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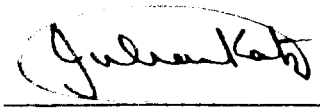
THE INFLUENCE OF SOME ATTITUDES ON INTELLIGENCE

Yaacov Julian Katz

A thesis submitted to the Faculty of Education, University of the Witwatersrand, in fulfillment of the requirements for the degree of Doctor of Philosophy.

Johannesburg, 1984

I declare that this thesis is my own unaided work. It is being submitted for the degree of Doctor of Philosophy in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.



Yaacov Julian Katz

15th day of August 1984

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ABSTRACT

The aim of the present thesis is to investigate the influence of some attitudes on intelligence. The focus of attention is on conservative attitudes and the influence they have on intelligence in white South African society.

A review of the research revealed that the construct of general conservatism is usually inversely related to intelligence, and that the conservative personality traits and attitudes are not conducive to the promotion of a high level of intelligence.

In the first phase of the present study 210 white English and Afrikaans speaking teacher trainees were compared regarding the influence of six factors of general conservatism derived from the Social Religious Political Scale, the Religiosity Scale and the Conservatism Scale on general intelligence as measured by the D-48 Test.

The results of this phase of the study indicate that there were no significant differences between English speakers and Afrikaans speakers on the intelligence variable. Afrikaans speakers were significantly more conservative on the traditionalism, anti-modernism, religious principles and religious practices factors, whereas English speakers were significantly more conservative on the factors of socio-political attitudes and religious attitudes. The results proved inconclusive mainly because conservative attitudes, and not language as hypothesized, were found to mediate general intelligence.

In the second phase of this research 100 English and Afrikaans speaking university students were tested in order to ascertain the connection between conservative variables, without reference to language difference,

and intelligence. The research sample was divided into conservative and liberal groups which were compared regarding the influence of religious attitudes, socio-political attitudes, traditionalism and anti-modernism, as derived from the SRP-Scale and the Conservatism Scale, on variables of intelligence derived from the South African Wechsler Adult Intelligence Scale.

The results of this phase of the study confirm that no significant differences existed between white South African conservatives and liberals on the variables of full-scale intelligence, verbal intelligence and practical intelligence. However, significant interactions between the independent variables in specific combinations indicate that under certain conditions white South African conservatives have higher levels of intelligence than white South African liberals.

It is tentatively suggested that the theories of attitudes and intelligence regarding conservatives living in a generally conservative society may require modification and therefore additional comprehensive research is suggested after which general conclusions may be reached.

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CHAPTER 1.
INTRODUCTION

THE NATURE OF HUMAN INTELLIGENCE

One of the most frequently studied subjects in the field of psychology is the field of human intelligence. Many philosophers and psychologists have made frequent attempts to explain the phenomenon of human intelligence but have never really been able to establish a universally accepted theory of intelligence or the variables that definitely influence intelligence.

Although there is no concensus as to which variables influence human intelligence, both directly and indirectly, there are different theories which logically explain what these influences could be.

In this chapter an attempt will be made to explain the major theories dealing with intelligence as well as various social and cultural effects and influences on intelligence and its development.

1.1 The Development of the Concept of Intelligence

Galton (1869) was the first psychologist to classify "human beings according to their natural gifts". In this classification he described what was later to become the psychology of individual differences and he alluded to the existence of both a general ability and special abilities in each individual. Spearman (1927) later referred to this differentiation as the "g" and "s" factors. Continuing his research, Galton (1883) measured reaction time, sensory activity and additional variables. By this measurement Galton strove to ascertain individual differences which he tested by the method of correlation. When analysing the pioneering work

done by Galton, one must bear in mind that his measures were based on psychomotor and psychophysical abilities that had very little to do with academic prowess.

Sharp (1899) and Wissler (1901) tested the emerging hypothesis that an individual's intelligence was some generalized quality of his total performance, and not related to specific abilities as measured by specific tests. The results of Sharp's and Wissler's studies indicated that the performance of an individual on any one of the various mental tests failed to correlate with his performance on a second test. This fact demonstrates that at that early stage of development, the various tests comprising the overall mental test still measured different mental abilities.

Binet and Simon (1905) established a scale that included thirty tests in an ascending order of difficulty. This scale was based on the results of studies conducted by themselves. The new scale sampled a wide range of functions such as judgement, comprehension and reasoning. The functions covered by the scale were felt by Binet and Simon to constitute the essence of intelligence.

Further progress in the realm of intelligence was made when Binet and Simon (1908) introduced the concept of mental age, by specifically listing items that could be passed by a majority of children at each age level between three and thirteen years. In this 1908 scale there were fifty eight items which facilitated the evaluation of any given child's mental age, in units of one year.

Stern (1912) went one step further and replaced the concept of mental age with the concept of intelligence quotient (IQ). This measure

has remained unchanged throughout the years and, together with percentile rank, has become the standard description of a human being's intellecual abilities.

Tuddenheim (1963) commented that the next milestone in the study of human intelligence was established by Yoakum and Yerkes (1920) and Yerkes (1921). These early researchers described the structure and goals of the tests used to categorize American army conscripts on the issue of intelligence. The tests are the Army Alpha for literates and the Army Beta for illiterates and were developed in 1917. The tests were designed to evaluate intellectual ability as a function of occupational, ethnic, racial and geographic differences in the United States. Otis (1919) adapted the Army Alpha and Army Beta group tests for civilian use and utilized the tests to illuminate certain aspects of human intelligence necessary for successful placement of manpower in industry.

From that time on many group intelligence scales have been developed in order to categorize human beings according to a hierarchy of intellectual abilities. Some of the better known measures are the College Entrance Examination Board's Scholastic Achievement Test compiled in 1923, the General Aptitude Test Battery developed in 1947 and the Columbia Mental Maturity Scale compiled in 1953. McNemar (1964) pointed out that all these tests are direct descendants of the Binet-Simon Scale, the Army Alpha and the Army Beta. As such they are all measures of intelligence.

Bearing in mind the development of intelligence tests since the compilation of the Binet-Simon Scale, with particular emphasis on the direction of this development, researchers have attempted to pinpoint the

definition of the concept of intelligence. Vernon (1969) stated that intelligence is the effective all-round cognitive ability to comprehend, to grasp relations and reason. This ability develops through the interaction between the human being's genetic potential and stimulation provided by the environment. Layzer (1973), after reviewing the development of intelligence tests and their role in categorizing human abilities, described intelligence as the human ability to process information. This ability is the corner-stone of all cognitive skills and is strongly influenced by the environmental challenge. Block and Dworkin (1976) summed up a wealth of definitions dealing with the concept of intelligence and said that there is universal acceptance that "intelligence" is a vague term. However, despite the vagueness of the concept, in Western culture it may be accepted that intelligence is a conglomeration of human skills and abilities, underlined by cognitive capacities. In addition intelligence in Western culture is taken as that capacity measured by intelligence tests as pointed out by Hilgard (1962).

1.2 General Intelligence

Spearman (1927) formulated the well-known two factor theory of intelligence which included an individual's General Intelligence or "g" factor, as well as his Specific Intelligence or "s" factor, for any particular task. Spearman postulated that the "g" factor was present in all cognitive activities and that most intelligence tests of the day, such as the Binet-Simon, were heavily loaded with "g".

Thorndike, Bregman, Cobb and Woodyard (1927) rejected Spearman's "g" factor theory of human intelligence. They held that there were a

large number of specific abilities and not only one general factor of intelligence. Following this position, Thurstone and Thurstone (1941) developed a theoretical view of the nature of intelligence that they called the "multiple factor theory". They postulated the existence of a highly important group of factors such as number, word-fluency, verbal meaning, memory, reasoning, space and perceptual speed. These factors were called Primary Mental Abilities. Thurstone and Thurstone showed in a factor analysis that these Primary Mental Abilities were heavily saturated with Spearman's "g" factor. These results supported subsequent claims for the primacy of "g".

1.3 Categories of Intelligence

Guilford (1967) took Thurstone and Thurstone's (1941) research one step further and postulated that intelligence can best be explained by a three-dimensional model. This model includes Contents of Intelligence such as letters, numbers, words and behavioural descriptions; Operations of Intelligence needed to arrive at successful solutions to problems which include cognition, memory, evaluation, convergent and divergent thinking; and Products of Intelligence which best describe the form in which information is conceived such as units, classes, relations, systems, transformations and implications.

Freeman (1962) meanwhile classified intelligence in three categories. The first category describes the power of adaptation to the environment, the second category describes the capacity for learning and the third category describes the ability for abstract thinking. Freeman's classification of intelligence, therefore was similar and parallel to the

three-dimensional classification of Guilford (1967).

Hebb (1966) was not at ease with the "g" factor or multi-factor explanations of human intelligence. He therefore classified intelligence in two categories which he called Intelligence A and Intelligence B. Intelligence A includes those factors which result directly from genetic potential or the basic qualities of the individual's nervous system. Intelligence B encompasses those factors emanating from the individual's experience, learning and environmental influences. Cattel (1967) accepted Hebb's classification of intelligence but refined the labels of the categories by calling Intelligence A - Fluid Intelligence and Intelligence B - Crystallized Intelligence.

Butcher (1968) noted that a majority of experts hold that all intelligence tests measure an indissoluble mixture of fluid and crystallized intelligence, that any differences are ones of degree rather than kind and that it is impossible to assess genetic potential uncontaminated by the effects of experience. Butcher's position lends support to that of Hebb and Cattell.

1.4 Socio-cultural Issues Affecting Intelligence

Vernon (1969) pointed out, after conducting research with subjects from different ethnic and cultural backgrounds, that one dare not ignore the socio-cultural influences on intelligence. Vernon, in his tests, used a variable he called Cultural-Stimulus to diagnose all-round ability when examining subjects from different cultural and social backgrounds. He found in all groups, comprising subjects from different social and cultural origins, that a highly significant relationship existed between

cultural-stimulus and general intelligence.

Eells, Davis, Havinghurst, Herrick and Tyler (1951) strengthened this view by their findings in research conducted on children coming from different socio-economic backgrounds. On intelligence measures, children from higher socio-economic backgrounds achieved significantly higher scores than children from lower socio-economic backgrounds. After analysing the results Eells et al concluded that the abovementioned differences were related to the cultural content of the test items, as well as to the degree of problem-solving skills and abstractness involved in these items. The researchers deduced from their conclusion that cultural loading is an important dimension of any intelligence test. This cultural loading signifies the differential probability of exposure to the content of the items from one social class to another.

The results of the abovementioned studies by Vernon (1969) and Eells et al (1951) must be seen in the light of an inherent flaw in the intelligence measures used to establish the scores of the research samples. The measures were flawed by the very inclusion of culturally loaded items which, a priori, inferred a difference between members of different socio-economic backgrounds and, in the research studies, were instrumental in bringing out these differences. While it seems logical to accept the existence of differences on the intelligence continuum, it is illogical to prove the existence of these differences by using measures loaded to achieve just that. It is therefore difficult to accept the conclusions reached by Vernon (1969) and Eells et al (1951) with regard to the effect that socio-cultural stimuli have on human intelligence.

Notwithstanding the above criticism, Husen (1975) pointed out that a reconsideration of the concept of intelligence is vital. According to Husen social and cultural variables must be taken into consideration when intelligence is evaluated. Intelligence is not just a measure of pure cognitive ability, but is interconnected with social and cultural criteria.

Jensen (1968) observed that intelligence tests differ on the issue of cultural fairness. Items that have high cultural loadings will discriminate between members of the culture "catered for" by the test and members of the culture "not catered for" by the test. Jensen proposed, therefore, that intelligence tests should be judged by a main criterion of culture fairness called heritability, i.e. the proportion of variance attributable to genetic factors and not to cultural environment. High heritability will confirm that the nature of intelligence is not being compromised or contaminated by social and cultural factors.

In summing up his views on intelligence Wechsler (1975) took all the abovementioned theories into consideration. He described intelligence as being the capacity of an individual to understand the world about him and his resourcefulness to cope with its challenges. On the basis of the above description Wechsler defined intelligence as being a hypothetical construct which is the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment. The definition of intelligence formulated by Layzer (1973), i.e. intelligence is the human ability dealing with information processing, seems to bear out Wechsler's definition because any rational, efficient and purposeful response to a stimulus must necessarily have been based on the efficient processing of information which leads to the

choice of a suitable behavioural strategy.

It may be said, however, that there is no real consensus concerning the factors and components best describing intelligence. Therefore it is advisable to opt for a loose and general definition of intelligence such as that offered by Neisser (1979) who said that one's intelligence is just the degree to which one resembles a prototypically intelligent person. Because no single characteristic defines the prototype, there can be no adequate process-based definition of intelligence. As a result, according to Neisser, a combination of many empirically derived measures into a single index - as in a Binet-type test - would be appropriate to describe intelligence. In practice, however, many of the relevant characteristics are simply impossible to measure.

From the various theories about the nature of human intelligence mentioned above, it seems clear that genetic, social, cultural and other factors contribute to the variable called intelligence. Whilst there is no consensus as to the exact nature of intelligence, those involved with the study of the topic tend to agree that a variety of factors contribute to the nature of human intelligence. It is therefore of importance for this study to review the various correlates that have some influences on the nature of human intelligence.

CHAPTER 2

THE CORRELATES OF INTELLIGENCE

In this chapter, various factors relevant to the present study, and which according to the empirical evidence are vital correlates of intelligence, will be surveyed. In addition those personality attributes which contribute to or mitigate against different levels of intelligence will be discussed.

2.1 General Correlates of Intelligence

Guilford (1968) stated that divergent thinking contributes highly to intellectual ability. One of the main bases of divergent thinking, according to Guilford is spontaneous flexibility. In addition, Guilford observed that adaptive flexibility is another major contributing factor to intellectual ability. These traits describe the ability to change modes of response or approaches so as to achieve possible solutions to a problem. Guilford noted that these traits also describe the ability to change the frame of reference in order to achieve a solution to a problem because the first suggested solution was not workable. In short, flexibility, in Guilford's opinion, is a vital contributing factor to intelligence.

Cattell, Eber and Tatsuoka (1970) as well as Cattell (1971) spelt out those traits which have a striking overlap with intellectual abilities. These traits are all based on the 16 PF Personality Questionnaire compiled by Cattell. The traits that are considered to make a major contribution to intellectual abilities are flexibility, ideational

fluency and originality. Cattell, Eber and Tatsuoka pointed out that those persons high on divergent thinking ability are not introverted or extremely anxious, both of which correlate negatively with intellectual ability. In their study Cattell, Eber and Tatsuoka found that persons achieving low intelligence scores on Factor B of the 16 PF are characterized by low mental capacity, inability to handle abstract problems, disorganization of thought, poor judgement, low morale and inability to persevere. However, those with high intelligence scores on Factor B were found to have high general mental capacity, were insightful, fast learning and intellectually adaptable, had more intellectual interests, showed better judgement, had higher morale and a higher level of perseverance.

Factor B of the 16 PF Personality Questionnaire is geared to detect both major elements of intelligence i.e. fluid and crystallized. In addition, by admission of Cattell, Eber and Tatsuoka, Factor B is a very brief scale relative to the other factors in the 16 PF and as such cannot adequately reflect intellectual ability accurately especially at the higher levels. Therefore, the results of the research carried out by Cattell, Eber and Tatsuoka must be treated with utmost caution and the attempt to point out a positive relationship between intellectual ability and those traits depicting flexibility cannot be accepted at face value. The fact that Factor B of the 16 PF is a brief scale of intelligence mitigates against its being used as an adequately reliable measure.

