

PSYCHOSOCIAL MATURITY AS A MODERATOR
VARIABLE IN ACADEMIC ACHIEVEMENT / IMPLICATIONS
FOR COUNSELLING

by

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1. ABSTRACT

The problem investigated is the contribution of non-intellectual factors, in particular the level of psychosocial maturity, to the academic achievement of the high school pupil.

It has generally been shown that Intelligence and Achievement correlate. (Robbertse 1968; Moerdyk 1973). However, according to Ausubel (1968) this correlation is only moderate and he suggests that this can be attributed to the influence of other variables, such as personality traits, adjustment and interests. Robbertse (1968) has stated that Intelligence alone is not a good predictor of school achievement for all pupils, that personality is an integral part of an individual's psychological make-up and it is, therefore, imperative to look at its contribution to the prediction of achievement. Eysenck (1969) and Cattell (1966) have found low but significant correlations between various personality scales and achievement. Verhage (1977) mentioned that relatively little research has been done in South Africa to determine the relationship between non-academic factors, such as personality characteristics, and academic achievement.

Psychosocial maturity as conceived in this thesis is the outcome of the process of personality development with the emphasis on the person as a healthy individual in his interaction with society.

A multiple correlation technique is used to relate academic results, intelligence scores and psychosocial maturity in an attempt to improve the prediction of achievement from Intelligence by using maturity scores.

Results that are generally supporting of the hypothesis are presented, and factors that emerge and their implications are discussed. The characteristics of the maturity scale as found in a South African sample are also discussed.

2. INTRODUCTION/CONCEPT OF MATURITY

2.1 INTRODUCTION

The correlation between Intelligence and Achievement is generally low, yet social scientists seem to continue emphasizing the correlation between cognitive ability and school achievement, and the teacher is held accountable for raising the child's level of achievement. The non-academic attributes such as personal and social growth have not been assessed. It is hypothesized that these factors have a bearing on academic achievement. The list of these factors is potentially very long and includes for instance, cognitive style, (Moerdyk 1973), social status, motivation, (Ausubel 1968), anxiety, values, attitudes, traits, interests and environment, (Morrison and McIntyre 1971). Physical and emotional growth and impulse control must also be taken into account.

Ausubel (1968) for instance, has shown that academic achievement generally correlates about .5 with intelligence, and that some components have a higher correlation than others. Thorndike and Hagan (1969) after looking into a number of Intelligence scores in relation to academic achievement drew the following conclusions:

- 2.1.1 The correlation between the two variables is of the order of .50 to .60.
- 2.1.2 The correlation decreases in the higher standards, from .70 in Primary school to approximately .50 in College. Other factors could possibly play a role.
- 2.1.3 Previous school achievement was found to be more highly correlated with later achievement than Intelligence.
- 2.1.4 Achievement and Intelligence combined give a better prediction than Intelligence alone.
- 2.1.5 Correlations with achievement differ according to the subject matter, for example, verbal and numerical tests would have a greater correlation as they form an important part of the Intelligence test.

The question is then why the relationship between scholastic aptitude and academic achievement is only of this moderate size. It is suggested that other variables play a role. Purkey (1970) has shown that most studies show a consistent relationship between self concept and achievement. This has been found more so for boys than girls. The difference is found especially with the underachievers where male underachievers have more negative self concepts than female underachievers. He maintains that the reason for this can be found in a study by Baum et al. (1968) who have demonstrated that girls' self concepts are generally higher than those of boys when tested on a self-

report inventory. In another study on self-concepts, McCandless (1961) predicted that a poor self-concept would influence achievement adversely and for the child the important part of achievement is his school achievement. A study by Coopersmith (1959) supports this statement where a correlation of .36 was found between positive self-concept and school achievement. As achievement forms a part of adjustment it was felt that self-concept is related to adjustment. This is supported by the evidence that individuals with a positive self-concept are better adjusted, less anxious and more effective in groups. Byers (1962) found realistic goal setting and academic success related. Lavin (1965) looked at certain characteristics in relation to attainment and found that in order to predict attainment more accurately, one should decide whether the individual will have a tendency to be independent or autonomous, resist pressure to conform, control impulses and persist at tasks and whether he has self esteem and confidence in his own abilities. Purkey (1970) reports on several studies showing the difference between high and low achievers. Davidson and Greenberg (1967) report that high achievers rate themselves higher on Personal competence, Academic competence and Social competence. Shaw (1961) reports that the underachiever is less mature than his peers. After reviewing the literature Taylor (1964) found the underachiever to be self-derogatory and to suffer from depression and feelings of inferiority and inadequacy. He argues that unsuccessful students, whether underachievers, nonachievers or poor readers are

likely to hold attitudes about themselves and their abilities which are negative. They seem to see themselves as less able, less adequate and less self-reliant than their more successful peers. This is more true for boys than for girls.

Thus it can be seen that non-academic factors play a significant role in the academic achievement of the pupil. It is suggested and hypothesized that there is a significant correlation between these non-academic factors and achievement, and furthermore that the correlation between Intelligence and Achievement could be increased significantly by including these effects.

A term that seems to be appropriate for describing a number of these non-academic factors is psychosocial maturity as it implies the ideal outcome of personal and social growth as opposed to academic achievement. The term has three virtues:

- 2.1.1 It serves as a clear contrast to academic achievement.
- 2.1.2 It gives an opportunity to discuss non-academic growth from several disciplinary points of view.
- 2.1.3 It turns one's attention to theoretically "ideal" outcomes or end-products of growth, development and socialization. (Greenberger and Sørensen, July 1974).

For the concept MATURITY to be meaningful in this study one must outline the theoretical background of ideal personal and social outcomes and how it develops over time. The areas covered by the term, Maturity, are physiological, psychological and sociological. The physiological aspects involve the qualitative and quantitative growth in the body and maturity in this sense is the end product of biological growth. Parsons (1951) defines maturity as the possession of those "attributes that lead to survival of the social system" or according to Inkeles (1968) it is the end product of socialization which means that the individual acquires behavioural patterns which conform to society. The socialized skills which allow people to perform in society are, for example, roles, language, interests and values. The adolescent for instance must learn certain roles to be accepted in society. One of these roles will be the one he plays in the classroom situation. His knowledge of language and his interests could affect his school achievement. The term Psychological Maturity in this research takes into account the work of stage and non-stage theorists. Stage theorists, such as Erikson, emphasize a definite sequence of development and a set of responses while the non stage theorists might precede the stage theorist and form a basis for the identification of certain stages. So, for instance, according to Loevinger's scheme, the child passes through stages of development which are presocial, symbiotic, impulse-ridden, opportunistic, conformist and conscientious. (Greenberger and Sorenson 1974). Erikson's theory of development will be discussed under the heading Psychological Development. His theory is grounded in the fact that growth

must have a ground plan where each part has a time for ascending. "Personality, therefore, can be said to develop according to steps predetermined in the human organism's readiness to be driven toward, to be aware of, and to interact with a widening radius of significant individuals and institutions." (Erikson 1971, p.93).

How Do We Define Maturity?

Heath maintains we should formulate the question "What are the dimensions that define the maturing person?" (Heath 1965). In order to answer this question he collected definitions of maturity from 35 expert psychologists and non-expert college male youths. He then asked them to think of the most mature person they knew and to write down his most important characteristics. The following are some of the most often mentioned characteristics: The mature person has a realistic sense of judgement. He is adaptable insofar as he can postpone his own needs in order to adjust to and harmonize with others' needs. He is an integrated person who is self reliant, accepts himself, has strong values but respects and values the opinions of others. He shows integrity, is creative, has wide interests and is always open to new experience. He is not closed to new experience, but is open to continued growth. Such a person can adapt to others, can tolerate and control most of the tensions of living. He has a basic human warmth or compassion and respect for his fellow man. (Heath 1965, p.7).

Heath summarizes various studies on maturity with the following tentative generalisations:

- 2.1.1 To be mature does not imply the absence of conflicts or problems of adjustment. It depends on the types of controls used to overcome problems and the style of life of an individual.
- 2.1.2 A mature person distinguishes himself in his ability to cope with disorganizing influences and in the quality of his long term adaptive reactions to stress.
- 2.1.3 In organizing goal-directed behaviour he has strong persisting motives which assist goal-directed behaviour over a long time.
- 2.1.4 A mature person is described as self-confident and reality-orientated.

These generalizations are in some instances very broad categories while in others they are very specific. In this study broad categories, as set out previously, will be used in an attempt to cover a wider field. Self confidence will, therefore, be discussed under the heading Psychological Maturity.

The mature person is an individual who will use all his talents, capacities, potentialities, etc. He is doing the best that he is capable of in every situation. Maslow (1954) quotes Nietzsche as saying in an address:

"Become what thou art." This does not imply that the person is so individualistic that he is completely different from others. It simply means that he will have individualistic qualities as well as species wide qualities.

Greenberger and Sørensen put forward three major classes of functioning where they integrate sociological and psychological perspectives of maturity by taking into account the requirements of society as well as the healthy development of the individual. This model is of value to this research because it shows that to be able to function in any given culture, Individual Adequacy, Interpersonal Adequacy and Social Adequacy are necessary. Individual Adequacy implies that the individual has self reliance, has achieved his own identity and can perform his work competently. For Interpersonal Adequacy the individual has effective interpersonal relationships while with Social Adequacy, there is a concern for the welfare of the group. Each of these dimensions is viewed as a composite of more basic attributes. They imply that the individual should be self sufficient in some degree and take responsibility for his own survival, should be able to meet threats to the integrity of the social group with efforts to restore solidarity. The theoretical background for this model is discussed below in the section headed "The Psychosocial Maturity Scale." (Page 58.).

Some important aspects of Maturity will be discussed as it is felt that they play a role in the academic

Achievement of the high school pupil. Certain aspects were not measured in the scale but are nevertheless discussed as it is felt that they play a major role in the aspects measured.

2.2 PHYSICAL GROWTH

Although the physical development of the adolescent was not measured in the scale it is important to discuss physical growth as it has a bearing on the psychological growth and development of the adolescent.

Adolescence is a period of change and development not only physically but also psychologically. Different parts of the body are developing or changing. These changes influence not only the adolescent's personality but also his schoolwork and his whole adjustment to life. In all adolescents there is a significant growth and development of tissues such as muscle and bone. This growth spurt plays a role in the life of the adolescent insofar as that when the changes take place, the adolescent is preoccupied with them (Elkind 1974). The growth spurt is further important as it has been found that the physically more mature adolescent is treated as being more mature by his elders and is expected to act and behave in a more mature way.

Karl C. Garrison (1956) has shown that there is an increase of strength which appears for the boy between approximately 13 - 16 years. For girls it is between 12 and 14 years with no increase after the age of 15. Strength is of great importance to the boy as many of his activities involve strength and the strength he displays determines the role he will play in his social group. This was confirmed in a longitudinal study done by Jones (1949), where 10 boys with higher strength had greater social prestige and fewer adjustment problems than the opposite group, low in strength, who were also low in prestige and had feelings of inferiority, tension, anxiety and worries. Strength has a bearing on the role of the boy as he is expected to fulfill a certain role in society while it does not influence the role of the girl. This implies that the boy who is strong and physically more mature will be accepted by his peers and because he does not, therefore, feel socially inadequate he will be able to concentrate on his studies.

We can see that adolescence is a period of marked physical changes of which the most significant are those related to sexual development. As in the case of growth spurts there are marked variations between not only sexes but also individuals in the time as well as the degree of changes, but the sequential order in which they occur is fairly consistent for both sexes. The importance of physical maturity for the girl comes to light in the study of Margaret S. Faust (1971) where she hypothesized that developmental maturity is a determinant in the prestige of adolescent girls. She administered Tryon's Guess Who Test as well as a test to determine prestige in girls. Physical maturity was mea-

sured by menarche scores. Results showed that physical maturity is not the only factor determining the prestige-status in the group but does play a certain role together with some other factors. They also support the fact mentioned by Liebert, Poulos and Strauss (1974), that early or late physical development means different things at different times for girls. This prestige status can therefore be expected to influence the achievement of the adolescent girl insofar as the one with more prestige will have the self confidence to act and speak out in the classroom situation. And because she is confident of her social prestige and need not expend emotional energy trying to gain the recognition of her peers, she will be able to concentrate on her studies.

The difference in rates of maturing has social and personal consequences for the adolescent. The early maturing girl will in Primary School feel embarrassed and out of place while the same girl in secondary school is the one to find herself most popular. For the boy the early maturer has advantages right from the beginning, because he will be the stronger and larger who will be admired by his peers and become the leader. Apart from the facts mentioned above there are also different reactions from the adult to the early or late maturer. The early maturer is given more tasks which will develop various skills and privileges than the later maturer and this could also occur in the school. Mussen, Conger and Kagan (1974), have reported studies which show the late maturer as being rated less attractive in physique, less well-poised, more tense and immoderate, less attention getting, less popular and lacking the ability to lead others. Personality tests showed them to have more

feelings of inadequacy, negative self-conceptions, feelings of rejection and persistent dependency needs which are coupled with a search for autonomy and freedom. These differences seem to persist over a long period. In another study (Levine 1963), late maturers were also found to have less desire for controlling, leading and dominating others than early maturers do. It was felt that for girls the matter is more complicated but that generally there appear to be fewer differences than for boys. The psychological implications for the early maturer then are that he is expected to display the social, emotional and judgemental characteristics of the adult while for the late maturer there is the worry of not knowing whether he or she will actually develop fully and the problem is increased by the fact that the early maturer tends to make derogatory remarks about the late maturer. (Levine 1963). Mussen and Jones's (1957) study supported a hypothesis that a late maturing boy is exposed to an environment which could have adverse effects on his personality development.".....The physically retarded boy is more likely than his early-maturing peer to be personally and socially maladjusted during late adolescence..... This, in turn, may inhibit or delay the acquisition of mature characteristics and attitudes....." (Mussen and Jones 1957, p.252). The physically more mature boys will thus have an advantage over the physically retarded boys as their environment will stimulate good adjustment. This becomes very important if one compares it with Jones's finding that these characteristics continue to be significant through to adulthood, the early physical maturer being more dominant, self-controlled, willing and able to carry responsibility and therefore generally more psychologically mature, while the late maturer tends to show poor

adjustment and psychological immaturity.

These characteristics form part of the concept MATURITY and can be expected to play a role in the adolescent's academic achievement. The adolescent who is more self-controlled and has a sense of responsibility can be expected to feel responsible for his achievements at school and will exhibit self control in areas such as studying. It must, however, be kept in mind that the relationship between physical status and psychological growth is complicated.

Crow and Crow (1965) sum it up neatly by stating that the process of physical growth and sexual maturation determines behaviour development. This behaviour development forms an integral part in Psychosocial maturity.

2.3 COGNITIVE GROWTH

Cognitive growth follows from physical development in so far as Piaget has stated that a neurological development is necessary for Formal Operations. Cognitive growth is a very important aspect of maturity, because it can be argued that the individual will not be capable of mature behaviour without the development of appropriate mental abilities. It will be shown that the adolescent with this appropriate mental ability, implying Formal Operations, thinks differently from the one in the Concrete Stage and that this has an effect on his maturity. To understand what the appropriate mental ability of the adolescent is we will rely on the theory of Jean Piaget and his colleague Bärbel Inhelder.

As will be seen from the discussion below, intellectual ability plays an important role in the life of the individual. The first fact, of course, is that changes take place during growth and these changes influence the individual's adjustment to certain situations and eventually when he is fully developed the person is able to recognize his own abilities and shortcomings and knows how to approach problems. A high integration of mental life would influence the work an individual carries out. He would, for example, know what the aims of his job are and what his capabilities are and he would use his best mental effort and initiative to execute the work. The effect is clear in the case of the adolescent selecting his secondary curriculum. The more mature adolescent will know his potentials and interests and select his curriculum according to them, and will make every endeavour to achieve success.

The question that can be asked is how the growth of mental ability takes place. This emergence of mental growth takes two paths. One is substitution, where the child replaces a less mature idea with a more mature one. The new idea has no necessary link-up with the idea it replaces. The substitution of thought cannot take place when the person is not ready for it. The second path is where integration takes place, and the less mature ideas are brought together to arrive at more complex and abstract conceptions, a process Piaget labelled as accommodation. Integration is difficult to undo. For example, once the child has integrated height and width into his concept of size he rarely, if ever, thinks of size in one-dimension again. Integration therefore is highly stable and irreversible.

For mental growth to take place and to reach the stage of Formal Operations, which is a new mental system characteristic of adolescence, the following factors seem to be necessary:

- 2.3.1 Piaget argues that it is conceivable that during the adolescent period neurological development occurs which provides the basis for formal operations.
- 2.3.2 Social environment such as the school also plays a role. Schooling on its own, however, could not produce formal operations as a child of 5 years old cannot be taught formal operations. This interaction of the environment again can be affected by his physical maturity in that the physically more mature adolescent is treated differently and given different roles from the one not so mature. It is this individual experience that forms the adolescent's self concept and actions which in turn influence his achievement.
- 2.3.3 When a child is in the concrete operational stage he is sometimes faced with a complex situation where he attempts to apply his intellectual methods and he is met with failure. To be able to solve the problems he must re-organise his concrete mental operations. The change begins with feeling inadequate with the current state of affairs and proceeds by a process of internal re-organisation. The person in whom the re-organisation has taken place will be able to cope more easily with situations that occur as far as learning is concerned.

Cognitive growth then occurs as a function of appropriate neurological development, proper social environment, experience with things and internal re-organisation. While the concrete operational child was tied to the concrete, the adolescent can now see himself, his appearance, intelligence and personality from the perspective of other people and this leads to self-consciousness.

When the adolescent has achieved formal operations he then has a greater power to deal with abstracts. It is relative and does not appear suddenly when the child reaches adolescence. For the individual this ability plays an important role because a philosophy of life or the search for the value or meaning and significance of life can be formulated only in the abstract.

The newly acquired formal thought includes the following:

- 2.3.1 Combinatorial System. The adolescent can construct a table of all possible combinations and determine the effectiveness of each factor.
- 2.3.2 Propositional Combinations. The adolescent is able to combine elements by an exhaustive and systematic method, he is also capable of combining ideas or hypotheses in affirmative or negative statements. It is, therefore, unlikely that the adolescent will be confused by unusual results because he would conceive all possibilities beforehand.

- 2.3.3 Flexibility. The adolescent has a large number of cognitive operations with which to attack problems.
- 2.3.4 Reversibility. The adolescent's thought is reversible. The adolescent's thought can proceed in two distinct ways. His thought can proceed in one direction and he can then use several methods for retracing its steps in order to return to the starting point. (Ginsburg and Oppen, 1969).
- 2.3.5 Equilibrium. Once the adolescent has the capacity for combinatorial and proportional analysis it enables him to advance to a "sophisticated" state of equilibrium, where he will have a higher degree of reversibility and where negation and reciprocity are united in a completely operational system. He can now cope with numerous confrontations and assimilate novel events.

