its function in helping the adolescent through conflicts,
as a coping process in crises, may be hypothesized and can be tested.

Other ideas that resulted from this thesis concerned the cognitive developments of adolescence. The earlier belief that cognitive development ends at adolescence now no longer stands, but other than in terms of morality and professional specialization few ideas have been put forward as to the continuation of cognitive development in and after adolescence. It has been suggested above that commitment formation is an independent variable in this development, and that contrary to existing assumptions, temporal perspective is a dependent variable. It may be hypothesized that cognitive changes, such as temporal perspective and reconstruing are expected in late adolescence and throughout adulthood as a function of commitment formation. Although this is of theoretical interest, it is also of practical interest in as far as such cognitive changes form adaptive coping processes in crises, as in forced role transitions.

The results revealed sex differences in modes of thinking and the discussion of this finding showed the problem of understanding this issue. Whereas there is abundant literature about the existence of behavioural sex differences, differences in nurturing and socialization are the usual areas chosen for explaining these. Although these are undoubtedly important, the possibility of a natural difference in maturation of cognitive style is an idea which deserves some thought and study.

One more issue worth following up that arose in this study is the question of to what extent new relationships can eradicate earlier psychological damage. This is an on-going issue which is of clinical interest especially.

Arising from the limitations of this study is the prescription to repeat the interviews with a day school population of school leavers,
to assess the specificity of the present findings.

Considering the discussion of sex differences in cognitive style, it would be recommended to analyze the relationships between constructs for exploring sex differences in cognitive differentiation or organization of constructs.

The nature of feelings of anxiety and conflict in adolescent identity development, and the psychology of sex-role identity are popular fields of research which are now emerging.

In summary, then, this study has explored the topic of the development of identity in adolescence with the result of some interesting and unexpected findings that impose new dimensions to existing theories of both adolescence and identity, as well as providing some understanding of ways in which adolescents cope with the transition from school.
# APPENDIX I

## EFFECT OF COMMITMENT ON S-OS PERCEPTIONS

### 1. S-OS Distance

<table>
<thead>
<tr>
<th></th>
<th>Committed</th>
<th>Uncommitted</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>̅x = 0.50</td>
<td>̅x = 0.53</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>(s = 0.21)</td>
<td>(s = 0.21)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 2</td>
<td>̅x = 0.60</td>
<td>̅x = 0.49</td>
<td>0.73</td>
<td>65</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>(s = 0.26)</td>
<td>(s = 0.19)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 3</td>
<td>̅x = 0.42</td>
<td>̅x = 0.70</td>
<td>3.38</td>
<td>39</td>
<td>&lt;0.002</td>
</tr>
<tr>
<td></td>
<td>(s = 0.26)</td>
<td>(s = 0.31)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 2. S-OS Correlation

<table>
<thead>
<tr>
<th></th>
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<th>Uncommitted</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>test 1</td>
<td>̅x = 0.75</td>
<td>̅x = 0.69</td>
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</tr>
<tr>
<td></td>
<td>(s = 0.20)</td>
<td>(s = 0.23)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 2</td>
<td>̅x = 0.65</td>
<td>̅x = 0.76</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>(s = 0.28)</td>
<td>(s = 0.21)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>test 3</td>
<td>̅x = 0.79</td>
<td>̅x = 0.69</td>
<td>1.24</td>
<td>38</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>(s = 0.24)</td>
<td>(s = 0.23)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX II

EFFECT OF COMMITMENT ON LOCUS OF CONTROL

Locus of control was measured by J. B. Rotter's I-E Scale (1966). A low score reflects internal locus of control, a high score reflects external locus of control.

<table>
<thead>
<tr>
<th>Committed</th>
<th>Uncommitted</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \bar{x} = 12.3 )</td>
<td>( \bar{x} = 14.2 )</td>
<td>2.27</td>
<td>62</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>(s = 3.0)</td>
<td>(s = 3.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX III

EFFECT OF COMMITMENT ON SUBSEQUENT SATISFACTION WITH OCCUPATIONAL CHOICE

Amongst the committed adolescents (n = 43), only two (5%) were dissatisfied with their choice - of these one was unhappy in vocational training and wanted to change, another was at work and had already changed jobs as a result of dissatisfaction.