Despite the shortcomings of the Factor B scale used in the above-mentioned research, the findings were confirmed in a study carried out by Bottenberg (1970). In his research, Bottenberg analysed the

cognitive functions which contribute to intelligence. He found that among the main cognitive functions facilitating a higher level of intelligence are flexibility and field-articulation. These two variables related significantly to attitudes and to intelligence.

In a study conducted by Betty (1971) the researcher investigated evidence of rigidity and flexibility in children's drawings and the correlates of these measures with group intelligence and achievement scores. The degree of rigidity or flexibility of drawings was evaluated according to the Lowenfeld Rating Scale, and then compared with Otis IQ scores as well as with IOWA Composite Achievement Scores achieved by the 143 subjects participating in this study. Betty found that there was a relationship between levels of rigidity and flexibility and group scores of intelligence and achievement. This relationship was not highly significant, therefore the results should be viewed with caution and only seen as indicating a trend.

Roach (1979) investigated the influence of conceptual style, which includes the ability to analyse,flexibility and originality on intelligence and achievement. Roach administered the Conceptual Style Test, an achievement test in mathematics and an intelligence test to 418 sixth grade Jamaican pupils. The results of the study indicate that analytic conceptual style was significantly related with intelligence. Roach concluded that for higher levels of intelligence, a more sophisticated analytic conceptual style is necessary. This conclusion, although valid for the research sample tested in Roach's study, is an overgeneralisation bearing in mind that 6th grade Jamaican school pupils cannot be considered a representative sample of the population living

in countries fully orientated to Western culture. Nonetheless the results of the study, when seen in the light of similar results achieved in research on the same topic, do in fact indicate an interrelationship between conceptual style and intelligence.

In the light of the abovementioned studies it may be ascertained, bearing in mind the limitations of the research methods, samples and instruments used, that initial results depict a trend whereby originality, flexibility and the ability to analyse, all have some positive effect on intelligence. It appears that these traits promote higher levels of intelligence and therefore the individual who utilizes the abovementioned attributes will be one who will in all probability have superior intellectual abilities and be of superior intelligence when compared to one who lacks these qualities. This conclusion, however, must be regarded as tentative in the light of some severe research limitations that are evident in the quoted studies.

Empirical evidence has shown that creativity is often a correlate of intelligence, especially when generalizing about a large population. Barron (1963) found a significant relationship between creativity and intelligence in the average to high IQ scores. However, over a threshold of 120 IQ points, intelligence apparently ceases to have a significant relationship with creativity. The exact relationship of creativity to intelligence is unclear and will therefore be investigated as will be the correlates of creativity.

Guilford and Hoepfner (1971) investigated the relationship between personality traits on the one hand and intelligence and creativity on

the other. A negative relationship was found to exist between the personality traits of depression and nervousness and the intellectual attributes of fluency and flexibility. Meticulousness, discipline and precision also seemed to restrict the rate of production as well as the diversity of ideas. Positive influences on intellectual abilities could be expected from traits including self-confidence, tolerance of ambiguity, aesthetic expression, originality, general activity, freedom and variety. Guilford and Hoepfner also found that a negative relationship existed between divergent production abilities, necessary for intelligent and creative performance, and the following personality correlates:- need for rules, need for authority and moral relativism. Self-confidence, adaptive flexibility and fluency were the personality correlates that related positively to divergent production abilities. In a subsequent study Guilford and Hoepfner found that the need for cultural conformity correlated negatively with the divergent thinking process.

In a similar study Halpin, Halpin and Tillman (1973) investigated the relationship between creativity as characterized by fluency, flexibility and originality, and intelligence and academic achievement. The research sample in this study consisted of 86 blind children between the ages of six and twelve. The results of the study indicate that flexibility was positively related to creativity, intelligence and academic achievement. This finding seems to suggest the similar influence exercised by flexibility on both intelligence and creativity. This in turn points to the need for similar personality correlates in order to promote higher levels of creativity and intelligence. Although the results of this research bear out the findings of Guilford and Hoepfner (1971), it must

be stressed that the research sample tested by Halpin, Halpin and Tillman was small and completely non-representative of the population at large. Therefore no generalizations may be made from the results of this specific research.

Guilford (1962) stated that creative persons are endowed with intellectual characteristics which include fluency of thought, originality in the use of information, flexibility of thought, pliability, changeability and a total lack of rigidity in problem-solving. In two separate studies, Guilford (1967) and Cattell (1971) confirmed that flexibility, fluency and divergent thinking, together with a high level of intelligence are prerequisites for creativity.

Torrance (1968) has reported that the median coefficient of correlation between creativity measures and levels of academic achievement in standardized achievement tests was low but significant and positive (r=.28). Similarly, Torrance added that in 88 reviewed studies in which the relationship between intelligence and creativity was measured, the median correlation between the two variables was significant and positive (r=.21). It may therefore be assumed, on the basis of the above evidence, that those personality traits which have been shown to be related to creativity, are also related to intelligence.

Studies carried out by Hasan and Butcher (1966), Barabasz (1969), Callaway (1969), Bruininks and Feldman (1970), Nijsse (1973), Pollack, Pollack and Tuffli (1973), Schubert (1973) and Simon and Ward (1973) all investigated the relationship between intelligence and creativity. The results of all these studies, without exception, indicate that intelligence is significantly and positively related to creativity. Schubert (1973)

observed in his study that the relationship between intelligence and creativity is of higher significance in the lower intelligence range where IQ is less than 111. The other studies, however, show that there is a tendency towards a positive relationship even in the higher intelligence range. Only Barron (1963) demonstrated that when IQ = 120 or more, there is no significant relationship between intelligence and creativity.

It may be concluded from the majority of the above-mentioned studies that a significant relationship exists between intelligence and the personality correlates of creativity such as flexibility, originality, fluency, pliability, divergent thinking, self-confidence and a lack of habit formation. On the other hand, it has been shown in the same studies that traits such as discipline, need for authority, rigidity of thought and depression are negatively related to both creativity and intelligence.

2.2 Personality Correlates of Intelligence

Certain studies have indicated that the ethnocentric, authoritarian, dogmatic and conservative personality dispositions all possess traits which have a negative relationship with intelligence.

Cattell (1971) discussed the personality correlates of intelligence and achievement. In a summary of research conducted on the topic he found that certain personality traits were related to intelligence and achievement. Cattell quoted a study carried out by Cattell, Sweney and Sealy (1966) in which the following traits correlated positively with intelligence and achievement:- constructiveness ($r = .36$), gregariousness ($r = .17$), submissiveness ($r = .50$), protectiveness ($r = .21$), pugnacity ($r = .21$) and superego strength ($r = .44$). On the other hand, in the same study it was shown that the following traits correlated negatively

with intelligence and achievement:- fear ($r = -.24$), religion ($r = -.34$) and assertion ($r = -.23$).

In another study reviewed by Cattell (1971), he reported that 153 urban high school pupils and 124 rural high school pupils in Illinois served as a research sample which was tested in order to ascertain personality traits that correlated with intelligence and achievement. The High School Personality Questionnaire, a suitable version of the adult 16 PF Personality Questionnaire, and the Stanford Achievement Test Battery was administered to the research sample. According to the results for both Urban and rural subjects Factor G which includes superego strength and conscientiousness correlated positively with intelligence and achievement: $r = .34$ for the urban subjects and $r = .18$ for the rural participants. In addition, Factor Q_2 correlated positively with the independent variables: $r = .35$ for the urban sample and $r = .15$ for the rural subjects. Cattell (1971) pointed out that the discrepancies between the correlation coefficients of the urban and rural subjects mitigates against generalizing from the results of this study. In addition Cattell noted that statistical cross-validation was not carried out and this too is a flaw in the study. However Cattell (1971) testified that as the results achieved by Cattell, Sweney and Sealy (1966) as well as those demonstrated in a similar study conducted by Butcher, Ainsworth and Nesbitt (1963) indicate that the same personality traits correlate with intelligence and achievement, generalizations may safely be made.

Cattell and Butcher (1968) investigated the relationship between personality correlates and creativity and demonstrated, that among others, similar personality traits to those mentioned in the above studies as correlating with intelligence, are significantly related to creativity.

According to the results of this study emotional maturity, stability, calmness and adjustment to reality are related significantly to creativity in a multiple correlation of r = .25. On the other hand anxiousness, depression, loneliness, fussiness and insecurity are negatively related to creativity as shown in a multiple correlation of r = -.31. The results of the studies mentioned above, investigating the personality traits related to intelligence and creativity, indicate that similar traits are significantly related to intelligence and creativity.

Grossman and Eisenmann (1971) manipulated groups of males and females of high and low levels of authoritarianism and high and low levels of creativity. The goal of this study was to investigate whether a change in the level of authoritarianism would result in a corresponding change in the level of creativity. The researchers administered, to the 500 university freshmen who participated in this study, the California F-Scale in order to ascertain the level of authoritarianism and the Personal Opinion Survey of Creativity so as to evaluate the level of creativity. The results of the study indicate that in all cases, except in the case of high authoritarian males, a change in the level of authoritarianism resulted in a corresponding change in the level of creativity. Grossman and Eisenmann concluded from the results of this study that creativity and authoritarianism are at the opposite ends of a bipolar continuum.

Uhes and Shaver (1970) administered the Dogmatism Scale, the Alternate Uses and Consequences Test for divergent operations and the Gestalt Transformations and Word-group Naming Test for convergent operations to 316 high school students. The aim of the study was to test the hypothesis

that high dogmatics differ from low dogmatics on creativity measures. Significant differences were obtained on flexibility, originality, and composite convergent scores between the high and the low dogmatics. In addition the high dogmatics' scores for convergent operations were significantly higher than their scores for divergent operations. Low dogmatics achieved similar scores for both convergent and divergent operations. The researchers suggested, in the light of the results of this study, that dogmatism is inversely related to creativity.

Another study that indicates a similar trend to the one found above was conducted by Hurley (1970). In this research Hurley found that high dogmatics obtained significantly lower scores on the Barron-Welsh Art Scale and the Torrance Tests of Creative Thinking (figural form A) than low dogmatics. The author inferred that a lack of originality on the part of high dogmatics contributed to their low scores on the two measures of creativity.

Sidanius (1977) investigated the relationship between general conservatism, racism, political-economic conservation, religion, sexual repression, authoritarian aggression and cognitive complexity, as well as cognitive flexibility, two variables that contribute to creativity and intelligence. According to Sidanius, who quoted relevant sources, all the abovementioned personality traits typify the authoritarian personality. The results of this research indicate the existence of a significant inverse relationship between general conservatism, racism, sexual repression and authoritarian aggression on the one hand and cognitive flexibility and cognitive complexity on the other. Sidanius inferred from this study that authoritarianism is negatively related to those variables that can be

construed as contributing to creativity and intelligence.

The results of the studies conducted by Grossman and Eisenman (1971), Uhes and Shaver (1970), Hurley (1970) and Sidanius (1977) lead to inferences that certain personality traits are significantly related to creativity and intelligence. These studies, being based on inferences, cannot on their own point to a significant relationship between personality traits and creativity and intelligence as an accepted and established research finding. However, when taking the studies conducted by Cattell, Sweney and Sealy (1966), Butcher, Ainsworth and Nesbitt (1963), Cattell and Butcher (1968) and Cattell (1971) into consideration, the overall picture seems to indicate a definite correlative relationship between certain personality traits and intelligence and creativity.

A number of other studies corroborate the above findings. Kumar and Rai (1974) as well as Kumar and Rai (1977) investigated the relationship between the efficiency of village councils in rural areas of India and certain socio-psychological characteristics of the members of these councils. The results of the investigations show that members of the more efficient village councils were significantly more intelligent, less authoritarian, more inclined to innovation, more co-operative and higher in social interaction than members of inefficient village councils. The researchers suggested, in the light of the results of the two studies, that authoritarianism is inversely related to intelligence.

Jacobson and Rettig (1959), Luck and Gruner (1970), Kidd and Kidd (1972) as well as Bierhoff-Alfermann (1976) found in their respective studies that there is a significant relationship between authoritarianism

and perceptual rigidity, stereotypy and intolerance of ambiguity all of which limit the ability of the individual to function at a high level of intelligence. Other findings in these studies indicate a highly significant and negative relationship between authoritarianism and critical thinking, as well as between dogmatism and academic achievement.

Bearing in mind the evidence provided by Cattell, Sweney and Sealy (1966), Butcher, Ainsworth and Nesbitt (1963), Cattell and Butcher (1968) and Cattell (1971) as well as the inferred supportive evidence provided by other studies mentioned above, it may be said that the various traits inherent in conservatism, dogmatism and authoritarianism are inhibitors of creative and intelligent functioning. The following studies will deal with the traits that typify dogmatism, conservatism and authoritarianism and other allied personality constructs.

2.3 Authoritarian, Dogmatic and Conservative Construct Correlates of Intelligence

Rokeach (1960) has stated that there is a notion called "cognitive isolation". This implies that the closed minded individual, who is usually described as dogmatic, tends to isolate cognitive beliefs and ideas in his cognitive structure. As a result there is little communication between the "parts" of his cognitive system. Cognitive isolation tends to make it difficult for the individual to perform processes of synthesis and as a result cannot bind abstract ideas into one comprehensive cognitive construct. Thus closed-mindedness, the chief personality trait found in the dogmatic individual, affects problem-solving behaviour which is largely based on the process of synthesis.

Kemp (1960) and Kemp (1962) supported this contention of Rokeach and found a difference in ability between open-and closed-minded subjects who were requested to solve multiple-choice written problems. Adams and Vidulich (1962) stated that incongruent paired associates were more difficult for closed-minded individuals to learn than for their open-minded counterparts. Long and Ziller (1965) found that closed-minded individuals tended to attempt a problem-solving decision when in possession of inadequate information. They attributed this to the phenomenon of cognitive isolation.

Steininger and Seliger (1978) have shown that highly dogmatic women recalled significantly fewer items from a list of words and nonsense syllables than women who were low dogmatics. The researchers found that dogmatism is negatively correlated with recall, an important strategy needed for intellectual competence. Although the results of this study bear out Rokeach's (1960) contention that dogmatism interferes with intellectual functioning, they must be viewed with caution as the research sample, comprising 90 women psychology students, is sexually biased and is by no means representative of the general population. No generalization can therefore be made from the study despite the support of Rokeach's (1960) theoretical position.

A number of additional studies lend further support to the findings mentioned above. Mouw (1969), investigated the differences between open- and closed-minded subjects on issues of synthesis. 84 high and low dogmatic subjects who were enrolled students in a teacher education programme at the University of South Dakota participated in this study. Mouw found that there were significant differences between high and low dogmatic

subjects in solving problems where analysis and synthesis were crucial. Mouw suggested that from the results of his study it may be inferred that closed-mindedness affects learning and problem-solving behaviour where high level cognitive processes such as analysis and synthesis are required.