The above shows the formal thought of the adolescent but to be able to see how this thought differs from that of a child, which is important for this study, one should know the major differences and their consequences. The consequences are:

- 2.3.1 The adolescent is suddenly able to consider other factors, owing to the fact that he sees alternatives, and decision-making thus becomes a problem. He can, for example, see

many alternatives to the directions which his parents or teachers give him. He can, therefore, deal with problems in which many factors operate at the same time. This decision making would affect not only his interpersonal relationships but also his self reliance insofar that if he is independent and self reliant he will not make decisions easily as he sees the alternatives and feels responsible for his decision whereas at a younger age the child would not find decision making difficult because he is not yet able to see the alternatives. Jersild (1957) states that to be able to make up one's own mind requires intellectual maturity and the ability to deal with emotional elements. The mature person has a certain independence in thinking and is able to weigh and evaluate the different situations against one another and then to make an independent judgement.

- 2.3.2 By being able to think about thinking, the adolescent can suddenly evaluate himself with respect to other people and this leads to self consciousness. Through his self consciousness he might be too shy to speak up in the classroom situations or even within interpersonal relations and this can lead to his not being able to resolve certain problems on his mind.
- 2.3.3 He can construct ideals contrary to fact situations. Because of his capacity to construct ideals the adolescent has a new awareness of

religion, society and school. He then compares his ideals with what he sees in reality. When he sees faults or weaknesses he rebels, and expresses dissatisfaction or falls into depression.

- 2.3.4 He takes his place in adult society and participates in it through the medium of verbal symbols different from the ones he used in the concrete stage. The teacher should be aware of the fact that she has pupils using both sets of verbal symbols in her class.

This new mental operation, as discussed above, frees the child from the egocentrism of childhood but entangles him in the egocentricism of adolescence which refers generally to a lack of differentiation in some area of subject-object interaction. At each age of mental development this lack of differentiation takes a new form and is manifested in a new set of behaviours. According to Elkind, "The adolescent takes the other person's point of view to an extreme degree." (Adams 1968, p.153). He, because of the new propositional logic, has an extension in his powers of thought. He is now able to conceptualize the thought of other people yet, is not able to discriminate between the objects towards which the thought of others are directed and those which are the focus of his own concern. Because of the physiological changes in his body he assumes that other people are as obsessed with his behaviour, appearance and personality as he is. "This belief that others are pre-occupied with his appearance and behaviour constitutes the egocentrism of the adolescent." (Elkind 1974, p.91).

Because of this egocentrism where the adolescent is not able to differentiate between the object of his own thoughts and that of others the adolescent anticipates the reactions of other people and he will act towards them on the premise that they are as admiring or as critical as he is of himself. In the classroom situation it would follow then that the adolescent who is critical of himself will not speak out or query difficulties with the result that there will be certain academic problems which he finds difficult. It could furthermore result in a situation where a teacher criticizes his work objectively and he takes it as a personal criticism. Another mental construction which is the complement of egocentrism is the fact that the adolescent over-differentiates his feelings. He believes he is important to many people, the imaginary audience, and because of this he regards himself and his feelings as important, special and unique. "Only he can suffer with such organized intensity or experience such exquisite rapture." These beliefs of uniqueness are like a story he tells himself which is not true - a personal fable. (Elkind 1974, p.67). Because he spends so much time on his "sufferings" he can not devote his full energy to his studies.

Egocentrism is one of the most enduring features of adolescence and persists until a decentering takes place which is the start of the adult world. The adolescent's egocentrism is overcome by a twofold transformation:

- 2.3.1 On the cognitive plane it is overcome by a gradual differentiation between his own thoughts and those of others. The adolescent is learning to differentiate between the imaginary audience and the real audience. He changes from an idealistic reformer to an achiever. Should this appear in the school-going adolescent he would have an advantage in that he would not be so concerned about being observed. He will, therefore, be emotionally more mature and will have a higher self esteem and will start working towards a goal.
- 2.3.2 On the affective plane (personal fable) it is overcome (never in its entirety) by a gradual integration of the feelings of others with his own emotions. The person sees himself in a more realistic light as far as his audience is concerned and he can establish true rather than self-interested interpersonal relations. He discovers that others have similar feelings to his - they suffer as much. The adolescent is capable of directing his emotions not only towards people, like father or mother, but also to an abstract ideal, e.g. freedom. "Through his thought the adolescent develops a new mode of life. The possible and the ideal captivate both mind and feeling." (Ginsburg and Oppen 1969).

Some of the important facts that emerged from this discussion are that the different abilities appear and mature at different times. It was also shown that a certain degree of physiological development is necessary for intellectual development and the degree to which the intellectual ability of the more mature adolescent differs from the less mature one. The intellectual maturity of the person in turn could be expected to influence his personal adjustment and therefore his schoolwork. For example, over-differentiation of feelings could make him over-sensitive to objective criticism.

2.4 PSYCHOLOGICAL GROWTH

It has already been mentioned that Psychological maturity implies the healthy development of the individual. There are various factors which fall within this category. As it will be impossible to discuss all these factors, we will, therefore, focus our attention on some which are important for this study. One of them is self-acceptance. It can be argued that the more self-acceptance increases the more the individual knows his own nature and realizes his capacity for development. He is, therefore, more mature than the individual who has no conception of his capabilities, interests, values and so forth.

In order to know why it is expected that self-acceptance would influence achievement one must clarify what is meant by the term self-acceptance. The first part of the term is the "self". White (1952) calls it the person one feels oneself to be. (White 1952, p.332). Through experience the person is able to distinguish the difference between

"I" and what is not "I". What is "I" consists of emotions, interests, the physical body, memories, feelings, sensations and so forth. The acceptance of the self grows as the individual comes to know himself more and more. Only when he knows himself and has accepted himself can he trust himself. This implies that he trusts the capacity of his own organs to cope with urges, and that he considers himself trustworthy. Self-acceptance is furthermore not only the ability to trust oneself but also to trust other providers. Only the person who trusts himself can function fully, as the person who does not trust himself would be unsure of himself and would, therefore, not be able to give of his best.

However, merely knowing oneself and accepting oneself is only a part of the individual. Another part of the individual is the ideal self and what a person would do about the ideal self. Phyllis Katz and Edward Zigler (1969) hypothesized that the real/ideal-self discrepancy is positively related to the individual's level of maturity and it is argued in this study that this level of maturity is correlated to his achievement. They based this on previous literature where a developmental theory was employed to generate the prediction that real/ideal-self discrepancy was positively related to the individual's level of maturity. The rationale underlying the abovementioned is based on two factors:

- 2.4.1 The more mature individual would incorporate more social demands and more values, and he would make greater demands on himself. The greater the self demands he makes the less likely it would be that he would be able to incorporate these and he would, therefore, experience more guilt.
- 2.4.2 According to the work of Piaget (e.g. 1932) and Wechsler (e.g. 1950) the more developed individual has a higher degree of cognitive differentiation, and the person would, therefore, be able to make finer distinctions and because of this when judging his ideal self and real self the disparity would be greater. The higher degree of cognitive differentiation again is related to the physical development as Piaget (1932) stated a certain neurological development is necessary for intellectual ability.

Katz and Zigler (1969 p.600) tested this hypothesis, using 125 children of 5th, 8th and 11th grades. The hypothesis was confirmed and it was also found that Real/ideal-self disparity was a positive function of both chronological age and Intelligence. This means firstly that the more mature person will have a high real/ideal-self discrepancy as he is not satisfied with what he is and he will continue to expect more of himself. This real/ideal-self discrepancy is related to his chronological age and Intelligence, and is related to other aspects of maturity discussed. For instance the self consists of emotions, interpersonal relations, identity, mental growth and productivity. The individual who continues to expect more of himself will be expected to do something about it and to achieve more than the self-satisfied individual.

To know oneself, though, would not be of much value to the mature person if he did not have the independence to act according to his belief. For Ainsworth the word "dependency" implies immaturity. (Ainsworth 1969, p.971).

Saul (1947) has stated that an individual never matures completely, but that the more mature person would resist falling back into childhood patterns. He also felt that dependency implies immaturity and went so far as to relate Dependence/Independence on a scale. At the top of the scale is the mature adult who is interested and responsible. He grasps the realities of life and has the capacity for love. He can withstand the stresses and demands of life better than the rest. The second on the scale is the person who is not satisfied and rebels against the demands made on him. This need not be a conscious process and when it is not, it is manifested in psychosomatic symptoms. But he maintains his level of independence. This implies that the mature individual in stress will be able to work more effectively than the individual that is not so mature and in whom psychosomatic symptoms are manifested. Following the person who is able to maintain his level of independence is the person who is able to maintain his level until some difficulty or temptation puts him back to the level where he falls back into childhood attitudes and patterns. This could disrupt his life and personality organisation so much that severe mental symptoms may appear. The last two categories are those who eventually get started in life but with great difficulty and those who never succeed, and are committed to institutions. The abovementioned categories will also apply to the adolescent in the school going situation insofar as the most mature adolescent on the dependent/independent scale would be able to withstand

demands made on him and continue to work to his full capacity while the one who is not mature will fall into childhood patterns which may result in him just giving up as he is so overcome by the demands made on him.

Where Ainsworth described dependency merely as immaturity, Saul goes further and described Dependence/Independence on a Scale of maturity-immaturity. For Erikson it is a period of growth during childhood, and falls under the stage Autonomy vs Shame and Doubt, which is one of the stages in Erikson's (1963) chart of growth. It is important in that it is a period when a child should learn to be independent. His home and his wider environment are the areas in which he succeeds or fails in learning independence. Slowly and gradually through experience the child gains self confidence and the ability to discriminate. By the time he is an adult his progress towards autonomy should be complete.

It is important to keep in mind the fact that Dependence/Independence cannot merely be rated on a scale but that a learning process is involved. The adolescent, for example, must learn to become independent from his peers and not rely on them as far as, for example, values are concerned.

If, however, the child does not have experiences which build up his self-confidence and self-esteem he will become self-conscious and feel exposed in company. He will in fact experience what Erikson calls Shame. For Erikson "doubt" is the brother of "shame". This is when there is

a loss of self control and the individual **submits** to foreign control. The shameful adolescent will have no self-confidence to ask questions in the classroom nor to go out and explore.

The more independent adolescent will not rely on teachers or peers to do things, he will explore on his own. Mature people are determined not by environment or culture but by inner resources. Rotter^s (1966) notion of locus of control is apposite in this regard. In the classroom situation this implies the mature adolescent will not be hampered by other factors. By being less anxious, hostile and needful of affection or praise he will be able to continue his work and achieve better than the adolescent being hampered by such factors.

Identity Development is considered an important part of the development of psychological growth as it consists of one's self construct. This self construct which could increase self-sufficiency determines to a degree how the person would survive in the physical environment. The term identity is closely associated with Erikson who described the development and achievement of identity in detail. To be able to see how the identity development plays a role in the overall development and achievement of the adolescent it is necessary to look firstly at Erikson's theory of development and then at other theories.

Erikson (1963) felt that the human being develops in a systematic manner and that society plays an important

role in influencing and helping a child achieve a mature identity. The child must feel that he is recognized and is accomplishing something to be able to grow.

He argues that human development proceeds according to the epigenetic principle. This implies that anything that grows has a ground plan, and that out of this the parts arise. Each aspect in turn becomes prominent until such time that all parts interrelate to form a functional whole.

The first stage that Erikson postulates is that of Basic trust vs. Basic mistrust which forms a basis in the child of a sense of identity and includes a feeling of being oneself and considering one-self trustworthy. The severity of the future crises will depend on that sense of trust. The adolescent is afraid of being too trusting and of looking foolish. It would appear then as if he is cynical and mistrusting while he is actually in need of faith. Without basic trust the child cannot achieve autonomy, because only through trust is he able to divorce his own identity from that of his parents' and once he separates from his parents' trust, he is able to distantiate himself from his contemporaries and eventually become an integrated mature individual.

The second stage is Autonomy vs. Shame and Doubt, where the feeling of self control without loss of self-esteem becomes goodwill and pride. Doubt and Shame appear when there is a feeling of over control or loss of self control. In this stage the adolescent has the opportunity to decide freely on certain duties or service. The adolescent would rather act shamelessly out of free choice in front of his parents or in school than feel shameful in his own eyes.

Initiative vs. Guilt. Initiative is where the child becomes more himself and activating and the opposite is the guilt which the individual experiences over the act he initiated or contemplated. This initiative is a part of every act and is a necessary part of whatever one learns. The pupil with initiative will act on his own in order to achieve something and this in turn will affect his productivity, his political views and his interpersonal relations.

Industry vs Inferiority. Industry is where the individual can now become part of the productive situation where diligence and attention is required and work is still a pleasure, but the danger is a sense of inadequacy and inferiority which will naturally influence his sense of identity, and will therefore, affect his academic achievement.

Identity vs Role Confusion. In this stage there is search for a new sense of continuity. Optimal identity is a complex process where attitudes, values, interests, self concept and self evaluation are brought together. We must keep in mind that the earlier stages and the attainment of them will influence the identity formation. If we look, for instance, at the stage of Erikson's trust in oneself as well as others versus a basic mistrust we see the adolescent needs to have faith in ideals. Without this faith he will not have the incentive to strive to prove his worth, which again will affect not only his productivity but also his interpersonal relations. The opposite of Identity achievement is Role Confusion. Erikson (1963) has stated that role confusion is often

based on the fact that there is doubt with regard to previous sexual identity and that delinquent and actual psychotic experiences are not uncommon in this stage. He feels that what disturbs most young people is the inability to decide on a vocation. In order to keep themselves together they over-identify with heroes, or cliques, or the crowd. Erikson feels that this initiates the stage of falling in love which should not be seen as a purely sexual matter but rather as an attempt of the adolescent to find his own diffused ego image in another and to see it thus projected and clarified. This is one reason why conversation is such an important part of young love.

Intimacy vs Isolation. Intimacy is where the individual who has achieved an identity is willing to fuse his identity with others. He is prepared to commit himself to concrete affiliations and partnerships and to stand firm with those commitments even though this requires sacrifices.

Generativity vs Stagnation. Generativity is seen as the concern for guiding the next generation. Stagnation is where no enrichment takes place and there is a regression which includes interpersonal impoverishment.

Ego Integrity vs Despair. "Only in him who in some way has taken care of things and people and has adapted himself to the triumphs and disappointments adherent to being, the originator of others or the generator of products and ideas - only in him may gradually ripen the

the fruit of these seven stages. I know no better word for it than ego integrity." (Erikson 1966 p.293).

Theorists like Marcia (1966) maintain that to be able to achieve a mature identity there are two variables involved, namely 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. He applies the above two criteria to Erikson's stage "Identity vs. Role Confusion" and feels that four types of adolescent stages evolve, although they can be seen in a developmental sequence the one need not necessarily follow from another. To prove his theories, Marcia (1966) used these four stages in order to assess ego identity. He based his argument on the fact that previous studies have found ego identity to be related to "certainty of self conception" and "temporal stability of self rating", the extent of a subject's acceptance of a false personality sketch of himself, anxiety and sociometric ratings of adjustment. (Marcia 1966 p.552). In order to assess the ego identity Marcia made use of a semi-structured interview and incomplete sentences.

The following are the experimentally derived profiles of each status:

- a. The identity diffused or confused individual - the subject has not experienced any crises, nor has he made a commitment towards a vocation or a set of beliefs. Marcia (1966) found that it was the Foreclosure and not the Identity diffused subject who has the lowest score on most of the Task variables. The diffused subject is uncertain about himself and sees himself different from the way he thinks others see him. If he is uncertain about himself it could imply that he is not able to use his full capacity to achieve in school.

- b. The foreclosure subject - the individual has committed himself but has not experienced a crisis in order to make the commitment. The commitment, therefore, cannot be considered as his own made by searching and exploration. It is rather a commitment which he has taken over without questioning from his parents or others. He is therefore becoming what his parents intended him to become. It was found that this group have unrealistic aspirations and instead of moderating their goals they maintained high goals. They subscribe to authoritarian rules like obedience, strong leadership and respect for authority. Their self esteem is more vulnerable to negative information. This group easily loses confidence as their aspirations are too high and they do not achieve what they expect. Once they have lost confidence their schoolwork is affected negatively as they are then not motivated to give of their best.

- c. The moratorium subject - the individual here is in the midst of a crisis and is searching and exploring and thus no commitments have been made as yet. He would, for example, not be able to give of his best in his schoolwork as he is not committed to it and spends time and energy on other areas. Marcia (1966) found greater variability in the Concept Attainment Task in this group while they resembled the Identity achievement group on other measures.
- d. The person who has achieved identity is the one that has gone through the crisis stage of exploration and searching and through this has eventually made commitments regarding a set of beliefs and a vocation. Because he knows what is required for his vocation he will work towards it. The group of subjects who have reached Identity Achievement fared better than others on a stressful concept attainment task. It was found that they had a more realistic aspiration and also spent more time on problems which, of course, plays a major role in achievement. When the adolescent knows what he wants to become and this knowledge corresponds with his abilities, he will work towards a definite goal. They were also ones whose score was the best on an independent measure of ego identity, nor did they agree with authoritarian values as much as other groups, neither was their self esteem as vulnerable to negative information.

Identity experiences are further described by Maslow, (1973) who sees them as peak experiences. He feels that in the peak experience the individual is closest to his real self. One could possibly compare this to the individual who has achieved identity. Following are some of the aspects of peak experiences he mentions:

- a. The person when experiencing a peak experience feels more integrated. He feels more organised as if all parts are functioning well together. It is thus optimal identity where attitudes, values, interests and self evaluation are all functioning together. It would be expected that when all parts function well productivity, self reliance and interpersonal relations should increase, all of which form a part of psychosocial maturity.
- b. Although as seen above he becomes more purely himself, he is able to fuse with the world and for example, when he listens to music he will become part of the music, or part of his work. He has made the commitment regarding his work and this possible enables him to become part of his work.
- c. He is not only functioning fully, he is also functioning with less effort than usual, thus he will be able to do more without tiring. This could be owing to the fact that he is not in the crisis where time and effort is spent in searching and exploring or even worrying.
- d. This is the time when the person actually feels that he is master of his fate, he feels independent and responsible as opposed to the times when he feels passive, weak and helpless. Marcia (1966) for

instance found that adolescents who have achieved identity did not agree with authoritarian values as much as other groups. Independence in adolescence implies he will be able to take part in discussions and make decisions.

- e. This is the time when he is least concerned with inhibitions, fears and doubts, probably because it is a time when he accepts himself. He has a more realistic aspiration of himself. The same applies to his emotions; he can accept his emotions without allowing them to control him.
- f. The person is more creative, because he is more self-confident and less doubtful
- g. During the peak experience the subject is not affected by his surroundings nor is he worried about the future or the past. The individual who has achieved identity has made a commitment and acts accordingly. His attention is concentrated fully on the present moment; he is, therefore, able to listen far more intently than usual. The adolescent who is able to listen with concentration will benefit from the classroom situation more than the adolescent who lacks the ability to concentrate.

