ATTRIBUTIONAL STYLES OF PUPILS IN THE MOLOPO REGION

By

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ABSTRACT

The major objective of this study was to observe attributional patterns of pupils in middle and high schools in the Mmabatho region. The study used a Random Sampling Technique to select the sample for standards 5 to 10 male and female pupils. Each group was divided on the basis of socio-economic status.

The study used Rotter's (1966) Internal-External Locus of Control scale, which deals with the person's perception of contingency relationships between their own behaviour and events which follow such behaviour.

Use was also made of the Achievement Motivation Questionnaire by Pottas, Erwee, Boshoff, and Lessing (1980) to ensure the need for achievement levels of pupils.

The results were analysed using the Chi Square Test and the student's t-test of analysis with the independent variables identified as socioeconomic status, gender, age and school achievement, and the dependent variables being attributional styles, locus of control and need of achievement. Subsequently, intercorrelations between the different scales was performed to test the reliabilities of the scales. A Principal Factor Analysis with Varimax Rotation was executed to elicit all factors which might have given rise to the highest variance in explaining the cause of specific attributional patter

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1. INTRODUCTION

The foundations of attribution theory were laid by Heider in his extensive discussion of the phenomenology of social perception (Heider, 1944, 1958). Attribution theory deals with the causal explanations that individuals construct for their own behaviour and the actions of others.

Following the lead by Heider (1944; 1958) and Rotter (1966) studies in the attribution theory indicated differences in the causal attributional process by different individuals. In essence it was viewed that individuals tend to locate the cause of behaviour within a person, attributing it to internal factors, thus, ascribing the causes for behavior to personal dispositions, traits, abilities, and feelings. On the other hand people may make external attributions, thus ascribing the causes of behaviour to situational demands and environmental constraints (Jellison & Green, 1981; Bradley, 1978).

Bernard Weiner and his colleagues included the stable-unstable dimension to the internal-external dimension in explaining behaviour (Weiner 1974; Weiner, Heckhausen, & Meyer, 1972). Thus they claimed that individuals tend to attribute their success or failure to ability, effort, task difficulty and luck. These causes were classified on two dimensions: locus of control (later called locus of causality) and stability. Within the first dimension, ability and effort were considered

internal since they originate within the person, while task difficulty and luck were seen as external, as they originate outside the person. Within the second dimension, ability and task difficulty were seen as stable, since they do not change over time, while effort and luck were considered unstable, since they may fluctuate from time to time. Weiner (1980) eventually also added a third dimension - the controllability of events - to his model.

Each of these dimensions was said to have implications for thought and actions (Weiner, 1979). For example, attribution of success or failure to stable causes - ability and task difficulty - should result in an expectation of similar future outcomes. Attribution of success or failure to unstable causes - effort and luck - should not lead to expectations of similar future outcomes.

There are, however, certain biases involved when making attributions. When actors and observers explain the causes of behaviour, they make different attributions regarding the actor's behaviour. This is known as the "fundamental attribution error" where observers have a tendency to overestimate the likelihood that an actor's behaviour reflects personal qualities rather than situational factors. Thus actors attribute the behaviour externally whereas observers are more likely to explain the same behaviour with internal attributions (Jones & Nisbett, 1971, Watson, 1982).

In attempting to explain success and failure the self serving bias in attribution comes into play, where people tend to attribute their successes to internal or dispositional properties while failure is externally attributed (Weary & Arkin, 1981; Bae & Crittenden, 1988;).

The actor-observer biases are apparent in explaining failure. Actors tend to make external attributions, blaming their failures on unfavourable situational factors, while observers attribute the same failures to the actors' personal shortcomings (Ibid).

In explaining success, the actor-observer differences are reversed to some degree, that is to make an internal attribution for getting a high score in the exam and point to the person's ability or hard work (Forsyth & Mcmillan, 1981). Thus people have a tendency to attempt to enhance their self-esteem by taking credit for success and denying responsibility for failure.

As can be seen in the above theories, attributions are complicated, and they have important implications for how people see themselves and others.

Thus, the aim of this research was to investigate the attributional patterns of pupils in the Molopo District. The variables to be studied will be socioeconomic status, gender, age and, school achievement.

1.1 STATEMENT OF THE PROBLEM

There appears to be paucity of literature on attributional styles amongst children, although several studies have been conducted with adults. Thus, we do not yet fully understand how children actually make attributions in the classroom situation or what causal explanations they make for those attributions. Another problem is that hardly any research has been made locally although there appear to be studies conducted on children in foreign countries (Bar-Tal & Darom, 1979; Bar-Tal, Raviv, Raviv & Levit, 1981; Bar-Tal, Raviv, Raviv & Bar-Tal, 1982; Frieze & Snyder, 1980; Bar-Tal, Goldberg & Knaani, 1984). Consequently, there is a lack of knowledge in this area of research in South Africa. A literature search on attribution has also confirmed this specific defect.

A further problem is that several studies have looked into gender differences in attributional styles of adults (Ratnam, 1992; Lochel, 1983; Lee, 1986) but hardly any research has been made relating to gender differences in attributional styles of children.

Attributional research has also relatively neglected the investigation of causal perceptions of different socioeconomic groups in the South African context. However, few experiments have been made in comparing attributions of socioeconomic class in laboratory settings in other countries, but the results were not conclusive (Friend & Neale,

1972; Falbo, 1975; Raviv, Bar-Tal, Raviv & Bar-Tal, 1980; Bar-Tal, Goldberg & Knaani, 1984).

It is therefore clearly edvident that there is a lack of knowledge in our understanding of attributional patterns of South African children as well as in our understanding of how the variables gender, age, school achievement and socioeconomic factors could influence the attributional patterns of South African pupils.

The present study seeks to investigate whether there are any differences in the attributional styles, locus of control orientation and achievement motivation levels of pupils relative to socioeconomic background, gender, age and school achievement.
Precisely because the concepts achievement motivation and locus of control are related to attributional styles, they will be included in the study to obviate their influence.

Therefore, the following research questions are pertinent:

What is the influence of socioeconomic status, gender, age, and school achievement on attributional styles?

How are the foregoing variables related to locus of control, and need for achievement?

1.2 PURPOSE OF THE STUDY

The main objective of this research was to study the attributional styles, orientation of the locus of control and the achievement motivation levels of pupils in the Molopo District in order to establish whether there are any differences in the above mentioned respects based on socioeconomic status, age, school achievement and gender differences amongst pupils in the Mmabatho-Mafikeng region. The main variables in this study are socioeconomic status, age, gender, and school achievement.

HYPOTHESES:

1. There will be differences in the attributional styles of pupils relative to:
   - 1.1 socioeconomic background;
   - 1.2 gender;
   - 1.3 age levels; and
   - 1.4 school achievement.

2. There will be differences in internal and external locus of control for pupils relative to:
   - 2.1 socioeconomic background;
   - 2.2 gender;
   - 2.3 age levels; and
   - 2.4 school achievement.

3. There will be differences in the need for achievement levels of pupils relative to:

   3.1 socioeconomic background;

   3.2 age levels;

   3.3 gender; and

   3.4 school achievement.

Since there is high concordance between locus of control and attributional styles (Rotter, 1972) i.e. people with an external locus of control will attribute phenomena externally and the converse obtaining to people with an internal locus of control, there is need to include the concept of locus of control to obviate its effect.

2. REVIEW OF RELATED LITERATURE

Attribution theory deals with the causal explanations that individuals construct for their own behaviour and the actions of others. It is, therefore, important to examine the subjective causal explanation and their subjective meaning in order to be able to understand how they affect behaviour (Heider, 1958; Jones Kanouse, Kelley, Nisbet, Valins, & Weiner, 1972).

Several researchers claim that there are distortions and shortcomings of individual perceivers in their attempts to infer causes for their own and other's actions, attitudes and feelings (Fischhoff, 1976; Ross, 1977). In particular, there has been a continuing interest in the impact of motivational factors on cognition. Consistent with the existence of a motivational bias in social perception, researchers have shown that individuals tend to attribute their successes to their own efforts, abilities, or other dispositions, while they attribute their failures to bad luck, task difficulty, or a variety of other external factors (Arkin, Gleason, & Johnston, 1976; Luginbuhl, Crowe, & Kahan, 1975).

This self-serving attributional bias has also been demonstrated in several other studies (Bradley, 1978; Snyder, Stephan, & Rosenfield, 1978; Miller, 1976; Zuckerman, 1979).

Specifically it has been suggested that people attempt to enhance their self esteem by taking credit for success and denying responsibility for failure (Nicholls, 1975; Riemer, 1975)

A few studies, however, have found a counterdefensive pattern in which actors attribute their successes to external factors and their failures to internal causes (Beckman, 1973; Ross, Bierbrauer, and Polly, 1974). Research has shown that what actors say about the causes of their own outcomes influences audience evaluations of them (Tetlock, 1980). Sagatun and Knudsen, (1982) claim that by conforming to attributional norms, people can manage their self-presentation and, ultimately, the approval they receive.

Research regarding achievement motivation has demonstrated that perceptions are important mediators for understanding individual differences in achievement oriented behaviour. People differ in their causal explanations for success and failure, and the attributions made in a particular achievement situation have been shown to affect both expectancies of how well one will do in the future and ones' feelings of pride and shame (McMahan, 1973; Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971;)

Several studies have demonstrated that subjects with high need for achievement tend to attribute success to ability and effort (internal causes) and failure to lack of effort (internal-unstable cause). These

individuals also perceive themselves as having high ability. Individuals with low need for achievement tend to attribute success to various causes, without any clear preference and they attribute failure to lack of ability (internal stable cause), (Weiner, 1974).

Kukla (1972) demonstrated that men with a high achievement motivation (HM) tend to attribute their successes to both their high ability and effort, while they perceive their failures as due to lack of effort. Their attribution of failure to lack of effort would lead to their trying harder in the future and thus readily explains the motivating effects of failure for high- achievement-motivated males which has been noted in previous research (Weiner, et. al.,1972). High achievement motivation is generally associated with higher estimates of personal ability (Kukla, 1972). Low-achievement-motivated men (LM) are less likely to see their successes as due to internal causes, but see failures as caused by their low ability (Weiner & Kukla, 1970). These patterns suggest that males with high achievement motivation feel more pride in their successes and are motivated to work harder when they fail, while those with low achievement motivation feel less pride in success and tend not to persist in failure situations (Weiner, et. al., 1972).

A number of studies have reported some differences in the categories of causes used by females as compared to males in explaining their successes and failure. Women appear to make attributions which

result in their feeling less pride and more shame and which produce low expectations for success (Frieze, 1976). Studies have also shown that women rely more than men upon luck as a causal explanation for both success and failure (Simon & Feather, 1973). These findings refer to achievement within areas such as academic achievement and imply that for these types of achievement, women, because of their high use of external luck as a causal explanation, take less responsibility for and feel less pride in their successes and less shame about their failures.

Data on high- and low-achievement-motivated males indicate that there are wide variations in the attributions made by different men and that achievement motivation is an important variable in understanding these differences. According to Bar-Tal and Frieze (1977) high-achievement women are clearly different in many other ways from more traditional women, since achievement is not considered feminine, given the stereotypes of femininity held by most people in society (Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972). Observations of professional women have shown that they work very hard and are highly motivated to succeed.

Bar-Tal and Frieze (1977) investigated the attributional patterns of high- and low-achievement-motivated women (HW and LW) and compared these patterns with those of men. The study found that subjects in the success condition perceived themselves as having higher

ability, trying harder, being luckier and as believing the task was easier than subjects in the failure condition. Successful subjects also evaluated their performance as more successful, were more satisfied with their performance and had higher expectancies for future success than subjects who experienced failure.

High-achievement-motivated subjects tended to have significantly higher estimates of their abilities than low-achievement-motivated subjects, and viewed the task as less difficult. There were few sex differences independent of achievement level.

The prediction of significant differences between the groups in use of effort attributions was not confirmed, although HM made relatively higher ratings of ability compared to effort for success when compared with the other three groups. Also, HM rated the task as easier than LM, and HW rated the task as easier than LW.

Thus, the results indicated that there are meaningful individual differences in causal attributions as a function of sex and achievement motivations. Both these factors need to be considered together and sex alone does not account for a large proportion of the variance. Thus Bar-Tal and Frieze (1977) claimed that research should not be limited to testing for overall sex differences but should also look for other meaningful differences within groups of male and female subjects

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Thomson (1990), claimed that the way in which an individual perceives problems depends on their level of need to achieve.

Erwee (1986) noted that people with a high need for achievement are important in entrepreneurial training, if it is combined with an internal locus of control. Results of early studies on sex differences on need for achievement in the USA have been contradictory. Several studies in the USA found that females were generally more interested in affiliation than in achievement (Veroff, Wilcox & Atkinson, 1953; Veroff, 1969; Crandall, 1963). Stein and Bailey (1973) disagreed and claimed that although females were motivated by a need to achieve there are differences between males and females because females want to conform to societies' expectation of their sex role and thus their expressions of achievement will be different.

Hoffman (1972, 1974) and Horner, (1968, 1972) used projective Thematic Apperception Tests (TAT) and found that cues for stories which featured males rather than females would not encourage a need for achievement in females. Other studies in the USA used stories featuring females, however there still was a lower level of need for achievement amongst American females as compared to males.

The researchers claimed that achievement-related situations lead to both a hope for success and a fear of failure. Horner (1968) found

that females had a 'tendency to avoid success', thus this would lead to inhibiting achievement directed behaviour because females would feel threatened by the possible negative consequences of success. She noted that tasks, which were traditionally seen as masculine tasks, would lead to an inner conflict in females, if they attempted to succeed in such tasks, because it would clash with a feminine self-concept. Tangri (1972), suggested that this motive to avoid success be internalized during the childhood socialization process.

Thus, Horner (1972) concluded that women in the USA had a fear of success, whereas this trait was not found among their male counterparts. Studies also indicated that women generally fear success in competitive situations (1970, 1972a, 1972b). They indicated that competitions were seen as aggressive behaviour and as masculinity, by females and thus may lead to social disapproval. Research in the USA has shown that fear of success may be an inhibiting factor for need of achievement in females.

Another inhibiting factor that has been linked to gender differences in achievement behaviour is 'learned helplessness' that begins in childhood. This phenomenon is characterized by an ascription of success to unstable factors such as effort and/or luck and failure to stable factors such as ability or task difficulty. Some children 'give up' in problem-solving situations when confronted with the possibility of failure, mastery oriented children, on the other hand, show increased

persistence in the face of failure (Diener & Dweck 1978; Dweck & Repucci, 1973). Several studies noted that attributional differences underlie this phenomenon of learned helplessness (Diener & Dweck, 1978; Dweck & Repuccci, 1973; Klein Fencil-Morse & Seligman, 1976). They found that the attribution of failure to external, stable factors or lack of ability is related to increased helplessness. On the other hand, attributions to controllable internal factors have been associated with mastery orientation.

Studies have shown that females are more prone to a learned-helplessness response than males (Erkut, 1983; Gannon, Heiser, & Knight, 1985; McMahon, 1982; Nicholls, 1975; Parsons, Meece, Adler, & Kaczala, 1982; Pasquella, Mednick, & Murray, 1981) especially for tasks involving mathematics (Dweck & Licht, 1980).

Eccles, Adler, and Meece (1984) claimed that girls may tend to show learned helplessness symptoms when confronted with a male stereotyped subject (such as mathematics), whereas boys may be more prone to exhibit learned helplessness symptoms when confronted with a female stereotyped subject (such as language skills). However, their research results did not support their hypothesis. Consistent with other studies, there were no sex differences on either the students' math and English grades or on their performance on standardized tests of verbal and math ability at the beginning of the study (Eccles, Adler,

Futterman, Goff, Kaczala, Meece & Midgley, 1983) sex differences on these performance measures do not typically emerge until the high school years. However attitudinal differences for mathematics, typically emerge in the junior high school years, thus Eccles, Adler and Meece selected those grades for study.

The study by Eccles, et. al. (1984) found very little consistent evidence of sex differences for learned helplessness or on the attribution patterns believed to underlie this phenomenon for either math or verbal tasks. Thus Eccles et. al claimed that it is important to establish empirically, rather then inferring the positive or the negative consequences of attributions and expectancies on actual behaviour and also inferences regarding sex differences in learned-helpless behaviour based on verbal indicator should be made with great caution. They found that the girls' expectancies started as high as boys' and recovered to the same levels as the boys' following failure, and the finding that the girls worked just as long as the boys during the failure trials, support the self-presentation interpretation of sex differences in verbal report measure of confidence in one's abilities. Other studies also support this interpretation (Berg, Stephan, & Dodson, 1981; Gould & Sloane, 1982).