Amongst the uncommitted adolescents (n = 24), seven (29%) were dissatisfied with their choice - of these three had already changed jobs and four wanted to change their jobs. Six of these seven had gone straight out to work, the seventh (who wanted to change) had continued schooling.

Thus most of the adolescents who were dissatisfied are those who went straight to work; and a much higher proportion of those who went straight to work, compared to those in vocational training or further education, were dissatisfied. This has important implications for the preparation of school leavers for their careers.
### APPENDIX IV

#### OCCUPATIONAL CHOICE AND COMMITMENT

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>further</td>
<td>57%</td>
<td>25%</td>
</tr>
<tr>
<td>schooling</td>
<td>(n = 24)</td>
<td>(n = 6)</td>
</tr>
<tr>
<td>vocational</td>
<td>38%</td>
<td>25%</td>
</tr>
<tr>
<td>training</td>
<td>(n = 16)</td>
<td>(n = 6)</td>
</tr>
<tr>
<td>work</td>
<td>5%</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>(n = 2)</td>
<td>(n = 12)</td>
</tr>
<tr>
<td>total</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>(n = 42)</td>
<td>(n = 24)</td>
</tr>
</tbody>
</table>

Thus, those who went straight to work at sixteen usually did so out of lack of vocational commitment, whereas only a minority continued schooling for this reason.
APPENDIX V

'O' LEVEL ACHIEVEMENT AND COMMITMENT

<table>
<thead>
<tr>
<th></th>
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<th>Uncommitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>mean number of 'O' level passes</td>
<td>$\bar{x} = 4.2$</td>
<td>$\bar{x} = 3.0$</td>
</tr>
<tr>
<td></td>
<td>$(s = 2.6)$</td>
<td>$(s = 2.7)$</td>
</tr>
</tbody>
</table>

No statistical test was done as the difference between the means is obviously not significant, considering the standard deviation.
APPENDIX VI

A. EFFECT OF COMMITMENT AND SEX ON S-FS PERCEPTIONS AT TEST 2

1. S-FS Distance

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committed</td>
<td>(\bar{x} = 0.62) (s = 0.16)</td>
<td>(\bar{x} = 0.76) (s = 0.22)</td>
<td>2.23</td>
<td>40</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>n = 20</td>
<td>n = 22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncommitted</td>
<td>(\bar{x} = 0.53) (s = 0.25)</td>
<td>(\bar{x} = 0.55) (s = 0.19)</td>
<td>N.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 12</td>
<td>n = 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td>N.S.</td>
<td></td>
<td>t = 2.68</td>
<td>df = 31</td>
<td>&lt;0.02</td>
</tr>
</tbody>
</table>
## 2. S-FS Correlation

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committed</td>
<td>( \bar{x} = 0.73 ) (s = 0.21)</td>
<td>( \bar{x} = 0.49 ) (s = 0.33)</td>
<td>2.81</td>
<td>41</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>n = 21</td>
<td>n = 22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncommitted</td>
<td>( \bar{x} = 0.81 ) (s = 0.15)</td>
<td>( \bar{x} = 0.82 ) (s = 0.12)</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>n = 12</td>
<td>n = 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td>N.S.</td>
<td></td>
<td>3.06</td>
<td>30</td>
<td>p &lt; 0.01</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>
B. EFFECT OF COMMITMENT AND SEX ON S-FS PERCEPTIONS AT TEST 3

1. S-FS Distance

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\bar{x} = 0.50$</td>
<td>$\bar{x} = 0.35$</td>
<td>1.65</td>
<td>24</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>$s = 0.29$</td>
<td>$s = 0.19$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 11</td>
<td>n = 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncommitted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\bar{x} = 0.66$</td>
<td>$\bar{x} = 0.77$</td>
<td>0.86</td>
<td>14</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>$s = 0.31$</td>
<td>$s = 0.13$</td>
<td></td>
<td></td>
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<td>n = 8</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N.S.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>t = 5.51</td>
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<td></td>
<td></td>
<td>df = 20</td>
<td></td>
<td></td>
<td>p &lt; 0.001</td>
</tr>
</tbody>
</table>