Another study relevant to the research is by Anne Constantinople (1969) where she extended the self concept as based on Erikson's theory to a measure of personality development in late adolescence. The tests were done on college freshmen and seniors and it was found that there were significant differences between the scores of the 2 groups on industry, inferiority and identity for both sexes and also on identity diffusion for males. In the longitudinal data the same sub-

jects' differences were found only on identity, identity diffusion and isolation but not on industry or inferiority. Males also displayed a definite increase of maturity over the 4 years, more so than the females who seem to be more mature when they enter college. It was felt that there were limitations in both instrument and sample but the most important contribution of the study was the fact of the consistent increase in identity in both cross-sectional and longitudinal studies. But as far as its polar opposite is concerned only the males showed a decrease in identity diffusion.

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In discussing Self-acceptance above, it was suggested that the psychologically mature individual is one who has accepted his emotions, i.e. to be psychologically mature implies emotional maturity. Emotional maturity involves a variety of emotions and Wechsler (1950) has pointed to the fact that there is no general definition that applies to this concept, and he argues that the only manner in which one can describe emotional maturity is to describe an individual who is emotionally mature. Cole (1954) describes emotional maturity as when the individual has reached the stage where he is able to evaluate himself objectively and realises his capabilities and shortcomings and plans his life accordingly. He no longer becomes angry over unimportant matters, and he does not run away from reality and he is not inclined to take things personally.

This concept of emotional maturity is very relevant for this study as it would imply that the pupil who knows his potential and shortcomings and accepts them in an objective way, would, for example, realize that he should not let anger or jealousy influence his work.

Saul and Pulver (1966) again state that the concept maturity is described as certain character traits which are evaluated on either clinical experience or on intuitive reasoning. The traits are thus evaluated either by the author or by existing culture. The abovementioned concepts are more specific and some criteria are relevant for this study:

- a. The individual feels that the work he is doing is useful, and without excessive strain or fatigue he works a reasonable amount a day. The adolescent for instance who finds his work useful will proceed to work with far more motivation than the adolescent who does not see the reason for working.
- b. He has self confidence enough to make difficult decisions when necessary without feeling guilty or worried. Worry affects an individual's work in that he cannot concentrate fully.
- c. He is able to accept and give love and joy in the conventional heterosexual way. This implies the adolescent will not be so pre-occupied with his emotions, that his productivity is affected.
- d. His interests are concerned not only with himself but are wider, for example, his friends, the state, the nation. The adolescent with a wider interest range can be expected to achieve better because in subjects such as English, Geography and History he will be able to reproduce not only what he has learned in school but will be able to draw on his private reading and research.

- e. His philosophy of life will include a willingness to suffer and to grow through his suffering. He is also dependable and truthful. He could regard as "suffering" the fact that he has to attend to his studies while others are engaged in a light hearted pleasure.

Emotions such as fear, anger, affection and curiosity act as motivational forces on the individual. Such a motivation can either be a driving force in the individual or slow the individual down. Strong emotions of anger and fear, for example, may produce undesirable behaviour whereas the mature individual should be master over his emotions and not be overwhelmed by them, and therefore could concentrate better. The emotional life of any individual furthermore consists not only in the basic emotions of fear, anger or jealousy and their different rates of development, it is far more complex. There are according to Gesell, Ilg and Ames (1956) other "feelings" which are always present and which include moods, wishes, desires, repugnance, acceptance and rejection. These feelings influence the individual psychologically and physiologically. Psychologically they influence the individual by affecting his perception, judgement, evaluation and decisions. It is essential in studying the adolescent to keep these feelings in mind because his judgements, evaluations, perception and decisions influence his whole life of which an important part is the academic side.

To sum up we quote from Crow and Crow (1965 p.154) where the characteristics of the emotionally healthy young person are described. He quotes from "Preinduction Health

and Human Relations" :

".....He neither denies nor over-estimates his capacities and character. He sees room for self-improvement. This challenges rather than depresses him.....the emotionally healthy person enjoys work, play and co-operative activities with others. Others' opinions of him are important to him, but they do not throw him into panic and alarm if they are not uniformly approving..... A person with good emotional health has a philosophy of life that helps him to do his best at all times.His philosophy guides him in viewing the world around him, in evaluating current history, in planning his own future and in making the best possible contribution to his community and country."

We have discussed the different aspects of psychological development but for this study it is important to see how the psychological development would influence the individual's productivity.

Productivity is described by Erikson (1966) as one of the eight stages of development. He names it Industry versus Inferiority. The stage starts very early in childhood, for example, the moving of the limbs which is an adjustment to the inorganic laws of the tool world. Later on the child is taught by systematic instruction how to attend to a specific job and complete it. (Erikson 1966). He is also taught to work beside and with others. Erikson says that there is a danger that a child might develop a sense of inadequacy or inferiority. This often happens when the school fails to help the child develop the potential which he showed in earlier stages. The adolescent experiences this inferiority even more so because of his egocentrism; he will regard himself as a failure and will expect others

to share this view. And he will think that he is alone in his sufferings. He might end up completely overwrought by his suffering and his schoolwork suffers because he is not able to concentrate on work at hand.

The difference between the industrious person who is mature and the industrious person who is immature is that the mature person would be task-orientated rather than ego-orientated. While the immature person is concerned with his inner world the mature person would, when a task is in hand, be interested in the task rather than his inner world. It means then that the mature individual would be more in control of personal feelings and put them aside when work has to be done as he knows his obligations and responsibilities concerning the specific situation he is in. The control of feelings includes the ability to work for people that he does not like. Instead of letting personal grievances dominate him, he is able to see the situation as a whole. He is, therefore, objective when he evaluates a situation. In his work he is able to accept criticism and suggestions. This is very important for the student because if he is mature he will realize that if he listens to criticism and suggestions he will be able to improve his performance. Anderson (1950) goes further and states that these persons realize and accept the responsibility of their actions. They are also flexible insofar as that when a new situation appears they are capable not only of adjusting per se but rather with evaluation and discrimination.

The immature person has no clearly defined goals and will try many activities without finishing them while the mature person knows his goals and will work towards their completion. The adolescent with the clearly defined goals will know exactly what he is working towards while the immature adolescent will be working with less enthusiasm as he working only because it is expected of him.

2.5 SOCIAL GROWTH

In describing Social development the adolescent's relationship with his friends will be described first and then his relationship with society as a whole. Elizabeth Douvan (1974), in describing the friendships of adolescents mentioned how in their friendships factors like status and authority do not play a role. It seems that they expect friendship to be purely for friendship's sake and they are very wary of ulterior motives. They want, therefore, to be loved and liked essentially for what they are themselves rather than for any extrinsic characteristics. The expectation of how others should react to him as well as how he reacts to others stems from the cognitive growth of the adolescent. He constructs an ideal society and is not able to differentiate between his ideal society, or ideal school, and how he should react to others in the real society.

The social development of the adolescent does not proceed on its own. It is influenced by his physical development as was discussed above. Adults are inclined to give the early maturer more privileges and tasks and this gives him experience in handling different social situations. He, therefore, becomes more confident and competent in various social situations, while the physically late maturer, who already feels inadequate, does not receive the opportunity to exercise some social skills and feels even more incompetent, this includes the classroom situation. Apart from the fact that physical development influences the social role of the adolescent, acceptance by his peers also plays a large role. Mussen, Conger

and Kagan (1974) stated that acceptance by peers goes together with certain personality characteristics. For instance, those who are accepted by their peers are usually happy and have a sense of humour. They have initiative and enthusiasm. Those not accepted are nervous, timid, withdrawn and ill at ease. As argued earlier, the more independent the person the more mature he is and it is only this person who would be able to cope with the situation where he is not accepted by his peers and could develop as a well adjusted human being. It is, unfortunately, mostly the person with emotional problems or lack of self confidence who is rejected by his peers and this results in further isolation and problems. The person is, therefore, intolerant, unhappy, nervous, timid and withdrawn. "Awareness that he or she is of below average ability and is having school difficulties may lead an adolescent to develop personality characteristics - insecurity, withdrawal, compensatory demands for attention, or aggressiveness - that may lead to rejection." (Mussen, Conger and Kagan 1974 p.578). It seems that those characteristics which make an adolescent accepted by his peers are the characteristics which form good interpersonal relationships and in turn contribute to the maturity of the adolescent.

We have discussed the Psychological Growth of the individual earlier on. Certain aspects of this Psychological Development which influence his Social Development will now be discussed. It is clear that the one cannot develop without the other and that there is a continual and necessary interaction between the two.

Miyamoto and Dornbusch (1956) mention a factor that has been found in individuals with a high self-acceptance, i.e. that they are more accepted by others than those with a low self-acceptance. However, other studies such as those by Fey 1955, McIntyre 1952, report that there is no significant relationship. Should it be that a person with a high self acceptance is more accepted by others, it implies he has better interpersonal relations which is another aspect of maturity. Both then would be expected to play a role in achievement, insofar as self-acceptance and better interpersonal relationships will give rise to greater feelings of acceptance by his peers. The individual need not spend time worrying whether or not he is accepted and what he should do to become accepted. Part of the self-concept is one's interpersonal relations. This includes acceptance by others. Reese (1961) tested this on children from 4th, 6th and 8th grade with Lipsitt's Self Concept and Ideal-Self scales and two Sociometric scales. He found:

- a. "Acceptance of others, acceptance by others and acceptance by best friends were curvilinearly related to self concept scores, with highest acceptance in a group with moderate self-concept scores and lowest in a group with low self-concept scores.
- b. The trends were not significantly different in different grades or sexes.
- c. Acceptance by others was more strongly related to self concept than was acceptance by best friends." (Reese 1961 p.474).

This seems to indicate that the more mature person, although he has a high real/ideal-self discrepancy, does not necessarily have a low self-concept. It is usually a moderate self-concept and this person will more readily be accepted by others in his interpersonal relations.

In discussing the concept, SELF ACCEPTANCE, it is inevitable that the word EVALUATION should creep in because the individual can only accept himself after he has evaluated himself. Gerard (1961) mentions that there are two types of social comparison that affect self evaluation namely:

- a. The person evaluates a certain aspect of his own character by comparing it with that of others - current estimate.
- b. The individual evaluates the aspect in the way he thinks others see it - estimate by comparison.

The author found that previous research had shown that the greater the discrepancy between the individual's current estimate and his estimate by comparison, the larger would be his tendency to change his current estimate. Gerard predicted from this that:

- a. If there is a discrepancy between the anticipated and the real standing in a group a large difference would be followed by a greater tendency to change.
- b. If there is a skill involved which is relevant to the individual's standing in the group it would lead not only to direct comparison but also to reflected comparison and this would lead to a greater tendency to change his self evaluation.

- c. The more the person is dependent on others the greater the increase in reflected comparison would be. The more dependent person was shown to be more immature as discussed under Psychological Growth.

He found that when the score was made public and the subject anticipated it being made public, that the self evaluation and ideal score for the highly dependent individual was altered. However, the dependence on others was relevant only where appraisal from others was anticipated. The implication is that the independent individual, that is the more mature individual, has a lesser need to be seen positively than the dependent individual. The implication for the pupil is that the independent pupil will not have such a great need to be seen positively by his peers and can, for example, continue with work.

For the adolescent to be socially acceptable, control over emotion is essential. This is, however, extremely difficult as he is particularly occupied with his emotions because through self education he is trying to achieve emotional maturity. This is demonstrated in the way he compares himself to others and in the way he adopts the attitudes and principles of his heroes. Part of the adolescent's major effort to achieve emotional maturity is the need to be independent of his family and this often leads to a dependence on his peer group. To have control is essential not only to be acceptable to society but also because uncontrolled emotions can have an adverse effect on decision making. The individual who is emotionally mature is self confident and makes his own decisions instead of following others. He will defend his decisions and when they are not correct, he will learn

from his mistakes. For the adolescent this would mean then when he has done badly he will realize where his mistakes are. He will feel responsible and make an effort to correct them in future. He respects others and is prepared to learn from them and he is also respected by others. He is self-directed yet will participate to the full in family, occupation, school, social and civic activities and he will have an inner attitude of self sufficiency.

The adolescent, in order to find his place in society, is experimenting with many roles. One would expect the more mature adolescent who knows his identity and accepts himself to have less role variability than the immature adolescent who has not found his place and does not know what he wants. Block (1961 p.392) studied this role variability. He felt that the core meaning of Erikson's concept, ego identity, is "the sense of ego identity is the (individual's) accrued confidence that (his) inner sameness and continuity are matched by the sameness and continuity of (his) meaning for others....". Block put forward the hypothesis that "the amount of interpersonal consistency is curvilinearly related to the degree of maladjustment, as defined independently." (Block 1961, p.392). Where an inverted U relationship was hypothesized only one slope was confirmed and that is that extreme role variability is related to an independent index of personality adjustment while no relationship was found between role stability and neurotic tendencies. Similar results were also obtained by others, i.e. that role stability showed a consistent picture of mental health, which forms part of maturity.

Studies which examine the effect of ego-identity on psychosocial effectiveness can now be discussed. Rasmussen (1964) has examined the relationship of the ego identity on psychosocial effectiveness as it is demonstrated in daily life. He based his study on Erikson's concept that a person whose ego identity has not developed successfully will not be able to cope in his environment. He hypothesized that where a difference is found in psychosocial adjustment this difference will also be seen in the fact that the better adjusted person will have a greater ego identity. He further hypothesized that an individual showing more ego identity as opposed to those who show ego diffusion will have solved his psychosocial crises in a healthier, more adequate way than others in early adulthood. The third hypothesis was that the person with a satisfactory ego identity will have a greater degree of self acceptance than those who manifest ego diffusion. Two groups from a recruit population in a U.S. Naval Training Centre were used. Two scales were used: namely the Ego identity scale which reflects 6 of Erikson's psychosocial stages with healthy and ill-health formulae, and the Adjective Check List which was developed by Gough (1950). The investigator concluded from his results that his investigation supported Erikson's theory and the fact that an individual needs an adequate ego identity in order to cope effectively in his environment, and he found that there appears to be a systematic relationship between the crises stages as predicted in Erikson's theory. The results on the second hypothesis were negative which he feels does not detract from the aforementioned conclusions. He does, however,

suggest that the conclusions made should be considered as suggestive only. This implies the adolescent who has not an adequate identity will not be able to cope effectively in his psychosocial adjustment while the mature adolescent who has achieved identity and is not confused about what he is and where he is going will have better psychosocial relationships.

Part of the Social Development of the individual is his Political Views, and thus his relationship with society as a whole. In talking about political views the tendency is to think of the political views of the adult. However the term "political views" has a much broader connotation here and includes awareness, orientation and information about the social system, all of which have their origin in childhood.

We can, for example, take Erikson's stage Autonomy vs. Shame and Doubt (Erikson 1966). The way this stage was accomplished as a child influences the individual's future sense of justice especially in economic and political life. On the one hand is the individual who has a sense of self control, and a sense of self esteem and on the other hand there is the individual who is very sensitive about losing face and experiences shame and doubt, which will lead to a dependent doubtful person in later life.

Joseph Adelson (1972) has investigated the determinant of political outlooks and has shown that there are no sex differences as far as political views are concerned. The only difference he did find were with respect to intelligence and social class and what made a major difference was the age of the individual. The differences appeared

especially between the ages 12 - 13 by which time adolescence has just occurred and the ages 15 - 16 where the pupil is in the throes of adolescence. He describes three different types of changes, namely:

- a. Change in cognitive mode. (Discussed under Cognitive Growth).
- b. Decline in authoritarian views on the political system.
- c. Achievement of a capacity for ideology.

a. The change in cognitive mode - The main reason for this change is the ability of the adolescent to think in the abstract. He has thus achieved formal operations. He is now able to think of society as a whole and of the implications for society. He is now capable of understanding such concepts as authority, rights, liberty, equity and interests in their full sense. He has an increased ability to weigh the relative consequences and to make use of deductive reasoning, also in the school situation and by understanding it can he function better within it. Adelson and O'Neil (1971) state "The achievement of these capacities - the leap to "formal operations" in Piaget's term - allows him to escape that compulsion towards the immediate, the tangible, the narrowly pragmatic which so limits the political discourse of younger adolescents." They found further support for this theory that older adolescents make more use of abstract thought in their reasoning about political principles while conducting a study on adolescents of different ages.

b. Decline in authoritarian views - Adelson (1972)

illustrates this by interviews with adolescents of different ages on the purpose of law. The 13 year old adolescent's main concern is that law keeps people from behaving badly. When the adolescent comes to the age of 15 he will realize that there are more beneficial functions of law, for example that it ensures safety and the same applies for the rules of the school. Of relevance here too is that the younger adolescent cannot grasp the idea of rights for it is too abstract and only when he is older does he grasp this concept, which includes minority rights as well as individual rights. The whole situation could probably be explained by moral judgement where the child is in the stage of moral absolutism where good and evil do not vary over time and situations.

Kohlberg (1968) sees this as the conventional level where rules made by the school or nation are seen as valuable in their own right; they are, however, interpreted in a physical way. They eventually go over into a postconventional level where the individual has moral principles apart from those of the authority or others. In the school situation the argument of the younger and older adolescents will differ greatly and so will their achievement. Adelson and O'Neil (1971) explain the decline of authoritarianism as due to the fact that the younger adolescent himself is still subject to authority and would thus more easily accept it. He does not yet realize that authority can be irrational.

c. Achievement of a cognitive capacity for ideology -

The difference here for Adelson and O'Neil (1971) is mainly between the younger and older adolescent where the

younger comes up with statements such as: "People should be kind to each other" and this may or may not become an ideology later. "The early adolescent's political thought is constrained by personalized, concrete, present-orientated modes of approach. Once these limits are transcended the adolescent is open to influence by knowledge, by the absorption of consensus, and by the principles he adopts from others or develops on his own". (Adelson and O'Neill, 1971 p. 150).

The purely ideological capacity then would be found in later adolescence and then only among the most intelligent, intellectually committed and politically intense. And only when formal operations have been mastered can ideology be achieved.

The concept of maturity discussed in this study has static as well as dynamic characteristics insofar as it incorporates not only a desired end product but describes the growth leading towards it. In describing the growth it is accepted that certain dimensions of personality develop simultaneously and this forms the basis of stages for development. The end product would be an observable ideal outcome of growth and would be the completed development of the individual as a private and social being.

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To discuss psychosocial maturity in general terms has certain advantages in that specificity can be derived from the general framework. Both terms, however, have certain advantages and disadvantages. With discussing specific

attributes the disadvantages are that the one concept which is being discussed may be related to another. For instance it can be argued that self reliance and the achievement of identity would be positively related. By measuring self reliance only, one would not really come to the core of what is actually contributing to academic achievement. This problem is alleviated to a certain degree in the general framework, as some of those factors contributing to that attribute are also measured. The disadvantage with the general framework is it's generality, in so far as some factors might not influence achievement at all for one group, while it might for a different age or different sex. (See Discussion of Results.) It could possibly be argued that it would be still valid to measure them as they could contribute indirectly for some individuals, while more directly for others.

Certain attributes necessary for the individual's growth were described. In the cognitive growth of the individual Piaget and Inhelder's views of intellectual growth were discussed as they describe comprehensively not only the sequences of change but also how changes take place at each stage. It was, therefore, possible to look at the changes taking place in adolescence and see how they influence psychological and social development. This aspect was not measured in the Psychosocial maturity scale used and is felt as a lack in the scale as the pupil with the lesser developed cognitive structure can not be expected to think and thus behave in the same way as the one who is more developed. The cognitive structure, therefore, forms an integral part of maturity.