Several studies have shown that girls have lower expectations of success than boys, and girls' lower expectations are unrealistic in light of children's actual performances (Dweck, Goetz & Strauss, 1980,

Parsons & Ruble, 1977). Several studies have noted that girls are more prone than boys to attribute their failures to insufficient ability (Dweck, et. al, 1980; Frey & Ruble, 1987; Nicholls, 1979; Phillips, 1984) and are less likely than boys to attribute their successes to high ability (Nicholls, 1980; Wolleat, Pedro, Backer & Fennema, 1980), however, other studies have shown that gender differences do not appear in all intellectual achievement situations. Girls show a lower expectancy when there is ambiguity regarding success, for example, when tasks are unfamiliar and when past performance feedback is infrequent or uncertain (Crandall, 1969; Lenney 1977; Nicholls, 1975; Parsons, Meece, Adler & Kaczala, 1982; Miller, 1986).

Dweck and Licht (1980) claimed that novel and confusing concepts in junior high and high school math is likely to increase uncertainty of success. They noted that by adolescence girls should show less confidence than boys in their math abilities, but not in their verbal abilities. Other studies claim that the lower confidence of girls' is due to the fact that society view math as a "male domain" and thus this characteristic pattern of sex differences in attributions would be most likely to emerge in math (Daly, Bell & Korianek, 1987; Marsh, Smith, & Barnes 1985; Ryckman, & Peckman, 1987; Stipek, 1984). According to Marsh, Smith, & Barnes, (1985) gender differences in math are found among children of fifth and sixth grades. Other studies claimed that these differences only emerge at a later stage when children reach seventh grade (Meece, et. al., 1982; Stevenson

& Newman, 1986). Thus, Licht, Stader, & Swenson (1989) did a pilot study to see whether gender differences would emerge in math and science. It was found that sex differences in attributions did not emerge in math. In social studies and science, girls were more likely than boys to attribute their failures to low ability, and girls were less likely than boys to attribute their successes to high ability. There were no gender differences in report card grades for any of the academic areas.

Licht, et al (1989) investigated whether gender differences in achievement-related beliefs were likely to appear in academic areas where success was less certain, and to determine whether in late elementary school, success appeared to be less certain in social studies and science than in math or readings. The researchers claimed that in many elementary schools the teachers spend less instructional time and give fewer assignments in social studies and science than in the other areas. The school district places more importance on math, reading and language skills during elementary school, district officials give teachers specific goals to accomplish in these areas, which are clearly communicated to the children. Teachers are given less specific goals for social studies and science which may lead to greater uncertainty in the goals communicated to the children and greater ambiguity, thus less exposure to social studies and science and the likelihood of more uncertain goals and grades should make success more uncertain.

From their pilot study they predicted that boys' self-confidence would be higher than the girls' self-confidence in social studies and science, but not in math or reading. However, they expected that girls' actual performances would be at least as good as boys' performances in all areas (Dweck Goetz & Strauss, 1980; Stevenson & Newman, 1986). The results showed that girls' rated themselves as less smart than boys in social studies and science, but not in math or reading. The study found no sex differences in any academic area in the children's expectations for their next report card and also no gender differences emerged in the actual grades received. They found significant gender differences in children's causal attributions, however, contrary to their expectations these differences did not differ across academic areas. The girls were more likely than boys to attribute their failures to low ability and they were less likely than boys to attribute their successes to high ability. Girls were more likely than boys to attribute their successes to an easy task. Children showed more vulnerable attributions for social studies and science than for math a or reading which according to Licht et. al. (1989) suggested that in areas where feedback was infrequent or uncertain, even boys may show vulnerability. Thus, the finding was that boys' self-ratings of smartness were lower in social studies and science than in math and reading. However, these differences were not significant for boys. Differences were found between high and low achievers. The fact that high achievers were more likely than low achievers to show the "self-serving bias" (i.e. the tendency to attribute one's successes to ability more

frequently than ones' failure) further supported the argument that this tendency is not a "biased" attempt to protect one's self concept of ability (Marsh, 1986a; Nicholls, 1975). When students have demonstrated high ability, demonstrating this tendency shows that they are rational and unbiased.

Licht et. al (1989) claimed that it is important to examine children's achievement-related beliefs in different academic areas (Byrne & Shavelson, 1986; Marsh, 1986b) rather than assessing only their generalized achievement related beliefs.

Stipek (1984) noted that there may be gender differences in attributions for success and failure in different content areas and she suggested that these differences would be greater for tasks in which males were believed to be more competent than females. In her investigations in classroom tests on spelling and mathematics she found that more girls than boys were likely to attribute failure on a mathematics test to ability. There was no difference in actual performance on the spelling test, however boys did not show the same kind of self-derogating attributional bias in this test as girls did on the mathematics test. These attributional biases suggest that girls perceive themselves to be relatively inadequate in math, however, these attributional biases cannot be explained by actual performance differences between boys and girls. Boys and girls who subjectively rated their outcome as successful missed about the same number of

problems. Also, there were no significant differences between the number of problems missed by boys and girls who rated their performance as failure.

Dweck and Licht (1980) suggested that girls' more self-derogating attributional bias is, partly due to the differential teacher feedback to girls and boys. These researchers claimed that girls received a higher proportion of negative feedback directed toward the quality of their academic performance than did boys. Most of the boys' negative feedback was directed toward misbehaviour or performance irrelevant to the intellectual quality of their work. They noted that teacher feedback to girls' produced self-derogating attributions.

Other explanations for gender differences in math but not spelling may be that attributions reflect the perceived sex-role appropriateness of the task (Nicholls, 1980). Stipek (1984) claimed that girls may see ability in math as having less value than did the boys and thus paid less attention to feedback indicating competence.

Licht and Dweck (1984) evidenced that learned-helpless children were debilitated when confusing, nonrelevant material was presented to them. There was no difference in learning between learned-helpless and mastery-oriented children when the confusing material was removed. They noted that mathematics is more likely to pose difficulties at the beginning of the units and thus be more difficult for

learned-helpless students. Dweck and Licht (1980) suggested that there would be gender differences on the attributions for success and failure between content areas.

The results of Ryckman and Peckham (1987) indicated that girls and boys differed in their attributions for achievement situations which was consistent with prior research (Cooper, Burger, & Good, 1981; Erkut, 1983; Licht & Dweck, 1984; McMahon, 1982; Pasquella et. al., 1981; Stipek, 1984). Generally, girls tend to choose more effort attributions than do boys, whereas boys choose more ability and luck attributions than do girls.

On the math/science tests, girls tended to attribute their successes more to effort than they did their failures. Boys showed little difference between the success and failure on their effort attributions and were considerably lower than girls on success but about equal on failure. For ability attributions, the pattern was different. Girls were less likely to attribute their successes to ability than they were likely to attribute failures to ability. Boys followed the same pattern but to a far lesser extent and attributed successes more often to ability than did the girls. These findings were consistent with the results of Wolleat, Pedro, Becker, & Fennema (1980).

Effort and ability are both internal attributions, but effort is unstable, whereas ability is stable. To attribute success to an unstable attribution

and failure to a stable one is a learned- helplessness characteristic (Diener & Dweck, 1978, 1980; Dweck & Gilliard, 1975; Dweck & Licht, 1980; Nicholls, 1975; Weiner, 1980; Woleat et. al., 1980). According to Ryckman and Peckham (1987) girls with such a pattern would not be expected to have high expectations for success in math/science subjects.

Thus the results showed that girls had a more learned-helplessness pattern for math/science than did boys. In language arts, however, both were somewhat mastery oriented. The question of the content-area differences in attributions was still a subject for debate. Stipek (1984) claimed that the sex-role appropriateness was the primary source of content-area-differences. This might explain the pattern of attributions of girls in mathematics, however did not answer why boys did not reflect a reciprocal devaluation in language arts - a more female-valued task. Dweck & Licht (1980) noted that the poor attributions of girls in mathematics were due to differential teacher feedback.

Licht & Dweck (1984) demonstrated that learned-helpless children were far more debilitated by confusing material than were the mastery-oriented children. They suggested that math is a subject in which confusion is more likely in the early stages than would be the the case for language arts.

Another factor to consider in individual differences in helplessness may be that some individuals have this trait or are predisposed to or it may be due to the context area.

Thus the results agreed with previous research which suggested that girls had a more learned-helpless orientation in math/science than did boys. In language arts, however, both were somewhat mastery oriented. Overall, both reflected a more adaptive pattern in language arts than in math/science.

According to Scott-Jones, (1984), the environment in which parents and children live are important in understanding the family's influence on cognitive development and academic achievement. She suggested that there is a need to define the conditions under which the family may have to cope for a better understanding of family's influence on cognitive development and academic achievement. A family-environment definition is possible if it is accepted that social status groups are not homogeneous in relation to experiences provided for children (Brewer & Haslum, 1986; Snipp, 1985). According to Kahl (1961) it is possible to identify "getting by" and getting-ahead" families in the lower middle class group. In the former type, families are allowed to enjoy themselves while they were young. They were encouraged to stay in school, as a diploma was important to get jobs and were allowed to choose their own curriculum. Whether they would continue to college education was not often considered. In the

"getting ahead' families, on the other hand, parents applied pressure at the beginning of their children's school careers, children were encouraged to achieve well to succeed in their future careers.

Marjoribanks (1987) proposed that for children from different family groups there are variations in relations among their ability, attitudes toward school and academic achievement.

Results of her study indicated that children from the middle status/getting by (MS/GB) and lower status/getting ahead(LS/GA) groups had cognitive scores that were not significantly different from each other. Girls from both groups and boys from LS/GA families, however, scored significantly higher on the academic achievement tests than did children form the LS/GB group.

Her initial results showed the presence of family-group differences in children's ability, attitudes toward schools and academic achievement. There were significant gender group differences in the attitude measures of three of the family groups. Girls from each family group had significantly more positive affective school attitudes than did all boys, except for boys from MS/GB families. Boys from the LS/GB families had significantly lower cognitive attitudes toward schools than attitudes in the other groups.

For boys, in the middle status family groups, MS/GA families, affective attitude was not related significantly to math scores at any ability level. In contrast, for boys in MS/GB families, increases in affective attitudes were related to decreases in math performance. The study showed that when children were classified into different family groups, there were family and gender variations in the relations among ability, affective attitudes and mathematics achievement.

For girls in the middle-status groups, cognitive attitudes were not related to word knowledge at different ability levels. In contrast, in the two lower status groups, increases in girls' cognitive attitudes were related to increases in word-knowledge scores at each ability value. For boys, on the other hand, cognitive attitudes were associated with word knowledge in the MS/GA and LS/GB family groups. In the MS/GB group, boys' cognitive attitudes had positive associations with math achievement at low ability levels and negative relations at high ability levels.

The results of the study thus, indicated that if families are defined on basis of social status and the child's environment is identified according to "getting ahead and getting by" groups, then there are moderate family-group differences in children's word performance and more modest differences in their ability, attitudes toward school, mathematics achievement and also that ability and school attitudes

have different relations to academic achievement for boys and girls from the different family groups.

Thus the family may be critical in influencing the relations between the children's attitudinal and cognitive attributes and their academic achievement.

Thus Marjorbanks (1987) suggested that in educational research family groups are critical and assessing parent-child interaction is important to see the relations between children's' individual characteristics and their academic achievement.

Thomson (1990), compared the achievement motive of male and female school children in the Pretoria and Witwatersrand area. He investigated whether there were any sex differences regarding the motive to achieve and whether there were any possible inhibiting motive. The results were compared with those of studies done in the United States of America. Contrary to expectations, based on studies done in the USA, no significant difference could be found between males and females in respect of need for achievement. Thomson's fear of success results did not support findings by Horner (1972) conducted in the USA. In the overall picture Thomson found that with South African adolescents there was a relative absence of fear of success imagery in both female and male story responses. Thomson concluded that these results were due to differences between

American and South African youths. However, there was a negative correlation between female need for achievement and fear of success, thus, agreed with findings of Horner which suggests that fear of success may be a factor in inhibiting need for achievement scores of females. He claimed that although fear of success did occur among South Africa females, it may not be the same as in America, but the effects appeared to be similar.

Thus, their results did not support previous studies done abroad and they found no significant differences in need of achievement between males and females. The study by Thomson also did not find that female scores on fear of success exceeded those of males. Thus, the fear-of-success hypothesis has been criticized. Various other interpretations have also been given to the findings and it is claimed that social changes, such as the liberation of women, may have made the concept less relevant (Erwee, 1986).

Thomson (1990), claimed that several studies related need of achievement or fear of success to socialization practices, however they neglected to relate it to personality factors. Thus Thomson investigated these factors with regard to need for achievement and fear of success in respect of both males and females.

Results showed that females were far more outgoing than their male counterparts. Males were more assertive and happy-go-lucky but

females were more conscientious. Both males and females were similar regarding respect of venturesomeness, tough-mindedness, practical, suspiciousness and shrewdness. There was a positive male relationship with assertiveness and negative relationship with tension. Females were distinctly more apprehensive but more self-controlled than the males. Females need for achievement was associated positively with intelligence, emotional stability and experimenting disposition. Erwee, (1986) claimed that this positive relationship could provide useful insight in our understanding of the type of female who is achievement oriented. The relationship between motive and personality means that there are ways of gratifying achievement need to the females concerned. The study showed that none of the male 16 Personality Factors reflected a significant correlation with need for achievement.

Erwee (1981)investigated the level of achievement motivation in Black South African male and female students by using the Achievement Motivation Questionnaire (AMQ) constructed by Pottas, Erwee, Boshoff, and Lessing (1980). He found that Black males obtained higher scores than females on only two of the five AMQ subfactors, viz. Aspiration level and Personal causation. Pottas (1981) using the same scale, found no significant sex differences in achievement motivation but found that Black male and female university students obtained higher scores than their White counterparts.

Attribution of causality and locus of control of reinforcement are related concepts. Locus of control is a specific element of attribution of causality to either external or internal forces. An internal orientation refers to the individuals' belief that one felt events could be controlled from within, whereas an external orientation reflects the belief that events are independent of their own behaviour and are the result of forces beyond their control such as luck, fate and powerful others.

Several researchers have accepted Rotter's (1966) definitions of internal and external orientations (Barling, 1980; Erwee & Pottas, 1982; Gilbert, 1980; Reimanis & Posen, 1980; Riordan, 1981). However, some researchers have argued that the meaning of externality has been confused, since causality may be attributed to various other phenomena which Rotter has not taken into account, such as economic determinism, religious fatalism or the power of ancestors (Collins, 1974; Gilbert, 1980; Lefcourt, Von Bayer, Ware and Cox, 1979). Other researchers used the Collins I-E Scale and found different factor structures for American and Rhodesian students (Ryckman, Posen and Kulberg, 1978). Thus they claimed that researchers should exercise care in cross-cultural research involving the locus of control construct since its components may have different meanings in different cultures.

Reimanis and Posen (1980) used the following dimensions of the Rotter Scale to study locus of control in Western and African groups.

Personal Control - referring to an individual's perception of the degree to which he or she has control over his or her fate; Control Ideology - denoting the degree to which a person perceives that people in general have control over their fate; Systems Control - representing one's perception of the degree to which ordinary people can have an influence on political decisions."

Riordan's (1981) investigated the locus of control (LOC) orientation of Black, Colored, Indian and White South African students and pupils. While ethnic group was the variable of central importance other variables on LOC orientation, such as socioeconomic (SES), sex and age were also explored.

The results showed significant differences in the LOC expectancies of the four ethnic groups. These findings add support to previous research that has cited minority group membership race and ethnicity as important variables in the LOC differences. Unlike American or European political structures, a minority population controlled South Africans politically and legislatively. The White students were significantly more internal than the other populations tested. Sex- and age-related differences were also found, but socioeconomic status-related differences were absent. According to Riordan (1981)

the absence of SES-related differences in LOC, both for the total population and for the ethnic groups would indicate that in South Africa the different socioeconomic strata within ethnic groups apparently have similar expectancies for control and, that ethnic group membership has an overriding influence on the LOC of South African students.

Results of previous research regarding gender differences in LOC have been contradictory. Although significant differences in LOC were obtained when the total population of Riordan's study was tested, with the males being more internal than the females, none of the ethnic groups showed significant differences of this kind.

Supporting previous research, the LOC results of the 19- to 21-year-old students were significantly more internal than those of the 15- to 17-year-old pupils, who were still living at home, thus supporting the hypothesis (Lao, 1970; Nowicki & Strickland, 1973) that there is an increase in internal LOC from youth to adulthood, probably associated with greater mastery and control of the environment.

The findings indicated the usefulness of Rotter's original Scale as a measuring instrument for South African populations. She cautioned however, that, because of dimensionality of the scale, the most fruitful use of it may be in the examination of item clusters rather than a

global score. Riordan (1981) also noted that a considerations of wider sociocultural factors characterizing the individual's environment can contribute to a better understanding of his perception of control, or lack of it, over his own destiny.