2. **S-FS Correlation**

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Committed</strong></td>
<td>( \bar{x} = 0.63 ) ( (s = 0.24) ) ( n = 11 )</td>
<td>( \bar{x} = 0.92 ) ( (s = 0.06) ) ( n = 14 )</td>
<td>4.36</td>
<td>23</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Uncommitted</strong></td>
<td>( \bar{x} = 0.53 ) ( (s = 0.37) ) ( n = 8 )</td>
<td>( \bar{x} = 0.47 ) ( (s = 0.28) ) ( n = 7 )</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td><strong>Significance</strong></td>
<td>N.S.</td>
<td></td>
<td>( t = 5.84 )</td>
<td>( df = 19 )</td>
<td>( p &lt; 0.001 )</td>
</tr>
</tbody>
</table>
C. EFFECT OF COMMITMENT AND SEX ON S-OS PERCEPTIONS AT TEST 3

S-OS Distance

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committed</td>
<td>( \bar{x} = 0.54 ) (s = 0.22)</td>
<td>( \bar{x} = 0.32 ) (s = 0.25)</td>
<td>2.33</td>
<td>23</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>n = 11</td>
<td>n = 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncommitted</td>
<td>( \bar{x} = 0.70 ) (s = 0.36)</td>
<td>( \bar{x} = 0.71 ) (s = 0.26)</td>
<td></td>
<td></td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>n = 8</td>
<td>n = 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td>t = 1.19</td>
<td>t = 3.42</td>
<td></td>
<td></td>
<td>p &lt; 0.01</td>
</tr>
<tr>
<td></td>
<td>df = 17</td>
<td>df = 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N.S.</td>
<td>N.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### S-OS Correlation

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Committed</strong></td>
<td>$\bar{x} = 0.68$</td>
<td>$\bar{x} = 0.87$</td>
<td>2.19</td>
<td>23</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>(s = 0.27)</td>
<td>(s = 0.17)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 11</td>
<td>n = 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Uncommitted</strong></td>
<td>$\bar{x} = 0.60$</td>
<td>$\bar{x} = 0.80$</td>
<td>1.72</td>
<td>13</td>
<td>N.S.</td>
</tr>
<tr>
<td></td>
<td>(s = 0.26)</td>
<td>(s = 0.15)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 8</td>
<td>n = 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Significance</strong></td>
<td>N.S.</td>
<td>N.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D. **IDENTITY DIFFUSION, COMMITMENT, AND SEX, TESTS 2 AND 3.**

The differences between committed and uncommitted adolescents in identity diffusion are obviously also subject to the effect of sex, being caused by the more extreme girls' scores of both S-OS and S-FS perceptions.
APPENDIX VII

THE DROP-OUT GROUP

1. Reasons for subjects dropping out of the study:

Those who dropped out at test 2:

5 refused
5 had left school early
2 were going abroad for several years
1 had dropped back to double the school year

total: n = 13

Those who dropped out at test 3:

8 refused
8 lived more than 200 miles away
11 did not answer a letter requesting the third interview and could not be reached by phone

total: n = 27

2. Self-perception measures

(a) Comparison between self perception measures at test 1 of subjects who subsequently dropped out at test 2 (D-0) and those who remained in the study (S).

<table>
<thead>
<tr>
<th></th>
<th>S-0S₁</th>
<th></th>
<th>S-FS₁</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>corr.</td>
<td>dist.</td>
<td>corr.</td>
</tr>
<tr>
<td>D-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=13)</td>
<td>ρ=0.80</td>
<td>(s=0.20)</td>
<td>ρ=0.73</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=68)</td>
<td>ρ=0.75</td>
<td>(s=0.18)</td>
<td>ρ=0.63</td>
</tr>
<tr>
<td></td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
</tr>
</tbody>
</table>
(b) Comparison between self perception measures at test 2 of subjects who subsequently dropped out at test 3 (D-0) and those who remained in the study (S).