Physical development was discussed as the individual cannot readily achieve psychological and social maturity without the physical maturity. Furthermore, it was mentioned that different aspects of physical maturity could lead to the more mature individual acting differently from the less mature individual and how this in turn can influence his psychological and social development. Thus the fact that the Psychosocial Maturity Inventory used in this study does not measure physical maturity, is regarded as a weakness of the scale. It is noted, however, that the measurement of physical maturity would be complicated as physical maturity means different things at different ages, as well as the fact that different aspects have different implications for the two sexes.

Under the heading Psychological Development, some of the important aspects for this study were discussed which included, for example, self acceptance. It is felt that a more detailed description of self acceptance is required than that of White (1952) who described it as the person one feels oneself to be. In order to describe it further, the study of Katz and Zigler (1969) was used to show how the more mature person would tend to be dissatisfied and how he would expect more of himself than the immature person. How he sets about changing in order to meet his expectations would depend on his self reliance. And with this one should take into account not only Saul's (1947) scale of Independence/Dependence but also the fact that there are certain stages when this Independence has to be learnt as described by Erikson (1963). In order to have the self reliance to act the individual must know his

identity (Erikson 1963). Erikson describes identity and its opposite, namely Role Confusion, in general terms. In this study it was carried further and Marcia's (1966) four categories in this stage were discussed as they give a more comprehensive view of what could happen in this stage. Emotional maturity was discussed as emotions form an integral part of the individual and it is expected that the individual who has no control over his emotions will not be able to be productive and achieve. It is realized that only some important aspects of maturity were discussed. These aspects are expected to play a role, but there may be other factors not mentioned that might play an even more important role. That would form one of the criticisms against a general framework, insofar that it is general and still does not include possibly the most important aspects. This difficulty could be alleviated by including those aspects which have been shown to play an important role. If necessary some other aspect could then be discarded. Another problem arising with Psychological development is that of measurement. It could be argued that asking a series of questions is not necessarily an accurate way of measuring Self Reliance, identity achievement or self acceptance. To establish whether or not the adolescent has achieved his own identity might require a far more complicated testing procedure. It must, however, be borne in mind that for this test to be useful it must be used in a high school setting and must be relatively uncomplicated to administer. Should it be found that the adolescent is low on maturity the matter can then be pursued further in order to establish exactly where the problem areas are.

In the Social Development of the individual, the relationship between various individuals was described as well as the relationship between the individual and society as a whole. It was furthermore discussed how the psychological development could play a role in the Social Development of the individual. For instance, we have seen that the more the person accepts himself, the more he is found to be accepted by others (Reese 1961), and when he accepts himself and knows himself his roles can be expected to be stable. Block (1961) found role stability to be related to personality adjustment. To know himself and his values is to have achieved an identity and Rasmussen (1964) found that the individual with an adequate identity has adequate social relationships. Finally the different ways in which adolescents will see the social system (Kagan and Coles 1972) were discussed. The matter of testing what one wishes to test is probably as complicated as with Psychological growth, especially as it is so closely interrelated with Psychological growth. The fact that the child's cognitive growth is not included in this scale makes the measurement of Social growth more difficult. For instance, the pupil might have the openness to change as he can visualize the ideal society but he might not have the cognitive structure to recognize the cost of change.

The general versus specificity problem was discussed and it was felt that for the purpose needed a general framework realizing its limitations should be used. It was further decided to use the Psychosocial Maturity Inventory developed by Greenberger and Sorenson (1974) as it was felt necessary to establish that there is a relationship between

psychosocial maturity and academic achievement. It was felt that the scale has its weaknesses, especially in not measuring Cognitive growth and Physical growth as it is felt a general concept of maturity should include Psychological Development, Social Development, Cognitive Development and Physical Development. But once having established a relationship (see Results) the matter could be investigated further.

3. THE PSYCHOSOCIAL MATURITY INVENTORY

Psychosocial Maturity is important but conceptually confused. Few scales have been developed probably as it is difficult to operationalise.

One of the Maturity scales is the Vineland (Doll 1965). This is not a rating scale but relies on information obtained from some individual familiar with the client. "The scale provides a definite outline of detailed performances in respect to which children show a progressive capacity for looking after themselves and for participating in those activities which lead toward ultimate independence as adults." (Doll 1965, p.1). The scale is based on the assumption that social maturation is a progressive development in social competence which would include self-help, self-direction, locomotion, occupation and communication. One major difference between the Vineland scale and the Psychosocial maturity scale is that the Vineland avoids measuring personality, emotions, skill as it is felt that these factors are expressed in terms of their capitalization of socially independent behaviour while it can be seen from the general discussion on Psychosocial maturity and the scale itself that it is felt that these factors form an integral part of maturity and must be taken into consideration. It was further mentioned that the concept of maturity should imply an end product that is capable of survival. This end product would include not only an Individual Adequacy but an Interpersonal and Social Adequacy.

The Psychosocial maturity scale, therefore, does not merely measure social maturation like the Vineland, but the three concepts of maturity as mentioned above.

A very practical difficulty with the Vineland is that the subject has to be rated by people familiar with him, while the Psychosocial Maturity scale is a self report inventory and can be administered easily in a classroom situation.

Another test is the Multidimensional Maturity Scale by Barnard J Hartman. This test, however, tests only up to the age of 12 years and is based on six areas, namely: Physiological, Emotional, Psychosexual, Mental and Educational. According to Buros (1972) there is no data on reliability and validity. The ratings are based upon records, interviews, observations and tests. It is clear that this test could not be used for this study firstly because of the restriction on age and furthermore as it is cumbersome and not practical for use in schools.

The model of Psychosocial maturity developed by Greenberg and Sørensen (1974) integrates the sociological and psychological development of the individual and takes into account three dimensions of the individual distributed among nine subscales. The three dimensions are:

- 3.1 The capacity to function on one's own.
- 3.2 The capacity to interact adequately with others.
- 3.3 The capacity to contribute to social cohesion.

The attributes selected were chosen on the basis of two criteria:

- a. To conform with the demands of society - present and future.
- b. To conform with psychological theories of healthy development.

The concept of psychosocial maturity can be meaningful only if it begins with a theoretical background. It has both dynamic and static concepts of development. The static concept is limited to describing what the ideal outcome of development is, for example, language, while the "Dynamic conceptualizations delineate steps in the attainment of the end product," - at times it postulates a course of development towards maturity. It furthermore incorporates a combined approach of Classical versus Differential views of the personality structure. The Classical view implies that the individual passes through a series of qualitatively different levels of structural organisation, while the differential approach measures attributes.

It incorporates not only what the individual should become, thus the psychological development, but also what society requires an individual to become, the sociological development. (Greenberg and Sørensen, 1974, p.336).

The scale is an Inventory of 101 items. Each item is answered on a four point scale, the alternatives are labelled: Agree strongly: Agree slightly: Disagree strongly: Disagree slightly. The items are scored 4, 3, 2, 1 with the high score representing the most mature response.

As far as this is known, this is the first time this scale has been used on a South African sample. All validation studies mentioned were done in America. See Discussion and Implications of Results for suggestions for future use.

Greenberger and Sørensen (1974) put forward the following model of psychosocial maturity consisting of three areas of functioning, each containing three subscales making nine subscales in all.

MODEL OF PSYCHOSOCIAL MATURITY

3.1 Individual Adequacy

3.1.1 Self-reliance

- Absence of excessive need for social validation
- Sense of control
- Initiative

3.1.2 Identity

- Clarity of self-concept
- Consideration of life goals
- Self-esteem
- Internalised values

3.1.3 Work Orientation

- Standards of Competence
- Pleasure in work
- General work skills

3.2 Interpersonal adequacy

3.2.1 Communication skills

Ability to encode messages

Ability to decode messages

Empathy

3.2.2 Enlightened Trust

Rational dependence

Rejection of simplistic views of human nature

Awareness of constraints on trustworthiness

3.2.3 Knowledge of major roles

Role-appropriate behaviour

Management of role conflict

3.3 Social Adequacy

3.3.1 Social commitment

Feelings of community

Willingness to work for social goals

Readiness to form alliances

Interest in long term social goals

3.3.2 Openness to Socio-political change

General openness to change

Recognition of costs of status quo

Recognition of costs of change

3.3.3 Tolerance of individual and cultural difference

Willingness to interact with people who
differ from the norm

Sensitivity to rights of people who differ
from the norm

Awareness of costs and benefits of
tolerance

(Greenberger and Sørensen 1974)

3.1 Capacity to function adequately on one's own

The basics underlying this scale are that effective individual functioning would reflect in better psychological adjustment, and, therefore, in high personal adjustment and well being.

3.1.1 Self Reliance - Self reliance may be seen as having three manifestations:

- a. Absence of excessive dependence on others:
the individual relies on his own capacity
and is prepared to take risks.
- b. Sense of control over one's life: the person
realizes that within limits his own actions
play a role in what is happening to him.
- c. Initiative: this is where the person is pre-
pared to forget about conventionality and
takes the responsibility for his action in
a certain situation.

Self-reliance as discussed in the literature implies being independent as seen by Saul (1947) where he related it on a scale where the top of the scale is the adult who is able to withstand stress and demands better than the immature person who cannot cope with demands and ends up in an institution. Erikson's (1963) stage of autonomy also falls under this heading as it includes the absence of dependence and for Maslow (1968) the mature person is more autonomous and self-directed. Greenberger and Sprenson (1974) seem to combine the abovementioned in their scale.

3.1.2 Identity - When the individual has achieved his own identity it would mean that he knows who he is, what he believes and wants and he has a sense of worth. Erikson's (1971) view of identity development was discussed and this seems to include the components as follows:

- a. Increasing clarity of self-concept
- b. Consideration of life goals
- c. Internalizing of values
- d. Self-esteem

Once the pupil has reached the stage of knowing himself and his goals and values, he will be able to function more adequately than another. Identity, however, should also influence Category B - Interpersonal Functioning - because he will behave more consistently and will be more predictable.

3.1.3 Work Orientation

In the discussion of productivity it was stated that the task orientated person would be the mature person who is working towards clearly defined goals while the ego orientated person is the immature person. For the scale it includes the following:

- a. General tasks or work skills - this includes work in daily living, for example, at home.
- b. Standards of component task performance - work done in a formal situation, the school for the pupil.
- c. Capacity to experience pleasure in work - pleasure derives from competence.

Work orientations could also be of importance in Interpersonal Adequacy as the individual is sometimes expected to do team work.

3.2 Capacity to Interact Adequately with Others - This would include an individual's trust in others, his stability and predictability and it is felt that the following attributes will contribute to interacting adequately with others:

3.2.1 Communication skills - This includes:

- a. Skill in "sending" or encoding verbal and nonverbal messages - thus the spoken word as well as intonation, gestures, etc.

- b. Skill in "receiving" or decoding verbal and nonverbal messages.
- c. Empathy - with empathy the person anticipates messages better. By being able to assume the role of the speaker he understands his position better.

3.2.2 Enlightened trust

- a. A general belief that it is acceptable to relay on or depend on others. Much interaction is based on trust, for example the buying of fuel, going to the doctor.
- b. Rejection of simplistic views of the "goodness" or "badness" of human nature. The individual should be able to assess each person and each situation separately and resist the tendency to categorise people and situations as either wholly good or completely bad. It is therefore an enlightened trust.
- c. Recognition of individual and situational factors that limit trustworthiness. Such limitations are, for example, social rewards and punishments and also the role of that person.

3.2.3 Knowledge of Roles

- a. Awareness of obligations inherent in current definitions of major roles. Although the pupils role is not as complicated as that of the adult there are definite roles he should conform to, for example as a pupil in the school, with his peers, with his parents. He must, therefore, be

able to act in a number of roles and interact with people in different roles.

- b. Awareness of priorities that govern the resolution of role conflicts. Should a conflict arise due to incompatible roles the child should be able to resolve it.

The capacity to interact adequately in interpersonal relations depends to a degree on the individual's cognitive development; how much he understands and is able to verbalise with his friends and others; his ability to share emotions and respect and appreciate the emotions of others. (Jersild 1957) Keniston (1965), for example, found that less articulate adolescents express their doubts in more concrete expressions and antisocial behaviour.

3.3. Capacity to contribute to Social Cohesion.

Certain dispositions are necessary to enhance the integration of a larger social system.

3.3.1 Social Commitment - This would include concern with welfare, present and future and would include:

- a. Feelings of "community" with others. The Identification with others implies not only the family and peer group but extends to the nation.
- b. Willingness to modify or relinquish personal goals in the interest of social goals. When there is a conflict between a personal goal and social goal the extent to which the individual is willing to sacrifice the

personal goal for the social goal shows the degree of social commitment.

- c. Readiness to form alliances with others to promote social goals. Change comes through individuals who are willing to work together on similar interests.
- d. Investment in long term social goals. Individuals work for goals they may not even see in their life time.

3.3.2 Openness to Sociopolitical Change.

Changes could lead to improvement.

- a. General openness to change. This would imply a general attitude to change, especially in scholars.
- b. Recognition of the costs of the status quo. This really implies a recognition of the costs of change or of the situation as it is, for example, maintaining the inequality of woman.
- c. Recognition of the costs of change - whether gains or losses.

3.3.3 Tolerance of Individual and Cultural Differences

Tolerance would lead to social cohesion and include:

- a. Willingness to interact with individuals and groups who differ from the norm. To secure

goals important for subgroups it is necessary for individuals to face one another in different situations.

- b. Sensitivity to the rights of individuals and groups who differ from the norm - the acknowledgement of a group and its right to exist.
- c. Awareness of the costs and benefits of tolerance. As in trust tolerance should not be considered in a black and white category, but rather in shades of grey.

An awareness, orientation and information about the social system has been discussed above. It is for Erikson (1966) the individual's sense of judgement and the achievement of formal operations which influences the adolescent's capacity to contribute to social cohesion.

3.4 VALIDATION STUDIES

Being a new scale it is necessary to discuss validation of the instrument. According to Greenberger, Josselson, Knerr and Knerr (1975) a number of studies have been carried out to validate the construct of psychosocial maturity. As Psychosocial maturity is considered a developmental phenomenon, the mean score should, therefore, increase with age. Cross-sectional data from South Carolina confirmed this. With two exceptions, subscale scores showed the values that were significant at .05 level or better - the older children scoring higher on each subscale than the younger. Longitudinal data is presently being analysed.

It would be of interest to see whether the developmental phenomenon would hold when the different sexes are separated. It will be seen in the Discussion of the results that it was found to be a developmental phenomenon for females but not for males.

All nine subscales were also significantly intercorrelated with the exception of Enlightened Trust versus Communication skills. This implies then that Psychosocial maturity is a unifying construct as discussed in the theoretical model. Most of the subscales were found to be significantly intercorrelated in this study, but it was found that the number of correlations decreased with an increase in maturity which seems to be the opposite of what Greenberger expected as she mentioned that intercorrelation increases with grade level. (Greenberger, Josselson, Knerr and Knerr 1975). A study to investigate the relationship between Psychosocial Maturity and Social Desirability was done by Greenberger et al. (March, 1974) using the Crowne-Marlowe Social Desirability scale, to investigate the discriminant validity. Correlations found ranged from -0.30 to 0.26. Further proof that Psychosocial maturity is not influenced by Social Desirability is shown by the fact that the mean score of the Psychosocial maturity increased with age but that of Social Desirability decreased.

In order to determine whether Psychosocial maturity was not actually a measure of intellectual ability only, correlations with reading skills and arithmetic scores were carried out but were found to be low, although some measures of performance were significantly and positively related to Psychosocial maturity scores. Intelligence and Psychosocial maturity in the present study yielded corre-

lations in the region of .26 which are significant at the .01 level.

In studies of concurrent validity it was found that teachers' ratings of traits where Psychosocial Maturity was expressed, for example work orientation, were related to the Psychosocial Maturity score of the pupil. Josselson et al. (1974 a, b) studied teachers' evaluations of certain traits of Psychosocial Maturity that could be expressed, for example, Self-reliance and Work Orientation, and found a relationship between the evaluation and all Psychosocial Maturity subscales except Trust. Pupils were rated on a four point scale of "Very much like child" through to "Very much unlike child". Pupils higher on Psychosocial Maturity were rated significantly higher on the scale. In the second study because it was found that twice as many students were rated in the highest category than in the lowest category grades, teachers were asked to rate only high or low on four Psychosocial Maturity scales, namely: Self-Reliance, Work Orientation, Social Commitment and Tolerance. Again it was confirmed that those rated as high on maturity scored significantly higher on the Psychosocial Maturity subscores.

The relationship of Psychosocial Maturity scores to self esteem and anxiety and neuroticism were also investigated. The hypothesis that self esteem would be significantly positively related and anxiety and neuroticism significantly negatively related were confirmed.

Bond et al. (1974) investigated Category 3, namely Social Adequacy as related to students' participation of social action projects, and found students volunteering for social programmes scores higher on the three Subscales of Social Adequacy than the control group. This, however, must be interpreted with care as it is a possibility that it was not a representative sample owing to the fact that only certain types of students volunteer.

4. THE HYPOTHESIS

It has been hypothesized that maturity, which implies the ideal personal and social outcome of the individual, will play an important role in determining the individual's level of academic achievement. Several factors which all contribute to maturity were discussed. These factors which form an integral part of a person's maturity are expected to influence his academic achievement. It has, for instance been shown that the adolescent can become so involved and concerned about his physical development that his school-work becomes affected. His mental growth affects him insofar that the more mature adolescent will have different mental powers from the less mature adolescent and will, therefore, think and achieve differently in the classroom situation. The adolescent who cannot control his emotions is not able to evaluate objectively with the result that his whole life is steered by his emotions. It has also been mentioned that the adolescent who has not achieved his own identity would not know what he believes or wants. The self-assured pupil will have the courage to ask questions in the classroom when he does not understand while the one with no self-confidence will let it pass. By having good interpersonal relations the pupil will feel more at ease in interacting with others, which would include the teacher. All these factors, then are expected to play a role in the academic achievement of the adolescent.

By making use of a correlational method it is thus predicted that the individual's level of Psychosocial maturity will act as a moderator variable in the relationship between intellectual ability and academic performance.

5. THE METHOD

The method used was based on a correlation study. There is an awareness of the fact that correlation techniques do not permit a decision about the direction of causality. It is, therefore, possible for instance, that not only does maturity contribute to academic achievement but also that academic achievement may influence maturity or even that both the variables may derive from some common underlying determinants.

The correlation method was used as this study was concerned not only with Psychosocial maturity but also how it is related to Academic achievement. The degree of closeness and the direction could thus be established. Should a high correlation be found it will enable us to make more accurate predictions of the scores of one variable, that is Achievement, when the score of the other variable, Psychosocial maturity, is known.

5.1 PROCEDURE

The Psychosocial Maturity Inventory was administered towards the middle of the year. It was distributed in the classes by the writer and assistants. The Intelligence and Achievement data were obtained from school records.