Moodley-Rajab and Ramkisoon (1979) indicated that Black and Indian male and female students do not differ significantly on Locus of Control, whereas White females were generally more external than White males. Munro (1979) also supported these findings. Riordan (1981) claimed that the results of previous research regarding gender differences in locus of control have been contradictory. In her own research, significant sex differences were obtained when the total sample was tested, with males being more internal than females. Within the four ethnic groups (White, Indian, Coloured and Black) the differences were not significant.

McClelland, Atkinson, Clark and Lowell (1953) suggested that people who have a high need for achievement tend to have a belief in their own ability to control the outcome of their efforts. Rotter (1966) postulated that internals would show more striving for achievement than externals. Brockhaus (1975) referred to a number of studies which verified that internals have a higher level of need for achievement than externals.

Erwee(1986) investigated the interrelationship between achievement motivation and locus of control. Previous studies have focused on Whites and Indians in South Africa. Thus, Erwee conducted his study with Black university students. The findings showed no significant gender differences in the total scores obtained on the Locus of Control and Achievement Motivation Scales. This confirmed previous findings by Pottas (1981) regarding Black students' achievement motivation. Riordan (1981) also found that no gender differences occurred with a Black subsample.

However in the study by Erwee (1986), the females seemed to be more action orientated than the males. The study by Erwee supported the hypotheses that a relationship exists between need for achievement and locus of control as constructs. Although a significant relationship existed between the AMQ and I-E total scores, not all the various dimensions of the construct are as significantly intercorrelated.

No significant differences in Locus of Control were found in the dimensions Personal Control and Control over Social Relationships. The female students tended to be less convinced that they exert control over political events than their male counterparts. In studies which only calculate the I-E total score, no significant gender differences were found (Moodley-Rajab and Ramkissoon, 1979; Riordan, 1981). However, when responses were factor-analyzed

(Strickland & Haley, 1980) more subtle differences in beliefs about locus of control seemed to emerge.

The students' average AMQ score was slightly lower than that of their norm group (Pottas et. al., 1980) but still relatively higher than the average scores obtained by comparable groups of White students. Thus, these results indicated that Black students' level of achievement motivation are contrary to commonly held stereotypes, but again support the findings of Erwee (1981) and Pottas (1981). These findings by Erwee (1986) thus, challenge the stereotyped held belief that males are more motivated to achieve than females. In fact, the females viewed themselves as being more action-orientated than the male students.

Very few studies have looked at the attributional patterns of different socioeconomic groups. A few experiments have been done in laboratory settings, but the results were not conclusive.

Friend and Neale, (1972) studied attributional patterns of children who were equally divided on the basis of race and social class. The results revealed that regardless of socioeconomic status, White children tended to judge internal causes to be more important than external causes, especially following failure feedback. Black children, on the other hand, judged external causes to be more important than internal causes.

Falbo (1975) instructed five-year-old children to listen to a taped story about a child assembling a puzzle, and thereafter asked them to ascribe causality either to the successful or unsuccessful completion of the task. The study found that middle-class children tended to explain successful or unsuccessful completion of a task more in terms of effort than did lower-class children.

Several studies have demonstrated that subjects with high need for achievement tend to attribute success to ability and effort (internal causes) and failure to lack of effort (internal-unstable cause) (Kukla, 1972; Weiner, 1972, 1974,). These individuals also perceive themselves as having high ability. Individuals with low need for achievement tend to attribute success to various causes, without any clear preference and they attribute failure to lack of ability (internal stable cause) (Weiner, 1974).

Raviv, Bar-Tal, Raviv and Bar-Tal (1980) compared the achievement motivation patterns of attributions of pupils from three different social groups regarding academic performance in actual classroom settings. The "advantaged" pupils were from the upper middle class, the "integrated" group was from the lower middle class and the "disadvantaged" pupils were from the lower class.

The findings in the study only partially supported their original hypotheses, that advantaged students would attribute success to internal-stable causes and failure to internal unstable causes, that disadvantaged students would attribute failure to internal-stable causes and the integrated group would show no clear preferences, sharing tendencies of the other groups. The results did not show the clear distinction they would expect regarding success, but there were clear distinctions regarding failure. The researchers felt that the findings indicated that attributional patterns do characterize social groups.

In making comparisons within each group Raviv, et. al. found that in the case of success all three groups of pupils (not just the advantaged group) tended to make higher attributions to internal rather than external causes and to stable rather than unstable causes. In the case of failure, advantaged pupils tended to make higher attributions to internal rather than external causes, while both disadvantaged and integrated pupils tended to make higher attributions to stable rather than unstable causes.

The results resembled findings regarding the literature of attributional differences between individuals with high- and low-need for achievement which indicated that the main difference between the two groups existed in the case of failure, and in the case of success, the difference was not consistent (Weiner, 1974). The findings regarding success and failure revealed some interesting differences regarding the

attribution of stable causes. The advantaged pupils, more than the disadvantaged ones, tended to attribute success to stable causes while disadvantaged pupils tended to attribute failing more to stable causes than the advantaged pupils.

Bar-Tal, Goldberg and Knaani (1984) investigated causes as expressed by both male and female children of the lower and middle class for explaining their academic success and failure. Because the study by Raviv et. al. (1980) found that socioeconomic status influenced attributional patterns and not ethnic origin, the study by Bar-Tal et. al.(1984) only referred to socioeconomic status influences.

The selection of pupils for the study by Bar-Tal, et. al, (1984) was done based on the following two criteria:

(i) Average number of people per room in a household (below 1-5 vs above 2) and ,

(ii) Father's education (below 8th grade vs about 12th grade).

Subjects were drawn from a school termed "disadvantaged" (the Israeli Ministry of Education classifies schools as disadvantaged on the basis of established formal criteria because the pupils there were mostly from a lower-class population). The second school was termed "advantaged" by the researchers because the pupils were mostly from upper-middle class population.

Their findings were that the majority of "advantaged" and "disadvantaged" students considered "preparation for a test at home" as a cause for success and failure. They did not find any gender differences in their study. Both groups indicated that "arousal during a test" explains failure. These results partially replicate the findings of Frieze (1976), Cooper and Burger (1980), and Bar -Tal Ravgad and Zilberman (1981) which found that individuals frequently use effort attributions. These studies found that pupils also used ability and mood as causal explanations of outcomes. The results of the study by Bar-Tal, Goldberg and Knaani (1984), showed that the repertoire of causes may differ from group to group.

Previous studies have indicated sex differences in attributional patterns of men and women. These studies showed that females tend to prefer external causal attributions and to employ more luck attributions than do males, and that females, in general rate their ability less highly than do males (Bar-Tal & Frieze, 1977; McHugh, Frieze, & Hanusa, 1982; Parsons, Meece, Adler, & Kaczala, 1982; Dweck, Davison, Nelson, & Enna, 1978;). Lochel (1983) found that, by the time children enter school, girls already show a pattern of attributions that is clearly self-derogatory in its consequences and contains indications of "learned helplessness".

Ratnam (1992) investigated attributional patterns of male and female students at the University of Bophuthatswana and found no significant

differences between attributional styles of male and female subjects. His results, thus, conflicted with findings of previous research which found that males were more internally attributive than females (Feather, 1969). There was also no significant correlation between the student's academic scores and their attributional pattern.

Lee (1986), found that Nontraditional women had a more self-enhancing pattern of attributions than traditional women. Traditional women had a greater tendency than nontraditional women to attribute success to external factors in cases of feminine tasks, and to attribute success to luck if the task was seen as a traditionally masculine one. Traditional women saw outcomes on the masculine tasks as due more often to luck than did nontraditional women.

Some researchers claim that females have less confidence in their abilities to perform successfully because parents and others do not encourage them to achieve (Lenney 1977; Maccoby and Jacklin 1974). Whereas, others claim that females have higher levels of fear of success and fear of failure and thus are more likely to attribute both their successes and failures to external factors (Feather, 1969; Simon & Feather 1973; Wiley and Crittenden 1980). Other studies have found that it is because females have lower expectancies to perform as well as men (Deaux 1976; Frieze, Fisher, Hanusa, McHugh, & Valle 1978).

Deaux and Emswiller (1974) found that performance by a male on a masculine task was attributed to skill, whereas an equivalent performance by a female on the same task was seen to be more the result of luck.

Differences in attributional patterns have also been related to the variable of race. Hewstone (1983) in his investigations in the study of the attributional approach to race relations claimed that the majority group might shift the attributional locus to "explain away" positive behaviour of negatively viewed minority groups. (According to Van der Merwe(1971) the term 'minority group refers to any subgroup within a culture which is singled out for differential and unequal treatment and who, therefore, regard themselves as objects of collective discrimination). Hewstone claimed that minority group members may need to preserve their self esteem and thus attribute their failure to the discriminating behaviour of others, whether it is a dominant group or the "system". Hewstone and Jaspars, (1982a), claimed that social group membership influences attributions we make about others as well as our own attributions.

Thus Louw and Louw-Potgieter (1986) studied attributional patterns of different ethnic groups in South Africa. They investigated whether the three different ethnic groups, "Indians", "Whites", and "Blacks" would make different causal attributions for their own

achievement-related behaviour and also to see whether there were any gender differences in achievement-related attribution.

Members in the South African society were divided into various ethnic groups because of the past system and these racial divisions also lead to separate universities for the different populations. Thus the researchers expected different types of attributional patterns for the student's own performance of achievement tasks. They used eight causal attributions to see whether there were any cross-cultural and gender differences, and also possible differences between the success and failure patterns.

The study found that subjects in all three groups attributed their achievement more to their own efforts than to ability, luck or context.

In the case of the eight causal attributions of Weiner (1979) the study by Louw, Louw-Potgieter failed to show a clear distinction among the three dimensions stability, control, and locus, especially when the attributions were broken up in terms of success-failure attributions. All three groups attributed their success to stable (ability, interest), controllable (effort, interest), and internal (ability effort, interest), as well as unstable (effort, luck), uncontrollable (ability, luck), and external (luck) causes. In terms of gender the study found that females attributed their marks more to internal factors than males. These results were not supported by previous research (Bar-Tal & Frieze, 1977; Dweck et. al., 1978; Murray & Mednick, 1975;

Nicholls, 1975), which reported an external attributional pattern for females.

Cross-cultural differences in attributions were found where White students made the lowest attributions to uncontrollable causes. Louw and Louw-Potgieter (1986) noted that this may have been due to the majority group members who may perceive themselves to be in control of their environment and not being subjected to uncontrollable factors regarding their achievements. However, the study also showed that black students ascribed their success more than their failure to two controllable factors (prejudice of the lecturer and unusual help from others). It was discovered that the black sample was taught by black lecturers only, thus the researchers claimed that the results may have been due to in-group favouritism corresponding with Hewstone and Jaspars' (1982a) idea of minority group perceiving itself in intergroup terms. Regarding the external/internal dimensions, there was no clear distinction between the three groups. However, it was found that the White students made the lowest attributions to external causes, while the Black students, attributed their scores more to external factors than the other two groups. Louw and Louw-Potgieter noted that this finding may have been due to the fact that the White group, because of their majority status, did not seem to be in need of ego-defensive, external attributions, whereas the black students, because of their then political minority group status, needed these ego defensive external

attributions to maintain a positive self-esteem (Hewstone & Jaspars 1982b).

Numerous investigations have demonstrated that American and Israeli females are less likely to see their successes as the outcome of their own ability (Bar-Tal, & Darom, 1979; Dweck, 1975; Dweck & Repucci, 1973). According to the Coleman report (Coleman, 1966) among minority students academic achievement, a sense of control over the environment was positively associated with academic achievement. Research has evidenced that American Blacks are less likely than Whites to take responsibility for successful results, and that they are especially prone to attribute task outcomes to good or bad luck (Friend & Neale, 1972; Murray, Mednick, 1955).

According to Watkins, (1982) these findings suggests that females and Blacks may perform below their true abilities in a classroom situation because of their patterns of attribution.

Bonifacio (1977) claimed that Filipino students explaining their success or failure in examinations have the tendency to ascribe success to luck whereas they attribute failure to bad luck. Bonifacio claimed that a dominant value-orientations of the Filipino is the belief that life is determined by forces outside their control. Angeles (1979) argued that this does not mean that they are resigned to their fate and that they will not do anything to alleviate their problems. She claimed that

the Filipinos accept their lot and believe that by hard work they will achieve a better future. Thus, it appears that Filipino children are more prone to use "luck" attributions than would Western children.

Guthrie (1977) however, found that the majority of Filipino men and women, even from rural areas, showed "modern" rather than "traditional" attitudes. Most of the subjects focussed on the need for education, hard work, and saving rather than relying on luck to improve their lives. Guthrie did not find any sex differences in these attitudes. In one study it was found that Filipino students ascribed possible success more to internal factors of ability and effort rather than to external factors, but attributed possible failure equally to these factors.

Watkins studied the causal attributions for performance of rural Filipino children in a school examination. The results showed that male and female students in the failure condition were less likely to attribute their poor results to ability or effort. Effort and luck attributions were rated more important by males than by females. There was no evidence of any gender differences in the self-evaluation of their academic performance.

All four sources of attribution, ability, effort, luck and task difficulty was rated as being of almost equal importance. Luck, although rated more important than in Western studies (Frieze, 1979; Arkin &

Maruyama, 1979), was considered the least important, but similar to the attributional styles of Filipino college students found by Watkins and Astilla (1980). The males tended to rate unstable factors, effort and luck, as more important than did the females. Students in the failure conditions were the least likely to use internal ascriptions, consistent with the self-serving bias hypothesis. The results thus supported the Filipino literature that the outlook on life of Filipinos, even from deprived situations tends to hold an optimistic view of life and are prepared to work hard and strive for educational qualifications for themselves and their families in the belief that they will attain a more prosperous future.

Weary & Arkin, (1981) demonstrated that people tend to attribute their successes to internal factors (ability and effort) and their failures to external factors (task difficulty and luck). However, this self-serving attributional bias was demonstrated among White subjects in the United States, thus, Whitehead & Smith (199) did a research to determine whether Black college students also attributed their outcomes to effort. Their study demonstrated a self-serving attributional bias for both races. However, there were racial differences in their patterns of attribution. Blacks attributed their outcomes more to effort than did Whites, whereas Whites attributed their outcomes more to the task than did Blacks. Another study by Graham (1986), found that Black children attributed their successes to effort.

Research by Weiner, Heckhausen, Meyer and Cook (1972) has shown that locus of control and stability dimensions have been confounded in the locus of control literature. Internality has been linked to a stable dimension (ability) as well as to an unstable dimension (effort). Similarly, externality is linked to both a stable (task difficulty/contest) and an unstable dimension (luck).

Attribution to an unstable dimension can lead to behavioural predictions that are in opposition to those of a stable attribution, even though both the unstable and stable attributions could be to an internal ascription (Weiner, 1979).

Thus, Dweck (1975) found that students are more likely to alter in the future performance that had led to failure in the past if it was attributed to immediate effort (unstable) rather than to ability (which is relatively stable). Since both effort and ability are internal attributions, internality per se may be less powerful as a predictor of goal-directed behaviour than the more specific causal attribution of effort, found in the Dweck and Repucci (1973) study.

Lefcourt (1978) claimed that goal specific multi-attributional assessment should be made in which differentiations are made between success and failure, internality-externality, stability-unstability, and achievement-affiliation. Most locus of control scales tend to confound

these. For example, within the achievement domain, ability (internal, stable), effort (internal, unstable), context (external stable) and luck (external, unstable) attributions were differentiated for success and failure. Effort attribution for positive outcomes is motivated by pursuit for rewards, whereas in negative outcomes, effort is motivated in order to avoid punishment. Weiner and Kukla (1970) claimed that it may be because indices of responsibility for success and failure have been shown to be relatively independent of each other.

Chandler, Shama, Wolf & Planchard (1981) investigated the attributional patterns of university students from India, Japan, South Africa, the United States and Yugoslavia. Subjects across all countries attributed their success significantly more than their failures to ability, effort, luck and overall internality. Conversely, they believed their failures more than their successes were the result of the context and more variable causes.

Subjects reported a higher average of personal responsibility for successes, than for failures. While they believed the factors that contributed to both successes and failure were more variable than stable, this average was significantly higher for failures.

Differences between the success and failure conditions for each country were all significant, indicating subjects from each country attributed their successes more than their failures to their own ability.

All countries except the United States believed that their failures more than successes were due to contextual factors. Subjects from all countries except India believed that luck contributed more to their success than to their failure. Subjects from all countries except Japan assumed significantly more personal responsibility for their achievement successes than for their failures.