Kayser (1972) hypothesized that the construct of authoritarianism would have significant loadings on factors such as intelligence, self-esteem, emotionality and feelings of potency. His research sample consisted of 91 undergraduate students divided into high and low authoritarian groups. The results of Kayser's study suggest that authoritarianism is associated with low academic achievement, low intelligence and feelings of impotence.

The results of the studies conducted by Mouw (1960) and Kayser (1972) must be treated with caution as the research samples were small and non-representative. However when reviewing the results of these studies in addition to the findings of Kemp (1960), Kemp (1962), Adams and Vidulich (1962), Long and Ziller (1965) and Steininger and Seliger (1978) it may be suggested that the general pattern of dogmatism and authoritarianism is one that mitigates against academic success and high levels of intelligence.

Funk and Carter (1971) investigated the competence and performance of county workers participating in adult education programmes. The workers were rated by their supervisors for competence and performance. The results of this study indicate that there is a negative relationship between closed-mindedness and performance. Open-minded workers tended to be rated higher in competence and performance than closed-minded subjects.

Frumkin (1961) as well as Zagona and Zurcher (1965) found that high dogmatics in samples consisting of university and school students achieved significantly lower academic grades than low dogmatics. The low dogmatics displayed a higher level of intellectual activity which accounted for superior academic achievement and consistently higher grades. Linton (1968) conducted a similar study and concurred with the above findings.

Restle, Andrews and Rokeach (1964) as well as Riley and Armlin (1964) investigated the reasons for low academic achievement by closed-minded individuals. According to the results of both studies the researchers suggested that dogmatism is accompanied by rigidity, a need for reinforcement from the source posing the problem and the inability to change the mode of thought. White and Alter (1965) found that high dogmatics were significantly more resistant to change in tasks that demanded judgement and evaluation than low dogmatics. Torcivia and Laughlin (1968) found that high dogmatics were inferior to low dogmatics in solving concept-attainment problems.

Weissman (1970) summed up the relationship between dogmatism and intellect by saying that he found that intellectual disposition, which combines intelligence and the ability for superior academic achievement, correlates with independence of judgement, desire for autonomy and a non-authoritarian outlook. Dogmatism and authoritarianism are constructs which mitigate against an intellectual disposition according to Weissman. Kilpatrick, Sutker and Sutker (1970) corroborated the above findings in their review of the relevant literature. They noted that dogmatism has inevitably been shown to correlate negatively with education, achievement and intelligence.

Studies have been conducted in order to ascertain the influences of general conservatism, dogmatism and authoritarianism on behaviour when intelligence serves as a secondary variable. From the foregoing studies it may be inferred that conservatism, dogmatism and authoritarianism influence behaviour in certain set patterns.

Fenster, Wiedemann and Balkin (1976) examined the relationship of personality variables to the choice of a psychotherapist. A sample of psychology students were shown films of three prominent therapists at work with the same patient and were asked to indicate which of the three they would select if they were to choose a therapist for themselves. The subjects participating in this study were then administered a battery of tests and questionnaires that included the Eysenck Personality Inventory, the Rokeach Dogmatism Scale and the Otis Quick-Scoring Mental Abilities Test. The results of the study suggest that intelligence and authoritarianism are relevant variables with the more intelligent, less authoritarian subjects tending to choose the therapist who has a markedly rational problem-solving approach. Although the results of the study do not indicate why the less intelligent and more authoritarian subjects did not choose the therapist who has a rational problem-solving approach, it may be speculated that as authoritarianism is inversely related to problem solving, as stated by Rokeach (1960) and suggested by Long and Ziller (1965), the subjects high on authoritarianism preferred a therapist who did not have a problem-solving approach.

Killen, Wildman and Wildman (1974) administered an original Superstitiousness Questionnaire and the Otis Quick-Scoring Mental Abilities Test to a sample of 46 high school pupils. The students who had above-average

Otis IQ scores were significantly less superstitious than subjects who had average or lower than average Otis IQ scores. These results indicate a link between intelligence and the personality trait of superstitiousness which is part of the authoritarianism construct.

Mozdzierz and Semyck (1980) hypothesized that social interest will relate positively with social responsibility, social dominance and social status, but will relate negatively with social introversion, dependency and prejudice - traits found by the researchers to be part of the dogmatism construct. In addition the researchers hypothesized that intelligence will relate positively with social interest. 140 hospitalized male alcoholics served as subjects in this study. They were administered the Social Interest Index, the Internal-External Locus of Control Scale, the Shipley-Hartford Test and the MMPI. According to the results the Social Interest Index correlated significantly with the Shipley-Hartford total score, vocabulary score, abstract score and estimated IQ score. In addition the results indicated that those subjects who had low social interest tended to express more feelings of anxiety, worry, depression, pessimism, shyness and over-sensitivity as measured on the MMPI than those subjects with high social interest. From this study the researchers postulated that the traits found in individuals who have low social interest tend to indicate a measure of authoritarianism. This postulation could possibly explain the inverse relationship found between low social interest and the Shipley-Hartford intelligence scores. No generalizations may be made from this research as the sample of male hospitalized alchoholics is obviously highly nonrepresentative. In addition, variables affecting male hospitalized alchoholics are presumably different from the

variables affecting a representative cross-section of the population. However the trend indicated by the results of the study is congruent with the theoretical position that authoritarianism is related to low intelligence and the traits typifying subjects with low social interest. It is primarily for the latter reason that the study was quoted.

Kish and Donnenwerth (1972) investigated stimulus-seeking and its relationship with personality variables. The Sensation Seeking Scale was administered to a wide range of male subjects as were the ACT measure of academic aptitude, the California F-Scale and Rokeach's Dogmatism Scale. The results of the study indicate that there is a positive relationship between stimulus-seeking in males and their academic aptitude. The researchers suggested that in the light of the results it may be generalized that stimulus-seeking is related to intellectual factors. This generalization is strengthened by further findings which indicate the existence of a negative relationship between stimulus-seeking and dogmatism as well as a negative relationship between stimulus-seeking and authoritarianism. It must be borne in mind that the above generalizations are valid for males only as no females were included in the research sample. There could conceivably be variables connected with sex differences which would invalidate any generalizations made about the general population on the basis of an all-male research sample.

From the above study it may be inferred that the male stimulus-seeker looks for novelty and change and is therefore a flexible individual able to adjust to new situations. On the other hand, authoritarians and dogmatics are inflexible and biased against novelty and change which conceivably negatively affects intellectual abilities.

The abovementioned research studies on the issues concerning conservatism, dogmatism and authoritarianism all seem to bear out the findings of Levinson (1950) who was a pioneer in the field of conservatism, dogmatism, authoritarianism and ethnocentrism. Levinson stated that on the average, liberals have been shown to be more intelligent, to be higher academic achievers and to show more intellectual curiosity than conservatives. Levinson also indicated that high ethnocentrics and authoritarians have a significantly lower level of intelligence than low ethnocentrics and authoritarians. Levinson suggested that the relationship between high ethnocentrism and authoritarianism and low intelligence resulted from the rigidity in thought and cognitive processes found in the high ethnocentrics and authoritarians which mitigate against high intelligence and academic achievement. Frumkin (1961), Zagona and Zurcher (1965), Linton (1968), Weissman (1970) as well as Kilpatrick, Sutker and Sutker (1970) in their findings have supported Levinson's contentions.

In conclusion it may be stated in the light of the evidence presented in the studies dealing with the personality correlates of intelligence, that certain personality trends such as conservatism, dogmatism, authoritarianism and ethnocentrism are positively correlated with the functioning of human intelligence. It may be suggested that the findings of the quoted studies indicate that certain personality traits such as inflexibility, rigidity, intolerance of ambiguity and lack of creativity and originality are those which are related to intelligence most critically. The abovementioned traits have been shown to typify the conservative, dogmatic, authoritarian and ethnocentric personality constructs.

In order to investigate the relationship between these personality

traits and intelligence more comprehensively, the general nature of attitudes as well as the specific nature of generally conservative attitudes and trends will be discussed in the following chapters.

CHAPTER 3

THE NATURE OF ATTITUDES

In order to understand the influence of the attitudes dealt with in this study on intelligence a few of the more important theories in the field of attitudes, attitude formation and attitudes and behaviour will be surveyed.

3.1 The Definition of Attitudes

According to Allport (1935) an attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related. From this definition it may be inferred that an attitude is a psychological construct which is in some way related to the individual's behaviour. In the years that have passed since Allport defined an attitude, there has been considerable research conducted on the subject of attitudes and some of the major issues have been clarified and reformulated.

Brown (1965), after reviewing attitude theory and research, commented that the definition of attitude, as described by Allport (1935), could be equally appropriate to a number of similar concepts including attitude, belief, opinion, disposition, habit and value. As all these concepts refer, in one way or another, to acquired behavioural dispositions, Allport's definition was not able to differentiate between similar concepts.

Krech, Crutchfield and Ballachey (1962) reviewed numerous definitions of attitude and combined elements found in these definitions in their

definition of an attitude. They stated that an attitude is an enduring system of positive or negative evaluations, emotional feelings and pro or con action tendencies with respect to a social object. The Krech, Crutchfield and Ballachey definition is accepted by many attitude researchers for its clarity and simplicity.

3.2 Attitudinal Components

Sherif and Cantril (1946), Smith (1947), Krech and Crutchfield (1948), Lambert and Lambert (1964), Newcomb, Turner and Converse (1964), Brown (1965) and Fishbein (1966) all defined attitudes in terms similar to those found in Krech,Crutchfield and Ballachey's (1962) definition mentioned above. They also stipulatedthat in addition to the elements of the above definition, an attitude has three major components:-

(a) The cognitive component, which has to do with beliefs about an object, including evaluative beliefs that it is good or bad, appropriate or inappropriate.

(b) The affective or feeling component, which has to do with likes or dislikes.

(c) The action tendency component, which includes the readiness to behave in a particular way associated with an attitude, but does not cover the actual behaviour itself.

Krech, Crutchfield and Ballachey (1962), after reviewing relevant attitude research, stated that the results of the research indicate that there is usually a general trend of consistency among the attitudinal components. This consistency refers to the intercorrelation between the three attitudinal components with regard to both valence and multiplexity.

Valence explains whether the attitudinal component is favourable or unfavourable and multiplexity explains the number and variety of the elements making up the attitudinal component. Krech, Crutchfield and Ballachey further noted that another important factor is the interrelationship between the various attitudes comprising the individual's constellation or repetoire of attitudes. Most attitudes form clusters with other attitudes and as a result a consistent overall attitude pattern is formed.

Rokeach (1960) described an attitude system. He stated that the individual's behaviour is related to a total system rather than to the elements of a system. Therefore an attitude should be seen in the context of a complete attitude system adopted by the individual.

3.3 The Influence of the Group on Attitudes

Halloran (1970) said that attitudes are formed mainly through a process of socialization. Every individual is exposed to this process and through it learns, amongst other things, attitudes and values.

Secord and Backman (1964), after reviewing various theoretical positions, stated that socialization is an interaction process whereby an individual's behaviour is modified in order to conform with expectations held by members of the groups to which the same individual belongs. As a result attitudes are learned and modified by the socialization process and as a result of the process. In addition socialization is the main cause of the transformation of attitudes into constructs that produce conformist social behaviour.

Schramm (1961) noted that all human beings live in groups. Children receive their first education in the primary group of the family. They then learn most of their values and standards from the groups to which

they belong. They learn roles in groups as a result of being members of groups. These roles give them the most orderly and satisfying routine in life. Most of the individual's communication responses are made in groups. The attitudes of the individual are therefore dependent to a great extent upon the attitudes and norms of the social groups which form the individual's frame of reference.

It may be inferred from the above that social groups and society strongly affect the attitudes, attitude formation and behaviour of the individual. The individual will conform to the roles conferred by the group, will perform according to the expectations of the group, while at the same time fulfilling personal needs.

3.4 Attitude Formation

Halloran (1970) discussed the importance of the role of society in the formation of individual attitudes. He maintained that society, seen as a network of interacting individuals with its culture, and the related meanings and values by means of which individuals interact, precedes any existing individual, so children are born into an ongoing situation. Halloran continued that children are confronted with established patterns of behaviour as well as recognized positions. Children are required to learn these patterns and to become aware of the positions. Children in fact do this and learn both in a direct and mediated manner. They become socialized through their relationships and interactions with others who serve as agents in the socialization process. Some of the more common agents with whom children come into contact are parents, siblings, family, friends, schoolmates, peer group members and the media.

Halloran noted that not all people influence children in the same way or with the same intensity. There are significant individuals who because of their particular standing become objects of emotional involvement and are therefore especially important in the attitude development of children. These significant individuals usually act in terms of their image of the children under their influence. They indicate their attitudes and feelings, expectations, rights and obligations. They reflect values and give meanings to objects by their use of them. In addition, through the mechanisms of approval and disapproval, direct instruction and the stressing of role behaviours, norms and values, they define the children's world and serve as a base for self-reference and as models for attitudes and behaviours.

According to Halloran the early experience of children in their respective families is of great importance. Any system of child-rearing could be regarded as an attempt to create an ideal configuration of attitudes in the children being influenced by the society into which they are born.

Halloran stated that the concept of self, or social self, is the internalization of social values learned from those in the children's environment. Children gradually become familiar with many statuses and roles, some of which they occupy or fulfill, and in the course of their many relationships and interactions, internalize the controlling features of their social-cultural environment, in the form of attitudes, beliefs and values.

Lambert and Lambert (1964) surveyed the relevant attitudinal theory

and then reached the same conclusions as stated by Halloran. They agreed that the most basic attitudes held by an individual are learned and acquired in infancy and childhood through interactions of an approach-avoidance nature with the individual's parents. In addition the principle of transfer also assists in explaining how the individual learns attitudes, particularly with reference to the cognitive component of attitudes. Lambert and Lambert suggested that when a close relationship exists between teacher and learner, feelings and reaction tendencies can also be transferred along with thoughts and beliefs.

In a paper that lends support to the abovementioned positions McGuire (1969) analysed the perceived power of the source of social communication, this source being a leader or a social group. McGuire found that the perceived power of the source includes three components:-

(a) The extent to which the source can administer positive or negative sanctions.

(b) The extent to which the source cares whether the subject conforms or not.

(c) The extent to which the source has the ability to discover whether the subject accepts its position or not.

McGuire suggested after reviewing a number of studies that sources who control large rewards also control behaviour. Halloran (1970) concurred with McGuire's conclusion and stated that evidence concerning the formation of attitudes and control of behaviour generally indicates that a strong source has much influence in the field of attitudes and behaviour.

A somewhat similar theory that has been advanced in the field of

attitudes is the congruity theory. Osgood and Tannenbaum (1955) stated in this theory that the principle of congruity governs all human thinking. According to this principle, changes in evaluation or attitude will always occur in the direction of increased congruity within the existing frame of reference. In other words, the individual will hold attitudes that reduce or eliminate any trace of inconsistency.