<table>
<thead>
<tr>
<th></th>
<th>S-OS₂</th>
<th></th>
<th>S-FS₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>correl.</td>
<td>dist.</td>
<td>correl.</td>
</tr>
<tr>
<td>D-0</td>
<td>(\bar{x}=0.76)</td>
<td>(s=0.20)</td>
<td>(\bar{x}=0.67)</td>
</tr>
<tr>
<td>(n=27)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>(\bar{x}=0.72)</td>
<td>(s=0.25)</td>
<td>(\bar{x}=0.67)</td>
</tr>
<tr>
<td>(n=41)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Early disturbances

3 out of the 13 who dropped out at test 2 had experienced early environmental disturbances. 9 out of the 27 who dropped out at test 3 had experienced early environmental disturbances. As both at tests 2 and 3, 37% of the subjects had experienced early environmental disturbances, the drop out group was therefore not different from the experimental group in this dimension.

4. Sex

3 out of the 13 who dropped out at test 2 were girls, and 10 were boys. Of the 3 girls, one had left school early, one had had a disturbed background, and the third had recently been suspended from school.

13 out of the 27 who dropped out at test 3 were girls and 14 were boys. Of the 13 girls, 5 lived more than 200 miles away, the mother of one girl refused to let her daughter participate further in the study, and 7 did not answer the letter.
Thus more boys than girls dropped out because they refused to participate, understandable in the context of other empirical findings of boys wanting behavioural autonomy.
APPENDIX VIII

ASSESSMENT OF TEMPORAL ORIENTATION

The Q-sort measure of temporal orientation of Braley & Freed (1971) was presented to the subjects on completion of the first set of interviews. They were presented with two identical lists of statements, in the same order; one to be rated for actual temporal orientation and the other to be rated for ideal temporal orientation. Subjects were told that the questionnaire is composed of statements which are all opinions or attitudes people have expressed about the past, present, and future, and that the interviewer is interested in the subjects' attitudes towards these statements. It was pointed out that there are no right or wrong answers. The statements used are those in the table below. However the format of the questionnaire the subjects received was different. The judges ratings were omitted, and each statement was, indeed, accompanied by a 5-point line labelled "Most like me" (1) at one end and "Least like me" (5) at the other. (The line was 2 inches long, with 1,2,3,4,5 at ½ inch intervals). Subjects rated each statement according to how much it represented their current and their ideal attitudes towards time. One list of statements was headed by the following instructions: "AS I ACTUALLY AM NOW - Please read each of the following statements and put a circle round the point on the scale which represents how much the statement is like you now ".

The other (identical) list of statements was headed as follows: " AS I WOULD IDEALLY LIKE TO BE - Please read each of the following statements and put a circle round the point on the scale which represents how much the statement is how you would ideally like to be".


**TEMPORAL ORIENTATION: Q-SORT STATEMENTS (Braley & Freed, 1971)**

<table>
<thead>
<tr>
<th>Judges' ratings*</th>
<th>Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1. The best way to live my life is to move out into ever-widening contacts with people and the world.</td>
</tr>
<tr>
<td>3</td>
<td>2. I am what I appear to be.</td>
</tr>
<tr>
<td>1</td>
<td>3. Most of my plans for the future are well thought out.</td>
</tr>
<tr>
<td>5</td>
<td>4. Most of my daydreams are about events that have already happened.</td>
</tr>
<tr>
<td>4</td>
<td>5. It always seems like yesterday.</td>
</tr>
<tr>
<td>3</td>
<td>6. I don't think much about what will or did happen, only what is happening now.</td>
</tr>
<tr>
<td>4</td>
<td>7. What I've done is more important than what I will do.</td>
</tr>
<tr>
<td>5</td>
<td>8. I wish things would be the way they were 10 years ago.</td>
</tr>
<tr>
<td>3</td>
<td>9. It is best to live from day to day and let tomorrow take care of itself.</td>
</tr>
<tr>
<td>1</td>
<td>10. Someday, I may be what I want to be.</td>
</tr>
<tr>
<td>2</td>
<td>11. I'm relatively certain about what I'm going to do next.</td>
</tr>
<tr>
<td>5</td>
<td>12. Time seemed to pass much more quickly a few years ago than it does today.</td>
</tr>
<tr>
<td>3</td>
<td>13. I live my life the way it is.</td>
</tr>
<tr>
<td>4</td>
<td>14. The past is one of the few ways to see the present.</td>
</tr>
<tr>
<td>2</td>
<td>15. While my long term goals may change, I always have some short term goal toward which I am working.</td>
</tr>
<tr>
<td>3</td>
<td>16. The future seems vague and uncertain to me.</td>
</tr>
<tr>
<td>1</td>
<td>17. What happens tomorrow, no matter what, is bound to be interesting.</td>
</tr>
<tr>
<td>2</td>
<td>18. The way to enjoy life now is to be able to see the present in light of the future.</td>
</tr>
<tr>
<td>4</td>
<td>19. It is best to see the present and future in terms of the past.</td>
</tr>
<tr>
<td>3</td>
<td>20. I do what I want to do when I want to do it.</td>
</tr>
<tr>
<td>4</td>
<td>21. My behaviour seems to be more influenced by past events than by future purposes.</td>
</tr>
<tr>
<td>3</td>
<td>22. Making plans for the future is a waste of time.</td>
</tr>
<tr>
<td>3</td>
<td>23. Planning things takes all the fun out of them.</td>
</tr>
<tr>
<td>2</td>
<td>24. I seem to be continually growing and changing.</td>
</tr>
<tr>
<td>3</td>
<td>25. Most of my day-to-day experiences don't seem to be anything to do with the future.</td>
</tr>
</tbody>
</table>