The results of the study by Chandler et. al., (1981) clearly support the differential attribution model for success and failure. Except for Japan, students in the other countries attributed their achievement success significantly more to internal causes than was the case with their achievement failures, which support the ego-enhancing hypotheses (Bradley, 1978; Miller and Ross, 1975). The results showed that students were significantly more likely to attribute success to their own effort or ability whereas for achievement failures, lack of effort was the most important attribution. These attributions for success are self-serving according to Chandler et. al, (1981) because they convey a sense of power. Also they claim that attributing failure to lack of effort may be self-serving in that one is much more likely to attempt to be successful in the future. They noted that this is likely because attributions to effort are not only internal, but also unstable and thus subject to change by the individual. In the failure condition, context (external) emerged as the second most cited attribution in

contrast to ability (internal) which emerged as the second most cited attribution for success.

The study also supported the stability dimension in the attribution model, subjects attributed their failures more than their successes to unstable causes; however, both success and failure were attributed more to unstable than stable factors. These findings also partly supported other studies which found Oriental countries more external than Western countries. However, did not distinguish attributions for success and failure. The study showed that the Japanese, compared to the other four countries in the study were the most internal in causal ascriptions for failures and least internal for successes.

Chandler et. al. (1981) claimed that the results in their study may be a reflection of Japanese socialization patterns where honour and duty are at stake. Success may reflect one's duty to family and larger social structure, external to the individual. In contrast, in failures there may be greater personal burden which might reflect the high degree of both responsibility to and dependency upon the group, particularly the family, observed in the Japanese (Doi, 1977).

The Indians in the study had an attribution pattern which was the opposite to that of the Japanese. They were the least internal for attributing failure and the most internal for attributing success in achievement. According to Chandler et. al., (1981) this may be due

to the immobility of the caste system. According to Weiner's theory of motivation, this is the most positive combination for personal success and self-satisfaction. All countries, except Japan, took more responsibility for achievement success than failure. All countries except Yugoslavia, attributed achievement failures more strongly than successes to unstable causes. This suggests than when one fails, it may be due to internal or external variables or due to facts which can change (unstable). In contrast, subjects in Yugoslavia attributed their successes significantly more to unstable than to a stable cause.

The study by Chandler et. al., (1981) provided more possibilities for understanding the complexity of causal attribution patterns by not limiting cross-cultural comparisons to the internal-external dimension of locus of control within the achievement domain. The data supported the usefulness of stable-unstable dimension, as well as the individual attributions. The results indicated that in general, students believed their achievement performance was more the result of changeable causes (particularly effort), which would be expected to lead to a more hopeful attitude for future, performance, particularly when one has not been successful in the past. Also, the hypothesis that individuals make differential attributions depending upon the success or failure of their achievement related behaviour was clearly supported.

However, Chandler et. al. (1981) noted that attribution, success, failure, and achievement may have different connotations in different cultures (Maehr, 1980). A sample of college university student in many countries outside the United States may indeed be a privileged group not readily generalizable to others. They claimed that one needs to assess the value orientations of different cultures.

Other researchers claim that people make causal explanations spontaneously, but do not invariably think in causal terms. There appear to be two major factors in eliciting attributions - when the events are unexpected and when a negative event is experienced, such as a failure (Lalljee, Watson & White 1982; Weiner, 1985).

Thus, Weiner (1985) reviewed several studies that examined spontaneous attributional activity. The findings relieved the uncertainty regarding the prevalence of attributional thinking in everyday life. Also, there was agreement on the conditions that promote attributional search.

Staton (1984) asked children in a sixth-grade class to write dialogue journals during the course of the school year. The journal contained private conversations between each student and the teacher that were written daily in class.

Thus, they provided spontaneous thinking of children about the important events in their lives. Twenty-six dialogues were obtained at two distant times during the school year and were scored for a variety of content material including causal attributions. Results showed that each dialogue contained about one causal attribution. This characterized the statements of the children and those of their teacher. Nearly two-thirds of the causal attributions involved negative outcomes; data regarding expectancy were not reported.

The above investigation has been conducted to examine causal thinking in written material, without experimental intervention. Weiner (1985) noted that the studies may have shortcomings, such as response bias and unrepresentative sampling. However, there was consistent evidence of a great deal of attributional exposure and thinking in everyday life. Also, negative and unexpected outcomes appeared especially to promote attributional thinking.

The initial investigation making use of spontaneous verbal reports in situations where success and failure were immediate possible outcomes was done by Diener and Dweck (1978). They induced children to fail at an experimental task. The children were asked to think out loud while working. The verbalizations were then coded for a number of categories, including attributional statements. Based on the scores on the Intellectual Achievement Responsibility scale the children were placed in categories as helpless or mastery oriented. Children labeled

as helpless tend not to attribute success or failure to effort on this questionnaire, whereas mastery-oriented children tend to select effort-related alternatives.

Diener and Dweck (1978) noted that one third of the children classified as helpless spontaneously verbalized low-ability ascriptions during task performance; this did not characterize any of the mastery-oriented labeled children.

The above cited research studies have shown that individuals tend to attribute their successes to internal factors, while they attribute their failures to external factors (Arkin, Gleason, & Johnston, 1976; Luginbuhl, Crowe, & Kahan, 1975). This is called the self-serving attributional bias where people attempt to enhance their self-esteem by taking credit for success and denying responsibility for failure.

Several studies have demonstrated that subjects with high need for achievement tend to attribute success to ability and effort (internal causes) and failure to lack of effort (internal-unstable cause) and they perceive themselves as having high ability. Individuals with low need for achievement tend to attribute success to various causes, without any clear preference and they attribute failure to lack of ability (internal-stable cause), (Weiner 1974).

A number of studies have reported gender differences in explaining success and failure. Women appear to have lower expectations for success (Frieze, 1976). However Bar-Tal and Frieze (1977) claimed that high achievement women are different from more traditional women, since achievement is not considered feminine, given the stereotypes of femininity held by most people in society (Broverman, et. al, 1972). Observations of professional women have shown that they work hard and are highly motivated to succeed (Bar-Tal & Frieze, 1977).

Stein and Bailey (1973) noted that although females were motivated by a need to achieve there are differences between males and females because females want to conform to societies' expectation of their sex role and thus their expressions of achievement will be different.

Horner (1968) found that females had a 'tendency to avoid success' because they felt threatened by the possible negative consequences of success. She noted that tasks which were traditionally seen as masculine tasks, would clash with a feminine self-concept if they attempted to succeed in such tasks. Research in the USA has shown that fear of success may be an inhibiting factor for need of achievement in females.

Another inhibiting factor related to gender differences in achievement behavior is 'learned helplessness'. This phenomenon is characterized

by an ascription of success to unstable factors such as effort and/or luck and failure to stable factors such as ability or task difficulty. Studies have shown that females are more prone to a learned-helplessness response than males (Erkut, 1983; Gannon et. al., 1985; McMahan, 1982) especially for tasks involving mathematics (Dweck & Licht, 1980).

Eccles et. al., (1984) claimed that girls may tend to show learned helplessness symptoms when confronted with a male stereotyped subject (such as mathematics), whereas boys may be more prone to exhibit learned helplessness symptoms when confronted with a female stereotyped subject (such as language skills). However, their research results did not support their hypothesis.

Several studies have noted that girls are more prone than boys to attribute their failures to insufficient ability (Dweck, et. al, 1980; Frey & Ruble, 1987; Phillips, 1984) and are less likely than boys to attribute their successes to high ability (Nicholls, 1980; Wolleat, Pedro, Becker & Fennema, 1980). However, other studies claim that gender differences do not appear in all intellectual achievement situations. Girls show a lower expectancy when there is ambiguity regarding success, for example, when tasks are unfamiliar and when past performance feedback is uncertain (Parsons et. al, 1982; Miller, 1986).

Dweck and Licht (1980) claimed that novel and confusing concepts in junior high and high schools math is likely to increase uncertainty of success. Other studies claim that society views math as a "male domain" and this may lead to gender differences in attributions (Daly, et. al., 1987; Marsh et. al., 1985; Ryckman & Peckman, 1987; Stipek, 1984).

Stipek (1984) claimed that gender differences would be found in attributions for success and failure in differences content areas and she suggested that these differences would be greater for tasks in which males were believed to be more competent than females.

In her investigations she found that girls showed a self-derogating attributional pattern in case of failure on the math test, whereas boys did not show this type of attributional bias. These findings suggested that girls perceived themselves to be relatively inadequate in math, however, these attributional biases could not be explained by actual performance differences between boys and girls.

Dweck and Licht (1980) suggested that girls' more self-derogating attributional bias is, partly due to the differences in feedback by teachers to girls and boys. They claimed that most girls received negative feedback directed toward the quality of their academic performance. Most of the boys' negative feedback was directed

toward misbehaviour. Thus, teacher feedback produced self-derogating attributions.

Ryckman and Peckham (1987) found that girls had a more learned-helplessness pattern for math/science than did boys. In language arts, both were somewhat mastery oriented. Stipek (1984) claimed that the sex-role appropriateness was the primary source of content-area-differences. Dweck and Licht (1980) noted that the poor attributions of girls in math were due to differential teacher feedback.

Lochel (1983) found that, by the time children enter school, girls already show a pattern of attributions that is clearly self-derogatory in its consequences and contains indications of "learned helplessness".

Ratnam (1992) found no significant differences between attributional styles of male and female students at the University of Bophuthatswana.

There was also no significant correlation between the student's academic scores and their attributional pattern.

Lee (1986) found that Nontraditional women had a more self-enhancing pattern of attributions than traditional women. Traditional women had a greater tendency than nontraditional women

to attribute success to external factors in cases of feminine tasks, and to attribute success to luck if the task was seen as a traditionally masculine one.

Scott-Jones, (1984) claimed that the environment in which parents and children live are crucial in understanding the family's influence on cognitive development and academic achievement.

Thomson (1990) compared the achievement motive of male and female school children in the Pretoria and Witwaterrand area. He compared his results with studies done in the USA. Thomson's fear of success results did not support finding by Horner (1972) conducted in the USA. He found that with South African adolescents there was a relative absence of fear of success imagery in both female and male story responses. Thomson (1990) claimed that there were differences between American and South African youths. However, there was a negative correlation between female need for achievement and fear of success, thus, agreed with finding of Horner which suggested that fear of success may be a factor in inhibiting need for achievement scores of females. He suggested that although fear of success did occur among South African females, it may not be the same as in America, but the effects appeared to be similar.

Erwee (1981) investigated the achievement motivation in Black South African male and female students and found that Black males obtained higher scores than females on only two of the five Achievement

Motivation Questionnaire (AMQ) subfactors, viz. Aspiration level and Personal causation. Pottas (1981) found no significant sex differences in achievement motivation but found that Black male and female university students obtained higher scores then their White counterparts.

Riordan (1981) claimed that research regarding gender differences in locus of control have been contradictory. In her own research, significant sex differences were obtained when the total sample was tested, with males being more internal than females. Within the four ethnic groups (White, Indian, Coloured and Black) the differences were not significant. Moodley-Rajab and Ramkisoon (1979) indicated that Black and Indian male and female students do not differ significantly on Locus of Control, whereas White females were generally more external than White males. Munro (1979) also supported these findings. Erwee (1986) found no significant gender differences in the total scores obtained on the Locus of Control and Achievement Motivation Scales, however the females seemed to be more action orientated than the males.

The study by Friend and Neale, (1972) revealed that regardless of socio-economic status, White children tended to judge internal causes to be more important than external causes, especially following failure feedback. Black children, on the other hand, judged external causes to be more important than internal causes.

Louw and Louw-Potgieter (1986) investigated attributional patterns of three ethnic groups in South Africa,- Indians, Whites, and Blacks. Subjects in all three groups attributed their achievement more to their own efforts than to ability, luck or context.

In terms of gender, the study found that females attributed their marks more to internal factors than males. These results conflicted with previous research which reported an external attributional pattern for females (Bar-Tal & Frieze, 1977; Dweck et. al., 1978; Murray & Mednick, 1975; Nicholls, 1975).

White students made the lowest attribution to external causes while the Black students, attributed their scores more to external factors than the other two groups. The researches claimed that this may have been due to the fact the the White group, because of their majority status, did not seem to be in need of ego-defensive external attributions, whereas the Black students, because of their then, political minority group status, needed these ego defensive external attributions to maintain a positive self esteem (Hewstone & Jaspars 1982b).

Chandler, Shama, Wolf et. al. (1981) investigated the attributional patterns of university students from India, Japan, South Africa, the United States and Yugoslavia. Subjects across all countries attributed their successes significantly more than their failures to ability, effort,

luck and overall internality. Conversely, they believed their failure more than their successes were the result of context and more variable causes.

Thus, the literature has demonstrated that attributions are complicated, and they have important implications for how people see themselves and others. Additionally, there is still need to study new variables such as achievement motivation and locus of control in an attempt to understand how children, especially, make their attributions to success and failure. The relationship among the three concepts viz., attributional styles, achievement motivation and locus of control has not been clearly delineated.

3. METHODOLOGY

3.1 PARTICIPANTS

The total sample of pupils consisted of 166 pupils (113 females and 53 males) from standards 5 to 10 drawn from middle and high schools. Every fifteenth pupil was selected for the study from each school register.

A random sampling technique was used to select pupils from schools in the Mmabatho region. This region caters for pupils from rural as well as urban areas and the schools which participated in the study are located close to numerous villages. The schools selected for the purpose of the present study serve primarily lower- to middle-class families.

In the middle schools pupils from standards 5, 6 and 7 were thus randomly selected. From each standard there were 10 males and 10 females who participated in the study. Accordingly there were a total of 60 pupils who were selected from the middle school.

A sample was thus obtained by using only completed questionnaires and then separating the pupils according to socioeconomic status, standards in school, and age. Although there were an equal number of male and female pupils who originally participated in the research, the

completed questionnaires totalled 49 pupils (36 females and 13 males) for pupils from the middle school. As can be seen from the sample, there is a preponderance of females as compared to males.

From the high school, students were randomly selected from standards 8, 9 and 10. A random sample was obtained by separating the students according to standards eight, nine and ten, socioeconomic status, gender and age. The total participants from the high schools were 117 (77 females and 40 males).

Eight pupils were eliminated from the analyses because they returned their questionnaires without completing the attribution questionnaire. Thus, only 158 pupils' responses were included in the attributional analyses, instead of the original 166.

The selection of students for the present study was based on one of the criteria used in the study by Bar-Tal, Goldberg and Knaani (1984) namely the level of SES (see Appendix-A). The study took into account the occupation and education level of the parent/s as well as the number of persons per room in a household to determine the level of socioeconomic status (Bar-Tal, et. al, (1984). Consequently, there were 52 pupils from the lower socioeconomic group and 114 pupils from the middle socioeconomic group.

Table 1 below represents the respondents in terms of their socioeconomic groups by gender. It shows that the majority of participants (69%) of whom 45% were females and 24% were males, were from the middle socioeconomic group. From the lower socioeconomic group there were 23% of females and 8% males thus totaling 31% of participants in this group.

TABLE 1

TABLE OF SOCIOECONOMIC STATUS BY GENDER

SOCIO ECONOMIC STATUS	FEMALES	%	MALES	%	TOTAL	%
LOWER	38	23	14	8	52	31
MIDDLE	75	45	39	24	114	69
TOTAL	113	68	53	32	166	100

Table 2 represents female and male pupils who participated in the study in terms of their standards, i.e. Standards 5-10 / Grades 6-12.

TABLE 2

TABLE OF STANDARD BY GENDER

STANDARD	FEMALES	%	MALES	%	TOTAL	%
5	9	5	6	4	15	9
6	4	3	2	1	6	4
7	23	14	5	3	28	17
8	22	13	17	10	39	23
9	22	13	16	10	38	23
10	33	20	7	4	40	24
TOTAL	113	68	53	32	166	100

The pupils were represented in the age range of 11 to 25 years with an average of 18 years and the majority of them falling within the age group of 16 to 19 years.

The following age ranges were observed in each class: In standard 5 the ages ranged from 11 to 19 years with an average of 15. Standard 6's had an age range of 14 to 15 years and an average age of 15. The standard 7 pupils had an age range of 14 to 19 years with an (average of 17 years), whereas in standard 8 the age range observed was 15 to 23 years with an average of 19 years. In standard 9 the age range was 16 to 23 years averaging 20. In standard 10 the age ranged from 12 years to 25 years, with an average age of 19 years.

Table 3 below shows the age range of the respondents by gender.

TABLE 3

TABLE OF AGE RANGE BY GENDER

AGE RANGE	FEMALES	%	MALES	%	TOTAL	%
11-13	6	3	1	1	7	4
14-15	20	12	9	5	29	17
16-17	38	23	21	13	59	36
18-19	26	16	16	10	42	26
20-22	18	2	4	11	22	13
23-25	5	3	2	1	7	4
TOTAL	113	59%	53	41%	166	100%

3.2 INSTRUMENTS

For the purposes of this study 4 scales were used viz. Socioeconomic status scale, Attributional Scale, Rotter's Internal-External Locus of Control Scale (I-E Scale) and Achievement Motivation Questionnaire (Pottas, Erwee, Boshoff and Lessing, 1980). The researcher also used the following demographic variables: socioeconomic status, gender, age and school achievement.