Goldberg and Iverson (1965) hypothesized that high-status people are more persuasive than low-status people. This hypothesis is based on the suggestion that high-status people elicit a higher level of respect than low-status people. Individually tested subjects who participated in the research filled out a 30-item questionnaire dealing with various aspects of health and nutrition. The subjects then listened to a taped communication dealing with the same topics. After listening to the communication a stooge who was supposedly another subject indicated his responses to the questionnaire items. The subjects then responded to the questionnaire a second time. Half of the subjects were told that the stooge was at present a second year medical student who had graduated from college with honours. The other subjects were told that the stooge was a hospital orderly who had not completed high school. Before-after change in scores indicated a significantly greater amount of influence for the high-status stooge than for the low-status stooge. It may be inferred that the change was the result of a search for increased congruity by the subjects of the research.

Back (1977) commented on the congruity theory and said that this theory is basically concerned with the ways one individual's evaluation of an object affects another individual's attitudes. Thus, if an authoritative figure has a positive attitude towards an object or a value system, an individual who accepts that authoritative figure will adopt a similar

positive attitude towards the same object or value system. In this way the individual strives to achieve congruity with the attitude expressed by the authoritative figure.

Conformity, according to Back, is a result of the individual trusting information received from the majority because he feels that the majority has a greater chance of being right about something than he himself has. This is especially true for ambiguous situations, when the individual lacks a clear frame of reference. Another reason for conformity is that the individual does not wish to be labelled as a deviant or as an outcast. The individual also conforms because of the fear of ostracization by the majority as a precaution against non-conformity. The individual therefore believes as the group does and adopts attitudes that are sanctioned by the group to which the same individual belongs.

Back described the formation and adoption of attitudes sanctioned by the group and in conformity with the group as deriving from functionalism. The functionalist approach holds that the individual chooses his attitudes in order to meet particular psychological needs. Back elaborated on the four attitude functions described by Katz (1960).

(a) The utilitarian function relates to the learning theory model. A person develops attitudes that provide the most benefit. Prejudice, authoritarianism, conservatism and ethnocentrism may well be beneficial to those who practice these attitudes.

(b) The ego-defensive function relates to the individual's own personality needs. Individuals protect themselves through their attitudes and therefore adopt attitudes that help them to defend themselves against anxiety, tension and emotional conflicts.

(c) The value-expressive function relates to the expression of a central value system. An individual adopts an attitude that clearly defines a principle for which the same individual stands.

(d) The knowledge function relates to the order in the individual's universe. The individual will adopt an attitude to all that goes on in the world so that the world may become more easily understood and comprehensible.

In his explanation, Back took the congruity theory one step further and suggested that in addition to the individual adopting attitudes that eliminate inconsistency in his attitudinal system, these attitudes are expected to protect the individual from emotional problems, to serve inner needs, to help define principles more clearly and to help understand the world more fully.

3.5 Attitudes and Behaviour

Attitudes affect overt behaviour. They exert influences on the individual who then prefers certain modes of behaviour to others. In the following review, issues that deal with the relationship between attitudes and behaviour will be discussed.

Kelman (1974) and McGuire (1976) maintained that attitudes affect behaviour. Kelman added that behaviour also affects the formation of certain attitudes. Kelman also suggested that when behaviour affects attitude formation, the newly formed attitudes in turn influence new modes of behaviour. According to Kelman there is an infinite cycle of attitude-behaviour-attitude with changes being introduced into both attitudes and behaviour where deemed necessary by the individual. The changes are subject to the needs of the individual as dictated by personality and society.

Kahle and Berman (1979) investigated the relationship between attitudes and behaviour. 463 students who participated in this study were asked to divulge their attitudes towards the two major candidates in the 1976 United States presidential election, towards drinking and towards religion. The voting behaviour, drinking behaviour and religious behaviour was then observed. The results of this study indicate the existence of a significant relationship between attitudes and behaviour. These findings must be treated with caution as it is difficult to verify whether the reported attitudes were those actually held by the subjects. Social desirability may have contaminated the report on attitudes held by the subjects and it is therefore preferable not to generalize from the findings of this study.

Hurst (1980) took the connection between attitudes and modes of behaviour one step further when he conducted a study in order to determine the hierarchical relationships between modes of behaviour in the cognitive and affective domains of an attitude which lead to a given goal. The results of the study, in which only 29 elementary school teachers served as subjects, indicate that cognitive skills, as well as affective components of attitudes, contributed to the successful achievement of the given goals. In view of the above observation, Hurst inferred that when analysing behaviour of any type it is essential to analyse the cognitive and affective components of the attitude as well as the relationship between them. This analysis may shed light on the influences and motivations for the particular mode of behaviour chosen by the individual. It must be noted that no conclusive generalization may be made from this study because of the small research sample used.

Attitudes, as can be seen from the preceding review, can shape the

individual's behaviour, the role of the individual in society, the conformity to the norms of society and the general position of the individual in relation to society. Attitudes are therefore vitally important to the psychological well-being of the individual as well as to the actions taken by the individual in all circumstances of daily life. In the following chapter the influence of generally conservative attitudes on behaviour, social roles, conformity and thought processes will be surveyed.

CHAPTER 4

THE NATURE OF GENERAL CONSERVATISM

General conservatism has been described by Wilson (1973) as a theory of attitude organization. Stacey (1977) has defined the more important conceptions of general conservatism as including a high valuation of hierarchy and social order, emphasis on authority and obedience as well as law and order, a generally restrictive rather than permissive and tolerant orientation to behaviour, resistance to change that would benefit the disadvantaged at some minor expense to the advantaged, unwillingness to take risks, outlooks that are traditional and orthodox and a realization of the reality of inequality that is impossible to overcome.

The descriptions of conservatism of both Wilson (1973) and Stacey (1977) are based on the broad spectrum of research findings that have been reported over the years. In this chapter, the relevant research, bearing out the above descriptions of conservatism, will be reviewed as will the constructs of general conservatism that are relevant to the above definitions.

4.1 Ethnocentrism

Levinson (1950), in one of the first papers ever devoted to the subject, noted that the term ethnocentrism refers to a relatively consistent frame of mind concerning ethnic groups in general. It has to do with groups toward which the individual has hostile or positive opinions. The term ethnocentrism shifts the emphasis from race to ethnic group. The most common classification of race is based on skin colour whereas ethnic group classification is based on social organization and the interaction

of social forms and individual personalities.

Ethnocentrism is therefore an ideological system pertaining to groups and group relations. Levinson distinguished between ingroups - those groups with which the individual identifies, and outgroups - groups with which the individual does not have a sense of belonging and which are regarded as antithetical to the ingroup.

A primary characteristic of ethnocentrism, according to Levinson, is the generality of outgroup rejection. The ethnocentric feels threatened by most groups to which he does not belong. If he cannot identify, he automatically opposes the group. If the group is not acceptable, it must be alien. Thus the ingroup-outgroup distinction becomes the basis for the ethnocentric individual's social thinking and people are then characterized according to the groups to which they belong. The outgroups are usually looked upon as subordinate and inferior to the ingroup. Most, if not all of the outgroups will be rejected by the ethnocentric.

Levinson continued that most outgroups are seen as threatening and power-seeking. One of the main characteristics of most outgroups is the fact that they are objectively weaker than the group which they supposedly threaten. The ethnocentric sees the conflict between an ingroup trying to maintain or capture its rightfully superior position and an outgroup trying to do to the ingroup what in effect is being done to it. The conflict is seen as permanent and insoluble. The only alternatives are dominance and submission. Justice requires dominance by the superior ingroup even if the subordinate group remains resentful and rebellious.

Levinson stated that the ethnocentric perceives the ingroup to be morally superior, to have better ability and a higher level of development

than the outgroup. Obedience and loyalty are prime requirements of the ingroup member in order to forestall any threat from the outgroup. The interaction of ingroups and outgroups is perceived in hierarchical and authoritarian terms. Groups as well as individuals must find their own level and the greatest danger exists when certain groups attempt to rise above their natural position.

In conclusion, Levinson stated that ethnocentrism is based on a pervasive and rigid ingroup-outgroup distinction. It invokes stereotyped negative imagery and hostile attitudes regarding outgroups, stereotyped positive imagery and submissive attitudes regarding ingroups, and a hierarchical, authoritarian view of group interaction in which ingroups are rightly dominant and outgroups subordinate.

Mayer (1964) has stated that ethnocentrism is an excellent example of what is sometimes called a self-fulfilling prophecy. The justification of the white plantation owners in the southern States of America for keeping negroes in slavery was the claim that negroes would always remain like children or animals and this is exactly what happened to the negroes who were kept in slavery. Mayer used the South African example of racial separation to show that whites and blacks in South Africa are extremely ethnocentric. Each racial group sees itself as a separate society, the whites clinging to their privileges and the blacks resenting their exclusion from those privileges.

Wilson (1973) remarked that ethnocentrism is widely recognized as typical of general conservatism. The ethnocentric tends to prefer socializing with people of his own kind and is suspicious, fearful and even hateful of people who are different in any way. Thus the white ethnocentric resents the upgrading of negro status in the U.S.A., resists immigration

of any ethnic or cultural group that is noticeably different from the ingroup, and feels threatened by deviant subcultures such as hippies, homosexuals and drug users irrespective of whether they represent any real danger to the ingroup or not.

Nias (1973b) has shown in his study dealing with Britain's proposed entry into the European Economic Community that the ethnocentrics in his research sample were strenuously and significantly opposed to the proposed joining of the E.E.C. The reasons behind this opposition were a dislike for foreigners and the fact that Britain's joining the E.E.C. would imply a closer identity with Europeans.

It may be inferred that the ethnocentric is intent on preserving the social status quo any change in which is connected with a feeling of anxiety and threat. A state of rigidity is preferred by the ethnocentric to a state of flexibility and change. It has been demonstrated in chapter 2 of this thesis that the abovementioned traits which typify ethnocentrism relate negatively to intelligence. Butcher, Ainsworth and Nesbitt (1963), Cattell, Sweney and Sealy (1966), Cattell and Butcher (1968) and Cattell (1971) have all suggested that anxiety and rigidity are related to low levels of intelligence.

It may therefore be concluded that ethnocentrism is a construct which causes the ethnocentric individual to infer that all social, cultural, ethnic and racial differences are a potential threat to himself or to the ingroup. Interaction with those individuals or groups promoting change is frowned upon, the status quo is preserved at all costs and a continuous state of rigidity and inflexibility persists. Ethnocentric traits such as anxiety, rigidity and inflexibility are negatively related to intelligence.

4.2 Authoritarianism

Brewster-Smith (1973) has noted that the authoritarian individual uses his attitudes to maintain a rigid and precarious defensive posture, bolstering his self-esteem by identifying with the strong and rejecting the weak, resolving his own uncertainties and keeping his unacceptable impulses in check by cleaving moralistically to a world of clear-cut alternatives, a world in which the safe areas of conventional respectability seem bounded by unknown dangers and conspiracies. The authoritarian maintains his position by resisting change and by entrenching his position.

With regard to attitude change Brewster-Smith contended that the authoritarian attitudes are so grounded as to exclude any possible change brought about by rational persuasion. The only chance of attitude change in such a personality is as a result of possible persuasion by an authoritative source that allays anxiety and ambiguity and enhances a clear-cut alternative which is more acceptable than the presently held attitude.

Katz and Stotland (1959) in their discussion on the functional theory of attitudes commented that the function fulfilled by the attitudes held by the authoritarian individual is primarily ego-defensive. The authoritarian holds his attitudes in the face of perceived continual threats from a hostile society and uses these attitudes to counteract and overcome these perceived threats.

Mehryar (1970) has suggested that the authoritarian personality is characterized by rigidity, repression and projection, all of which suggest a high level of neuroticism. Mehryar investigated the relationship between authoritarianism and neuroticism using the California F-Scale, Rokeach's Rigidity Scale and the Eysenck Personality Inventory. A sample of 108 Iranian students, all products of an authoritarian culture according to

the researcher, answered the research questionnaires. The results indicate that there is little support for the hypothesis connecting authoritarianism with neuroticism. These unexpected results may be explained by two limitations connected with this study. Although Mehryar stated that the students participating in the research were all products of an authoritarian culture, he did not take into account the possible existence of sub-cultures which may have neutralized the intensity of some of the subjects' authoritarian tendencies. On the other hand, if all the subjects were in fact authoritarian as stated by the researcher, the results may be an artifact of computing Pearson correlations on a truncated range of scores. Therefore the results of this study cannot validly be used to infer the non-existence of a significant relationship between authoritarianism and neuroticism.

On the issue of authoritarianism and neuroticism, Sales (1973) reviewed the Great Depression of 1920-1939 as well as the High Threat years of 1967-1970 in the U.S.A. From information collected during the two abovementioned periods, Sales concluded that authoritarian behaviour increased during the years under review. Sales indicated that neuroticism, threat and uncertainty prevailed during the two periods surveyed. Consequently Sales inferred that neuroticism, threat and uncertainty are basic traits underlying authoritarianism. This inference must be treated with utmost caution as the results of Sales' study are based on subjective reports and not on empirical evidence. No generalizations regarding the relationship between authoritarianism and neuroticism may therefore be made.

Sales and Friend (1973) investigated the relationship between authoritarianism and threat. The researchers observed that failure-induced

threat was connected with an increase in subjects' scores on a self-report scale of authoritarianism, while success, which freed the subjects from threat, was connected with a decrease in scores on the authoritarianism scale.

Sanford, Adorno,Frenkel-Brunswik and Levinson (1950) in one of the first studies conducted on the subject of authoritarianism found, after administering the California F-Scale, that authoritarianism was one of the main personality variables to emerge from the scale. The authoritarians answering the scale were found to be endowed with conventionalism, submissiveness, aggression, anti-intraception, superstition, stereotypy, power and toughness, destructiveness and cynicism, projectivity and pent up sexuality.

Frenkel-Brunswik (1950) in a follow-up study to the above found that high scorers on the California F-Scale showed a significantly higher level of rigidity than low scorers on the same scale. The low scorers showed greater flexibility and tolerance of ambiguity than the high scorers. In addition, high scorers held explicitly anti-scientific attitudes.

When evaluating the research conducted by Sanford et al (1950) as well by Frenkel-Brunswik (1950) cognizance must be taken of the fact that the results may possibly be a function of the scale used. Therefore additional research will be reviewed in order to corroborate the findings presented by Sanford et al (1950) and Frenkel-Brunswik (1950).

Eysenck (1960) investigated the authoritarianism personality construct. He identified authoritarianism with toughmindedness and extroversion which are similar to the traits described by Sanford et al (1950).

Macdonald (1974) conducted a study in which he investigated the relationship between authoritarianism and rigidity as well as intolerance

of ambiguity. Subjects participating in the research were asked to express their views on homosexuality. They were administered the Homosexual Attitude Scale, the Intimacy Permissiveness Scale and the Premarital Sexual Permissiveness Scale. The results of the study indicate that the subjects who held more negative attitudes towards homosexuality were more likely to be cognitively rigid, intolerant of ambiguity, authoritarian and supporters of double standards between the sexes. Macdonald postulated that authoritarians hold negative attitudes toward homosexuality because of a need to preserve clear-cut masculine and feminine roles and to eliminate any traces of ambiguity.

Mehryar and Kaufman (1971), Zacker (1973) as well as Rogers and Wright (1975) conducted studies which investigated the traits comprising the authoritarian personality construct. The results of all these studies indicate that there is a relationship between authoritarianism, rigidity and inflexibility.