5.2 SUBJECTS

The samples were chosen from a single Senior co-education school in the Durban area of South Africa. It was decided

to use pupils from only one school as this would help to minimise variability in academic marking standards, particularly as the examinations were internally controlled, i.e. not "Public".

Subjects were chosen from two levels, Standard 8 (10th school year) and Standard 10 (12th and final school year). The total number of subjects was 170; with 83 from Standard 8 and 87 from Standard 10.

These two specific classes were chosen as it was felt that if psychosocial maturity is a developmental phenomenon as claimed by Ellen Greenberger, the mean score of Standard 10 should be significantly higher than that of Standard 8. It was decided to compare Standard 8's with Standard 10's as the school curricula of the two classes is very similar, whereas the curriculum of Standard 7 differs considerably from them. The subjects were further controlled by taking only the groups which take Mathematics, thus excluding the practical (non-academic) classes. The mean ages of the groups were:

Standard 8	-	15.2
Standard 10	-	17.3

Four school classes were chosen from each level in order to have within this group as wide a range of achievement as possible. All the Standard 10 classes, with Mathematics as one of their subjects, were taken and four Standard 8 classes from the whole range of achievement were taken.

5.3 PSYCHOMETRIC DATA

- 5.3.1 Intelligence - With the permission of the Educational Authorities, Intelligence scores were obtained from the Personal Record Cards. Where the score was not available the subject was excluded. This happened in only twelve cases.

The test which is presently being used in all the schools is the New S.A. Group Test published in February, 1965 and compiled by the National Bureau of Educational and Social Research. (English Version).

This tests consists of three Verbal and three Non-Verbal subtests, each of which has a time limit.

Scores: The Total IQ score, the Verbal and the Non Verbal scores were all used in the study.

- 5.3.2 Achievement Data - Achievement results were obtained from the school. In order to reach a fair judgement, monthly Trials as well as midyear examinations were used to compute the achievement level of each subject. Monthly Trials consist of 5 tests given during the year by the various class teachers and marked by them. Each monthly trial tests counts 100. The June Examination is one paper given to all classes of a particular grade and marked by one teacher and moderated by another. These marks count 300.

When the testing was done, 3 Monthly Trials had been completed as well as the June examination. The 3 monthly trials were added together yielding a maximum total of 300 and added to the June results (maximum 300). The total, therefore, had a maximum of 600 and this was brought to a percentage figure.

The final 600 marks consisted, therefore, of 3 monthly trials (3/6) and one June examination (3/6).

On average it was found that the monthly Trial marks were slightly higher than the examination marks with little variation.

In order to differentiate between the Arts and the Sciences the average percentage of Afrikaans and English was taken as an Arts mark and the average of Maths and Science as a Science mark. Where Science was not taken as a subject the Biology mark was taken in place of the Science mark. As a secondary and minor aspect of this study it was decided to differentiate between Arts and Science in order to establish whether the Arts subjects which are expected to rely more on the Verbal sphere of Intelligence would correlate more with the Psychosocial maturity scale which is a Verbal scale than the Science subjects.

5.3.3 Psychosocial Maturity Scale - The Psychosocial Maturity Inventory is a self-report instrument developed by Ellen Greenberger with nine Subscales, as discussed (see page 58.). This scale was developed according to Greenberger, Josselson, Knerr and Knerr (1975) because the non-academic growth of the student had

been neglected and that there was a shortage of tools to measure this growth. The scale was slightly modified to suit a South African sample. The modified scale consists of 100 items and some of the questions were changed. For example, I would rather not live in a neighbourhood where there are people of different races and skin colours was changed to: I would rather not live in a neighbourhood where there are people of different races and nationalities.

6. RESULTS

The results will be presented in the following way. Firstly the data with respect to the whole sample will be presented, followed by an examination of developmental trends and sex differences. Thereafter the Sub-scale interrelationships will be examined.

In discussing the results the following abbreviations will be used:

PSM - Psychosocial Maturity
 IQ - Intelligence
 ACH - Achievement

6.1 TOTAL SAMPLE

6.1.1 Normative Data

Normative data as a first level of analysis for the whole group were calculated in order to establish standards for this specific South African group. This data is summarised in Table 1.

TABLE 1 : SAMPLE STATISTICS (n=170)

	MEAN	SD	RANGE
PSM	290.6	28.3	230-376
IQ	112.2	10.6	88-142
ACH	50.2	11.2	28-74

The possible range of the Psychosocial maturity score is between 0 and 400. The mean score on this variable in this study, was somewhat higher than the scale midpoint of 200. It cannot be assessed whether this score is high or low in comparison with the American sample as this data is not available. Further studies on other samples will be necessary in order to derive meaning from this score. The mean IQ of this sample was 112.2, above average which is not unusual and is possibly due to the fact that the weaker individuals are not represented in the sample, either because they are in Practical class which was not included in the sample or because they have dropped out of school. The result is not outstanding in any way, particularly as the sample is from the middle socio-economic group. With the Achievement mark the sample mean is at exactly the midpoint of the range.

6.1.2 Correlational data

In order to test the relationship between Psychosocial Maturity, Achievement and Intelligence inter-correlations between these three variables were run, using Pearson's productmoment correlation. If these variables were found not to be related, no further research would have been necessary and the hypothesis that Psychosocial Maturity is a moderator variable in academic Achievement could have been rejected at this stage.

The results obtained from this correlation procedure are as follows:

TABLE 2 : INTER-CORRELATIONS - ACHIEVEMENT, INTELLIGENCE, PSYCHOSOCIAL MATURITY

ACH	vs	PSM	.34
IQ	vs	PSM	.26
IQ	vs	ACH	.48

All correlations are significant at the .01 level and the hypothesis is, therefore, partly confirmed insofar as there is a relationship between Achievement and Maturity. Of course this is not very strong evidence in itself and a multiple correlation of achievement against both Intelligence and Psychosocial Maturity was, therefore, carried out in order to discover whether the addition of Psychosocial Maturity to Intelligence would increase the Prediction of Achievement significantly. The correlation is, therefore, ACHIEVEMENT VERSUS PSYCHOSOCIAL MATURITY AND INTELLIGENCE.

Formula used:

$$r_{1.23} = \frac{r_{12}^2 + r_{13}^2 - 2r_{12}r_{13}r_{23}}{1 - r_{23}^2} \quad (\text{McNemar 1969, p 194})$$

The following inserted:

1. Achievement
2. Psychosocial Maturity
3. Intelligence

By including the Psychosocial Maturity data in this way, the correlation increases from .34 to .53. This increase is significant at the .01 level. In other words this implies that by including Psychosocial Maturity in the relationship between Intelligence and Achievement, the academic Achievement of the pupil could be significantly more accurately predicted. We can, therefore, see already that maturity as measured by the Psychosocial Maturity scale does seem to play a significant role in academic Achievement.

Similarly, in order to discover whether the correlation between Psychosocial Maturity and Achievement is not the effect of Intelligence, because Intelligence is correlated with Psychosocial Maturity as well as Achievement, it was decided to partial out the effect of Intelligence from Psychosocial Maturity as well as Achievement. Should this be done and the correlation doesnot collapse it would seem to indicate that Psychosocial Maturity does play a role in academic Achievement.

Formula used:

$$r_{12.3} = \frac{r_{12} - r_{13} r_{23}}{(1-r_{13}^2)(1-r_{23}^2)} \quad (\text{Guilford \& Fruchter } 1973, \text{ p.312})$$

The following inserted:

1. Achievement
2. Psychosocial Maturity
3. Intelligence.

A partial correlation of .25 results, which is still significant at the .05 level.

From this outcome it is clear that the hypothesis is further confirmed as the partial correlation is significant, although not as strongly as with the Multiple correlation data. It is again concluded that there is a relationship between Achievement and Psychosocial Maturity without this being attributable to the effect of Intelligence.

6.2 DEVELOPMENTAL TRENDS

Another aim of the study was to see whether Psychosocial maturity is a developmental phenomenon as was found by Ellen Greenberger and for this reason the means of the different groups are therefore reported for Psychosocial Maturity. Data for Intelligence and Achievement are also included.

6.2.1 Normative data for Different Standards

The difference in means needed to be established in order to see whether Psychosocial maturity is a developmental phenomenon or not. Should the difference between the means not be significant it would imply that Psychosocial Maturity is not a developmental phenomenon.

The mean ages of the two Standards were:

Standard 8 - 15.2

Standard 10 - 17.3

The data for these two age/standard samples are presented in Table 3.

TABLE 3 : MEANS IN DIFFERENT STANDARDS

	<u>STD 8.</u>	<u>STD 10.</u>	<u>DIFF.</u>	<u>t.</u>	<u>Sig.</u>
PSM	283.5	297.4	13.9	3.3	.01
IQ	110.8	113.4	2.6	1.6	NS
ACH	51.8	48.7	3.1	1.7	NS

The fact that there is a significant difference between Standard 8 and 10 shows that Psychosocial Maturity is a developmental phenomenon. The total score increased as the student grows older. This is in accordance with the findings of Greenberger, Josselson, Knerr and Knerr (1975) with cross-sectional data from a South Carolina sample and is a confirmation of theoretical predictions. No significant difference was found between the Intelligence of the Standard 8's and 10's nor in their level of achievement. It could possibly be argued that because the work becomes more difficult, no difference in achievement is found. The influence of Psychosocial Maturity on Achievement will be indicated in TABLES 4, 5 and 6.

6.2.2 Correlational data

Having established that Psychosocial maturity increases with age it now becomes necessary to keep the age groups apart in all further calculations and to establish whether

the hypotheses hold for different age subsamples.

TABLE 4 : CORRELATIONS FOR DIFFERENT STANDARDS

	<u>STD 8</u>	<u>STD 10</u>	<u>STDS 8 & 10</u>
1. ACH vs PSM	.35 ^{xx}	.42 ^{xx}	.34 ^{xx}
2. IQ vs PSM	.18	.30 ^{xx}	.26 ^{xx}
3. IQ vs ACH	.52 ^{xx}	.49 ^{xx}	.48 ^{xx}

xx = sig at .01 level.
(Stds 8 and 10 - see Table 2)

All results are significant at the .01 level except the Standard 8 Intelligence versus Psychosocial Maturity.

6.2.2.1 ACHIEVEMENT VERSUS PSM

From the results above it is clear that the Achievement and the Psychosocial Maturity scores were significantly correlated for all groups at the .01 level. The hypothesis is partly confirmed insofar that there is a positive relationship between Achievement and Psychosocial Maturity. But it has not yet been proved that when adding Psychosocial Maturity to Intelligence the prediction of Achievement can be improved for the different groups.

6.2.2.2 IQ VERSUS PSM

Psychosocial Maturity was also found to be correlated to Intelligence, which was expected as the Intelligence test used incorporated verbal achievement and the Psychosocial

maturity questionnaire is a verbal questionnaire. Greenberger, Josselson, Knerr and Knerr (1975) mentioned that Psychosocial Maturity correlated with reading totals between .39 and .57.

The only group not correlating significantly is Standard 8. The reason for this result is not clear.

6.2.2.3 IQ VERSUS ACHIEVEMENT

In accordance with the literature, it is expected that Intelligence and Achievement correlates significantly. Robbertse (1968) has found the N.S.A.G.T. to correlate .43 with the average symbol in school. Ausubel (1968) mentioned that the two generally yield correlations in the region of .5. The reason for this moderate correlation is attributed to other variables of which some that have been suggested include personality traits, adjustment, cognitive style, interests and maturity.

Correlations of this magnitude were also obtained in this research. (See Table 4).

In order to calculate whether the correlation between Intelligence and Achievement will be increased significantly by adding Psychosocial maturity, a multiple correlation for the different Standards was carried out.

Using Formula:
$$r_{1.23}^2 = \frac{r_{12}^2 + r_{13}^2 - 2r_{12}r_{13}r_{23}}{1 - r_{23}^2} \quad (\text{McNemar 1969, p.194})$$

Inserting the following data:

1. Achievement
2. Psychosocial Maturity
3. Intelligence

the following results were obtained:

TABLE 5 : MULTIPLE CORRELATIONS FOR DIFFERENT STANDARDS

r1.23	Standard 8	Standard 10	Standards 8 & 10
	.58 ^{xx}	.53 ^{xx}	.53 ^{xx}

^{xx} sig. at .01 level.

This implies that by adding Psychosocial Maturity to Intelligence the Achievement of the pupil could be more accurately predicted. Maturity is therefore a moderated variable and not only for the whole group, but also when the different ages were taken separately. Whether low or high maturity, thus Standard 8 or Standard 10 as it increased significantly, it still plays a role in the academic achievement of the pupil.

Partial correlations were carried out in order to discover whether the correlation between Psychosocial Maturity and Achievement is not the effect of Intelligence in any one group. Intelligence was partialled out of Psychosocial Maturity as well as Achievement.

Formula used:
$$r_{12.3} = \frac{r_{12} - r_{13}r_{23}}{(1-r_{13}^2)(1-r_{23}^2)}$$
 (Guilford & Fruchter, 1973, p.312)

The following data inserted:

1. Achievement
2. Psychosocial Maturity
3. Intelligence.

TABLE 6 : PARTIAL CORRELATIONS FOR DIFFERENT STANDARDS

r 12.3	Standard 8	Standard 10	Standards 8 & 10
	.305 ^{xx}	.322 ^{xx}	.247 ^x

x = Sig. at .05 level

xx = Sig. at .01 level.

From the results it is clear that the hypothesis has been further confirmed for all the groups as all Partial correlations were significant and did not collapse. There is thus a relationship between Achievement and Psychosocial Maturity without the influence of Intelligence at both age levels.

This corresponds with Lavin's (1965) view that, when looking at attainment, one would be able to predict more accurately if one looks at certain personality characteristics. Frankel (1960) also found high school achievers indicate fewer problems on the Mooney Check List and display traits such as ego integration, independence, maturity and responsiveness despite cultural pressures.

In 1964 Brookover, Thomas and Patterson reported that they had found a significant positive correlation between concept of own ability and grade point averages after intelligence was partialled out. Irwin (1967) also found a relationship between self concept and academic achievement. Berman and Eisenberg (1971) in a correlational study of final year student on Intelligence, family and social economic data and scores from a Personality Inventory show that a number of traits are relevant in achievement but that different types of characteristics may contribute to the same result. Shaw (1961) also states that he found the

underachiever to have not only a more negative self concept but also to demonstrate more immature behaviour than the achiever. Bruck and Badwin (1962) also found that immaturity affects academic achievement. Taylor (1964) stated that personality traits found in the underachiever are: being self derogatory, feeling inadequate and inferior.

6.3 SEX DIFFERENCES BY STANDARDS

The differences in psychological and physical development which exist between the sexes have been discussed in the literature. Because of these differences it was decided to examine the sexes separately with respect to the three variables, PSM, IQ and ACH.

6.3.1 Normative data

To make sure that further results will be the same for both males and females in Standard 8 and 10 it was decided to look at the means for these separate groups. Should there be no significant difference between the means of the groups on Psychosocial Maturity, Intelligence and Achievement it is unlikely that there would be any significant difference in the other results and the groups could be kept whole.

TABLE 7 : SEX DIFFERENCES BY STANDARD

	<u>Standard 8 (n= 83)</u>					<u>Standard 10 (n= 87)</u>				
	Males	Females	Diff	t	Sig	Males	Females	Diff	t	Sig.
PSM	282.3	285.4	3.1	.5	NS	288.8	306.5	17.7	2.7	.01
IQ	103.7	115.1	11.4	4.4	.001	113.5	113.2	0.3	.1	NS
ACH	49	55	6	2.5	.05	48	50	2	1.1	NS

It is important to note the differences found between the Means for the different groups:

PSM Standard 8 Male and Female	= No significant difference
PSM Standard 10 Male and Female	= Significant difference at .01 level
PSM Male Standard 8 and 10	= No significant difference
PSM Female Standard 8 and 10	= Significant difference at .001 level
IQ Standard 8 Male and Female	= Significant difference at .001 level
IQ Standard 10 Male and Female	= No significant difference
ACH Standard 8 Male and Female	= Significant difference at .05 level
ACH Standard 10 Male and Female	= No significant difference

A significant difference in the means of the PSM score was thus found between males and females in Standard 10 but not for Standard 8. The rate of maturity seems then not to be equal for males and females. In order to establish which sex matures more the different ages need to be compared. (Table 9).

6.3.2 Correlational Data

After discovering the difference in means (Table 7) it was decided that it is necessary to separate the groups to see whether the correlations still hold. This data is presented in Table 8.

TABLE 8 : CORRELATIONS OF SEPARATE MALE & FEMALE GROUPS

	<u>Standard 8</u>		<u>Standard 10</u>	
	M	F	M	F
ACH vs PSM	.41 ^{xx}	.21	.41 ^{xx}	.37 ^{xx}
IQ vs PSM	.19	.12	.32 ^x	.34
IQ vs ACH	.48 ^{xx}	.53 ^{xx}	.59 ^{xx}	.34

x = Sig. at .05 level

xx = Sig. at .01 level

An important factor emerging here is the fact that both Female groups differ from the males insofar as that for the Standard 8 Females there is no significant correlation between ACHIEVEMENT and PSYCHOSOCIAL MATURITY ($r=.21$) while ACHIEVEMENT and INTELLIGENCE ($r=.53$) is significantly correlated. The result is reversed for Standard 10 Females - significant correlation between ACHIEVEMENT and PSYCHOSOCIAL MATURITY ($r=.37$) and non significant correlation between ACHIEVEMENT and INTELLIGENCE ($r=.34$).

A suggested reason for this phenomenon, of differences between Males and Females as well as the difference between Standard 8 and 10 Females is that the Standard 8 Female is at the age where many physical changes take place. The Standard 8 girl is, therefore, more concerned with her physical development than the Standard 8 boy is with his. But in Standard 10, the Standard 10 Female is physically the most mature. (Significant difference in means of PSM). Elkind (1974) has shown that the adolescent is pre-occupied with the physiological changes taking place in his body. There is a change in the body

image and it must be re-evaluated in terms of the self.

Of interest would be an investigation of how physical changes influence the male and female differently and whether the female is more involved in the changes than the male. The importance of physical changes is mentioned by Blos (1962) where he stated for example that sexual maturation has an influence on certain interests and attitudes. In the Standard 10 group no significant differences were found between the Intelligence or Achievement. For the Standard 8 group again the Intelligence of the Females was significantly higher and so was their academic Achievement score. It could possibly be argued that the higher achievement score is attributable to the higher Intelligence as no significant correlation was found between Psychosocial Maturity and Achievement (Table 8).

6.4 AGE DIFFERENCES BY SEX

Having established the difference in sexes in the two Standards it would be necessary to calculate scores to see when the sexes are separated whether the age groups differ, in other words how the Standard 8 Female will differ from the Standard 10 Female and similarly how the males will differ.