3.2.1 SOCIOECONOMIC STATUS

Research suggests that socioeconomic status of the group influence attributional pattern (Raviv, Bar-Tal, Raviv & Bar-Tal; Bar-Tal, Goldberg, & Knaani, 1984).

In the present study the SES was determined using one of the criteria used in the study by Bar-Tal, et. al, (1984). The researcher took into account the number of persons per room in a household, education level of parents, and occupation of parents. Where there were 1.5 persons occupying a room per household, the education level of parent/s was standard 10 or above, and occupation was of average income the pupil was classified in the middle socioeconomic group. On the other hand, when more than 2 people were occupying a room per household, parent/s education was standard 6 or below, and

occupation was below average, the pupil was classified in the lower socioeconomic group. This questionnaire appears in Appendix A.

3.2.2. ATTRIBUTIONAL QUESTIONNAIRE

This Questionnaire (see Appendix B) was used to measure attributional patterns of the pupils. Research has shown that individuals tend to attribute their success or failure to ability, effort, task difficulty and luck (Weiner, 1974; Weiner, Heckhausen, & Meyer, 1972). Ability and effort are considered internal since they originate within the person, while task difficulty and luck are seen as external, as they originate outside the person.

Students were given the Attribution Questionnaire and asked how important the four attribution measures (ability, effort, task difficulty and luck) were in influencing their last test score.

Attributions to ability and effort indicated an internal attributional style, whereas attributing the task to luck and task difficulty indicated an external attributional pattern.

Each of the dimensions of attribution was scored on a 5-point scale with 1 indicating low effort, no ability, no luck or task easiness, in the performance of the test, whereas 5 indicated a lot of effort, high ability, task difficulty and a lot of luck in the test.

These four factors were then scored on a 5-point scale and were combined to create an internal-external dimension as done by researchers Arkin and Maruyama, (1979). Subtracting task difficulty and luck attributions from ability and effort attributions formed this dimension. The results indicated that positive scores for this measure would reflect predominantly internal attributions, whereas negative scores for this measure would reflect predominantly external attributions. Subjects' scores on these measures could range from -4 (external) to +6 (internal) with a midpoint of 0.

3.2.3 ROTTER'S (1966) INTERNAL-EXTERNAL LOCUS OF CONTROL SCALE (I-E SCALE).

The study utilized Rotter's (1966) Internal-External Locus of Control Scale (see Appendix C). This scale according to Rotter's definition of the construct deals with a person's perception of contingency relationships between his own behaviour and events which follow the behaviour. The scale consists of 29 items plus six filler questions. The subjects indicated on each item which one of the two descriptions best described him/her. As the scale is keyed in an external direction a high score (maximum = 23) indicates external locus of control and a low score (minimum = 0) indicates and internal locus of control. The construction, reliability and validity of the scale are described by Rotter (1966). Kuder-Richardson reliabilities ranged from 0,601 to

0,711 for Black Zambian and Rhodesian (now called Zimbabwean) students (Munro, 1979).

3.2.4. ACHIEVEMENT MOTIVATION QUESTIONNAIRE

On the Achievement Motivation Questionnaire (Pottas,Erwee, Boshofff and Lessing, 1980) (see Appendix D) forced-choice items are used to measure the pupils' motivation to achieve. In each item two persons, A and B are described. One of them shows achievement motivated behaviour whereas the other demonstrates the opposite tendency. The pupil has to decide whether S/he resembles A or B - thus disclosing his self-perception.

The pupils read the two descriptions in each of the 84 items and then decided which one of the two best described themselves. They indicated their choice with a cross over the letter A or B on a separate answer sheet. In the present study there was a mistake with printing of page 4 which was printed twice. Thus, there were 70 items instead of the 84 appearing in the questionnaire by Pottas et. al. (1980).

The Achievement Motivation Questionnaire is subdivided into five subfactors viz. persistence, awareness of time, action orientation, aspiration level, and personal causation. Kuder-Richardson reliabilities for the subscales ranged from 0,490 to 0,899 for Black male and female university students (Pottas, et. al., 1980).

Individuals who obtain an overall high score on all subfactors are individuals who do their best in everything which they undertake. They also strive for high personal standards of excellence and the belief that reliance on own skills and abilities is decisive in achieving success. They have a tendency to pursue their goals, are action-orientated and are aware of the necessity of effective time management.

3.3 PROCEDURE

The subjects were tested during the last two periods of the school day. In the middle school students from standards 5, 6 and 7 were placed in a large classroom. In the high school students were separated according to standards 8, 9 and 10. They were then asked to fill out the questionnaires in their respective classes. An intern student in Clinical Psychology was trained in the administration of the questionnaires and she assisted in this regard at the various schools because one of the instruments used is a classified test. The researcher explained the purpose of the study and reassured pupils of the confidentiality of their responses. They were given verbal and written instructions on how to fill in each of the 4 questionnaires (Socioeconomic Status Questionnaire, Attribution Questionnaire, Rotter's I-E Scale and Achievement Motivation Questionnaire. A cover letter was given to the pupils seeking their permission to administer the 4 questionnaires (see complete questionnaires in Appendix A to D), prior to the administration of the questionnaires.

3.4 RESEARCH DESIGN

The study is essentially quasi-experimental in nature using the Chi Square test and the t-test of analysis with the independent variables identified as socioeconomic status, gender, age, and school achievement, and the dependent variables being attributional styles, locus of control, and need for achievement.

3.4.1 ANALYSIS

Use was made of descriptive statistics to summarize biographical data. Specific techniques such as means, and frequencies were employed.

Additionally, inferential statistics, such as the Student's t-test were employed to test whether any significant differences exist between means of samples. Largely, the data collected for this study were interval and thus the use of the Student's t-test. A principal Factor Analysis with Varimax Rotation was executed to elicit all factors which might have given rise to the highest variance in explaining causes of attribution.

The Statistical Package for Social Sciences (SPSS) for windows was used in the analysis of the data.

4. RESULTS AND INTERPRETATION

4.1 ATTRIBUTIONAL STYLES BY SOCIOECONOMIC STATUS

The study found that there were no significant differences in the attributional styles of pupils relative to their socioeconomic background. The t-test of significance ($t = 1.19$; $df = 90.99$ $p = .239$) attests to this. Correlation coefficient was ($r = -.09$). The prediction that there would be differences in attributional styles between middle socioeconomic and lower socioeconomic groups, could not be supported in the study.

The current research also found that there were no significant differences within the dimensions of effort, ability, task difficulty and luck attributions between pupils from the LSE and MSE groups.

Table 4 below reveals that irrespective of socioeconomic group, subjects tend to make higher attributions to effort ($m = 4.0$) and ability ($m = 3.8$) than to luck ($m = 2.9$) and task difficulty (3.0) attributions. The average mean for effort and ability is almost 4.0, and that for luck and task difficulty is 3.0. However, as pointed out above, the student's t-test showed no significant differences between lower and middle socioeconomic groups relative to attributional styles of pupils.

TABLE 4

TABLE OF ATTRIBUTIONS BY SOCIOECONOMIC STATUS

ATTRIBUTIONS	LSE	MSE	TOTAL
EFFORT	4.2	4.0	4.1
ABILITY	3.9	3.7	3.8
TASK DIFFICULTY	3.1	2.8	3.0
LUCK	2.8	3.0	2.9

LSE MEAN = 3.5 SD. LSE = 2.113

MSE MEAN = 3.4 SD MSE = 2.149

4.1.1 EFFORT ATTRIBUTIONS BY SOCIOECONOMIC STATUS

The study found that there were no significant differences in effort attributions between LSE and MSE groups ($t = 1.06$, $df = 93.08$ $p = .294$).

Table 5 below reflects the effort attributions of lower socioeconomic (LSE) and middle socioeconomic (MSE) groups. Results of the study indicated that both LSE ($m = 4.2$) and MSE ($m = 4.0$) individuals frequently used effort attributions ($m = 4.0$).

TABLE 5

TABLE OF EFFORT BY SES

SCORE	LSE FREQUENCIES	TOTAL	MSE FREQUENCIES	TOTAL
1	0	0	1	1
2	6	12	9	18
3	9	27	29	87
4	5	20	22	88
5	31	155	50	250
TOTAL	51	214	111	444

LSE MEAN = 4.2 SD. LSE = 1.114

MSE MEAN = 4.0 SD. MSE = 1.062

TOTAL MEAN = 4.1

4.1.2 ABILITY ATTRIBUTIONS BY SOCIOECONOMIC STATUS

The study found that there were no significant differences within the ability dimension between pupils from LSE and MSE category groups (Chi square = 6.407, df = 3p, = 0.093).

TABLE 6

TABLE OF ABILITY BY SES

SCORE	LSE FREQUENCIES	TOTAL	MSE FREQUENCIES	TOTAL
2	4	8	8	16
3	14	42	39	117
4	17	68	49	196
5	17	85	18	19
TOTAL	52	203	114	419

LSE MEAN = 3.9 MSE MEAN = 3.7

TOTAL MEAN = 3.8 PHI COEFFICIENT = 0.196

4.1.3 TASK DIFFICULTY ATTRIBUTIONS BY SOCIOECOMIC STATUS

The study found no significant difference between task difficulty attributions of lower- and higher- socioeconomic groups. The t-test of significance attests to this (t= 1.24, df = 76.93 p= .218).

TABLE 7

TABLE OF TASK DIFFICULTY BY SES

SCORE	LSE FREQUENCIES	TOTAL	MSE FREQUENCIES	TOTAL
1	9	9	17	17
2	11	22	27	52
3	10	30	38	114
4	5	20	19	76
5	15	75	11	55
TOTAL	50	156	112	314

LSE MEAN = 3.1 SD. LSE = 1.507

MSE MEAN = 2.8 SD. MSE = 1.180

TOTAL MEAN = 3.0

4.1.4 LUCK ATTRIBUTIONS BY SOCIOECONOMIC STATUS

The findings showed no significant differences between luck attributions by MSE and LSE groups (t= -.81,df = 86.30 p=.420).

Table 8 below reveals the findings of luck attributions of the two socioeconomic groups. Means for the LSE and MSE groups were (m=2.8 and m=3.0) respectively.

TABLE 8

TABLE OF LUCK BY SES

SCORE	LSE FREQUENCIES	TOTAL	MSE FREQUENCIES	TOTAL
1	12	12	18	18
2	7	14	18	36
3	17	51	38	114
4	5	20	20	80
5	8	40	18	90
TOTAL	49	137	112	338

LSE MEAN = 2.8 SD. LSE = 1.369

MSE MEAN = 3.0 SD. MSE = 1.280

TOTAL MEAN = 2.9

4.2 ATTRIBUTIONAL STYLES BY GENDER

The results of the present study indicated that contrary to expectations based on previous studies, no significant differences could be detected between males and females in respect of attributional styles ($t = 1.65$, $df = 97.01$, $p = .103$). Correlation coefficient between attributional styles and gender was $r = -.13$.

Table 9 below reflects the attributional styles of males and females. It indicated that both males and females made higher effort ($m = 4.1$)

and ability (m=3.8) attributions (internal), than task difficulty (m=3.0) and luck attributions (m=2.9), which are external. The average mean for effort and ability was almost 4.0 and that for luck and task was 3.0.

There were no significant differences between the genders within the dimensions of ability, effort and luck however, on the dimension of task difficulty, the present study found that males made slightly higher attributions than females.

TABLE 9

TABLE OF ATTRIBUTIONS BY GENDER

ATTRIBUTIONS	FEMALE MEAN	MALE MEAN	TOTAL MEAN
EFFORT	4.0	4.2	4.1
ABILITY	3.8	3.7	3.8
TASK DIFFICULTY	2.8	3.2	3.0
LUCK	2.6	3.1	2.9
TOTAL	3.3	3.6	3.5

FEMALE MEAN = 3.3 MALE MEAN = 3.6

SD. FEMALE = 2.093 SD MALE = 2.201

4.2.1 EFFORT ATTRIBUTIONS BY GENDER

The results contained in Table 10 below show that there were no significant differences in effort attributions between male (m=4.2) and female (m=4.0) subjects. The t-test of significance attests to this (t= -.77, df = 108.37, p=.443).

TABLE 10

TABLE OF EFFORT BY GENDER

FEMALE EFFORT ATTRIBUTIONS	NUMBER	MEAN
442	110	4.0
MALE EFFORT ATTRIBUTIONS	NUMBER	MEAN
216	52	4.1
TOTAL EFFORT ATTRIBUTIONS	NUMBER	MEAN
658	162	4.1

FEMALE MEAN =4.0 SD. FEMALE = 1.109

MALE MEAN = 4.2 SD. MALE = 1.017

4.2.2 ABILITY ATTRIBUTIONS BY GENDER

Table 11 below reflects the ability attributions of male and female pupils. The Chi Square test of significance shows that there were no significant differences within the dimension of ability between males and females. Means reported for pupils were (m=3.7 and m=3.8) respectively. The Chi Square attests to this (Chi Square =1.349, p=0.717, df=3).

TABLE 11

TABLE OF ABILITY BY GENDER

FEMALE ABILITY ATTRIBUTIONS	NUMBER	MEAN
426	113	3.8
MALE ABILITY ATTRIBUTIONS	NUMBER	MEAN
196	53	3.7
TOTAL ABILITY ATTRIBUTIONS	NUMBER	MEAN
625	166	3.8

FEMALE MEAN = 3.8 MALE MEAN = 3.7

TOTAL MEAN = 3.8 PHI COEFFICIENT = 0.090

4.2.3 TASK DIFFICULTY ATTRIBUTIONS BY GENDER

Table 12 below indicates the task difficulty attributions by males and females. It was found that there were differences between the task difficulty attributions made by males and females (t= -2.04,df =160 p=.04). Reported means for males and females were (m=3.2 and m=2.8) respectively. The results of the study found that males found the test more difficulty than females.

TABLE 12

TABLE OF TASK DIFFICULTY BY GENDER

FEMALE TASK DIFFICULTY ATTRIBUTIONS	NUMBER	MEAN
305	110	2.8
MALE TASK DIFFICULTY ATTRIBUTIONS	NUMBER	MEAN
167	52	3.2
TOTAL TASK DIFFICULTY ATTRIBUTIONS	NUMBER	MEAN
472	162	2.6

FEMALE MEAN = 2.8 MALE MEAN = 3.2

SD. FEMALE = 1.297 SD. MALE = 1.242

4.2.4 LUCK ATTRIBUTIONS BY GENDER

Table 13 below shows that there were no significant differences between luck attributions and gender made by males and those made by females. Means reported for pupils were (m=3.1 and m=2.6) respectively. The t-test of significance attests to this (t= -1.18, df =109.18 p=.239).

TABLE 13

TABLE OF LUCK BY GENDER

FEMALE LUCK ATTRIBUTIONS	NUMBER	MEAN
279	109	2.6
MALE LUCK ATTRIBUTIONS	NUMBER	MEAN
161	52	3.1
TOTAL LUCK ATTRIBUTIONS	NUMBER	MEAN
440	161	2.7

FEMALE MEAN = 2.6 MALE MEAN = 3.1

SD FEMALE = 1.341 SD. MALE = 1.225

4.3 ATTRIBUTIONAL STYLES BY AGE GROUP

Table 14 below shows that there were differences between the attributional patterns of pupils relative to their age levels. The t-test of significance attest to this (t= 2.09, df = 156, p= .039,) . Correlation Coefficient for the relationship between attributional patterns and age groups were r= .20.

Table 15 below shows that in general pupils made higher ability and effort attributions (internal) than task difficulty and luck attributions (external).

Within the dimensions of attributions it was found that the highest ability and effort attributions (internal) were made by pupils in the age group of 11-16.

Within the dimension of task difficulty, it was found that the highest attribution was made by pupils in the age group of 17-25. Thus, older pupils found the task more difficult than the younger group.

The highest luck attributions were made by pupils in the age group of 11-16.