* A rating of 1 reflects a future temporal orientation, while a rating of 5 reflects a past temporal orientation.
The actual and ideal self ratings on the Q-sort were scored in the following manner (devised by Braley and Freed, 1971). The discrepancy was noted between each rating made by the subject and the judges' rating for that item. This discrepancy was squared to avoid negative signed scores. The squared discrepancies of the actual self ratings were then summed to obtain a score for the individual actual temporal orientation. The ideal temporal orientation score was obtained in the same way.

Consequently a small score indicates a future orientation and a large score a past orientation. This can be illustrated by the example in Figure 1 below:

**Figure 1**

**Item 3:** "Most of my plans for the future are well thought out".

<table>
<thead>
<tr>
<th>Judges' rating:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Past</td>
</tr>
<tr>
<td>Subjects' rating:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Least like me</td>
</tr>
</tbody>
</table>

In this case the subjects' rating yields a small discrepancy because he is fairly future oriented on this item.
References


Berger, P. L. (1966) "Identity as a problem in the sociology of knowledge."
   In Open University (ed.) School and Society.
   Penguin University Books.
Bieri, J. (1966) "Cognitive complexity and personality development."
   In O. J. Harvey (ed.) Experience, Structure and Adaptability,
Bigelow, B. J. (1973) "Sequential invariance in ontogenesis of children's
   friendship expectations: stage and level." Paper presented at
   the meeting of the British Psychological Society (Scottish Branch),
   Stirling University, Stirling, January.
Block, J. (1961) "Ego identity, role variability and adjustment."
   J. of Consult. Psychol. 25 392-397.
Blos, P. (1967) "The second individuation process of adolescence."
   Psychoanal. Study of the Child 22 162-186.
Braley, L. S. and Freed, N. H. (1971) "Modes of temporal orientation and
   of three different ages. Unpublished Ph.D. thesis, University of
Brim, O. G. (1965) "Adolescent personality as self-other systems."
   J. of Marriage and the Family 27 156-162.
   Russell Sage Foundation.


Cronbach, L. J. (1951) "Coefficient alpha and the internal structure of tests." Psychometrika 16 (3) 297-334.


Hobbs, E. D. (1973) "Adolescent concepts of physical quantity." Devel. Psychol. 9 431.


Lessing, E. E. (1972) "Extension of personal future time perspective, age, and life satisfaction of children and adolescents." Devel. Psychol. 6 (3).


Monge, R. H. (1973) "Developmental trends in factors of the adolescent self-concept." Develop. Psychol. 8 382-393.


Schools in Britain (1977) Central Office of Information, ref. pamphlet 156, London: HMSO.


Slater, P. (1972) Notes on INGRID 72, unpubl. manuscript, St. George's Hospital Medical School, London.


Tomlinson-Keasey, C. (1972) "Formal operations in females from eleven to fifty four years of age." Develop. Psychol. 6 364.


Waterman, A. S. and Waterman, C. K. (1972) "Relationship between freshman ego identity status and subsequent academic behaviour." Develop. Psychol. 6 (1) 179.