From the above it may be inferred that authoritarians are unable to tolerate ambiguous situations and react with rigidity and inflexibility to any threatening stimulus. Bhushan (1970) indicated that authoritarians show intolerance of ambiguity as well as a preference for authoritarian leadership. In another study Bhushan (1971) found that a preference for democratic leadership is inversely related to intolerance of ambiguity and authoritarianism. Bhushan inferred from the results of this study that authoritarians prefer leaders who have the same rigid personality traits that they have themselves. According to Bhushan this preference strengthens their resistance to change and novelty as the authoritarian leader, like themselves, perceives these as threats and does his utmost

to maintain a clear-cut position unthreatened by novelty, change or ambiguity.

Creativity is a construct which depends on flexibility, originality and the ability to accept unorthodox change. As such creativity may be expected to be inversely related to authoritarianism. Eisenman and Cherry (1970) postulated that creative individuals tend to be open to experience and to have liberal values whereas authoritarians tend to lack openness and are traditional as well as being opposed to change. In a study designed to investigate the above hypothesis Eisenman and Cherry found that there is a significant inverse relationship between high authoritarianism and creativity as well as between high authoritarianism and originality. The findings of this study indicate the absence of the creativity construct from the authoritarian personality as well as a lack of originality.

In a survey which investigated the inverse relationship between authoritarianism and creativity Grossman, Goldstein and Eisenman (1971) noted that the reported characteristics of marijuana users are indicative of the creative personality. Marijuana users were reported to be socially poised, unconventional, aesthetic, flexible, non-conforming and adventuresome. On the other hand non-users were reported to be conventional, inflexible, law abiding, traditional in values and narrow in interests. These traits are indicative of the authoritarian personality. A serious flaw in this survey is the dependence on subjective reporting methods regarding the traits characterizing marijuana users and non-users. No reliable or valid research instruments were utilized and therefore the inferences of the survey must be treated with the utmost caution.

Barron (1957) described the uncreative personality as being stereotyped, narrow in interest, submissive to authority, rigid, inflexible,

lacking insight and suggestible. From the results of the various studies quoted in this chapter it may well be inferred that Barron's description of the uncreative personality could very well serve as a description of the authoritarian personality. Eisenman and Cherry (1968), in fact found an inverse relationship between authoritarian attitudes as measured by the California F-Scale, and creative attitudes, as measured by the Personal Opinion Survey. This finding supports the comparison made between the uncreative personality and the authoritarian personality.

On the issue of acceptance of new ideas or changes by authoritarians, Goldberg (1970) observed that in an unequivocal communication, high authoritarians changed much more than low authoritarians. Goldberg inferred from this observation that high authoritarians are highly motivated to agree with an authoritative source when a communication by this source is clear and unequivocal.

Dent (1975) lent support to the above finding in his research which investigated prejudice reduction technique. Dent found that high authoritarians were unaffected by the prejudice reduction technique although low authoritarians showed less prejudice after participating in the reduction technique. Dent interpreted the results as indicating that the reduction technique stabilized the prejudice of the high authoritarians because the technique was not carried out in an authoritarian fashion. The results of this research must be viewed with caution as an element of subjectivity exists in the operation of the prejudice reduction technique. Had the technique been operated by an alternate method, different results may have been achieved. This flaw mitigates against generalising from the results of Dent's study.

In a study dealing with the subject of changes accepted by

authoritarians, Levy (1979) investigated the relationship between media preference and authoritarianism. He found that authoritarians are more likely to believe preferred media sources than non-authoritarians. In addition it was found that the authoritarians' position on political issues was closer to the position of positively evaluated media and farther from the position of negatively evaluated media than the non-authoritarians' position. These results indicate, according to Levy, the acceptance by authoritarians of attitudes similar to their own and the rejection of attitudes different from their own. In addition Levy inferred that an attitude change can be effected more easily when it is clear that positively evaluated media espouse the new attitude.

Tanke (1979) dealt with a different aspect of acceptance and change by authoritarians. He investigated the effect of experimenter status and experiment outcome on the perceived ethicality of a psychological experiment. High authoritarians judged the experiment as ethical when the experimenter was of a high status as well as when the hypothesis of the experiment was confirmed. In addition high authoritarians indicated in their attitudes a significant relationship between ethnicality and perceived benefits of research to science.

In the light of all the abovementioned studies it may be postulated that authoritarianism is a personality construct characterized by certain typical traits. The major question that still has to be answered, however, deals with the method by which the authoritarian construct is established. Bottenberg and Finster (1974) dealt with this question in their study. They investigated the relationship between anxiety in children as measured by the Thurner and Tewes Childrens' Anxiety Test

and various maternal attitudes as measured by Schaefer and Bell's Parental Attitude Research Instrument. Significant correlations were found between maternal child-rearing behaviour and child anxiety. Authoritarianism in the mother correlated significantly with child anxiety. Maternal punitiveness also correlated significantly with child anxiety, especially in the case of girls. Authoritarianism in the mother was associated with anxiety in boys and maternal hostility and rejection were associated with anxiety in girls. These findings are congruent with Back's (1977) comments that an authoritative figure will transmit his attitude pattern to an individual with whom he is in close and lengthy contact. These findings also support the statements made by Osgood and Tannenbaum (1955) in their congruity theory of attitudes.

A study conducted by Ojha (1977) indicated a relationship between parental behaviour and authoritarianism. Ojha administered the Parental Behaviour Questionnaire and the California F-Scale to a sample of undergraduate students. The results of the study demonstrate that restrictive and rejecting behavours of mothers correlate with authoritarianism in their daughters. Similar behaviours of fathers are related to authoritarianism in their sons. Ojha inferred from his findings that the attitudes and behaviours of parents of the same sex who are perceived by the child as authoratitive figures, significantly influence the personality traits and behaviour of their child. The child's personality and behaviour will be almost a mirror reflection of the personality and behaviour patterns of the authoritative, same-sex parent.

Hassan (1974) compared high authoritarian Indian students with low authoritarian students on perceptions of parental handling in childhood. Hassan inferred that high authoritarians differed significantly from low

authoritarians in their upbringing with parents of the high authoritarians being more rigid, more punitive, more demanding and less permissive than the parents of the low authoritarian Indian students. According to Hassan this study supports the notion that parental attitudes correlate with children's attitudes.

Because of the retrospective self-reports of parents' perceived behaviour given by the subjects who participated in the studies conducted by Ojha (1977) and Hassan (1974), the validity of the studies must be questioned. Although the findings of both studies support similar findings regarding the relationship between parental attitudes and children's attitudes, no generalizations should be made from Ojha (1977) and Hassan (1974).

It has been shown that the authoritarian personality is inflexible, rigid, lacking in creativity, lacking in originality, intolerant of ambiguity, conventional, submissive to authority, aggressive, neurotic and generally inclined to look for clear-cut solutions to problems so as to avoid ambiguity and threat. The abovementioned traits are related to stereotyped thought and behaviour patterns. While bearing in mind methodological limitations, research findings have indicated that authoritarian parents rear authoritarian children. This inference coincides with various theories of attitudes and attitude formation that have been quoted in this chapter.

4.3 Dogmatism

Rokeach (1960) has postulated that certain individuals are characterized by open-mindedness about the world around them whereas others are characterized by closed-mindedness toward the stimuli emanating from

the society and world in which they live. Rokeach further postulated that closed-minded individuals would respond dogmatically to a wide range of stimuli in order to prevent a feeling of threat and ambiguity from jeopardizing their position. In addition Rokeach stated that dogmatic persons tend to rely highly on authority and direction.

Franklin and Carr (1971) examined, among others, the hypothesis that subjects who are characterized by closed cognitive structures would manifest greater isolation of cognitive elements within belief systems, within disbelief systems as well as between belief and disbelief systems than subjects characterized by open cognitive structures. Franklin and Carr administered Rokeach's Dogmatism Scale and a cognitive differentiation instrument to be a sample of 44 volunteers. According to the results of this study the disbelief systems of high dogmatics are less extensively elaborated than the disbelief systems of low dogmatics. In addition more isolation of cognitive elements was found in both belief and disbelief systems among high dogmatics than among low dogmatics. Franklin and Carr inferred that the existence of logically contradictory beliefs within the belief systems of highly dogmatic individuals is related to cognitive isolation. The results of this study support Rokeach's (1960) notion that high dogmatics isolate cognitive elements and are reluctant to accept intrinsically and logically related cognitions as interrelated.

On the subject of personality traits which characterize dogmatic individuals Hjelle and Lomastro (1971) investigated the relationship between dogmatism and certain personality traits. The research sample consisted of 60 male and female Roman Catholic seminarians. The subjects participating in the research were administered the Dogmatism Scale and

Form F of the Omnibus Personality Inventory. The results indicated that the more open-minded, flexible and liberal subjects showed higher levels of complexity, autonomy and personality integration than the more closed-minded subjects, who showed higher levels of dogmatism and rigidity. Hjelle and Lomastro generalized from the results of this study for society at large as the results support Rokeach's (1960) contention concerning the relationship between dogmatism and rigidity of thought. It is debatable, however, as to whether a valid generalization may be made from the above study. The research sample, consisting of Roman Catholic seminarians, is by no means representative of society at large and, despite the support for Rokeach (1960), the results must be seen in the light of the research sample of the study.

In another study in which dogmatism and personality traits were investigated Juan and Haley (1970) administered Rokeach's Dogmatism Scale, the Allport-Vernon-Lindzey Study of Values and the Survey of Interpersonal Values to a sample of 514 medical students. The highest and lowest of the 514 subjects on the Dogmatism Scale were compared. The comparisons indicate that high dogmatics favoured conformity, religious values and recognition. Low dogmatics favoured independence, aesthetic values and social values. The Medical College Admission Test results for the subjects of this research were also analysed. These results indicate that low dogmatics scored significantly higher than high dogmatics on the verbal, quantitative and general information sections of the test. Juan and Haley postulated that the inferior results of the high dogmatics on the Medical College Admission Test were related to the lack of originality, inflexibility and rigidity which characterized the high dogmatics' cognitive processes.

Erbaugh (1972) investigated personality, intellectual and demographic characteristics that are associated with dogmatism. The researcher reported that the findings of his study indicate that dogmatics tend to be anxious, impulsive, hostile, withdrawn, dissatisfied with self, anti-intellectual, concrete in cognitive processes, dependent on authority and submissive to authority. In addition dogmatism was found to be significantly associated with residence in rural areas or small towns rather than large urban localities. Erbaugh's findings lend support to the inferences drawn from other studies quoted above. It must be noted, however, that Erbaugh's study is quoted here on the basis of an abstract of the research and as such the analysis and results must be taken at face value only.

Self-inadequacy is a personality trait associated with dogmatism according to Rokeach (1960). Larsen and Schwendiman (1969) administered a small sample of students Rokeach's Dogmatism Scale as well as the scales of self-acceptance and self-wellbeing. According to the results self-esteem scores correlated significantly and inversely with dogmatism scores. The findings therefore support Rokeach's hypothesis regarding the negative relationship between self-esteem and dogmatism.

Franklin (1973) noted that personal-efficacy is conceptualized as the extent to which an individual feels that he has control over his own destiny. Franklin predicted, in view of Rokeach's (1960) statements about self-inadequacy and dogmatism, that high dogmatic subjects would exhibit lower levels of personal-efficacy than low dogmatic subjects. Franklin administered Rokeach's Dogmatism Scale and the Personal Efficacy Scale to a sample of 85 university students. The results of the study indicate a significant and negative relationship between personal-efficacy and dogmatism. These findings support the contention that dogmatic

individuals lack self-confidence, doubt their self-efficacy and have a low self-esteem. This study suffers from the limitation of a small and non-representative research sample. This flaw should be taken into consideration when inferring a negative relationship between dogmatism and self-efficacy.

Regarding the ability of the dogmatic to accept new attitudes or to change old ones, Durand and Lambert (1975) tested the hypothesis that formation and change of political as well as other beliefs are a function of the willingness of the individual to expose himself to additional information that may contradict his preconceived opinions. Durand and Lambert administered the Trodahl and Powell Short Form Dogmatism Scale as well as an attitude questionnaire on the issue of readiness to attend rallies of active election candidates in order to listen to their speeches. The findings indicate that high dogmatics are less willing to expose themselves to speeches of election candidates whose views contradict their own than low dogmatics. These results strengthen the already established notion that a new attitude is perceived as a threat that the dogmatic wishes to ignore or quash. Therefore the new attitude is ignored by the dogmatic from the very outset.

In studies dealing with similar topics, Powell (1962) found that closed-minded individuals tend to judge the value of communications on the basis of the source, whereas open-minded individuals tend to judge communications on their intrinsic merit. Innes (1978) hypothesized that high dogmatics would be less willing to read material incongruent with their beliefs than low dogmatics. A sample of 56 engineering students were administered Rokeach's Dogmatism Scale and a questionnaire on their beliefs about the value of liberal arts studies for technology students.

High dogmatics were significantly less likely to choose discrepant material than low dogmatics. Innes inferred from these results that dogmatics are interested in clear-cut programmes and any discrepancies or ambiguity in a study programme represents a threat that is related to uneasiness and anxiety.

With regard to dogmatics' preference for clear-cut programmes, Steffensmeier (1974) has shown that high dogmatics express more favourable attitudes to a policy of law and order than low dogmatics. According to Steffensmeier this finding supports the notion that dogmatics prefer clearly defined policies such as one of law and order where everyone is fully aware of ones' privileges and obligations.

On the issue of the formation of dogmatic attitudes, Lesser and Steininger (1975) tested Rokeach's (1960) hypothesis that dogmatism develops within the family. The researchers administered Rokeach's Dogmatism Scale to 167 undergraduate students and to 246 of their parents. The results indicate that the more dogmatic a parent was, the more dogmatic a child of that parent was. It was also found that in a significant number of cases parents were more extremely dogmatic than their children. The researchers inferred from the latter finding that family experiences, although shown to be important, are not the only source of dogmatism in children. This inference seems tenuous owing to the fact that parents were shown to be more extreme than children on the dogmatism construct. It may be hypothesized that children's dogmatism is wholly a result of family experiences, but because variables other than dogmatism influence childrens' upbringing, their dogmatism was less extreme than that of their parents. Therefore it would be more logical to infer from the findings of this study that, while family experiences contribute to children's dogmatism, other variables

present in the child-rearing process are related to the lower level of dogmatism in children.

In the light of all the research studies dealing with the different aspects of dogmatism quoted above, it may be inferred that the dogmatic individual is anxious, impulsive, hostile, withdrawn, submissive, dependent, conforming, traditional in outlook, has low self-esteem, is intolerant of ambiguity and suffers from cognitive isolation. All these traits influence the dogmatic individual to choose simple and concrete solutions to problems that are based on unambiguous responses to simple stimuli. Most complex stimuli and responses are ignored by the dogmatic individual as they consistute a threat to his psychological well-being.

It is important to emphasize Rokeach's (1960) suggestion that dogmatism is correlated with extremity of attitude rather than content of attitude. Hanson (1976) surveyed published and unpublished material relevant to Rokeach's suggestion and noted, on the basis of accumulated evidence, that high dogmatics tend to be conservative and traditional in their ideological positions. There is evidence, however, that those who are radical in their ideological outlook may be just as dogmatic as traditionalists. Until the question of possible ideological bias in Rokeach's Dogmatism Scale is resolved, the issue concerning the degree of dogmatism amongst individuals prescribing to all shades of ideological opinion must be considered.