TABLE 9 : AGE DIFFERENCES BY SEX

	<u>Males</u>					<u>Females</u>				
	Std 8	Std 10	Diff	t	Sig	Std 8	Std 10	Diff	t	sig.
PSM	282.3	288.8	6.5	1.1	NS	285.4	306.5	21.1	3.5	.001

As can be seen from Table 9 there is a significant difference between the Psychosocial Maturity means of Standard 8 and 10 girls but not for males. The Standard 10 girl is, therefore, the most mature of the whole group. It could then possibly be expected that a girl with a similar Intelligence to that of a boy of the same age should achieve better in school because of maturity. This implies that the boy does not mature significantly in those two years, yet the girl does. These findings indicate that the male and female groups in both Standard 8 and Standard 10 should be kept separate when further results are analysed.

When Constantinople (1969 p.368) studied the stages of Erikson, she predicted that apart from the changes which occur in the areas of Industry versus Inferiority, Identity versus Identity diffusion and Intimacy versus Isolation during the freshman to senior years, there would be differences between male and female development because of the "different relationship between the developing potentialities of the individual and the nature of the social environment for the two sexes.....". In discussing her results it was stated: "The data as a whole indicated that, while the women seem to be more mature when they enter college, the men show greater gains in maturity during the course of the four college years." This seems to be in agreement with results obtained in this study, with the Standard 10 girls (i.e. girls entering college) being the more mature. It is furthermore noted that the boys who showed no significant increase in maturity at the school level, in the present study showed an increase in maturity at College level for Constantinople. In the longitudinal data she found that for males the score for successful resolutions of identity were higher than those for indus-

try over four years while the opposite was found for females. Looking at the stages Industry versus Inferiority and Identity versus Identity Diffusion there was an increase of successful resolutions from one year to the next which corresponds with a decrease in unsuccessful resolutions for males only.

Baum et al. (1968) reported that girls as a group have a higher self concept than boys, yet Bledsoe (1967) found a significant correlation between professed self-concept and achievement for boys but not for girls.

6.5 CORRELATIONS OF INTELLIGENCE VERSUS PSYCHOSOCIAL MATURITY SUBSCALES

Greenberger, Josselson, Knerr and Knerr (1975) have shown that Verbal Achievement is more highly correlated with Psychosocial maturity than quantitative achievement. Correlations between Intelligence, Verbal and Non Verbal, and Psychosocial Maturity were thus carried out in order to see whether Verbal and Non Verbal Intelligence would relate differentially for the South African sample.

6.5.1 IQ versus Psychosocial Maturity Subscales - Standard 8

As it was found that Psychosocial Maturity increases with age the two Standards were kept separate. It could possibly be expected that the relationship between Intelligence and Psychosocial Maturity will differ with an increase in Intelligence. This data is presented in Table 10 (Std 8) and Table 11 (Std 10).

Abbreviations used:

IQ T - Total
 IQ V - Verbal
 IQ NV - Non verbal

TABLE 10 : PSM SUBSCALES VERSUS IQ - STANDARD 8

		MALE IQ			FEMALE IQ		
		V	NV	T	V	NV	T
Individual Adequacy A	Self Reliance Identity Work Orien- tation	29 ^x			39 ^x		
Interper- sonal Adequacy B	Trust Communication Roles	.33 ^x			.xx .52		.x .40
Social Adequacy C	Tolerance Change Social Commit- ment	.x .29 .45 ^{xx} .22 ^x		.33 ^x	.x .37		
TOTAL PSM		.36 ^{xx}			.35 ^x		

xx Sig. at .01 level.
 x Sig. at .05 level.
 All blanks NS.

Standard 8 Males

Of interest in this Table is that the Verbal Intelligence seems to play an important role for the Standard 8 Males as there are 5 subscales correlating significantly with the Verbal Intelligence while Non Verbal Intelligence correlates significantly with no Subscales. Only an Openness to Change - Subscale C correlates significantly with the Total Intelligence score. The Verbal Intelligence is correlated significantly at .01 level with total Psychosocial Maturity score which was expected as it is a Verbal questionnaire. The fact that Psychosocial Maturity does not correlate significantly with the total Intelligence score could indicate that the scale does not rely only on Intelligence.

Standard 8 Females

Although there is a Subscale in each category significantly correlated with Verbal Intelligence, it was not found to be significantly correlated to the Total Psychosocial Maturity score. No Subscale is significantly correlated to Non Verbal Intelligence yet the total Psychosocial Maturity score is significantly correlated to Non Verbal Intelligence. The total Intelligence again is not significantly correlated.

TABLE 11 : PSM SUBSCALES VERSUS IQ - STANDARD 10

		MALE IQ			FEMALE IQ		
		V	NV	T	V	NV	T
Individual Adequacy A	Self Reliance Identity Work Orien- tation						
Interper- sonal Adequacy B	Trust Communication Roles	xx .38		x .32			
Social Adequacy C	Tolerance Change Social Commit- ment	xx .39		x .28			
TOTAL PSM		.29 ^x		.32 ^x			

xx Sig. at .01 level
x Sig at .05 level
All blank NS

Standard 10 Males

Subscales in Category A, namely Individual Adequacy, are not significantly correlated to any Intelligence score, while in the other two categories each have one Subscale significantly correlated with Verbal Intelligence. In this group, as in the Standard 8 Male group, the total

Psychosocial Maturity score is found to be significantly correlated with Verbal Intelligence as was expected. However, the total Intelligence score is also correlated significantly with the total Psychosocial Maturity score. This is the only group in which this occurs indicating possibly that an overall intelligence plays a larger role in how mature a person would be in this specific group.

Standard 10 Female

No significant correlation was found for the Standard 10 female. One possible explanation for this fact is that this group was found to be most mature, and this could perhaps imply that Intelligence plays a lesser role in the more mature person.

6.6 CORRELATIONS OF ACHIEVEMENT VERSUS PSYCHOSOCIAL MATURITY SUBSCALES

It has been established that Psychosocial maturity and achievement is related (Table 8). In order to understand more of the dynamics of the relationship it was decided to look at the correlations between the Subscales and Achievement. And because the Psychosocial Maturity is basically a Verbal scale it was decided to break the Achievement mark into Arts and Science scores - Psychosocial Maturity could perhaps be expected to relate more to the Achievement in Arts than the Achievement in Science.

Abbreviations:	ACH S -	Achievement Science
	ACH A -	Achievement Arts
	ACH T -	Achievement Total
	SR -	Self Reliance
	ID -	Identity
	W -	Work Orientation
	TR -	Trust
	C -	Communication Skills
	R -	Roles
	TOL -	Tolerance
	CH -	Openness to Change
	SC -	Social Commitment

TABLE 12 : ACHIEVEMENT VERSUS SUBSCALES

STANDARD 8

ACHIEVEMENT

		MALES			FEMALES		
		S	A	T	S	A	T
A	SR	xx .39	xx .43	xx .41			
	ID						x .35
	W						
B	TR	x .32	xx .42	xx .36			
	C						
	R	x .30	xx .42	xx .36			
C	TOL						
	CH						
	SC	x .33	xx .38	x .33		xx .49	x .37

x Sig. at .05 level
xx Sig. at .01 level
All blank NS

In the Standard 8 Male group it is noted that wherever a Subscale is significantly correlated with Achievement it is correlated with not only the Achievement Total but also with the Arts as well as the Science Achievement. A Subscale of Psychosocial maturity in each category seems to play a significant role in all mentioned achievements of the Standard 8 Males. Table 7 indicates that the total Psychosocial maturity score also correlates significantly with Achievement at the .01 level. Standard 8 Male groups have in comparison with the other groups, more Achievement scores related to Subscales and also more Subscale intercorrelations (Table 15). This seems to suggest that Psychosocial maturity plays a larger role in the academic achievement of the Standard 8 Male than in the academic achievement of the other groups.

Of interest is that the Standard 8 Female has only three significant intercorrelations between Psychosocial Maturity Subscales and Achievement. No Psychosocial Maturity Subscale is related to Science Achievement at all, while all the Achievement scores related to a Subscale have that particular Subscale also related to Verbal IQ (Table 10). Significant here is that the total correlation between Intelligence and Achievement is .53 and there is no significant correlation between the PSM score and Achievement. It could possibly be argued that the correlations between the Subscales and Achievement could be due to the effect of Intelligence for this group.

TABLE 13 : ACHIEVEMENT VERSUS SUBSCALES - STANDARD 10

MALES					FEMALES		
ACHIEVEMENT							
S			A	T	S	A	T
A	SR ID W	^x .28 ^x .29	^x .28				^x .35
B	TR C R		^{xx} .45	^x .29			
C	TOL CH SC	^x .33	^{xx} .57	^{xx} .44			

xx Sig. at .01 level
 x Sig. at .05 level
 All blank NS

For the Standard 10 Males only Achievement in Arts is significantly correlated with one or more Subscales of each Category (A, B, and C). This particular Subscale related to Achievement in Arts is correlated to one or more Subscales of not less than 2 Categories - Table 16. (Note in Standard 8 Males it was all three categories.) In Category A, Individual Adequacy, Psychosocial maturity does seem to play a role in the Science and the Arts

achievement but not in the Achievement total. The fact that the Achievement Total scores include the marks of subjects such as History which were not included in the Arts or Science marks could possibly play a role in the fact that the Achievement Total mark was related to the Psychosocial maturity mark.

For the Standard 10 Females it is only Self Reliance that is significantly correlated with Achievement. It seems to play, therefore, the most important role in the achievement of the most mature individual. The total Psychosocial maturity score was significantly correlated to Achievement at the .01 level. (Table 8). It can be argued that Psychosocial maturity does play a role in the achievement of even the more mature individual but that subscale Self Reliance contributes substantially towards it.

It is noted that Self Reliance plays a role in the Achievement of all groups except the Standard 8 Females. The sense of control, the knowledge that one's own actions play a major role in what happens, that is implied by this term, relates to Rotter's (1966) concept of locus of control. Nowicki and Roundtree (1971) have investigated the interrelationship of school achievement, popularity, extra-curricular activities, family ordinal position and Intelligence. Important for this present study is that they found that their results confirmed previous findings that show locus of control to be related to achievement for males and involvement in extracurricular activities for females. Internal males scored high on Achievement score, while Internal females engaged significantly more in extracurricular activities than males. The difference between the

sexes was explained by the fact that society rewards males more for academic achievement and females more for social achievement. The fact that there was no correlation for Standard 8 Females in this study could probably be due to the facts described above and the correlation for Standard 10 Females could be explained by the fact that in Standard 10 academic achievement becomes more important than extracurricular achievement. But further investigation is necessary to substantiate this.

In the subscales, Identity, Communication Skill and Tolerance of Individual and Social Difference no correlation with Achievement was found for any group.

A general observation of the results is that the number of Achievement and subscale correlations decrease in the following sequence: Standard 8 Male, Standard 10 Male, Standard 8 Female, Standard 10 Female. We will also see that the intercorrelations of the subscales decrease in the same order. This is to be expected, as when subscales are more related it is likely that they will be more global. And because they are more global and interrelated more correlations with Achievement are probable.

When looking at the different Categories and their relationship to Achievement it is found that in Category A - Individual Adequacy - each of the groups has some subscale correlating significantly with Achievement Total except in Standard 10 Males. The Standard 10 Males, however, have a significant correlation between Science and Self Reliance

which is also shown in Category A. This relationship appears also for Standard 8 Males. This category seems to play the most important role in Achievement for all groups.

In the case of Individual Adequacy there is some significant correlation with Achievement Science, Arts and Total and this is valid also for Interpersonal Adequacy and Social Adequacy. This subscale, which is correlated with Achievement, is also correlated significantly with one or more subscales in each of the other categories. (See Subscales Intercorrelations). For example, the subscale Self Reliance would be correlated with some Category B subscales as well as Category C subscales, therefore the more correlations there are between subscales the more correlations are found between Achievement scores and Subscales.

In Category B - Interpersonal Adequacy - only the male groups have some significant correlation with Achievement Total and Achievement Arts, with no correlations for the Female groups, not even with Arts and/or Science, separately. Aspects in this category then influence only the achievement of males and not of females.

In Category C - Social Adequacy - all groups have some correlation with Achievement Total except Standard 10 Females. It must be borne in mind that the Standard 10 Females were found to be the most mature group. (Tables 7 and 9). It seems therefore that Social Adequacy plays a less important role in Achievement, the more mature the person becomes.

In this sample the subscales in Individual Adequacy are most important as far as achievement is concerned with special reference to Self Reliance and Work Orientation. Interpersonal Adequacy is important in the achievement of Males but not for Females. A knowledge of role is important for both groups. In Social Adequacy's relation to Achievement, Social Commitment plays the most important role both for Males and Females in Standard 8 but not for Standard 10. Openness to Change plays an important role for Standard 10 Males in Achievement Total and Arts.

For Females there is no subscale that correlates significantly with an Achievement score for one as well as the other sample. Furthermore PSM Total score is not significantly correlated with Achievement for Standard 8 Female, while it is for Standard 10 Females, who have only Self Reliance correlated with Achievement Total. This difference could possibly be ascribed to the fact that the Standard 10 Female is more mature than the Standard 8 Female.

6.7 SUBSCALE INTERCORRELATIONS

In order to understand more closely some of the underlying dynamics of the scale, and in order to compare Intercorrelations found in this sample to those of Greenberger it was decided to run Subscale Intercorrelations.

TABLE 14 : SUBSCALE INTERCORRELATIONS - TOTAL SAMPLE

(n = 170)

SR	xx .66									
ID	xx .51	xx .41								
WO	xx .59	xx .44	xx .47							
TR	xx .42	xx .32	x .15	NS.						
C	xx .48	xx .43	x .15	xx .28	x .15					
R	xx .53	xx .43	x .19	xx .33	x .19	NS.				
TOL	xx .53	xx .33	x .16	NS.	x .16	xx .23	xx .21			
CH	xx .48	xx .32	xx .41	x .16	NS.	x .17	NS.	xx .44		
SC	xx .67	xx .41	xx .27	xx .35	xx .21	xx .26	xx .49	xx .38	NS	
	PSM	SR	ID	W	TR	C	R	TOL	CH	SC

x Sig. at .05 level.
xx Sig. at .01 level.
NS Not significant.

Greenberger, Knerr, Knerr and Brown (1974) found with n = 729 and n = 839 that with one exception all Subscales intercorrelate significantly at the 5% level. They also found all Subscales significantly correlated with the Total Psychosocial Maturity score. This was substantiated in this study with a subscale significantly correlated at the .01 level. They hypothesized that because of the theoretical

organisation of the scale, each subscale should correlate more highly with subscales in the same category than with Subscales in other categories. This was confirmed for Individual Adequacy and Social Adequacy. With Interpersonal Adequacy, however, this phenomenon did not occur. This was ascribed to the fact that unexpected patterns of relationships were found in Communication Skills.

In the sample studied in South Africa, no significant Subscale intercorrelations were found for the following:

- Work Orientation versus Tolerance
- Work Orientation versus Trust
- Openness to Change versus Trust
- Openness to Change versus Roles
- Openness to Change versus Social Commitment
- Roles versus Communication Skills

For the category Individual Adequacy the subscale intercorrelations are all significant at the .01 levels, while not all intercorrelations with other subscales are significant at .01 level. For this category, Interpersonal Adequacy, only Trust was significantly intercorrelated with the other subscales in that category while Communication Skills and Knowledge of Roles did not correlate significantly. With the **exception of one**, the Interpersonal Adequacy, subscales were all significantly correlated with subscales of Individual Adequacy, while with the Social Adequacy there were two exceptions.

In the category Social Adequacy, with the exception of Change versus Social Commitment all subscales were intercorrelated at .01 level.

TABLE 15 : SUBSCALE INTERCORRELATIONS - STANDARD 8

MALES

	A			B			C			PSM TOT.
	SR	ID	W	TR	C	R	TOL	CH	SC	
SR		xx .41	xx .51	xx .42	xx .39	xx .43	x .30	xx .44	xx .46	
ID	xx .46		xx .43		xx .37				x .28	
W					x .31	x .34				
TR	xx .46					xx .38			xx .42	
C	xx .45	x .38	x .35				x .34	x .31	x .33	
R	x .34								x .32	
TOL	x .35							xx .42	xx .38	
CH	x .42	x .35						x .42	xx .41	
SC	xx .54	x .39	x .43			x .59		x .43		
FEMALES										

Males above diagonal,
Females below.

x Sig. at .05 level
xx Sig. at .01 level
All Blanks NS.

It is noted that for both groups few significant correlations were found when the Subscales of Category B (Interpersonal Adequacy) are intercorrelated. The most intercorrelations found for both groups were between Category A - Individual Adequacy and Category B - Interpersonal Adequacy.

TABLE 16 : SUBSCALE INTERCORRELATIONS - STANDARD 10

MALES									
A			B			C			
	SR	ID	W	TR	C	R	TOL	CH	SC
SR		xx .45	xx .48		xx .42	xx .54			x .27
ID			xx .52		xx .53				x .28
W	x .45	xx .58				xx .37			xx .38
TR		x -.37							
C	xx .50							xx .35	xx .48
R									
TOL	x .44							x .32	x .32
CH						xx .66	xx .51		xx .42
SC									
FEMALES									

Males above, Females below
diagonal.

x Sig. at .05 level
xx Sig. at .01 level
All Blanks NS.

No significant intercorrelations were found for both groups between the Subscales of Category B - Interpersonal Adequacy. With the Standard 8 groups only a few significant intercorrelations were found. This was also found by Greenberger (Table 14). The Standard 10 Female had far less intercorrelations than the Standard 10 Males.

If we divide the groups into Standard 8 Males, Standard 8 Females, Standard 10 Males and Standard 10 Females we find that the number of subscales that correlate with each other decrease as follows:

TABLE 17 : NUMBER OF SUBSCALE INTERCORRELATIONS BY AGE AND SEX

Standard 8	Males	:	22
Standard 10	Males	:	15
Standard 8	Females	:	15
Standard 10	Females	:	7

With the decrease of intercorrelations psychosocial maturity as measured with this scale becomes less of a unifying construct. While the Standard 8 Males is the least mature and the Standard 10 Female the most (Table 9) it seems that the more mature the individual becomes the less the subscales are related. It seems, therefore, that the scale is not as unified for the Standard 10 Female as it is for the Standard 8 Male.

6.7.1 Observations of Subscale Intercorrelations

Following are some aspects which came to light when looking at the Subscale Intercorrelations.

From the Subscale intercorrelations the following were the only correlations which were found for all the groups.

TABLE 18 : CORRELATIONS FOUND FOR ALL GROUPS.