TABLE 14

TABLE OF ATTRIBUTION MEANS BY AGE ATTRIBUTIONS

AGE	11	12	13	14	15	16	17	18	19	20	21	22	23	24	2
ABILITY	5	17	9	52	57	141	74	77	75	40	28	19	16	4	
NO	1	4	2	14	15	37	22	22	20	9	8	5	5	1	
MEAN	5.0	4.3	4.5	3.7	3.8	3.8	3.4	3.5	3.8	4.4	3.5	3.8	3.2	4.0	4
EFFORT	0	19	4	60	55	154	83	84	81	41	28	21	20	3	
NO.	0	4	1	14	15	37	20	22	20	9	8	5	5	1	
MEAN	0.0	4.8	4.0	4.3	3.7	4.2	4.2	3.8	4.1	4.6	3.5	4.2	4.0	3.0	5
TASK	1	9	1	25	27	107	69	76	66	28	39	15	15	2	
NO.	1	4	1	30	40	37	22	21	20	9	8	5	5	1	
MEAN	1.0	2.3	1.0	1.9	1.9	2.9	3.1	3.6	3.3	3.1	3.8	3.0	3.0	2.0	1
LUCK	5	30	1	44	47	120	57	50	54	22	22	16	16	3	
NO.	1	4	1	13	15	37	22	20	20	8	8	5	5	1	
MEAN	5.0	3.3	1.0	3.4	3.1	3.2	2.6	2.5	2.7	2.8	2.8	3.2	3.2	3.0	5

TABLE 15

TABLE OF ATTRIBUTION MEANS BY AGE GROUP

AGE GROUP	ABILITY	EFFORT	TASK DIFFICULTY	LUCK
	MEAN	MEAN	MEAN	MEAN
11-16	4.2	4.1	2.4	3.2
17-25	3.7	4.0	3.3	2.7
TOTAL	4.O	4.1	2.9	3.0

4.4 ATTRIBUTIONAL STYLES BY SCHOOL ACHIEVEMENT

The study found that there were no significance differences between attributional style of pupils base on school achievement ($t = -1.60$, $df = 85.89$, $p = .114$). The Correlation Coefficient for the relationship between attributional patterns and school achievement was $r = .17$.

Table 16 below shows that there were no significant differences between high achievers (subjects who scored 65% and above in a given test) and low achievers (pupils who scored below 55% in the class test) relative to school achievement. However when scores of the attributional dimensions were calculated individually, it was found that high achievers made higher effort and ability attributions. High achievers also made lower task difficulty attributions when compared to low achievers, however, on the luck attribution dimension, high achievers made higher luck attributions than low achievers.

TABLE 16

TABLE ATTRIBUTIONS BY SCHOOL ACHIEVEMENT

ATTRIBUTION	LOW ACHIEVERS	HIGH ACHIEVERS
EFFORT	3.8	4.2
ABILITY	3.9	4.2
TASK DIFFICULTY	3.3	2.5
LUCK	2.3	3.5
TOTAL	3.3	3.6

TOTAL ATTRIBUTIONAL MEAN FOR LOW ACHIEVERS (BELOW 55%) M=3.3

TOTAL ATTRIBUTIONAL MEAN FOR HIGH ACHIEVERS (65% AND ABOVE) M=3.6

4.4.1 EFFORT ATTRIBUTIONS BY SCHOOL ACHIEVEMENT

Results of the study found that there were differences between the effort attributions of high achievers (pupils who scored 65% and above in the class test) and low achievers (those who scored below 55%).

Table 17 below shows that high achievers made higher effort attributions than low achievers Reported means for high achievers and low achievers were (m=4.2 and m=3.8) respectively. The t-test of significance attests to this (t= -1.98, df=89.30, p=.05).

TABLE 17

TABLE OF EFFORT BY SCHOOL ACHIEVEMENT

PERCENTAGE	EFFORT SCORE	NUMBER	MEAN
40-49	84	22	3.8
50-59	105	28	3.8
60-69	170	44	3.9
70-79	130	30	4.3
80-89	94	21	4.5
90-98	54	13	4.2

LOW ACHIEVERS = below 55% = 3.8 SD = 1.05

HIGH ACHIEVERS = 65% and above = 4.2 SD = 1.0

4.4.2 ABILITY ATTRIBUTIONS BY SCHOOL ACHIEVEMENT

The present study found that there were differences between the ability attributions of high and low achievers (Chi Square = 142.703, df= 150, p=0.652).

Table 18 below indicates that high achievers made more ability attributions than low achievers. Reported means for high- and low achievers were (m=4.2 and m=3.9) respectively.

TABLE 18

TABLE OF ABILITY BY SCHOOL ACHIEVEMENT

PERCENTAGE	ABILITY SCORE	NUMBER	MEAN
40-49	80	17	4.3
50-59	97	28	3.5
60-69	140	44	4.0
70-79	122	31	4.1
80-89	85	21	4.1
90-98	64	15	4.6

LOW ACHIEVERS = BELOW 55% = 3.9

HIGH ACHIEVERS = 65% and ABOVE = 4.2

PHI COEFFICIENT = .927

4.4.3 TASK DIFFICULTY BY SCHOOL ACHIEVEMENT.

The t-test of significance showed that there were differences in task difficulty attributions between low- and high- achievers ($t=3.34$, $df=121$, $p=.001$).

Table 19 below shows that in the present study high achievers made lower task difficulty attributions than low achievers. Means for high- and low- achievers were ($m=2.5$ and $m=3.3$) respectively.

TABLE 19

TABLE OF TASK DIFFICULTY BY SCHOOL ACHIEVEMENT

PERCENTAGE	TASK DIFFICULTY SCORE	NUMBER	MEAN
40-49	81	23	3.5
50-59	94	27	3.5
60-69	134	44	3.1
70-79	77	31	2.5
80-89	45	20	2.3
90-98	32	14	3.3

LOW ACHIEVERS BELOW 55% = 3.3 SD = 1.20

HIGH ACHIEVERS 65% and ABOVE = 2.5 SD = 1.27

4.4.4. LUCK ATTRIBUTIONS BY SCHOOL ACHIEVEMENT

The study found that there was a difference between high and low achievers in attributing performance on a test to luck (t= -4.94, df =120, p= .000).

Table 20 below shows that high achievers made higher luck attributions than low achievers. Reported means for high- and low-achievers were (m=3.4 and m=1.5) respectively.

TABLE 20

TABLE OF LUCK BY SCHOOL ACHIEVEMENT

PERCENTAGE	LUCK	NUMBER	MEAN
40-49	51	23	2.1
50-59	24	28	0.9
60-69	115	43	2.7
70-79	108	31	3.5
80-89	74	20	3.7
90-98	50	14	3.6

LOW ACHIEVERS BELOW 55% = 2.3 SD = 1.0

HIGH ACHIEVERS 65% and ABOVE = 3.5 SD = 1.25

4.5 LOCUS OF CONTROL BY SES

The study found that there were no significant differences in the way in which SES affects the internal and external locus of control (LOC) of pupils (t= .36, df =110.66, p= .716). Correlations between locus of control and SES was r=.03).

Table 21 shows that the lowest LOC score was 3, whereas the highest LOC score was 18. The highest possible LOC score is 23. Means for the two groups were (m=10.4 and m=10.5) respectively. The scores also indicated that the LOC scores of both groups were internal.

TABLE 21

TABLE OF LOCUS OF CONTROL BY SES

LOC SCORE	LOWER SES	TOTAL	MIDDLE SES	TOTAL
3	0	0	1	3
5	0	0	1	5
6	0	0	3	18
7	5	35	10	70
8	6	48	16	128
9	5	45	18	162
10	12	120	13	130
11	9	99	15	165
12	7	84	11	132
13	1	13	11	143
14	4	56	9	126
15	2	30	2	30
16	1	16	1	16
17	0	0	2	34
18	0	0	1	18
TOTAL	52	546	114	1180

MEAN FOR LSE POPULATION = 10.5 SD = 2.27

MEAN FOR MSE POPULATION = 10.4 SD = 2.71

4.6 LOCUS OF CONTROL SCORES BY GENDER.

The present study showed that there were no significantly differences between the locus of control scores for males and females. The t-test of significance attests to this (t= -.18, df = 90.37, p= .855) Correlation between locus of control and gender was r=.02.

Reported means for males and females were (m=10.5 and 10.4) respectively.

TABLE 22

TABLE OF LOCUS OF CONTROL BY GENDER

FEMALE LOC SCORE	MEAN
1172	10.4
MALE LOC SCORE	MEAN
569	10.5
TOTAL LOC SCORE	MEAN
1741	10.5

FEMALE LOC SCORE = 10.4 SD = 2.46

MALE LOC SCORE = 10.5 SD = 2.84

4.7 LOCUS OF CONTROL SCORES BY AGE GROUPS

The study found that there were differences between Locus of Control and the age of pupils. The t-test of significance attests to this (t= -3.51, df = 162, p= .001). Correlation Coefficient between locus of control and age group was r=.11.

The present study found that the highest LOC scores were obtained by pupils in the age range of 17-25 years old, (indicating externality), and the lowest LOC scores were obtained by pupils in the age group of 11-16 years (indicating internality). Reported means were (m=11.O and m=9.7) respectively.

The current study thus found that younger pupils were more internal than the older group.

TABLE 23

TABLE OF LOCUS OF CONTROL BY AGE

AGE	LOC SCORE	NUMBER	MEAN
11	8	1	8.0
12	41	4	10.25
13	27	2	13.5
14	137	14	9.79
15	147	15	9.8
16	333	37	9.0
17	255	22	11.59
18	244	22	11.09
19	222	20	11.1
20	96	9	10.66
21	84	8	10.5
22	48	5	9.6
23	46	5	9.2
24	18	1	18.0
25	8	1	1.0

MEAN OF 11- 16- YEAR OLD PUPILS = 9.63 SD = 2.35

MEAN OF 17-25- YEAR OLD PUPILS = 11.00 SD = 2.60

4.8 LOCUS OF CONTROL SCORES BY SCHOOL ACHIEVEMENT

The present study showed that there were no significant differences in locus of control scores between high achievers and low achievers ($t = 1.79$, $df = 93.33$, $p = .076$). Means for the high and low achievers were ($m = 10.3$ and $m = 11.2$) respectively.

TABLE 24

TABLE OF LOCUS OF CONTROLS SCORE BY SCHOOL ACHIEVEMENT.

PERCENTAGE	LOC SCORE	NUMBER	MEAN
40-49	264	23	11.5
50-59	300	28	10.7
60-69	438	88	10.7
70-79	297	31	9.6
80-89	227	21	11.0
90-98	165	15	11.0
TOTAL	1691	206	8.2

LOW ACHIEVERS BELOW 55% M=11.2 SD = 2.468

HIGH ACHIEVERS 65% AND ABOVE M=10.3 SD = 2.722

4.9 PERSONAL MOTIVATION BY SES

The study showed that there were differences between the achievement motivation level of pupils relative to their socioeconomic background. The t-test of significance attests to this (t= -2.76, df= 164, p= .006) Correlation Coefficient for the relationship between personal motivation and SES was r=.21).

Table 26 below shows that for the Lower socioeconomic (LSE) group the personal motivation (PM) mean is 36.2, whereas for the middle socioeconomic (MSE) group the motivation mean is 39.3. The highest possible PM score is 70.0.

The findings thus support the hypothesis that there will be differences in the need of achievement levels between lower- and middle-socioeconomic groups. As expected the middle socioeconomic groups were more highly motivated than the lower socioeconomic groups.

TABLE 25 PERSONAL MOTIVTION BY SES.

PM SCORE	LSE	TOTAL	MSE	TOTAL
13	0	0	1	13
19	0	0	1	19
24	1	24	0	0
25	1	25	0	0
26	1	26	1	26
27	1	27	3	81
29	0	0	3	87
30	2	60	0	0
31	3	93	1	31
32	6	192	3	96
33	2	66	6	198
34	2	68	6	204
35	5	175	10	350
36	3	108	5	180
37	4	148	3	111
38	4	152	7	266
39	6	234	8	312
40	1	40	6	240
41	2	82	7	287
42	1	42	7	294
43	1	43	6	258
44	1	44	7	308
45	1	45	5	225
46	2	92	5	230
48	1	48	5	240
49	0	0	1	49
50	1	50	1	50
52	0	0	3	156
54	0	0	1	54
56	0	0	1	56
58	0	0	0	58
TOTAL	52	1884	114	4479

TOTAL LSE POPULATION = 52 TOTAL LSE SCORE=1884

TOTAL MSE POPULATION = 114 TOTAL MSE SCORE=4479

LSE MEAN = 36.2 SD = 5.65

MSE MEAN = 39 .3 SD = 7.02

4.10 PERSONAL MOTIVATION BY GENDER.

The current study showed that there were no significant differences between the achievement motivation levels of females and males. The t-test of significance attests to this (t= -.87, p= .386, r=.08).

Reported means for females and males were (m=38.0 and m=39.1) respectively. The highest possible PM score is 70.0.

TABLE 26 TABLE OF PERSONAL MOTIVATION BY GENDER

PM SCORE	FEMALE FREQUENCY	TOTAL	MALE FREQUENCY
13	0	0	1
19	0	0	1
24	0	0	1
25	1	25	0
26	0	0	2
27	3	81	1
29	3	87	0
30	2	60	0
31	3	93	1
32	7	224	2
33	8	264	0
34	4	136	4
35	13	455	2
36	6	216	2
37	5	185	2
38	6	228	5
39	12	468	2
40	6	240	1
41	5	205	4
42	6	252	2
43	2	86	5
44	4	176	4
45	3	135	3
46	5	230	2
48	4	192	2
49	1	49	0
50	2	100	0
52	2	104	1
54	0	0	1
56	0	0	1
58	0	0	1
TOTAL	113	4291	53

MEAN PERSONAL MOTIVATION (PM)SCORE FOR FEMALES = 38.0 SD = 5.79

MEAN PM SCORE FOR MALES = 39.1 SD = 8.48

4.11 PERSONAL MOTIVATION BY AGE GROUPS.

The study found that there were no significant differences between the need of achievement levels of individuals and their age levels. The t-test of significance attests to this (t= .56, df = 134.88, p= .578, r= .05).

Table 27 below indicates that pupils in the age range of 11-16 had a personal motivation score of (m=38.7), whereas pupils in the age group of 17-25 showed a PM score of (m=38.1).

TABLE 27

TABLE OF PERSONAL MOTIVATION (PM) BY AGE GROUPS

AGE		11	12	13	14	15	16	17
PM SCORE		36	149	63	485	563	1527	917
NUMBER		1	1	4	2	14	15	67
MEAN		36.0	37.3	31.5	34.6	37.5	41.3	41.7
AGE	18	19	20	21	22	23	24	25
PM SCORE	824	757	309	288	187	187	36	35
NO.	22	20	9	8	5	5	1	1
MEAN	37.5	37.9	34.3	36.0	37.4	37.4	36.0	35.0

AGE GROUP 11-16 M = 38.67 SD = 7.609

17-25 M = 38.06 SD = 6.032

4.12 PERSONAL MOTIVATION BY SCHOOL ACHIEVEMENT.

The study found that there were no significant differences between the achievement motivation levels of pupils realtive to school

achievement. The t-test of significance attests to this (t= -.21, df = 105.98, p= .831, r= .03).

Table 28 below shows that the means for the low achievers (pupils who obtained below 55% in a given test) and high achievers (pupils who obtained 65% and above in a given test) are (m=38.5 and 38.8) respectively.

TABLE 28

TABLE OF PERSONAL MOTIVATION (PM) BY SCHOOL ACHIEVEMENT

PERCENTAGE OBTAINED	MEAN
40-49	3.6
50-59	38.0
60-69	38.0
70-79	39.3
80-89	41.2
90-98	37.5
TOTAL MEAN	38.4

LOW ACHIEVERS M = 38.5 SD = 5.869

HIGH ACHIEVERS M = 38.8] SD = 7.349

4.13 FACTOR ANALYSIS OF ACHIEVEMENT MOTIVATION SUBFACTORS, LOCUS OF CONTROL AND ATTRIBUTIONAL DIMENSIONS.

A further investigation of the interrelationship between achievement motivation, locus of control and attribution was conducted. A principal factor analysis with Varimax Rotation was done and yielded five factors. The first factor accounted 27.2% of the variance, the second factor 16.9%, the third factor 12.7%, the fourth factor 9.7% and the fifth and final factor 9.1% of the variance (see Table 30 below). The five factors extracted by principal component accounted for 76% of the total variation (see Table 31 below). Factors 1, 2 and 4 had high loadings from the dimensions of the Achievement Motivation Questionnaire (AMQ) dimensions. Factor 3 had high loadings from the Attributional Scales. Finally, Factor 5 had high loadings from Attribution, Achievement Motivation and Rotter Scales.