4.4 Conservatism

Wilson and Patterson (1969) noted that the psychological basis of conservative attitudes is a generalized susceptibility to feelings of threat or anxiety in the face of uncertainty, ambiguity, complexity,

novelty, change, deviance, individuality and anomie.

Wilson (1973) enlarged on the above statement when he described a dynamic theory of conservatism. In addition to affirming that the central proposition of conservatism is a generalized susceptibility to experiencing threat or anxiety in the face of a wide range of phenomena such as stimulus uncertainty, innovation, complexity, novelty, ambiguity, risk and anomie, as well as response uncertainty which includes freedom on choice, conflicting needs and conflicting desires, Wilson stated that certain genetic factors also contribute to conservatism. Factors such as anxiety proneness, stimulus aversion, low intelligence, lack of physical attractiveness and old age contribute toward the adoption of conservative attitudes. Wilson added that certain environmental factors such as parental coldness, punitiveness, rigidity and inconsistency as well as membership of lower social classes may also give rise to feelings of insecurity and inferiority which in turn may facilitate the adoption of conservative attitudes.

Thus it is argued that conservative attitudes serve as a defensive function. They arise as a means of simplifying, ordering, controlling and rendering more secure both the external world, through perceptual processes, stimulus preferences and response preferences, and the internal world which includes needs, feelings and desires. Order is imposed upon inner needs and feelings by subjugating them to rigid and simplistic external codes of conduct such as rules, laws, morals, duties and obligations, thus reducing conflict and averting the anxiety that usually accompanies awareness of the freedom to choose alternative modes of action.

Wilson (1970) described the attitude clusters which characterize

the "ideal" conservative. Wilson added that these attitude clusters reflect the stereotype of the true conservative. In a study designed to investigate the existence of conservative attitude clusters, Wilson administered the Conservatism Scale to 200 London males. Four conservative attitude clusters or factors were obtained. The first factor was that of general conservatism, the second factor can be described as the racialist factor, the third factor was concerned primarily with sexual freedom and the fourth factor loaded on church authority. A serious drawback to Wilson's study is the fact that no inference may be made for the female section of the population. The four factors found in this study refer to conservatism as a personality construct of males only.

In related studies which encompassed Dutch and New Zealand samples, Bagley, Wilson and Boshier (1970) found the same factors present after administering the Conservatism Scale to Dutch and New Zealand subjects. Wilson and Lee (1974) administered the Conservatism Scale to a Korean sample and once again similar factors to those found in the studies based on British, Dutch and New Zealand subjects were found. The results of the abovementioned studies indicate the existence of a stable factor structure in the Conservatism Scale as well as a remarkable degree of cross-cultural stability in the organization of conservative attitudes.

Wilson and Brazendale (1973) have argued that religious beliefs and racial prejudice may be defensive measures used in response to ego-threat in which case they are expected to have some relationship with general insecurity and neuroticism. In order to test this notion, Wilson and Brazendale administered the Conservatism Scale and the Eysenck Personality Inventory to a sample of 97 female student teachers. The results of this study indicate that extraversion correlates significantly with liberalism,

realism, hedonism and an absence of religion - puritanism. On the other hand conservatism correlates with religion-puritanism as well as with anti-hedonism. These results are consistent with the theory put forward by Wilson (1973) in that extraversion explains the ability to cope with novelty, change, excitement and risk. The negative relationship between extraversion and anti-hedonism as well as religion-puritanism derives from the extravert's relative freedom from religious beliefs and sexual inhibitions which characterize the conservative. In addition Wilson and Brazendale found that neuroticism correlated positively with the intolerance of minority groups as these are perceived as a threat. Generalized frustration is manifested as aggression toward a suitable vulnerable target and minority groups serve as vulnerable targets. The inferences drawn by Wilson and Brazendale are valid for females only as the research sample was comprised of female subjects only. Further research using male subjects is necessary in order to draw similar conclusions for the general population.

In order to ascertain the profile of the typical Australian social-conservative, Ray and Wilson (1976) surveyed a sample of over four thousand men and women. The profile drawn, after analysing the results of the survey indicates that the social conservative is more imbued with the Protestant Ethic, more family-oriented, less of a risk-taker, less pollution conscious and less upwordly mobile than the typical Australian social-liberal. In addition the social conservative is a person who is more anxious about uncertainties in his life than the social liberal. The abovementioned differences were not found to be statistically significant. However Ray and Wilson infer that the findings of the survey indicate

a definite social-conservative personality trend which is typified by the existence of certain traits.

In a study designed to investigate the relationship between conservatism and racial tolerance, Bahr and Chadwick (1974) administered the Conservatism Scale to a research sample comprising 122 American Indians and 356 American Whites. The results of the study indicate that in the case of the conservative white subjects there was a significant relationship between conservatism and racial intolerance. However for liberal white subjects as well as for the Indian subjects no significant relationship between conservatism and racial intolerance was found. Bahr and Chadwick inferred, from an analysis of the results, that conservatives, who are susceptible to feelings of threat and anxiety generated by members of different racial or cultural groups, adopt an attitude of racial intolerance when feelings of threat and anxiety are present. The attitude of racial intolerance is somehow related to the attempts of the conservative individual to alleviate feelings of threat and anxiety generated by a different racial group.

Verma (1978) investigated the relationship between conservatism and personality factors. He administered the High School Personality Questionnaire and the adolescent version of the Conservatism Scale to a sample of 492 high school pupils. The results of this study indicate that conservatism is significantly related to the following personality traits in both male and female pupils - reserved and detached, obedient and easily led, sober and taciturn and tough-minded. According to Verma the findings support the notion of the existence of a conservative personality.

From the above-mentioned studies it may be inferred that conservatism is a personality construct. The conservative adopts this construct in

order to assist him in his fight against anything that might be construed as a threat to his psychological well-being. Ray (1974) pointed out that the conservative recognizes his limitations and imperfections and is therefore continually on his guard against possible failure. Eysenck (1975) noted that the conservative is tough-minded and anti-progressive in order to cope with any threat generated by progress or by sensitivity. The conservative uses his tough-mindedness to help him shut out emotions from his decision-making processes.

With regard to ethical and moral judgement and behaviour, Larr and Zea (1977) found that moral judgement can be interpreted in terms of the conservative-liberal continuum. The conservative is concerned with tradition and old-established moral customs, whereas the liberal is prepared to review, and change if necessary, old-world standards.

In a similar study, Fincham and Barling (1979) investigated the relationship between moral judgement and psychological conservatism. The researchers hypothesized that conservatism is positively correlated with conventional moral reasoning, but negatively correlated with principled moral reasoning. Fincham and Barling adminstered the Conservatism Scale and Rest's Defining Issues Test to 55 white English-speaking university students studying at a South African university. Cross-cultural differences were minimized by using a sample comprised of a homogeneous cultural group of subjects. The results of the study indicate that principled morality correlated significantly and negatively with conservatism ($r = -.22$). Conventional morality approached significance in a positive correlation with conservatism ($r = .18$). No inference may be made from the results of this study regarding the connection between

conventional morality and conservatism. The researchers noted that in this study no support was found for equating moral judgement and psychological conservatism as the two variables shared only a minimal amount of variance. However, in the light of Kohlberg's (1976) contention that higher stages of moral judgement reflect increasing cognitive complexity, it may be explained that principled morality, not being dependent on the typical beliefs and attitudes of the conventional conservative, such as inflexibility, lack of ambiguity, lack of originality and rigidity, is negatively related to conservatism.

Wilson, Ausman and Mathews (1973) found that ambiguity is a major source of anxiety to the conservative. They indicated that the conservative constantly searches for order, simplicity and security so that he may overcome feelings of ambiguity. The findings emanate from a study which tested the reaction of conservatives to stimulus uncertainty in the form of paintings which ranged from the simple to the complex. Conservatives preferred simple and representational paintings whereas liberals preferred complex and abstract paintings. The conservatives actively disliked complex paintings. According to Wilson, Ausman and Mathews the results of this study support the notion that the conservative feels threatened by complexity and ambiguity.

In a study dealing with the related issue of rejection of change and novelty by conservative individuals, Kish, Netterberg and Leahy (1973) examined the relationship between conservatism and stimulus-seeking. Conservatism was found to be negatively correlated with stimulus-seeking and the reasons for this relationship, as given by Kish, Netterberg and Leahy, indicate that the low stimulus-seeker is opposed to situations that change, does not like novelty, prefers simple situations to complex ones and does not approve of exploratory situations. The low stimulus-seeker

tends to be high on conservatism which assists in the fight against the threat of changing situations, novelty and complexity. Pearson and Sheffield (1975) obtained similar results in their research on the relationship between sensation-seeking and conservatism. They found that for both male and female subjects, sensation-seeking was negatively related to conservatism for reasons already stated by Kish, Netterberg and Leahy (1973).

With regard to the formation of conservative attitudes, Pushkin and Veness (1973) have shown that parents influence the formation of conservative attitudes in their children. Furthermore Nias (1973a) has pointed out that children's conservatism may reflect parental prohibitions. It is possible, according to Nias, that conservatism is a typical social attitude transmitted to children mainly by their parents. Boshier and Izard (1972) stated, more emphatically, that conservative parents tend to nurture conservative children. Conservative parents use harsher and more punitive child-rearing methods than liberal parents, and therefore influence the formation of conservative attitudes in their children's attitudinal patterns.

Boshier and Thom (1973) retested the hypothesis that conservative parents tend to raise conservative offspring. The researchers administered a modified version of the Conservatism Scale to a sample of 76 New Zealand teenagers as well as to their parents. Boshier and Thom found that conservatism and liberalism in parents were associated with similar attitudes in their children. The greatest attitudinal similarity existed between fathers and their sons and mothers and their daughters. The researchers inferred from this finding that children identify especially with and introject the attitudes of the same-sex parent. This coincides with the reports of Lambert and Lambert (1964) and Halloran (1970).

According to the studies quoted above, conservatism is a personality construct used by certain individuals in their daily fight against a number of problems. Issues such as uncertainty, anxiety, risk, ambiguity, novelty, change, complexity and anomie are typical of those that constitute a threat to the conservative individual. The conservative is unable to function in the face of such threat and therefore utilizes conservative attitudes and traits such as rigidity, simplicity, clarity, ordering, religion, objectivity, harshness, introversion and aggression, to mention but a few, so as to combat threat. The conservative will deal with any stimulus that constitutes a threat in the stereotyped conservative manner so as to reduce anxiety.

4.5 The Interrelationship between Ethnocentrism, Authoritariansim, Dogmatism and Conservatism

It has been established above that ethnocentrism, authoritarianism, dogmatism and conservatism all have certain common elements. In the following pages an attempt will be made to show that these personality attitudes and traits are all part of a greater personality construct which has been named General Conservatism.

Levinson (1950), using the Politico-Economic Scale, has shown that a significant relationship exists between ethnocentrism and conservatism. Conservatives are significantly more ethnocentric than liberals and, according to Levinson, ethnocentrism may be equated with conservatism so high is the correlation between the two traits.

The reason for this possible equation was suggested by Levinson, because of certain major similarities in their underlying trends.

Conservatism, as defined by Levinson, is the resistance to change and the acceptance of the ruling state of affairs. Ethnocentrism, as defined by Levinson, is the submission to accepted authority in all areas of social life as well as the promotion of the ingroups and the rejection of the outgroups existing within the society.

Levinson has pointed out that it may be possible to differentiate between the genuine conservative - he who is resistant to change but can still be highly critical of the ingroup, and the pseudo-conservative - he who is always resistant to change and champions the ingroup under all possible circumstances. Ethnocentrism seems to correlate significantly with pseudo-conservatism although it may also correlate with genuine conservatism. Levinson noted that the genuine conservative is able to distinguish between issues and does not feel threatened by the issues that threaten the pseudo-conservative. Levinson suggested that the essential difference between the two may be explained as a variable of threat. The genuine conservative has a deep belief in tradition and the importance of maintaining this tradition in the face of change. Change does not serve as a threat to the genuine conservative. On the other hand the pseudo-conservative is threatened by change and novelty. His resistance to change is designed to reduce the anxiety of threat and has very little to do with belief in maintaining tradition.

Wilson and Patterson (1970) have shown that high scorers on the Conservatism Scale show religious dogmatism, right-wing political orientation, insistence on strict rules and punishments, ethnocentrism and intolerance of minority groups, preference for conventional art, clothing and institutions, anti-hedonism, superstition and resistance to scientific progress. Bagley, Wilson and Boshier (1970) indicated the existence of

an important general factor, best described as general conservatism, underlying the field of social attitudes. According to Bagley, Wilson and Boshier general conservatism is characterized by the adoption of conventional, conforming, anti-hedonistic, authoritarian, punitive, ethnocentric, miliaristic, dogmatic, superstitious and anti-scientific attitudes.

From this description it may be inferred that general conservatism is related to ethnocentrism, authoritarianism and dogmatism.

Souief (1958) found that individuals who obtain high scores on scales of conservatism, authoritarianism and intolerance of ambiguity see the world in "black and white". Souief explained that this perception of "black and white" is related to the many extreme judgements or responses that conservatives, authoritarians and dogmatics make. Bochner (1965) added that conservative individuals show a distinct need for certainty and by their simple responses feel that they are simplifying a complicated world. Frenkel-Brunswik (1950) has already stressed that ethnocentrics, authoritarians and dogmatics have a simple, firm and often stereotyped cognitive structure. This cognitive simplicity serves to obviate any ambivalence and ambiguity.

Rokeach (1960) found a significant relationship between dogmatism and conservatism. Costin (1971), who assessed this same relationship, found that the correlations between dogmatism and conservatism, based on the scores achieved on various scales of conservatism, supported Rokeach's (1960) findings.

Suziedelis and Lorr (1973) investigated the relationships between a large number of different socio-political attitudes in order to determine the structure and dimensionality of such attitudes. The researchers ad-

ministered an attitude inventory to 300 subjects. The inventory yielded three factors which were liberal-conservative, freedom on sex expression and equalitarianism. The correlations derived from the study support the notion that conservative attitudes and authoritarian values are essentially identical constructs. In addition the correlations between the three factors indicate a common dimension of general conservatism. The results of this study support the contention of Bagley, Wilson and Boshier (1970) that general conservatism underlies the field of social attitudes.

In another more general attitude study, Eysenck and Coulter (1972) conducted an investigation into the attitudes of Britishers who supported communist and fascist political groups. Various measures of authoritarianism, ethnocentrism, intolerance, rigidity and personality were administered to the subjects of the research. The results indicate that there is a strong relationship between tough-mindedness, rigidity, authoritarianism and intolerance. There was a significant correlation between the above-mentioned variables and conservatism for the group of fascist supporters. These results support the notion that the various attitudes comprising the general conservatism construct are interrelated.