	Standard 8		Standard 10	
	Males	Females	Males	Females
COMMUNICATION VERSUS SELF RELIANCE	xx .38	xx .45	xx .42	xx .50
POLES VERSUS SOCIAL COMMIT- MENT	x .32	xx .59	xx .47	xx .65
TOLERANCE VERSUS CHANGE	xx .41	xx .41	x .32	xx .51

x Sig. at .05 level
xx Sig. at .01 level

Self Reliance seems to play the most important role as it is the one subscale that is significantly correlated with most other Subscales and is also correlated with an Achievement score for all groups except Standard 8 Females (Tables 12, 13, 14, 15 and 16). Self Reliance as described by Greenberger and Sorenson (1974) involves:

1. Absence of excessive dependence on others.
2. Sense of control over one's life.
3. Initiative.

They felt that Self Reliance is probably one of the most basic dispositions an individual requires to function adequately. Entwistle and Entwistle (1970) also stated that an obsessiveness towards being correct in behaviour coupled with Independence and Self Confidence is related to wanting to do things well. Rotter, Chance and Phares (1972) found that self responsibility correlated positively with achievement for boys, while the correlation was non-significant for girls. They mentioned that school achievement was positively correlated with a child's conviction that he himself controls his intellectual achievement. It seems, whatever

the age, maturity or intelligence, that Self Reliance implies an absence of dependence on others and is related to the ability to state one's case - Communication without depending on what others have to say.

TABLE 19 : CORRELATIONS UNIQUE TO STANDARD 8

	Male	Female
Enlightened Trust versus Self Reliance	.41 ^{xx}	.46 ^{xx}
Self Reliance versus Change	.44 ^{xx}	.42 ^x
Work Orientation versus Communication Skills	.30 ^x	.35 ^x

x Sig. at .05 level
xx Sig. at .01 level

From the above it is clear that certain subscale inter-correlations were found for the Standard 8's but not for the Standard 10's. The mean age of the Standard 8's was 15.2 and for the Standard 10's 17.3. It appears, therefore, that age plays a role and we can conclude that maturity undergoes change with age. The matter, however, is complicated in that although the Standard 10's are older than the Standard 8's there was no significant increase in the PSM scores for the males. As far as maturity is concerned, therefore, they are on the same level as the Standard 8's.

TABLE 20 : CORRELATIONS UNIQUE TO MALES

	Standard 8	Standard 10
Work Orientation versus Roles	.34 ^{xx}	.37 ^{xx}
Tolerance versus Social Commitment	.37 ^{xx}	.32 ^x

x Sig. at .05 level
xx Sig. at .01 level

A knowledge of roles involves an awareness of the definition of roles and role conflict. The role the adolescent has to take will be closely related to his future occupation. They are thus interrelated. It is possible that the adolescent girl studied in this sample is not involved in a future occupation and sees her role only as being a housewife while the male has an understanding of various roles which include community and social goals. This could partly influence the intercorrelations. Constantinople (1969) also mentioned that it has been found that the major component in the male's identity is his concern with the question of occupation. The female on the other hand is more concerned with her sex role as wife and mother. Tolerance of social, cultural and political differences would imply an openness to change as Tolerance includes a willingness to interact and also a realization of the rights of the other person.

TABLE 21 : CORRELATION UNIQUE TO FEMALES

None.

This could possibly be due to the fact that the Standard 10 Female is so much more mature and differs so much from the Standard 8 Female that no similarities are found.

TABLE 22 : SIGNIFICANT NEGATIVE CORRELATION - STANDARD 10 FEMALE

<u>Standard 8</u> <u>Male</u>	<u>Standard 8</u> <u>Female</u>	<u>Standard 10</u> <u>Male</u>	<u>Standard 10</u> <u>Female</u>
.24	.10	.21	-.37 ^{xx}

ENLIGHTENED TRUST VERSUS IDENTITY

xx Sig. at .01 level.

A significant negative correlation for the Standard 10 Female was found between Enlightened Trust and Identity. Enlightened Trust consists in believing that it is acceptable to rely on others, and a rejection of the simplistic view of goodness and badness. This correlation implies the most mature person, the Standard 10 Female, who has found her own identity, would not be enlightened in deciding whom to trust. It furthermore means that the one who has not found her own identity is the one who would be capable of making an enlightened decision. This significant negative correlation is not clear. However, in terms of statistical theory this may be a purely random result.

7. DISCUSSION AND IMPLICATIONS OF RESULTS

In the literature referred to in this study various aspects of maturity have been discussed and it has been argued that maturity is the outcome of personality development, and that maturity is expected to influence academic achievement. Studies were quoted where certain aspects of the personality did correlate with Achievement. Maturity in this study was measured by a Psychosocial Maturity scale developed by E. Greenberger. (Greenberger, Knerr, Knerr and Brown, 1974).

In the results of this study it has generally been shown that there is a relationship between Psychosocial Maturity and Achievement, firstly by a correlational study which showed significant positive correlations between Achievement and Psychosocial Maturity. A multiple correlational technique was then employed in order to see whether by adding Psychosocial Maturity to Intelligence, the correlation between Achievement and Intelligence would increase significantly. A significant increase for Standard 8 and Standard 10 individuals as well as Standards 8 and 10 combined were found. This shows that by using Intelligence and Psychosocial Maturity, as opposed to using Intelligence only, the prediction of Achievement could be improved. But to make sure that the correlations were not relying solely on Intelligence since Intelligence was found to be correlated with Achievement as well as Psychosocial Maturity; a partial correlation was performed where the effect of Intelligence was partialled out of Psychosocial Maturity as well as Achievement. The correlation was still significant which adds weight to the thesis that the correlation between Psychosocial Maturity and Achievement does not rely only on Intelligence.

The Standard 8 and Standard 10 groups were separated into male and female groups because of significant differences between Psychosocial Maturity and Intelligence means. It was found that the male and the female scores differ considerably and that even the two female groups differ from each other. The following differences were found:

- 7.1 There is a significant increase in the Psychosocial Maturity means for females but not for males - this implies an increase for females but not for males. Various studies have found that girls were more mature than boys on certain aspects of maturity.

Constantinople (1969) for instance, found it to be the case with Identity Achievement. It was also mentioned that Baum et al. (1968) showed that girls have a higher self concept than boys. With a higher self concept the individual trusts himself more and has more self reliance. Physical development was shown as being an integral part of Psychosocial Maturity. In certain aspects a girl's physical development is faster than a boy's. The abovementioned factors explain partly why the girl was found to be more mature than the boy in Standard 10.

- 7.2 The Standard 8 Female group is the only group where a non-significant correlation between Achievement and Psychosocial Maturity is found. This group had the highest mean in Intelligence namely, 115.1. It could possibly be that once a student is over a certain threshold of Intelligence, maturity does not play such an important role. Further investigation would, however, be necessary where maturity is held constant. The importance of maturity could

vary with difference in Intelligence as well as different aspects of Psychosocial Maturity.

- 7.3 In looking at correlations between Achievement Arts, Sciences and Total versus Psychosocial Maturity Subscales we note a lack of correlation in the Female groups. In the Standard 8 Female group only two Subscales namely, Work Orientation and Social Commitment correlate with some Achievement score. The total Psychosocial Maturity score, however, does not correlate significantly with Achievement Total score. In the Standard 10 Female group only Self Reliance correlates with Achievement Total but the Total Psychosocial Maturity score also correlates significantly with the Achievement Total score. Self Reliance and Achievement could possibly have a circular effect here insofar that higher achievement and simply being in Standard 10 results in a more positive self concept and self acceptance. And self reliance in turn predisposes scholastic achievement.

Positive significant correlations found for males groups are:

Standard 8 Males:

Self reliance versus Achievement (Arts, Science, Total)
 Trust versus Achievement. (Arts, Science, Total)
 Openness to Roles versus Achievement (Arts, Science Total)
 Social Commitment versus Achievement (Arts, Science Total)

Standard 10 Males:

Self Reliance versus Achievement (Arts, Science, Total)

Work Orientation versus Achievement (Science)

Openness to Roles versus Achievement (Arts, Total)

Openness to Change versus Achievement (Arts, Science, Total)

- 7.4 The Standard 8 Female group is the only group where, when a Subscale correlates with an Achievement score, that specific Subscale is also correlated with an Intelligence score. This could possibly be explained by the fact that the correlation between Achievement and Psychosocial Maturity Total was non significant.
- 7.5 With the Subscale Intercorrelations it is found that the number of intercorrelations for Female groups is relatively low. In the males then, one subscale is more related to another than for females. It could possibly be argued that other factors in the females play a more important role, hence the lack of intercorrelations. The role of anxiety for instance was found to be different in the achievement of Standard 8 males and females (Verhage 1977). Anxiety could possible play a role in the correlation between tolerance and trust.
- 7.6 Certain similar Subscale Intercorrelations are found for both male groups, but not for either of the Female groups. Of interest would be an investigation to see whether Subscale relationships will increase or decrease with high or low maturity.

It is clear that there are very distinct differences between the various groups. One would have expected the Male-Female groups to differ to a certain extent, but in this sample there are hardly any similarities. Furthermore, as the Standard 8 Females are on the same Psychosocial Maturity Level as the males one would have expected some similarities between them and the male groups. Verhage (1977) also found no consistent relationship between certain chosen personality traits and academic achievement between boys and girls.

The fact that the Standard 10 females were found to be more mature than the males of the same age as well as Standard 8 Males and Females, is in agreement with the study of A Constantinople (1969). She found that girls mature earlier than boys who mature only at College level. This, however, still does not explain the fact that the Standard 8 Females who are on the same level of maturity as the boys differ to such a large extent from them. A possible reason for this difference could be that the female in Standard 8 is experiencing major physical changes and through her egocentrism she is highly involved in them. Garrison (1956), for example, stated that girls have their adult height and weight about two years before boys. During this time the other factors of maturity are temporarily pushed into the background. This would, therefore, account for the lack of correlation between Psychosocial maturity and Achievement in Standard 8. Furthermore, when considering the physical changes which are expected to play a role in

the differences found between the male and female groups as well as between the two female groups, the fact that part of the identity development of the adolescent includes the sexual identity should not be excluded. A study investigating the different effects of physical maturity on males and females should be of great value for further research.

Another factor which could play a rôle is that girls are manipulated by Society to be more interested in extra-curricular activities while boys are expected to be more concerned with academic achievements. (Nowicki and Roundtree 1971). Smith (1961) describes studies which have found that the adolescent boy either commits himself to the athletic or the academic field while the girl is not pressurized into making a commitment. How would this influence the results obtained? If Nowicki and Roundtree's (1971) results are kept in mind where it is stated that girls are encouraged by society to be more interested in extracurricular activities while boys are expected to be more concerned with academic achievement, it might imply that in the sample studied, the boys were committed to the academic field.

Numerous studies have found differences between Males and Females on certain personality traits. As the Psycho-social Maturity scale measures a number of personality traits the difference between males and females could to a certain degree be explained by these studies. Here is a brief account of some of these studies:

Kagan and Coles (1972) stated that the difference between males and females could to a large degree be attributed

to different situations, challenges, response and reward patterns. Kagan and Moss (1962) also found male adolescents to be more independent than girls. They explained this by the fact that culture has a more permissive attitude towards dependence in females while the male is expected to be independent. Gordon (1972) mentioned a study where it was argued that 14 - 16 year old boys are involved in identity problems, eroticism and autonomy while girls of that age were also concerned with identity and eroticism but not with autonomy. They would rather seek security, support and acceptance. In this study self reliance correlated significantly with some Achievement scores for both male groups and Standard 10 Females, but not for the Standard 8 Female group. Verhage (1977) found that non intellectual factors play a role in respectively one, eight and five of chosen non intellectual personality traits and scholastic achievement in Standard six, eight, ten spheres. He furthermore found that ego strength, conscientiousness and anxiety does have an effect on scholastic achievement but play a lesser role in the achievement of males than in the achievement of females. Study habits, attitudes, orientation, achievement and motivation play a 15% role in the achievement of males while only 4-11% in the achievement of females. Rotter, Chance and Phares (1972) in a study done on 40 early-grade school children found a difference between boys and girls, in that girls' performances were more associated with parents' attitudes and behaviour than were boys' performances. And in a further study they found girls' strivings were directly related to the desire for approval while the achievements of the boys were more autonomously determined. They had developed more internalized achievement standards.

Apart from these differences Crow and Crow (1965) mentioned that because a girl matures earlier she would be more sensitive to the opposite sex at an earlier stage. Nawas (1971) felt that in the American culture there are double standards for the different sexes which range from career preparation to sexual expression and from aggression to election in a political office. He hypothesized that because the male is taught to be self sufficient, independent and assertive in order to achieve self realisation he expects an increase in self sufficiency from adolescence to adulthood whereas the opposite is expected from the female as she is sheltered during adolescence and when she enters adulthood the strain will be intense. He felt that as she is trying to cope with personal conflicts and the demands of essential tasks it will lead to narrowing of her interests in environment and to simplistic view of her surroundings while for the male an increase in complexity is expected. Subjects were studied at the ages of 18 and 26. The findings supported the hypothesis for the females at .001 level of significance while for males the ego sufficiency scores did not obtain .05 level but were in the predicted direction while the complexity scores were supported at the .03 level. The narrowing of interests seems to be in agreement with results obtained in this study for Categories B and C, which are Interpersonal Adequacy for example Roles and Social Adequacy which is Social Commitment. Only one significant subscale correlation was found between the two groups. It is noticeable too that there were fewer subscale correlations with Achievement for the older female - Standard 10 than for the Standard 8 Female. (Tables 12 and 13).

Psychosocial Maturity was found to be a developmental phenomenon in America. This was also found in this study when the group was kept whole. But when the groups were divided into Males and Females no development for males was found between Standard 8 and 10. Greenberger, in addition to this, found that all subscales are significantly correlated to the PSM total score and this was also shown in this study. Greenberger Josselson, Knerr and Knerr (1975) mentioned that the Psychosocial Maturity Scale, being a Verbal scale, will be higher correlated with Verbal achievement than Quantitative achievement. It was decided to look at the relationship between Verbal, Non Verbal and Total Intelligence versus Psychosocial Maturity. A positive significant correlation between Verbal Intelligence and Psychosocial Maturity was found, as was expected. This was found for males only in fact, for the Standard 8 Female, Non Verbal Intelligence correlated significantly with Psychosocial Maturity. As far as the Total IQ score is concerned, a significant correlation was found for only the Standard 8 Male group. Bond, Josselson, Greenberger and McConochie (June 1974) argue that previous research has indicated that there are differences to be found between males on the Social Adequacy scale which include Tolerance, Openness to change and Social Commitment. This was also found in this study where, for example, only the following significant correlations were found with Achievement Total. (See Tables 12 and 13).

Standard 8 Male

Social Commitment

Standard 10 Male

Openness to Change

Standard 8 Female

Social Commitment

Standard 10 Female

None

It seems to be then that the assumption of a continuous development, as well as assuming that Male and Female development is on the same line as far as 9 Subscales are concerned is too simplistic and does not go to the root of development. The matter is far more complex than people have thought. A scale as used in this study does serve a purpose insofar that it gives a general indication of how mature a person is, as well as the fact that there are some other factors apart from intelligence influencing achievement. The problem is that there is a vast number of variables that could play a role, as well as the fact that each individual has his own strengths and weaknesses. In order to discover the role of different factors a longitudinal investigation is proposed. This will study a number of factors of which some should include psychosocial maturity, intelligence, achievement, peers, family background, location of school, themes of student culture, physical maturity, certain personality traits etc. For instance, when a boy is physically mature, and is treated as a mature person and is expected to behave accordingly the effect on his academic achievement must be considered. On the other hand the physical maturity of the girl influences her prestige as reported by Faust (1971). Mussen, Conger and Kagan (1974) also reported that studies have shown the late physical maturer to be restless and talkative. This adolescent will, therefore, not be

able to concentrate as well as the early maturer. Mussen and Jones (1957) also found that the physically late maturer is more personally and socially maladjusted and this in turn influences his achievement. Verhage (1977) mentioned that it has been found that personal, home, social and formal adjustments show a low positive correlation to academic achievement. He found a positive relationship between formal relationships and academic achievement for boys and girls in Standard 6 and 10 spheres. It would be of value to investigate the relationship between formal relationship and Psychosocial maturity.

A study investigating all these areas starting from Standard 6 through to the age of 21 - 22 should display more of the development of adolescents, the qualitative and quantitative differences, as well as their effect on academic achievement. Once the roles of these factors have been established a scale including the most important factors could be drawn up.

Where possible, explanations were given in order to clarify some results obtained in this study. Further research would be necessary to point out certain shortcomings of this study. The limitations of the sample make it difficult to evaluate the implication of results obtained. In general it was said that it does offer **support** for the hypothesis. It is recommended that a more representative sample of pupils be investigated which should include not only more schools but also single education and co-educational schools of both language groups. Comparison could then be made between the two language groups

as well as the two different types of schools. The effect of culture as well as the type of school could then be seen and the development of the child could be documented. In order to compare achievement results special achievement tests could be given to all schools to make them comparable.

Another shortcoming of this study might be that only pupils taking Maths were chosen as subjects. It excluded the more practically orientated student. Should they have been included the results might have been different with Psychosocial maturity playing a larger role in either one or the other group.

It is suggested that a Validity Study be carried out where teachers as well as peers rate pupils on different aspects of maturity, and these ratings are then compared with the Psychosocial Maturity score.

The importance of these factors in Achievement in general cannot be over emphasized. A further investigation would be beneficial as the fact remains that there are pupils who are unsuccessful at school but who nevertheless make a success of their vocation.

8. IMPLICATIONS FOR COUNSELLING

It has been shown that the correlation between Intelligence and Achievement is generally only moderate and it was hypothesized that Psychosocial Maturity plays a role in the achievement of the high school pupil. This was found to be the case in this study. This implies that part of the role of the counsellor should be concerned with the maturity of the pupil and how maturity could be increased, as the pupils level of maturity can be expected to influence his achievement.

Maslow (1971) in his study of present day education concluded that education fails to educate students to be well adjusted human beings. He maintains that students are expected to assimilate as many facts as possible in the least time possible. There is no space for personal education, which would help the young person understand the world he is living in. Class work, for example, is isolated from the child's social life and his interests. As early as 1947 Saul expressed the opinion that educators drummed as much intellectual knowledge into the child as possible without realizing that it was of the utmost importance that the child should be educated for life. The emphasis should be then on achievement not only in the intellectual sphere but in the sphere of behaviour and attitudes so that the child will be able to function adequately with others and to manage his own personal affairs and because of that he will achieve better in school.

The Counsellor, however, should keep it in mind that sex differences were found with girls developing to a greater

extent that boys. One of his tasks then, should be to be aware of these sex differences and to pay more attention to the boy in order to assist him in overcoming this backlog. Should he be able to assist the group to increase in maturity it could be expected that their achievement will also increase. Bruck and Badwin (1962) for instance, also found that immaturity affected achievement. We have already seen that factors such as physical growth play a role in the counselling process insofar as the adolescent is involved in the changes taking place in his body and the way he sees the changes influences his adjustment to life. The strong boy was found to have greater social prestige and less adjustment problems. (Adams 1968). The physical maturity of girls was also found to play a role in their prestige status as reported by S Faust (1971). Mussen, Conger and Kagan (1974) also mentioned studies which show that the less physically attractive adolescents were found to be restless, bossy and less popular. They tended to have feelings of inadequacy, negative self conceptions, feelings of rejection and dominance. Mussen and Jones (1957) found the physically retarded boy to be more personally and socially maladjusted during adolescence. It is the task of the Counsellor to assist them with these difficulties.