TABLE 29

TABLE OF VARIMAX ROTATED FACTOR MATRIX OF ACHIEVEMENT MOTIVATION, LOCUS OF CONTROL AND ATTRIBUTION

DIMENSIONS	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR4	FACTOR 5
A	.756	.248	-.029	-.050	-.146
B	.798	.036	.083	.192	-.042
C	.492	-.192	.063	-.040	.439
D	.122	.905	-.123	.028	.085
E	.105	.147	.074	.910	-.135
AA	.972	.120	.033	.074	.029
BB	.166	.797	-.057	.554	-.006
EFFORT	-.127	-.082	.856	.175	.168
LUCK	.369	-.156	.621	-.087	-.196
TASK	-.112	.180	.016	-.169	.825
ROT	-.057	-.381	-.452	.274	.458

1. A = Persistence
2. B = Time orientation
3. C = Action orientation
4. D = Aspiration level
5. E = Personal causation
6. AA = Goal directedness
7. BB = Personal excellence
8. EF = Effort
9. LUC = Luck
10. TSK = Task difficulty
11. LOC = Locus of Control

TABLE 30

TABLE OF PERCENTAGE VARIANCES BETWEEN DIMENSIONS

DIMENSIONS	COMMUNALITY	FACTOR	EIGEN VALUE	PCT OF VAR	CUM PCT
A	.659	1	2.995	27.2	27.2
B	.684	2	1.856	16.9	44.1
C	.479	3	1.393	12.7	56.8
D	.858	4	1.063	9.7	66.5
E	.885	5	1.001	9.1	75.6
AA	.967				
BB	.973				
EFFORT	.815				
LUCK	.593				
TASK	.754				
LOCUS OF CONTROL	.639				

Persistence (A), Awareness of time (B), Action orientation (C) and Goal directedness (AA) had high loadings on Factor 1. The first three dimensions viz. A, B and C also constitute the first factor of the Achievement Motivation Questionnaire (AMQ) manual by Pottas, Erwee, Boshoff and Lessing (1980). The factor of Goal directedness

(AA) is derived by adding the scores of the first three dimensions (A, B and C). Factor 1 thus reflects a component of Achievement Motivation which is Goal directedness. High scores on these dimensions indicates individuals who are intent on achieving personal goals and persevere in seeking solutions to problems. They are methodical and their behaviour is future-orientated. Time is utilized effectively to achieve goals and they are action-orientated.

Factor 2 consisted of two dimensions viz. Aspiration level (D) and Personal excellence (BB). Pottas et. al (1980) described high scores on the Aspiration level as individuals who embark on challenging tasks, take calculated risks and challenges are preferred to certainty of success. They set high standards for themselves and expect the same of others. High scores on the Personal excellence dimension is described as individuals who are motivated to achieve their goals. Such individuals depend on their skills and abilities to achieve success rather than on luck or mere effort.

Effort and luck had high loadings on Factor 3. These were Attributional Scale dimensions. High scores on the effort dimension indicates an internal pattern of attribution. High scores on the luck attribution indicates an external pattern of attribution, and these individuals explain the outcome of events in terms of luck attributions.

On the Fourth Factor there were 2 dimensions viz. Personal causation and personal excellence. The dimension Personal causation in the AMQ manual includes the conviction that control can be exerted over life events and the environment (Pottas et al, 1980). High scores on the Personal excellence dimension indicates the origin of the motive to succeed.

Task difficulty (Attributional Scale), Action orientation (Achievement motivation Scale), and locus of control (Rotter Scale) had high loadings on Factor 5. High scorers on the Action orientation dimension are described as individuals who are active and who want to use time effectively. On the task difficulty high scores indicates that the task was difficult. High scores on the locus of control indicates that the individual has an external locus of control. Thus, such individuals believe that events are independent of their own behaviour and are the results of forces beyond their control such as luck, fate and powerful others.

Personal excellence had high loadings on both Factors 2 and 4. High scores on this dimension indicates that high standards of excellence are formulated. High scorers are convinced that individuals should depend on their own skills and abilities to achieve success rather than on luck or mere effort.

5. DISCUSSION

The current study found that there were no significant differences in the attributional styles of pupils relative to their socioeconomic background, the hypothesis that there would be such differences of pupils from lower and middle socioeconomic groups was thus not supported by in this investigation.

The study also indicated that there were no significant differences within the dimensions of effort, ability, task difficulty and luck attributions between pupils from the lower socioeconomic (LSE) group and pupils from the middle socioeconomic (MSE) group. This suggests that socioeconomic status (SES) does not necessarily influence attributional styles of pupils.

These findings may, however, be partly attributed to the fact that there were more pupils represented from the middle socioeconomic group rather than from the lower SES group. Furthermore, the common educational system and the effect of mass media tends to equalise out the effects of SES. All pupils were tested in schools from the Mmabatho area, which is a semi-urban area and it is possible that if pupils from more rural areas were included in the sample the effects of SES would have been different.

From the present study it was noted that individuals frequently use effort attributions. These results confirm the findings of Frieze (1976), Cooper and Burger (1980), and Bar -Tal Ravgad and Zilberman (1981) who came to the same conclusion.

The current study also reveal that irrespective of socioeconomic status, pupils tend to make higher attributions to reffort and ability attributions than to luck and task difficulty. Accordingly, both the groups tended to make higher attributions to internal (effort, ability) rather than to external causes (task difficult, luck). These results partially confirm findings by Raviv, Bar- Tal, Raviv and Bar - Tal (1980) who found that three social groups, not just the advantaged ones tended to make higher attributions to internal rather than to external causes and to stable rather than to unstable causes.

A surprising result of the present study indicated that contrary to expectations based on previous studies, no significant differences between the attributional styles of males and females were evinced. These results support previous findings by Ratnam, (1992) on the attributional styles of students at the University of Bophuthatswana (presently University of North West). Ratnam found no significant differences in the attributional patterns of male and female students. This may suggest that the pattern stays the same irrespective of the level of study.

Other studies found that females prefer external causal attributions and employ more luck attributions than do males (Bar-Tal & Frieze 1977; McHugh, Frieze, & Hanusa, 1982; Parsons, Meece, Adler, & Kaczala, 1982; Dweck, Davison, Nelson, & Enna, 1978). These researchers also found that females, in general rate their ability less highly than do males. The present study did not confirm this finding and showed no significant differences between the rating ability levels of females and males. However, on the task difficulty attributions, the current study found that males made higher task difficulty attribution than did females. One can conclude that the findings indicated that males found the task more difficult than did females.

The results of the present study accordingly conflicted with previous research done in other countries and which found that males were more internally attributive than females (Feather, 1969; Rotter, 1972). It is possible that following a lapse of time between the time some of these findings were published and the present ones, male-female relationships have drastically changed. Females have become more independent. It is also possible that there may be differences between male-female attributional styles between South African youths and those from other countries. The present political climate in the country has led to more emphasis on the rights of individuals and especially those of females, thus it could lead to females having better confidence in their own efforts and abilities to perform tasks.

The findings that both males and females made higher effort and ability attributions than task difficulty and luck attributions was partly confirmed by findings of Louw and Louw-Potgieter (1986) who found that subjects in all three ethnic groups they studied attributed their achievement more to their own efforts than to ability, luck or context.

The results of this study also show that there were no significant differences within the dimensions of effort attributions between the genders. This was confirmed by findings of Bar-Tal and Frieze (1977). There was also no significant differences within the dimensions of ability and luck attributions between male and female pupils. On the task difficulty attributions, there were differences between the genders. Males found the test more difficult than females.

The study supported the predictions regarding age differences in the use of attributions. There were differences in attributional styles between age levels relative to the dimensions of ability, effort, task difficulty and luck.

Contrary to predictions pupils in the age group of 11-16 made higher ability and effort attributions than pupils in the age group of 17-25.

Regarding the task difficulty dimension there were also age related variations. The older pupils made higher task difficulty attributions than the younger pupils. Thus, older pupils found the test more difficult than the younger ones.

Younger pupils in the age group of 11-16 made higher luck attributions than older pupils in age group of 17-25.

The findings where older children made lower ability attributions and higher task difficulty attributions could be due to the fact that these pupils were older than their peers in the classroom. The pupils in the age group of 20-25 were much older than would be expected from pupils in Standards 5-10/Grades 6-12. Thus these pupils may have failed in previous standards and thus had lower ability levels and found the task more difficult than their peers.

The study found that attributional style of pupils was not correlated to school achievement. There were no differences between the attributional styles of high achievers (pupils who achieved 65% and above in a given test) and low achievers (pupils who scored below 55% in a given test). However when the dimensions of attribution was taken into account, it was found that there were differences between low and high achievers relative to effort, ability, task difficulty and luck.

High achievers made higher effort and ability attributions when compared to low achievers. The finding that high achievers made higher ability attributions than low achievers were confirmed by results of Kukla (1972) who noted that high achievement motivation is generally associated with higher estimates of personal ability. In the present study high achievers also made lower task difficulty attributions when compared to low achievers, thus they found the task easier than low achievers. However, on the luck attribution dimension, high achievers made higher luck attributions than low achievers. These results partly confirm findings by Bar-Tal and Frieze (1977) who claimed that subjects in the success condition perceived themselves as having higher ability, being luckier and as believing the task was easier than subjects in the failure condition.

Findings of the present study indicated that there were no significant differences in the way in which socioeconomic status affects the locus of control (LOC) scores of pupils.

There was no support for the position that lower socioeconomic (LSE) pupils generally score in a more external direction than middle socioeconomic (MSE) pupils. In fact, the present study found that both MSE and LSE groups' scores were internal.

Thus the hypothesis that there would be differences in internal and external locus of control for pupils from different socioeconomic groups was not supported by this study.

The findings regarding LOC and socioeconomic background were also supported by the study of Riordan (1981). She investigated the locus of control orientation of Black, Colored, Indian and White South African students and pupils and found sex- and age-related differences, but socioeconomic status-related differences were absent.

The findings show that Rotter's original Scale is a useful instrument, however as cautioned by Riordan (1981), more benefit can be derived if item clusters are examined rather than a global score.

The hypothesis that there will be differences in external and internal LOC between males and females was not confirmed by this study. There were no significant differences between LOC and the gender of the individual. The present study found that both males and females indicated an internal LOC score. Reported means for males and females were (m= 10.5 and m= 10.4) respectively.

Riordan (1981) found no sex differences occurred. The maximum score on Rotter's (1966) Internal-External Locus of Control (I-E Scale) is 23 indicating externality whereas the minimum score is 0 indicating internality. In the study of Erwee (1986) the mean locus

of control score was 6.69. In their study, however only sixteen of the original 23 items were used. In the study by Moodley-Rajab and Ramkisoon (1979) all 23 items were utilized and the mean score obtained by South African black students was 10.60 -13.44. In the presence study the mean locus of control score optained by male and female pupils was 10.5.

These studies support findings of previous researchers who found that in studies which only calculate the I-E total score, no significant sex differences were indicated (e.g. Moodley-Rajab and Ramkissoon, 1979; Riordan 1981). However, when responses were factor-analysed (e.g. Stricland & Haley, 1980) more subtle differences in beliefs about locus of control seemed to emerge. Results of previous research regarding gender differences in LOC have been contradictory. Although significant differences in LOC were obtained when the total population of Riordan's study was tested, with the males being more internal than the females, none of the ethnic groups showed significant differences of this kind.

The present study investigated only the total I-E scores and it is recommended that possible gender differences on the different dimensions of the Rotter Scale be investigated .

The present study supported the hypothesis that there will be age related differences in LOC scores of pupils. The highest LOC scores (m=11.00) were obtained by pupils in the age group of 17-25 years old indicating externality. The lowest LOC score (m=9.63) was obtained by pupils in the age group of 11-16 years old indicating internality. Thus, older pupils showed an external LOC, whereas younger pupils were more internal on their LOC score.

These findings do not support previous research studies (Riordan,1981; Lao, 1970; Nowicki & Strickland, 1973) which found that there is an increase in internal LOC from youth to adulthood. Riordan found that LOC results of the 19- to 21-year-old students were significantly more internal than those of the 15- to 17-year-old pupils, who were still living at home.

The current study however, found that pupils in the age group of 11-16 years were more internal than pupils between the age group of 17-25 years. The difference between the present LOC scores and those found by Riordan may be due to the fact that in the present study pupils in the age group of 20-25 were much older than would be expected from pupils in Standards 5-10/ Grades 6-12.

The present investigation found no significant differences between the locus I-E scores relative to school achievement. It was found that there were no differences between high and low achievers. Reported

means for high and low achievers were (m=10.3 and m=11.2) respectively.

Results of this study show that there were differences between the achievement motivation level of students relative to their socioeconomic background. The personal motivation (PM) mean for the LSE population was 36.2, whereas the PM mean for the MSE group was 39.3. The maximum possible score for the total Achievement Motivation Questionnaire in the present study is 70.0, indicating high motivation level and the minimum score is 0 indicating no motivation thus, a mean of 35 is possible).

The findings confirm the hypothesis that the MSE group showed a higher motivation level than the LSE population.

The predictions that there will be differences between the need of achievement between males and females was not supported.

The achievement motivation means for males and females were (m= 39.1 and m=38.0) respectively. This shows that there were no significant differences between males and females based on need for achievement.

These findings support previous results by Pottas (1981) who used the same scale and found no significant sex differences in the achievement motivation levels of students, however he found that Black male and female university students obtained higher scores than their White counterparts. Thomson (1990) also found no significant differences between males and females in respect of need for achievement.

The present study did not look at the differences between males and females individually on each of the five Achievement Motivation Questionnaire (AMQ) subfactors, but took into account the total AMQ score for males and females.

The study found that there were no significant differences between the need of achievement levels of individuals based on their age levels.

Pupils in the age group of 11-16 had a personal motivation score of (m=38.7), whereas pupils in the age group 17-25 showed a PM score of (m=38.1).

The present study found that there were no significant differences between need of achievement of pupils relative to their school achievement. Means for high and low achievers were (m=38.5 and 38.8) respectively. Thus, contrary to expectations, there were no

differences in achievement motivation level between high and low achievers.

A further investigation of the interrelationship between achievement motivation, locus of control and attribution patterns was conducted. A Principal Factor Analysis with Varimax Rotation was done and yielded five factors. The five factors extracted by principal component accounted for 76% of the total variation.

Factors 1, 2 and 4 had high loadings from the dimensions of the Achievement Motivation Questionnaire (AMQ). Factor 3 had high loadings from the Attributional Scale. And Finally Factor 5 had high loadings from the Attributional Scale, Achievement Motivation Questionnaire, and Rotter Scale.

Factor 1 reflected a component of Achievement Motivation which is Goal directedness. High scores on these dimensions indicate individuals who are intent on achieving personal goals and persevere in seeking solutions to problems. Their behaviour is future-orientated and time is utilized effectively to achieve goals and they are action-orientated.

Factor 2 consisted of two dimensions from the Achievement Motivation Questionnaire and these individuals embark on challenging tasks and set high standards for themselves. They depend

on their skills and abilities to achieve success rather than depending on luck or mere effort.

Factor 3 consisted of Effort and Luck attributional dimensions. This factor indicated individuals who exhibit an internal pattern of attribution (effort). They see effort as important in performance of tasks. They also indicated an external pattern of attribution (luck attribution) and they explain the outcome of events in terms of luck attributions.

Factor 4 had high loadings from two dimensions of the AMQ Questionnaire. The Personal Causation dimension indicated individuals who believed that control can be exerted over life events and the environment and the Personal Excellence dimension indicated the origin of the motive to succeed.

Factor 5 had high loadings from the Attributional Scale (Task difficulty), AMQ Questionnaire (Action orientation), and Rotter Scale. This Factor included individuals who are active and use time effectively. An external locus of control indicated that such individuals believe that events are independent of their own behaviour and are the results of forces beyond their control such as luck, fate and powerful others.

In conclusion, from the findings above, it can be seen that factor three is best used with attributional styles.

6. CONCLUSIONS

The hypothesis that there would be differences in the attributional styles and LOC orientation of based on SES of the pupil was not supported by the data in the present study, however regarding achievement motivation the study supported the prediction that there would be differences relative to SES.

The study also showed that there were no significant differences within the dimensions of effort, ability, task difficulty and luck attributions between pupils from the lower socioeconomic (LSE) group and pupils from the middle socioeconomic (MSE) group.

These findings may partly be attributed to the fact that there were more pupils represented from the middle socioeconomic group as opposed to the lower SES group. Furthermore, the common educational system and the effect of mass media tends to equalize out the effects of SES. All pupils were tested in schools from the Mmabatho area, which is a semi-urban area and it is possible that if pupils from more rural areas were included in the sample the effects of SES would have been more clearer. Future research should look at more subjects from rural areas, to make a better representative of the lower socioeconomic groups.

Regarding the LOC scores of pupils, there was no support for the position that lower socioeconomic (LSE) pupils generally score in a more external direction than middle socioeconomic (MSE) pupils. In fact, the present study found that both MSE and LSE groups' scores were internal.

The results of other studies have been equivocal with regard to the effects of SES on LOC, possibly because researchers have failed to factor analyse the data.

The findings show that Rotter's original Scale is a useful instrument, however as cautioned by Riordan (1981), more benefit can be derived if item clusters are examined rather than a global score.

As hypothesized the results of the current study showed that there were differences between need of achievement motivation of pupils relative to their socioeconomic background. The personal motivation (PM) mean for the LSE population and the MSE group was 36.2 and 39.3 respectively.

As hypothesized the study found that the MSE group showed a higher motivation level than the LSE population.

Contrary to expectations the findings of the present study found no support for the predictions that there would be differences in

attributional styles, locus of control orientation and achievement motivation based on gender differences.