Ray (1973) conducted a study in which he proposed to establish the existence of interrelationships between authoritarianism, dogmatism, ethnocentrism and conservatism. He administered the California F-Scale, the Rigidity Scale, the Ethnocentrism-Scale and Rokeach's Dogmatism Scale (a battery known as FRED) to a sample of 474 Australian regular army conscripts. The results of the study indicate that the social attitude items of the F-Scale, R-Scale, E-Scale and D-Scale are all orderable along a

single dimension best called, according to Ray, liberalism-conservatism. Ray found that there are no conceptual or empirical grounds for distinguishing between authoritarianism and conservatism although authoritarianism may be regarded as a somewhat more particular case of conservatism. Ray inferred that there is a close association between the four factors dealt with in his study i.e. authoritarianism, ethnocentrism, dogmatism and conservatism.

Hanson (1968) demonstrated that dogmatism, as measured by Rokeach's Dogmatism Scale, taps general authoritarianism. Vacchiano, Strauss and Schiffman (1968) indicated that dogmatism correlated significantly with conformity, restraint and conservatism. Wilson (1973) found that conservatism, as measured by the Conservatism Scale, correlated significantly with dogmatism. Wilson added that conservative and dogmatic attitudes might be in some way related to a low level of intelligence. Hanson (1973) retested the hypothesis that dogmatism is related to conservatism. The results of his study indicate that dogmatism is significantly related to conservatism. However, no relationship was found between dogmatism and liberalism. Sarkar and Hassan (1973) investigated the differences between subgroups of Hindu and Muslim subjects on issues of authoritarianism and economic conservatism. The researchers administered the Rundquist and Stello Economic Conservatism Scale and an Indian version of the Conservatism Scale to 200 subjects. The results of this study indicate a positive relationship between authoritarianism and economic conservatism.

Hicks (1974) surveyed a sample of 604 college students on the issue of preferences for political candidates with liberal and conservative leanings. The results of the survey indicate that conservatism correlated positively and significantly with low self-concept, conformity,

materialism, provincialism, intolerance of ambiguity, traditional family ideology and authoritarianism. The findings of this study support the contention that political conservatism is related to authoritarianism.

It has been demonstrated in the above review of relevant research studies that a significant and positive relationship exists between the attitudinal factors which form the personality construct of general conservatism. Ethnocentrism, authoritarianism, dogmatism, political conservatism, social conservatism and economic conservatism correlate positively and significantly with each other. Therefore it may be inferred that the general personality and behaviour patterns, generated by the traits forming the personality construct of general conservatism, are significantly similar.

Prisuta (1979) conducted a study in which he investigated the relationship between conservatism and exposure to television programmes. Prisuta hypothesized that there would be a relationship between conservative values and exposure to televised sports. The researcher surveyed a sample of 600 high school students with regard to their attitudinal orientation and their television viewing habits. Correlational analysis of the results of this study indicate that a significant relationship exists between television sports viewing and nationalism, authoritarianism and conservatism. Prisuta inferred from these findings that the frequent television sports viewer was more oriented towards need-determined expression than the non-viewer. Prisuta added that television sports viewing may well serve as a socializing agent of conservative values.

With regard to cognitive processes of dogmatics, authoritarians and conservatives, Bhutani (1977) examined the effects of cognitive consistency, cognitive complexity and cognitive rigidity on attitude change.

From the results of this research Bhutani indicated that subjects with complex and inconsistent cognitive systems were more open to attitude change than subjects with rigid and simple cognitive systems. It may be inferred that an individual who has a rigid and simple cognitive system finds it difficult to condone any attempt to bring about an attitude change, whereas an individual with a complex and flexible cognitive system does not feel threatened by proposed attitude change.

Also dealing with the issue of thought processes, Wright and Phillips (1979) investigated the relationship between authoritarianism, dogmatism and conservatism as well as the relationship between these three variables and probabilistic thinking. The researchers administered measures of authoritarianism and rebelliousness, conservatism, intolerance of ambiguity and social desirability to 143 adult subjects. In addition the researchers administered the View of Uncertaincy Questionnaire and the Probability Assessment Questionaire to the research sample. According to the results of this study, a significant relationship was found between authoritarianism, dogmatism and conservatism. However, no significant relationships were found between authoritarianism, dogmatism and conservatism on the one hand and a lack of probabilistic thinking on the other. Wright and Phillips noted that subjects characterized either as conservatives or as liberals achieved similar results on the probabilistic thinking measures. They postulated, therefore, that probabilistic thinking is an area of cognitive funcitoning that can be considered separate and different from other areas of cognitive activity that depend on flexibility for efficiency.

In a study in which the relationship between general intelligence

on the one hand and conservatism and dogmatism on the other was investigated, Lapsley and Enright (1979) administered the Conservatism Scale, Rokeach's Dogmatism Scale and Raven's Advanced Progressive Matrices to a research sample. The results of this research indicate that there is a significant negative correlation between conservatism and dogmatism, as measured by the Conservatism Scale and Rokeach's Dogmatism Scale, and general intelligence as measured by Raven's Advanced Progressive Matrices. This finding supports the notion that dogmatism and conservatism are negatively related to intelligence.

In conclusion, it has been shown that ethnocentrism, authoritarianism, dogmatism and conservatism are similar attitudinal constructs which form the major personality construct of general conservatism. Many of those researching general conservatism, including Wilson and Patterson (1970), Bagley, Wilson and Boshier (1970) as well as Suziedelis and Lorr (1973), have indicated that general conservatism is a major personality construct underlying all social behaviour. It has been demonstrated that there is a highly significant relationship between ethnocentrism, authoritarianism, dogmatism and conservatism and that these elements comprising the general conservatism construct are characterized by the following personality traits:- inflexibility, rigidity of thought, cognitive simplicity, cognitive isolation, intolerance of ambiguity, lack in creativity, submission to authority, a need for clear-cut rules and regulations, anxiety, dependence on authority, low self-esteem, an intolerance of socially, culturally or ethnically different groups and conformity. The general conservative is especially susceptible to threat or anxiety which is usually brought about by a wide range of variables of which change and novelty are common denominators. The general conservative is opposed to any type of change

and will combat the threat of change using the abovementioned characteristics.

On the issue of intelligence it has been demonstrated that high achievement on intelligence measures is dependent on flexibility, originality, creativity and the ability to contend with situations that demand initiative and novelty. The general conservative lacks these characteristics and therefore lacks the ability to score highly on intelligence measures. The general conservative is considered, therefore, to be less intelligent than his liberal counterpart. He is also less of an achiever in academic tasks than his liberal counterpart.

4.6 South African Aspects of General Conservatism

Scholtz (1956) and Loubser (1968) stated that white South African society is highly conservative. South African whites in general and Afrikaans-speaking South African whites in particular are reported by Scholtz and Loubser to possess those traits and attitudes which are congruent with the general conservatism construct. In the following review the notion that South African whites, with particular emphasis on Afrikaans-speaking South African whites, are general conservatives will be examined.

White (1976) has found that in highly authoritarian societies, the relationship between prejudice and authoritarianism is as high as the same relationship within democratic settings. Christie and Garcia (1951) also held this view. Morse and Orpen (1975) have shown that the South African white society is an authoritarian one in which considerable prejudice and social conformity are evident. In addition, Groenewald and Heaven (1977) have indicated that substantial social distance is manifest between the various cultural groups comprising South African society.

In a research which investigated psychological conservatism among Indian and white schoolchildren in South Africa, Barling and Fincham (1979) found that white school children are significantly more ethnocentric than their Indian counterparts. The researchers postulated that this difference between white and Indian schoolchildren in South Africa may result from the white legislature's preoccupation with maintaining social barriers and distances. Ritchie (1973) supported the notion that maintaining social differences is a definite characteristic of ethnocentric and conservative societies.

In a study designed to ascertain whether prejudice is a manifestation of deep-lying personality trends - such as authoritarianism - among white Afrikaans-speaking South Africans, Orpen (1970) used a research sample of 100 Afrikaans-speaking first-year university students. The researcher administered the California F-Scale, the Ethnocentrism Scale and the OAS-Scale developed by Couch and Keniston (1960) in order to measure level of acquiescence. The results of this study support the authoritarian thesis that prejudice is largely a reflection of personality needs even in an authoritarian environment such as South Africa. The subjects of this study were found to be far more authoritarian than the subjects who participated in the pioneering study on authoritarianism conducted by Adorno et al (1950). An additional finding indicated a significant correlation between authoritarianism and ethnocentrism when acquiescence was partialled out. Orpen inferred from the results of this study that authoritarianism and the authoritarian personality are cross-culturally valid constructs. According to Orpen it appears that Afrikaans-speaking white South Africans have internalized the prevailing authoritarian norms

permeating large sections of the white South African society and this in turn makes them especially receptive to the prejudiced ideas underlying white South African culture.

Wilson and Patterson (1970) indicated the existence of a general factor of conservatism with four major components which are anti-hedonism, ethnocentrism, militarism-punitiveness and religion-puritanism. Wilson and Shutte (1973) conducted a study in order to determine whether the same structure of attitudes would apply to a conservative group of white South Africans. The researchers administered the Conservatism Scale to 116 white South Africans divided into two groups comprising 66 Afrikaans speakers and 50 English speakers. The pattern of intercorrelations obtained was identical to that found in studies carried out in Britain, Germany, Holland and New Zealand. The four major sub-factors correlated evenly with each other and contributed evenly to the general score of conservatism. The Dutch Reformed Church group, comprising 40 Afrikaans speakers scored highest on all four components of conservatism. The total Afrikaans-speaking group was more conservative than the English-speaking group on all four sub-factors of conservatism. The results of Wilson and Shutte's study must be treated with the utmost caution in the light of a serious flaw evident in the analysis of the results. No factor analysis was performed and the sub-factors used in the computation of correlations were those found in previous studies in which British, German, Dutch and New Zealand subjects were tested. Without conducting a factor analysis on the results of the South African subjects, it is impossible to infer any specifically South African phenomena, especially as the cultural, social and ethnic background of South Africans is different from that of subjects participating in previous studies quoted

by Wilson and Shutte.

From the results of the studies mentioned thus far it may be inferred that the white South African society is generally conservative with a preponderance of authoritarian, ethnocentric and conservative attitudes held by members of that society. The Afrikaans-speaking section of the white South African society seems particularly prone to generally conservative attitudes and maintains social and cultural distances from other social, cultural and ethnic groups making up white South African society.

Heaven (1978) compared South African schoolchildren with British schoolchildren on the issue of conservatism. The researcher administered the children's Conservatism Scale to a sample of 167 white South African schoolchildren and compared their scores with the scores achieved by British children on the same scale as reported in a study carried out by Wilson, Nias and Insel (1972). The South African schoolchildren were significantly more conservative, religious and punitive than the British schoolchildren. The results of Heaven's (1978) study support the contention that white South Africans in general and Afrikaans-speaking white South Africans in particular tend to hold conservative attitudes.

It has been demonstrated, that the general conservatism construct is related to typically conservative behaviour, in studies conducted in flexible and liberal societies. However no inferences have been made as to the relationship between the general conservatism construct and its relationship to behaviour in a conservative society. It may be hypothesized that as in liberal societies, so too in conservative societies, general conservatism is related to typically conservative behaviour. On the other hand it may be hypothesized that in a conservative society the general

conservatism construct is related to different manifestations of behaviour from those typical in a liberal society. The following studies deal with this important question.

Colman and Lambley (1970) suggested that in societies characterized by high levels of culturally tolerated racial prejudice, the relationship between authoritarianism and racial attitudes is not clear. In societies characterized by liberal values significant correlations have been found between racial prejudice and authoritarianism. Titus and Hollander (1957) reported that in a number of North American research samples significant correlations were found between authoritariansim, ethnocentrism and especially racial prejudice. In a study designed to clarify the relationship between authoritarianism and racial prejudice in the white South African society Colman and Lambley (1970) tested authoritarianism and racial prejudice in a research sample of 60 university students. The results of the study indicate that the relationship between authoritarianism and racial prejudice was significantly weaker in the South African sample than the correlations between the same variables in the North American samples tested by Titus and Hollander (1957). Colman and Lambley interpreted these findings as suggesting that in a society where racial prejudice is part and parcel of daily life, attitudes connected with prejudice serve a utilitarian rather than an ego-defensive function of personality dynamics. Therefore, the racial attitudes in an authoritarian society, such as exists in white South Africa, are not as unchangeable, incorrigible or inflexible as prejudiced attitudes in liberal societies.

Colman and Lambley elaborated on the reasoning behind their inferred explanation of the findings of their study. They postulated that there are

firm reasons for the existence of a weak correlation between authoritarianism and racial prejudice in prejudiced societies. In such societies racial prejudice is a social norm with the result that those individuals holding prejudiced views do so in order to conform to the norms of their society. Therefore these attitudes are utilitarian in nature and could be expedient. In liberal societies however, prejudiced attitudes are not part of the attitudinal norms of the society. Those individuals who hold prejudiced attitudes in liberal societies probably do so as an ego-defensive measure in order to combat threat and anxiety. In circumstances where prejudiced attitudes are ego-defensive, they are usually unchangeable, rigid and inflexible and as such are never expedient.

Similarly, Orpen (1970) has pointed out that the relationship between prejudice and personality is largely a function of whether the prevailing cultural and social norms explicitly sanction prejudiced ideas. In societies where prejudiced norms prevail, individuals are encouraged to hold attitudes of intolerance irrespective of their basic personality structure. On the other hand, in societies where prejudiced norms are nonexistent, the individuals basic personality structure will be the major determinant of prejudiced attitudes.

Orpen (1971a) investigated the notion that the authoritarian personality may be culture-bound in that the relationship between personality and prejudice will only exist under certain cultural conditions, for example relatively liberal and democratic settings such as California in the United States. In order to test this hypothesis Orpen administered the California F-Scale, Colman's Anti-African Prejudice Scale and the Bogardus Social Distance Scale to a sample comprising 88 white English-speaking South African university students. The results of this study indicate that there

is no significant relationship between authoritarianism and racial prejudice or between authoritarianism and social distance. Orpen inferred from these findings that in an authoritarian society such as exists in white South Africa, there is no relationship between personality structure and prejudice. Orpen suggested that racial attitudes in white South African society serve mainly utilitarian functions in order to win social approval rather than ego-defensive functions as found among those individuals with prejudiced attitudes in liberal societies.

Orpen and Tsapogas (1972) retested the above notion and administered the forced-choice version of the California F-Scale and two measures of prejudice to 131 white schoolchildren living in South Africa. As in previously mentioned studies the results of this study indicate that there is no significant relationship between authoritarianism and racial prejudice in an authoritarian society. The researchers' findings support the notion that where racial prejudice is a societal norm, racial attitudes serve a utilitarian function rather than an ego-defensive one.

Orpen and Rookledge (1972) hypothesized that just as authoritarianism does not correlate with prejudice in an authoritarian society, so in the white South African society dogmatism would not correlate with prejudice or social distance. The researchers administered Rokeach's Dogmatism Scale, Colman's Anti-African Prejudice Scale and the Bogardus Social Distance Scale to a sample of 74 English-speaking white South African schoolchildren. The results of this study indicate that neither of the correlations between the personality dimension of dogmatism and the measures of prejudice and social distance were significant at the .01 level. Orpen and Rookledge inferred from these findings that personality factors are less significantly

related to prejudiced attitudes in settings characterized by prejudiced norms than in settings characterized by non-prejudiced norms.