In the present study no significant correlation between Achievement and Psychosocial maturity was found for the Standard 8 Female. It was suggested that one possible reason could be the fact that the girl at this age is more interested in her physical development. In the counselling process it would then be necessary to assist the girl to direct her interests to other spheres including her school-work.

The cognitive development of the adolescent is important in the counselling process insofar as the acquisition of formal thought allows him to see alternatives in decision making which could have a bearing on the counselling situation. He is able to think about thinking which leads to an evaluation of himself with respect to other people and this leads him to be self conscious. The new ability to construct ideals, while lacking the ability to turn them into reality could lead to depression. In dealing with a depressed adolescent this aspect of the cognitive growth should be kept in mind. The egocentrism in which the adolescent is entangled leads him to the position where he will either reject another person's point of view or he will accept it without reservation. He is not able to distinguish between the object of his own thoughts and that of others. This is of utmost importance in the counselling process. The adolescent who is critical of himself feels that others, including the counsellor are as critical. He would, therefore, not reveal his feelings in order to avoid criticism, in the process of counselling. It must be kept in mind that he over-differentiates his feelings and regards himself as unique.

One of the aims in counselling should be to develop the individual's total personality as it forms an integral part of his Psychosocial Maturity. This falls within the Category - Individual Adequacy - which we have argued plays the most important role in the Achievement of all groups in this study. One of the aspects the counsellor should focus on is the emotional component of the individual.

The emotions of the child are very likely to be influenced by his teachers as he is with them 5 to 6 hours a day, 5 days a week, 9 months of a year, for 8 to 12 years which makes a total of 7 000 to 11 000 hours in which the child is in contact with his teachers who modify his reactions for better or for worse. The child is influenced by his teacher's personality, discipline, instructional methods, the atmosphere which she creates in the classroom and her control in the classroom. The teacher's control in the classroom can for example teach the child to control certain of his emotions. By providing emotional security and reducing anxiety the teacher can help the adolescent to overcome many of his problems and difficulties. But the teacher should not expect the adolescent to have complete control over his emotions. He should have the opportunity to express his emotions in order to prevent traumatic outbursts. The counsellor in the school must bear in mind that emotions show a clear development and that they are expressed differently at different times and they can influence his judgement, evaluation, perception and decisions. The adolescent is at the stage where he is trying to achieve emotional maturity because only through emotional maturity is he acceptable to society. The student, therefore, must be counselled to gain control over his emotions in order to maximise his schoolwork. This could probably be done by showing him how his emotions can affect his schoolwork. The role of emotions could furthermore be explored by role playing. Of further importance is whether the adolescent has achieved his own identity. Erikson (1963) states that where the adolescent has not achieved his identity he is

in the stage of role confusion where delinquent and actual psychotic experiences are not uncommon, and in order to keep himself together it could happen that he overidentifies with heroes, or cliques, or the crowd. The counselor must ask himself whether he is dealing with an adolescent who, according to Marcia (1966) is confused, where he has not yet made a commitment to a set of beliefs; an individual who has taken over a commitment from his parents; an individual who is in the midst of a crisis and is searching for the person who has achieved identity by having gone through crises and has made his own set of beliefs. The counselling process could be improved if the Counsellor is able to distinguish in which stage the counsellee is. Block (1961) for example, found that the individual who has achieved identity would be more flexible. Rasmussen (1964) also found that an individual needs an adequate ego identity to be able to cope effectively in his environment. It must furthermore be remembered that Constantinople (1969) found a difference between males and females in the achievement of identity, females being the more mature. It could be argued then that more time needs to be spent on the male in order to assist him in achieving his identity. An important aspect of finding one's identity is the development of the self. Osipow (1968:120) in discussing theories of Career Development has stated: "The process of vocational development is essentially that of developing and implementing a self concept..." If the self concept improves it would result in an increase in the individual's ability to accept other people. This in turn would increase his acceptance by other people and there would, therefore, be a personal improvement. This self concept is the fact that the person recognizes himself as a distinctive individual therefore realizing how he differs from other people. But at the same time he is also aware of the similarities between him and them. (Osipow, 1968). It is a concept that keeps on shifting because of the experiences of life. The

self then to a certain degree has created the self, as out of numbers of different structures, it decided on one specific one. The decision is due partially to genetic factors, significant early experiences and lasting relationships with significant others. One of the dimensions of the self which the counsellor assists in developing is the self-integration. When there is no integration in the adolescent it leads to disorganisation which again leads to confusion. This disorganisation is a result of the identity crises the adolescent is experiencing. The adolescent must come to terms and realize what means most for him, he must define his own values. In the process of finding himself and discovering what is most real to himself he might have to undergo ostracism, loneliness and rejection. An integral part of finding one's own identity is the choice of a career. Here the counsellor can be of great assistance in defining the areas, personality characteristics and motivation necessary for certain careers. Deciding on a career is assisting identity development which falls into the total development of the adolescent. Once a career has been decided on it could counteract the feeling of total inadequacy which the adolescent often has. It gives him some support for the future especially if he is not able to define his place at present. The Counsellor should also bear in mind the real-ideal self discrepancy of the individual. For instance the person with a high real-ideal self discrepancy would be the adolescent who is not satisfied with what he is and will strive to improve. Furthermore this type of adolescent has been found to be more accepted by others according to Miyamoto and Dronbush (1956).

Part of the Psychosocial Maturity scale is the social development of the individual. Part of the counsellor's aim is to get the adolescent to accept himself, as it was mentioned that the more the person accepts himself the more he is accepted by others. It could be expected that this would result in him being able to spend more time on schoolwork as he need not worry about his interpersonal relations. Of further importance is how the adolescent expects others to react to him and whether he has the personality traits, such as sympathy and tolerance, that make him acceptable to others. He could be assisted in understanding the need for certain personality traits in order to be accepted by others. What complicates matters further for him in his interpersonal relations is that with his newly acquired cognitive structure he sees the wrong in society and does not want to become a member of it, yet he is not able to change it and is only able to suggest changes once he has matured.

The counsellor must try to help the adolescent on the level of his understanding. He must see the world as it exists for the adolescent. It should be, as Sanderson (1954) stated, help-centered guidance with the emphasis on the phenomenological aspects of the problem. The process could be rather complicated for the counsellor as he does not know how much responsibility the client is able to take on himself. Sanderson (1954 : 270) states: "He cannot know how much of the dependent attitude stems from the fact that the client is too young to assume the entire burden of planning for himself and how much is an expression of personal immaturity." In this instance a scale giving some indication of maturity would assist the Counsellor.

The different levels of maturity could imply that the counsellor would find different degrees of participation in the counselling process. Furthermore, maturity plays a role in the fact that the counsellor when providing him with an opportunity to work out his vocational plans which implies the defining of the problem, taking note of the conflicting aspects and resolving it, the adolescent will need a certain amount of maturity to be able to do it.

It was discussed previously that it is very difficult to evaluate maturity. Moore (1970 p.38) probably gave the most general definition by stating: "It is a state of mind, accomplished through increased awareness of self, others and reality." For counselling it is important to have an indication of the maturity of the individual in comparison with his peer group as one of the aspects of counselling is to assist development. We have seen from this study that one cannot ignore the personality growth of the student as it is part of his total development. There is always an interaction, with the intellectual reflecting on the psychosocial maturity and the psychosocial maturity reflecting on the intellectual. Thus for an individual to live a personally satisfying life while making his contribution to the world he must be fully developed in all spheres. In assisting the adolescent to achieve maturity a scale is necessary to help the Counsellor to decide how mature the individual is. In Shertzer and Peters (1965) it was shown that the answer to the development of an ideal scale would involve a longitudinal study to investigate the personality development throughout a child's school career.

Shertzer and Peters stated that guidance during the adolescent years would help the child:

- i. Understand himself, his motives, defenses, strengths and weaknesses.
- ii. Accept the reality of himself and the world.
- iii. Make use of opportunities to meet obstacles and challenges appearing during life.
- iv. Look for avenues for emotional release of feelings.

(Shertzer and Peters, 1965 : 267).

Adolescence, therefore, is a part of the total developmental process - "a period of tremendous significance distinguished by specific characteristics", (Konopka, 1973, p.297), and in order to assist this development we need to understand the adolescent and for this reason, "..... we need to study all that we can see and measure in his make-up....." . (Shertzer and Peters 1965, p.268).

9. CONCLUSION

In this study it has been argued that Psychosocial Maturity plays a role in the achievement of the high school pupil.

Certain aspects of personality and their effect on psychosocial maturity and how it could play a role in achievement have been discussed in the literature.

A scale developed by E. Greenberger has been used to investigate whether Psychosocial maturity as measured with this scale is related to achievement. As far as is known this scale has not been used in South Africa and results can be compared with those found in America.

The hypothesis in general was confirmed : that ACHIEVEMENT and PSYCHOSOCIAL MATURITY are significantly correlated and that by making use of a Multiple correlation the prediction of Achievement would be significantly enhanced, by including the variable Psychosocial Maturity to Intelligence versus Achievement. It was further found that when the groups were divided into Males and Females they differed markedly from each other and also that the two Female groups differ from **each other**.

When the subjects were taken as a group $n=170$, Psychosocial Maturity was found to be a developmental phenomenon which is in agreement with the findings of Greenberger, Josselson, Knerr and Knerr, 1975. But when the

groups were divided into males and females this developmental phenomenon occurred only for Females.

The implications of the results were discussed and suggestions were given for these differences. Suggestions were to show how this study could be improved and what future research would be of value.

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A P P E N D I X I

Psychosocial Maturity Scale

(Greenberger, Knerr, Knerr & Brown, 1974).

In discussing the scale it was pointed out that certain questions were changed in order to suit a South African sample. These questions will be marked with (²).

To most questions a D answer (Disagree Strongly) will be the response of the most mature person. In all cases where this is not so the answer will be an A answer i.e. Agree Strongly. The latter will be indicated by a (³).

STUDY OF STUDENT ATTITUDES AND OPINIONS

READ THESE INSTRUCTIONS AND THEN BEGIN IMMEDIATELY

This questionnaire is part of a study being conducted at a large number of schools to learn about the opinions and attitudes of young people.

Try to go through the questionnaire quickly, without spending too much time on any one question. Answer the questions in order and do not omit any item. Remember, THIS IS NOT A TEST. There are no right or wrong answers. We are interested in the different opinions each of you may have. Feel free to answer exactly the way you feel. No one at this school will ever see your answers and your responses will be held in strictest confidence.

Turn to your answer sheet. Indicate your answer to each item by marking the appropriate symbol on the answer sheet with an X.

MAKE ONLY ONE X PER ITEM

- Mark: A if you AGREE STRONGLY with the item.
B if you AGREE SLIGHTLY with the item.
C if you DISAGREE SLIGHTLY with the item.
D if you DISAGREE STRONGLY with the item.

Begin immediately!

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

When a job turns out to be much harder than I was told it would be, I don't feel I have to do it perfectly.

If the government uses "bugging devices" or secret microphones, it is nearly always to protect us from harm.

I find it easy to explain what I think or believe. (*)

If a friend whose ideas about God are very different from mine gave me a religious magazine to read, I wouldn't read it.

It's not very practical to try to decide what kind of job you want because that depends so much on other people.

A man shouldn't cook dinner for his wife and children unless the wife is ill.

If you see a coat you think you might like to buy, the sales person should agree to save it for as long as it takes you to decide.

I can't really say what my interests are.

I find it hard to ask even my good friends for help.

I would rather use my free time to enjoy myself than to help raise money for a neighborhood project.

I find it hard to stick to anything that takes a long time to do.

If people are picked in a fair way to be on a trial jury, they are sure to reach a fair decision.

It would be hard to write a letter explaining why I should be hired for a job.

You should avoid spending too much time with people who are not approved of, even though you think they are really all right.

In a group I prefer to let other people make the decisions.

We should limit the number of women who can train for jobs usually held by men, such as dentist or engineer.

If I find something on the sidewalk, it's mine because I found it.

I never seem to feel the same about myself from one week to the next.

I don't like to accept help even when I need it.

BACK TO BE SURE THAT YOU HAVE JUST COMPLETED QUESTION NUMBER 19.

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

20. Why work for something that others will enjoy if you won't be alive to enjoy it too?
21. I hate to admit it, but I give up on my work when things go wrong.
22. People can be trusted no matter what they have to win or lose.
23. Even if I know how to do something, I find it hard to teach someone else.
-) 24. I would not mind being friends with a person whose father or mother was in trouble with the law. (3)
25. You can't be expected to make a success of yourself if you had a bad childhood.
26. Women who decide not to be mothers are not doing what they should.
27. If my friend lends me money, he should wait until I pay it back and not ask for it.
28. Most people are better liked than I am.
29. I seldom felt close to any adult when I was younger.
30. I would only give a large sum of money to medical research on cancer if I knew they would find a cure in my life-time.
-) 31. I seldom get behind in my work. (3)
32. If a man in government isn't honest, he won't get elected more than once.
33. It is hard to talk to someone you don't know.
34. I don't think I could be close friends with a crippled person.
35. Luck decides most things that happen to me.
36. Women should not be elected to top government positions.
37. If a salesman is very nice to you, you should try to buy something from him.
38. My life is pretty empty.
-) 39. There is no way to decide ahead of time who you can trust. (3)
40. If I felt strongly about something, like race relations or better medical care for the poor, I would only work for it if there was a chance things could be changed quickly.

CHECK TO BE SURE THAT YOU HAVE JUST COMPLETED QUESTION NUMBER 40.

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

- . I tend to go from one thing to another before finishing any one of them.
- . You can be sure people will be honest with you if you are honest with them.
- . In a discussion, I often find it hard to understand what people are trying to say.
- . Hippies should not move into neighborhoods where there are mostly older people and young children.
- . The main reason I'm not more successful is that I have bad luck.
- . Schools should not let new methods of teaching, like TV and tapes, take up too much time in school.
- . If you're a guest in somebody's home and make a phone call that only costs about a dollar, you don't have to offer to pay for it.
- . I can't seem to keep people as friends for very long.
- . It doesn't bother me at all to feel that I need other people.⁽³⁾
- . It's not really my problem if my neighbors are in trouble and need help.
- . I often don't finish work I start.
- . Even though it's hard to do, TV and newspapers give us the true facts about important events.
- . I do not mix well with other people.
- . It would bother me to work for a person whose nationality is different from mine.⁽²⁾
- . Someone often has to tell me what to do.
- . I would like to talk to other students all over the world by way of satellite.⁽³⁾
- . If you buy a sweater with a tag saying, "cannot be returned", and it turns out to be too small, you should insist that the store take it back.
- . I'm acting like something I'm not a lot of the time.
- . Never depend on anyone if you can help it.
- . Time you spend helping others get what they want would be better spent trying to get what you want.

HECK TO BE SURE THAT YOU HAVE JUST COMPLETED QUESTION NUMBER 60.

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

61. I often leave my homework unfinished if there are a lot of good TV shows on that evening.
62. Nobody really wants to cheat another person out of something.
63. I often forget to listen to what others are saying.
64. I would not make friends with a person who had very different manners from mine.
65. When things go well for me, it is usually not because of anything I myself actually did.
66. Men should be able to train themselves for jobs usually held by women, such as elementary school teacher, nurse, and telephone operator. (3)
67. It's all right that a policeman takes a little better care of those stores where the owner gives him a tip once in a while.
68. I never know what I'm going to do next.
69. I have several close friends.
70. It is much more satisfying to work for your own good than to work for the good of a group you belong to.
71. I believe in working only as hard as I have to.
72. If a person is on trial in court, the decision will be fair no matter what kind of family he comes from.
73. It is hard to speak your thoughts clearly.
74. I would rather not live in a neighborhood where there are people of different races or nationalities. (2)
75. I feel very uncomfortable if I disagree with what my friends think.
76. Children cannot be happy staying in day care centers while their mothers are at work.
77. If you're in a hurry in a store, others should be willing to let you get ahead of them.
78. I change the way I feel and act so often that I sometimes wonder who the "real" me is.
79. There are more good people than bad people. (3)
80. I would not like it if they used some of my tax money to keep up a park that I never use.

CHECK TO BE SURE THAT YOU HAVE JUST COMPLETED QUESTION NUMBER 80.

A = AGREE STRONGLY
B = AGREE SLIGHTLY
C = DISAGREE SLIGHTLY
D = DISAGREE STRONGLY

81. It's more important for a job to pay well than for a job to be very interesting.
82. If you can trust a person in one way, you know you can trust him in all ways.
83. It is not hard to give a talk in front of other people.(3)
84. I would not mind working closely on a job with a person whose nationality is different from mine.(2)(3)
85. It is best to agree with others, rather than say what you really think, if it will keep the peace.
86. I wouldn't like it if a lot of girls my age become lawyers, engineers and business managers.
87. People who work for the city should not have to pay traffic tickets because they already do so much for the city.
88. Nobody knows what I'm really like.
89. The world is full of people who enjoy making a fool of you.
90. If there is only one copy of a book everyone wants to read, the person who gets it first should be able to keep it as long as he wishes.
91. Very often I forget work I am supposed to do.
92. I am not good at describing things in writing.
93. I wouldn't like to spend the weekend in the home of a friend whose parents don't speak English.
94. I don't know whether I like a new outfit until I find out what my friends think.
95. If we limit the amount of money people can earn, we take away some of their freedom.
96. Your friends should be willing to lend you anything you want.
97. I am not really accepted and liked.
98. If a sign in a park says "Do not pick the flowers - They are here for all to enjoy," you can pick a few if you have a good personal reason.
99. If I had a choice, I would prefer a blood transfusion from a person of the same nationality as mine.(2)
100. If we don't encourage women to work, we are seriously reducing what the country could accomplish.(3)

CHECK TO BE SURE THAT YOU HAVE JUST COMPLETED QUESTION NUMBER 100.

ANSWER SHEET

Please fill in the following particulars before you start answering the questions.

Surname: _____ First Name: _____

Sex: _____

Date of birth: _____ day _____ month _____ year

Age: _____ Years _____ Months.

QUESTIONNAIRE

Mark, A : AGREE STRONGLY
B : AGREE SLIGHTLY
C : DISAGREE SLIGHTLY
D : DISAGREE STRONGLY

- | | |
|-------------|-------------|
| 1. A B C D | 16. A B C D |
| 2. A B C D | 17. A B C D |
| 3. A B C D | 18. A B C D |
| 4. A B C D | 19. A B C D |
| 5. A B C D | 20. A B C D |
| 6. A B C D | 21. A B C D |
| 7. A B C D | 22. A B C D |
| 8. A B C D | 23. A B C D |
| 9. A B C D | 24. A B C D |
| 10. A B C D | 25. A B C D |
| 11. A B C D | 26. A B C D |
| 12. A B C D | 27. A B C D |
| 13. A B C D | 28. A B C D |
| 14. A B C D | 29. A B C D |
| 15. A B C D | 30. A B C D |

Turn over

Mark A : AGREE STRONGLY
B : AGREE SLIGHTLY
C : DISAGREE SLIGHTLY
D : DISAGREE STRONGLY

31. A B C D
32. A B C D
33. A B C D
34. A B C D
35. A B C D
36. A B C D
37. A B C D
38. A B C D
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100. A B C D