The results of the present study conflicted with previous research which found that males were more internally attributive than females.

There were no significant differences between LOC and the gender of the individual. The present study found that both males and females indicated an internal LOC score. Reported means for males and females were (m= 10.5 and m= 10.4) respectively.

The current study investigated only the total I-E scores and it is recommended that possible gender differences on the different dimensions of the Rotter Scale be investigated .

The predictions that there will be differences between the need of achievement between males and females was also not supported in the current study.

The present study did not look at the differences between males and females individually on each of the five Achievement Motivation Questionnaire (AMQ) subfactors, but took into account the total AMQ score for males and females and this could account for the above results.

The findings of the current study may also partly be attributed to the nature of the sample used, namely school pupils as opposed to other studies which have tested males and females in the general population.

Maccoby (1966), in a review of intellectual differences between boys and girls, has shown that there are no intellectual differences until high school but beyond high school the achievement of women measured in terms of productivity and accomplishments drops off more rapidly. This could in part account for the fact that no significant differences were found between males and females. The subjects in the present study were all school pupils in Standards 5-10 / Grades 6-12

The present study supported the predictions regarding age differences in the use of attributions and locus of control orientation of pupils, however regarding the achievement motivation levels of pupils, the present data found no significant age-related differences.

There were differences in attributional styles based on age levels and also on the dimensions of ability, effort, task difficulty and luck. Pupils from all age groups made higher ability and effort attributions (internal) than task difficulty and luck attributions (external).

Contrary to predictions pupils in the age group of 11-16 made higher ability and effort (internal) attributions than pupils in the age range of 17-25. Also, older children found the test more difficult than the younger ones.

These findings could be due to the fact that these pupils were older than their peers in the classroom. The pupils in the age group of 20-25 were much older than the average pupils in Standards 5-10 / Grades 6-12. Thus these pupils may have failed in previous standards and thus had lower ability levels and found the task more difficult than their peers.

The present study supported the hypothesis that there will be age related differences in LOC scores of pupils. The current study however, found that pupils in the age group of 11-16 years were more internal than pupils between the age group of 17-25 years. These findings may again be at attributed to the fact that pupils in Standards 5-10/Grades 6-12 were much older than the average pupils.

The study found that there are were no significant differences between the need of achievement levels of individuals and their age levels. This may indicate that age does not influence the motivation levels of pupils.

The study did not support the hypothesis that there will be differences in attributional styles, locus of control orientation and achievement motivation levels based on school achievement. However, it was found that there were differences in the dimensions of attribution relative to school achievement. High achievers made higher effort and ability ratings (internal attributions) than low achievers. Thus high achievers made more internal attributions than low achievers who made external attributions.

The finding that high achievers made higher ability attributions and lower task difficulty attributions than low achievers indicate that higher achievers have higher ability in performing tasks and found the tasks easier than lower achievers.

The present study indicated no differences in the locus I-E scores between high and low achievers.

The present study found that there were no significant differences between the achievement motivation of pupils relative to their school achievement. Thus, contrary to expectations, there was no difference in achievement motivation level between high and low achievers. This findings may be attributed to the fact that the subfactors of the AMQ Questionnaire were not calculated individually.

In conclusion, there should be more pupils included from the lower socioeconomic group to generalize the present findings and it would be more meaningful to include subjects from rural areas, rather than concentrating solely on a semi-urban area such as Mmabatho.

Clearly further research is needed to investigate the relationship between locus of control, attributional styles and achievement motivation relative to socioeconomic status, gender, age and school achievement of pupils.

Finally, the finding of this study indicates the usefulness of Rotters'I-E Scale and the Achievement Motivation Questionnaire by (Pottas, et. al, 1980) as as measures for South African population, but because of the subfactors of the Scales, the most meaningful use of them may lie in the examination of item clusters, rather than a global score.

7. BIBLIOGRAPHY

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COVER LETTER

I hereby grant permission for one of my academic test scores to be used for purpose of this research with the knowledge that the score will be handled with strict confidentiality.

Percentage score on test .....

Sex: M ..... F .....

Age: .....

Number of bedrooms of your house .....

Number of people in your house .....

Father's occupation .....

Mother's occupation .....

Father's level of education .....

Mother's level of education .....

APPENDIX A

SOCIOECONOMIC STATUS SCALE

1. Average number of people per room in a household (below 1.5 vs. above 2) where 1.5 indicates middle socioeconomic group and above 2 indicates lower socioeconomic group.

2. Father's education (below 8th grade vs. about 12th grade). Below 8th grade indicates lower socioeconomic group and about 12th grade indicates middle socioeconomic group. Item 2 was translated in terms of South African education nomenclature to be (below standard 6 vs. standard 10).

APPENDIX B

(a) Ability: "How much ability did you use in the performance of your test."

1	2	3	4	5
No Ability	Ability	Moderate Ability	More Ability	A lot of Ability

(b) Effort: "How much effort did you put in the performance of your test."

1	2	3	4	5
No Effort	Effort	Moderate Effort	More Effort	A lot of Effort

(c) Task: "How much difficulty did you find in the performance of your task".

1	2	3	4	5
Very Easy	Easy	Moderately Difficult	Difficult	Extremely Difficult

(d) Luck: "How lucky were you in the performance of the test"

1	2	3	4	5
Not Lucky	Lucky	Moderately Lucky	More Lucky	Extremely Lucky

APPENDIX C

This questionnaire consists of 29 items with two descriptions in every item. Read the two descriptions in every item and then decide which one of the two BEST describes you. Mark your choice with a cross over the letter A or B on the Separate Answer Sheet.

1. A children get into trouble because their parents punish them too much.
   B the trouble with most children nowadays is that their parents are too easy with them.

2. A many of the unhappy things in people's lives are partly due to bad luck.
   B people's misfortunes result from the mistakes they make.

3. A one of the major reasons why we have wars is because people don't take enough interest in politics.
   B there will always be wars, no matter how hard people try to prevent them.

4. A in the long run people get the respect they deserve in this world.
   B unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. A the idea that teachers are unfair to students is nonsense.
   B most students don't realize the extent to which their grades are influenced by accidental happenings.

6. A without the right breaks one cannot be an effective leader.
   B capable people who fail to become leaders have not taken advantage of their opportunities.

7. A no matter how hard you try some people just don't like you.
   B people who can't get others to like them don't understand how to get along with others.

8. A heredity plays the major role in determining one's personality.
   B it is one's experiences in life which determine what one is like.

9. A I have often found that what is going to happen will happen.
   B trusting to fate has never turned out as well for me as making a decision to take definite course of action.

10. A in the case of the well prepared student there is rarely if ever such a thing as an unfair test.
    B many times exam questions tend to be so unrelated to course work that studying is really useless.

11. A becoming a success is a matter of hard work, luck has little or nothing to do with it.
    B getting a good job depends mainly on being in the right place at the right time.

12. A the average citizen can have an influence in government decisions.
    B this world is run by the few people in power, and there is not much the little guy can do about it.

13. A when I make plans, I am almost certain that I can make them work.
    B it is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. A there are certain people who are just no good.
    B there is some good in everybody.

15. A in my case getting what I want has little or nothing to do with luck.
    B many times we might just as well decide what to do by flipping a coin.

16. A who gets to be the boss often depends on who was lucky enough to be in the right place first.
    B getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. A as far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
    B by taking an active part in political and social affairs the people can control world events.

18. A most people don't relaize the extent to which their lives are controlled by accidental happenings.
    B there really is no such thing as "luck".

19. A one should always be willing to admit mistakes.
    B it is usually best to cover up one's mistakes.

20. A it is hard to know whether or not a person really likes you.
    B how many friends you have depends on how nice a person you are.

21. A in the long run the bad things that happen to us are balanced by the good ones.
    B most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. A with enough effort we can wipe out political corruption.
    B it is difficult for people to have much control over the things politicians do in office.

23. A sometimes I can't understand how teachers arrive at the grades they give.
    B there is a direct connection between how hard I study and the grades I get.

24. A a good leader expects people to decide for themselves what they should do.
    B a good leader makes it clear to everybody what their jobs are.

25. A many times I feel that I have little influence over the things that happen to me.
    B it is impossible for me to believe that chance or luck plays an important role in my life.

26. A people are lonely because they don't try to be friendly.
    B there's not much use in trying too hard to please people, if they like you, they like you.

27. A there is too much emphasis on athletics in high school.
    B team sports are an excellent way to build character.

28. A what happens to me is my own doing.
    B sometimes I feel that I don't have enough control over the direction my life is taking.

29. A most of the time I can't understand why politicians have the way they do.
    B in the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX D

INSTRUCTIONS

This questionnaire consists of a number of items where contrasting descriptions concerning two people, viz. Person A and Person B, are given. Read the two descriptions in every item and then decide which one of the two BEST describes you. Mark your choice with a cross over the letter A or B on the SEPARATE ANSWER SHEET. You may sometimes find that none of the two descriptions quite fit you, but you should, nevertheless, decide which of the two is more like you. Mark only one cross for each item.

There is no time limit. You should, however, work quickly and ensure that each item is answered. Do not linger over any item.

PLEASE NOTE:

Your answer for one item should never influence your answer to another item as Person A or B of one item is not necessarily the same as Person A or B in any other item. Carefully consider each item independently from all the other items.

Turn now to the ANSWER SHEET and supply the necessary information on the first page.

When you start filling in the responses on the answer sheet, please do not make any marks on the questionnaire. All responses must be filled in on the separate answer sheet.

You will note that the answer sheet is divided into columns – one column for each page of the questionnaire. Place your answer sheet under the questionnaire so that the column marked "page 1" protrudes on the right hand side. When you have completed page 1 of the questionnaire, turn the page over and carry on with page 2. At the

same time, shift the answer sheet further under the questionnaire so that page 2 protrudes on the right hand side, and so on.

Under no circumstances mark any of the numbers on the answer sheet – these are for use by the computer. Mark only an "X" over A or B of every item.

IF YOU HAVE ANY QUESTIONS YOU MAY ASK THEM NOW

ITEM

1. A always plans his/her programmes a long time ahead.
   B seldom plans his/her programme a long time ahead.

2. A persists with every task which he/she tackles.
   B finds it difficult to persist.

3. A is inclined to make careless errors in his/her work.
   B is usually very accurate in his/her work.

4. A feels that every minute of the day must be used actively.
   B feels that he/she can relax a bit during his/her daily duties.

5. A prefers tasks where he/she must take a risk.
   B avoids tasks where he/she must take a risk.

6. A sets easy goals that he/she knows he/she will be able to reach.
   B aims high in spite of the possibility of failure.

7. A begins preparing himself/herself for a task a long time beforehand.
   B prefers to prepare for a task a short while beforehand.

8. A loses heart when problems are experienced.
   B perseveres with a task even though many problems are experienced.

9. A believe that his/her actions are correct in most situations.
   B doubts the correctness of his/her actions in most situations.

10. A prefers a task that is demanding and challenging even though there is a reasonable chance of failure.
    B prefers simple tasks where the chance of failure is slight.

11. A feels that idleness is sometimes justified.
    B cannot tolerate idleness.

ITEM

12. A does not worry too much if certain of his/her goals are not attained.
    B worries if he/she cannot reach al his/her goals.

13. A 's whole orientation is concerned with the present.
    B 's whle orientation is concerned with the future.

14. A is prepared to spend his/her free time learning a skill.
    B feels he/she would rather use his/her free time for relaxation.

15. A is confident that he/she is able to successfully complete all tasks which he/she tackles.
    B is unsure whether he/she can successfully complete all tasks which he/she tackles.

16. A always has lots to do.
    B sometimes looks for something to do.

17. A sometimes gives up too easily.
    B does not give up easily.

18. A prefers to avoid all risks.
    B prefers to take calculated risks.

19. A avoids an occupation where high standards are demanded.
    B prefers an occupation where high standards are demanded.

20. A does not rest until an assignment is completed.
    B is not upset when an assignment is not completed.

21. A feels that time sometimes stands still.
    B feels that time flies quickly.

22. A prefers work of a routine nature.
    B prefers demanding work.

ITEM

23. A will accept challenge even though he/she is not sure of success.
    B will only accept challenge when he/she is fairly certain of success.

24. A prefers working to a timetable
    B finds it difficult working to a timetable.

25. A welcome periodical rest breaks during the execution of a difficult task.
    B prefers to first complete a difficult task and then a break.

26. A relies on own abilities to overcome difficulties.
    B relies on the help of others in order to overcome difficulties.

27. A first tackles difficult tasks.
    B leaves the difficult tasks for later.

28. A observes how the career situation develops for himself/herself.
    B has a clear plan of his/her future career which he/she follows carefully.

29. A views success as resulting from personal skills.
    B views success as partly pure luck.

30. A finds it difficult to resume work after an interruption.
    B easily resumes a task after an interruption.

31. A would prefer a job that offers a challenge, even though less security it attached to it.
    B would rather prefer work that offers security, even though there is less challenge.

32. A is not worried if he/she deviates from his/her timetable.
    B feels discontented if he/she deviate from his/her timetable.

33. A tends to give up easily.
    B endures until the end.

ITEM

34. A can for an unlimited time focus his/her attention on carrying out a task.
    B 's attention is easily distracted while performing a task.

35. A is vague as to his/her future plans.
    B has very clear future plans.

36. A does not easily accept help in the solving of a complex task.
    B readily accepts help in the solving of a complex task.

37. A feels that time passes too quickly.
    B has enough time "to live it up".

38. A feels that his/her actions can at times be planned better.
    B always acts in a planned way.

39. A views personal skills as important for success.
    B accepts that luck can play a role in success.

40. A avoids tasks to which great risks are attached.
    B prefers tasks to which great risks are attached.

41. A always has a full programme.
    B 's programme is not always full.

42. A feels that external factors makes his/her control of situations difficult.
    B usually feels in control of a situation.

43. A does not enjoy to organise his/her life strictly.
    B enjoys to organise his/her life strictly.

ITEM

44. A often tackles more difficult tasks where he/she is not sure of whether he/she will be able to complete them.
    B rather tackles easier tasks which he/she is sure he/she can complete.

45. A is not always sure of his her plans for the following year.
    B mostly has clarity as to what he/she is going to do the following year.

46. A is usually discouraged by his/her misfortunes.
    B is never discouraged by his/her misfortunes.

47. A prefers a challenging profession to an interesting profession.
    B prefers an interesting profession to a challenging profession.

48. A seldom works to a timetable.
    B mostly works to a timetable.

49. A prefers challenging situations in spite of a real chance of failure.
    B prefers situations where he/she is sure of success.

50. A finds it easier to leave work incomplete because he/she can finish it later.
    B does not leave work incomplete if there is enough time to complete it.

51. A seldom plans a programme according to which he/she is to carry out all his/her activities.
    B usually plans a programme according to which he/she is to carry out all his/her activities.

52. A tends to forsake plans if circumstances become unfavourable.
    B complete his/her plans to the "bitter end" even though circumstances are unfavourable.

ITEM

53. A easily wastes time.
    B uses every minute.

54. A starts immediately, when an assignment is given to him/her.
    B waits a while before he/she starts on an assignment.

55. A prefers situations in which he/she is mainly required to follow directions developed by others.
    B prefers situations in which he/she can personally take initiative to make things happen.

56. A it worries A if he/she was late for an appointment.
    B does not worry if he/she is occasionally late for an appointment.

57. A prefers an important and difficult task even though there is only a 50% chance of success.
    B avoids an important and difficult task where there is only a 50% chance of success.

58. A finds it easy to start a new task even though the previous task is incomplete.
    B does not start easily with a new task while the previous task is incomplete.

59. A prefers goals which he/she can attain without much effort.
    B prefers goals which he/she has to exert a great amount of effort.

60. A feels guilty when he/she somewhere uses his/her time ineffectively.
    B does not mind if he/she sometimes wastes time.

61. A prefers a work situation that requires a very high standard of excellence.
    B prefers a work situation demanding an average standard of excellence.

ITEM

62. A sometimes does not know what to do with his/her time.
    B For B time usually passes too quickly.

63. A has a need to succeed.
    B has a need to avoid failure.

64. A first complete an urgent job at home before he/she can relax.
    B prefers to relax at home and then do the urgent job the next morning.

65. A becomes disheartened by setbacks.
    B regards setbacks as new challenges.

66. A believe that if completion of a job is postponed it will never get done.
    B feels that "tomorrow is another day" with regard to the execution of a task.

67. A prefers working for an established firm.
    B prefers to manage his/her own business undertaking.

68. A 's conscience always worries him/her if he/she has not executed a job to the best of his/her ability.
    B 's conscience seldom worries him/her if he/she has not executed a job to the best of his/her ability.

69. A can accept easily that no solution to a problem exists.
    B keeps on searching until he finds a solution to a problem.

70. A for A structure and order in his/her life is very important.
    B for B structure and order in his/her life is unimportant.