Lambley (1973) conducted a similar study to those performed by Orpen (1971a), Orpen and Tsapogas (1972) and Orpen and Rookledge (1972) in order to test Pettigrew's (1960) hypothesis that in an authoritarian culture, such as white South Africa, prejudice serves a utilitarian function of personality rather than an ego-defensive one. Lambley administered measures of authoritarianism, ethnocentrism, anti-African prejudice and social distance to a sample of 190 white South African university students. The results of this study indicate that authoritarianism was related to ethnocentrism and prejudice no more significantly than in studies conducted with research samples living in liberal social and cultural settings. Lambley inferred therefore that the findings of this study support Pettigrew's (1960) hypothesis that in an authoritarian culture, prejudice serves as a utilitarian function of personality rather than an ego-defensive one.

Heaven (1977) investigated the relationship between authoritarianism and authoritarian behaviour in an authoritarian society. Heaven administered Ray's Directiveness Scale, which is a measure of general conservatism and its subfactors, and a scale measuring prejudice to a research sample of 38 Afrikaans-speaking white South African university students. No significant relationship was found between the results obtained on the two scales. Heaven inferred from the findings that in an authoritarian society, authoritarianism is not necessarily related to authoritarian behaviour. The reasoning behind this inference is that in a society where authoritarianism is encouraged as a social norm, it is adopted as a utilitarian function and not as an ego-defensive one.

The studies conducted in South Africa demonstrate that general conservatism, authoritarianism, ethnocentrism and dogmatism which characterize the typical South African personality, are related differently to attitudinal patterns than the same personality variables in a liberal society. It appears that the general conservative who lives in a conservative society functions differently from the general conservative who lives in a liberal society. The present study will attempt to investigate these differences in the area of cognitive and social processes.

CHAPTER 5

RELIGIOSITY AND GENERAL CONSERVATISM

Much research has been conducted in order to investigate the relationship between religiosity and general conservatism. It has always been assumed that the traditionally religious individual is conservative in his outlook on life and also in his religious, political and social attitudes to society. In this chapter the essence of the relationship between religiosity and the elements of general conservatism will be reviewed.

5.1 Religiosity and Ethnocentrism

Sanford et al (1950) conducted a study that dealt with the relationship between ethnocentrism and religious attitudes and practices. Sanford et al remarked that in the United States it appears that one who identifies with organized religion does not automatically accept the traditional religious values of tolerance, brotherhood and equality. The findings of Sanford et al indicate that traditional values of humanism are more firmly held by those individuals who are not affiliated with any organized religious group.

Sanford et al noted that identification with religion or conventional association with a religious denomination expresses enough identification with the social status quo, submission to external authority and readiness to moralistically emphasize the differences between those who belong - members of the ingroup - and those who do not belong - members of the outgroup.

According to Sanford et al when religion is accepted by the individual because of conformity, conventionalism, authoritarian submission,

determination by external pressures and thinking in ingroup-outgroup terms, then there seems to be a significant relationship between religion and ethnocentrism. Sanford et al found that individuals who profess to some religious affiliation express more prejudice and ethnocentrism than those who do not. It was also found that religious individuals whose parents were religious have a higher level of ethnocentrism than those who are religious by their own conviction or those who are non-religious. Those subjects who considered religion and its institutions important were considerably more ethnocentric than those who considered the ethical aspects of religion as being important or those who did not consider religion important at all.

O'Reilly and O'Reilly (1954) investigated the relationship between religion and prejudice. The researchers administered a test of religious devoutness in order to establish attitudes of religion and prejudice among a research sample of approximately 200 university students. O'Reilly and O'Reilly found that the religiously devout subjects were significantly more racially prejudiced against negroes and Jews than the non-religiously devout subjects in this study.

Allport and Ross (1967) reviewed the relevant literature dealing with religion and prejudice. They inferred, from the results of the studies reviewed by them that, on the average, religious individuals show more intolerance than non-religious individuals. Beswick and Hills (1969) investigated the relationship between religion and ethnocentrism and their findings, which indicate that the religious subjects who participated in their study were significantly more ethnocentric than aethiest or agnostic subjects, support the inferences made by Allport and Ross (1967).

In a study dealing with another aspect of prejudice, Wooster (1972) investigated the degree of adherence to the Protestant Ethic in the rural area of Northeastern Colorado in the United States. Wooster found that high adherence to the Protestant Ethic is related to residence in a rural area as well as to negative attitudes towards the poor and poverty. Rokeach (1970) surveyed a national sample of over 1000 adults on issues dealing with values, religious practices and views about race relations, equality and justice. The findings of the study indicate that the more frequently the respondents attended church services, the less social compassion they expressed. Rokeach suggested in the light of his findings, that religious practice apparently shuts out social awareness, and traditionalism tends to be related to a lack of interest in liberalism as well as to indifference to a social system that might perpetuate social inequality and injustice. The results of this study must be viewed with caution as the significant relationship found between religious practice and lack of social awareness may be an artifact of the sample size.

In view of the findings of the abovementioned studies it may be inferred that a significant relationship exists between religiosity and ethnocentrism as well as prejudice against minority groups. The religious individual apparently views his affiliation to a religious denomination as the correct thing to be done. All who do not accept religious affiliation as correct are looked down upon. In addition, the religious individual is usually insensitive to social inequality and injustice.

5.2 Religiosity and Authoritarianism

Mirels and Garrett (1971) investigated the connection between the Protestant Ethic, which is composed of a love for work and a hate of

hedonistic pleasure as well as traditional respect for the authority of the church, and various personality measures. From the results of the study, the researchers indicated that there is a significant relationship between the Protestant Ethic and authoritarianism as well as between the Protestant Ethic and expectation of internal discipline and control.

Luft (1972) studied the expected differences in levels of authoritarianism between teaching sisters and lay teachers in Catholic elementary schools. Luft administered the California F-Scale to 300 subjects drawn at random from the faculty of Catholic elementary schools. The findings indicate that the teaching sisters had a significantly higher level of authoritarianism than lay teachers. Luft attributed this difference to the religious training received by the teaching sisters which, he felt was related to the higher level of authoritarianism, as opposed to the lay teachers who had received no formal religious training.

Other studies which support the notion that religiosity is significantly related to authoritarianism were conducted by Gregory (1957) who indicated the existence of a significant relationship between authoritarianism and religious orthodoxy, Fehr and Heuntzelman (1977) who replicated Gregory's study and supported Gregory's inference that there is a significantly positive correlation between religious orthodoxy and authoritarianism, and by Weller, Levinbok, Maimon and Shaham (1975) who investigated the relationship between authoritarianism and religiosity in an Israeli research sample. Weller et al also investigated whether authoritarianism leads to religiosity or religiosity leads to authoritarianism. The sample participating in this research was made up of 301 high school and university students who were divided into 4 groups:- religious sons of

religious parents, non-religious sons of religious parents, religious sons of non-religious parents and non-religious sons of non-religious parents. The results of this study indicate that religious sons of religious parents are more authoritarian than non-religious sons of religious parents. Religious sons of religious parents were not more authoritarian than religious sons of non-religious parents. Weller et al inferred from their findings that there is a significant connection between religiosity and authoritarianism. In addition the researchers inferred that authoritarian individuals are attracted to an orthodox doctrine. This inference explains the phenomenon in which the influence of non-religious parents on religious sons did not decrease the sons' level of authoritarianism.

Petropoulos (1979) investigated the relationship between religiosity and prejudice. He used several indicators of religiosity such as church attendance, church membership, parochial education and orthodoxy in order to categorize a research sample consisting of 152 Greek Americans. Petropoulos found, after analysing the results of his research that there is a significant and positive relationship between religious orthodoxy and authoritarianism. In a study designed to ascertain the level of obedience to religious authority between non-believers, moderate believers and strong believers, Bock (1973) administered several religious measures to a sample of 75 college students. Bock found that there was a trend for non-believers to refuse to yield to religious authority. Moderate believers consistently yielded to religious authority and strong believers were the most obedient yielding to religious authority more than the other subgroups participating in the research sample.

The studies quoted above indicate the existence of a significant

and positive relationship between authoritarianism and religiosity. It was inferred that the authoritarian needs to adopt an orthodox doctrine and religion provides him with a suitable doctrine. The religious individual accepts the authority of the church and is submissive to religious authority.

5.3 Religiosity and Dogmatism

A number of studies have been conducted in order to investigate the relationship between religiosity and dogmatism. In an exploratory study Feather (1967) found a connection between dogmatism and membership of religious groups that are dependent on authority and tolerate little argument concerning adherence to basic beliefs. Di Renzo (1967) indicated that low dogmatic Catholics are more favourably disposed to liturgical changes in the church than high dogmatic Catholics.

Swindell and L'Abate (1970) hypothesized that dogmatism and religiosity are positively correlated. They administered Rokeach's Dogmatism Scale, the Religious Attitudes Questionnaire and the Fundamentalist Attitudes Inventory to a sample of 135 undergraduate students. The results of the study indicate that the scores obtained by the subjects on the two measures of religious belief correlated positively with the scores obtained on the measure of dogmatism. Swindell and L'Abate inferred from the findings that religiosity is positively related to dogmatism.

Glass administered questionnaires and self-report type instruments in order to ascertain the level of religiosity and dogmatism of 495 female college students who served as a research sample. Glass found that high scorers on the instruments measuring religious beliefs were more dogmatic on social, political and economic issues than low scorers on the

instruments measuring religious beliefs. This research has a serious limitation in that self-report instruments were used to assess religiosity without any control for social desirability. The results, therefore should be treated with caution and no generalizations should be made from the findings of this study.

In a similar study Kilpatrick, Sutker and Sutker (1970) investigated the relationship between religiosity and dogmatism. They administered Rokeach's Dogmatism Scale and a biographical sheet from which the subjects' religious preferences, observances and activities were obtained to a sample of 495 university students. Before analysing the results of the study, the researchers divided the subjects participating in the research into groups according to religious denominations namely, Catholics, Protestants, Jews and non-believers. The results were then analysed and the various denominations were compared according to scores obtained on Rokeach's Dogmatism Scale as well as on issues of religiosity as obtained from the biographical sheet. The results of the study indicate that fundamentalist Protestants are more dogmatic than Catholics. Churchgoers and those actively interested in religion are more dogmatic than non-churchgoers or those indifferent to religious observance. Jews were found to be as dogmatic as Protestants but the researchers discounted this finding because the sample of Jewish subjects participating in the study was small and not representative. Cryns (1970) supported the findings of Kilpatrick, Sutker and Sutker (1970). The results of his study, in which he investigated dogmatism as a personality trait of Catholic clergymen, indicate that those active in the Catholic Ministry are significantly more dogmatic than either ex-priests or ex-seminarians.

On other issues related to religiosity and dogmatism, Steininger,

Durso and Pasquarello (1972) found that polital conservatism, reported church attendance and dogmatism are significantly interrelated. White (1976), in a study designed to ascertain the various influences on marital happiness, found that individuals were generally consistent in their ideological perceptions of various institutions of life. White also found that an individual who was traditional in his family ideology, was generally more conventional in his religious and political ideology. In addition White found that dogmatic subjects were significantly more religious than non-dogmatic subjects. Di Guiseppe (1971) administered Rokeach's Dogmatism Scale and a religious scale measuring the importance of religion to a sample of 50 university students. A significant correlation was found between scores on the Dogmatism Scale and scores on the religious measure. Di Guiseppe inferred from his findings that the more meaningful or important religion is to the individual, the more dogmatic he will be. In addition, Di Guiseppe suggested that it is possible that religion is more important for high dogmatics than it is for low dogmatics. It may be said that religiosity is significantly related to dogmatism, as shown in the studies quoted above. The religious individual tends to be dogmatic in his social, political and economic attitudes and is generally consistent in his overall ideology. The dogmatic individual takes his religious beliefs seriously and it seems apparent that religious belief and dogmatism complement one another.

5.4 Religiosity and Conservatism

Wilson and Bagley (1973) noted that religion has long been recognized as a conservative force in society because of the fact that it is an institution resistant to progressive change. Not all religious individuals

and organizations are characteristically resistant to change but it is reasonable to suggest that the ideal conservative will adhere to a form of religion that is dogmatic, authoritarian and fundamental in nature.

Webster and Stewart (1973) investigated the relationship between general conservatism, theological conservatism, dogmatism and ethnocentrism. The researchers administered the Theological Inventory, the Conservatism Scale, Rokeach's Dogmatism Scale, an adaptation of the Australian Ethnocentrism Scale developed by Beswick and Hills (1969) as well as a variety of personality measures to a sample of active ministers or ex-ministers of the Protestant religious denomination in New Zealand. The findings of the study indicate that there is a positive relationship between theological conservatism, general conservatism, dogmatism and ethnocentrism. The generally conservative minister is highly likely to be theologically conservative, ethnocentric, dogmatic and dependent on others. He is unlikely to be theologically liberal, independent, flexible in values, sensitive to feelings or constructive in his view of human nature. It may be inferred from this study that the religious conservative has the same attitudinal patterns as the general conservative. In addition it may be said that religious conservatism is part of the general conservative construct. These inferences are supported by a previous study conducted by Webster and Stewart (1969) in which they tested a sample of 176 accredited Protestant ministers in New Zealand on issues of conservatism, dogmatism and ethnocentrism. The researchers found that dogmatism, ethnocentrism, conservatism and theological conservatism are significantly interrelated and in fact fall on a common dimension which Wilson (1970) has called a general factor of conservatism.

Maslow (1964) hypothesized the existence of a negative relationship

between the adherence to conventional religious beliefs and the ability to experience peak moments. Breed and Fagan (1972) tested this hypothesis on a sample of 110 students who were asked to respond to the Religious Dogma Scale and to report peak experiences. From the results of their study the researchers inferred that individuals with a low level of adherence to conventional religious beliefs are more likely to experience peak moments than those with a moderate level or high level of adherence to conventional religious beliefs. The reasoning behind this inference lies in the findings of previous research which indicate that high level religious adherents are usually dogmatic, conservative, anti-hedonistic and punitive.

In a similar study Macdonald (1972) administered the Protestant Ethic Scale, Macdonald's Poverty Scale, Rokeach's Scale of Terminal and Instrumental Values, the California F-Scale and Rotter's Internal-External Locus of Control Scale to a sample of 101 undergraduate students. The results indicate that endorsement of the Protestant Ethic was positively related to authoritarianism, especially for male subjects. In addition it was found that ambition, self-control and salvation correlated positively with scores obtained on the Protestant Ethic Scale. However, comfortable life, exciting life, equality and pleasure were negatively related to scores obtained on the Protestant Ethic Scale. Macdonald inferred from the results of his study that the religiously conservative individual is insensitive to the pleasures and more emotional stimuli of life and is anti-hedonistic, punitive and controlled.

De Fronzo (1972), Bhushan and Sinha (1975) and Thomas (1975) found respective studies the existence of a significant relationship between religiosity and conservatism. Thomas also found that religious conservatism was consistently and inversely related to premarital sexual

experience, favourable attitudes toward premarital sexual behaviour, low church attendance and a lack of religious affiliation. Thomas' findings further support the notion that the religious conservative is anti-hedonistic, punitive, conventional and conforming.

In a study investigating related issues, Baer and Mosele (1970) found a significant relationship between political conservatism and traditional religious beliefs. In addition the researchers found a significant correlation between political liberalism and progressive religious beliefs. Stellway (1973) investigated the relationship between religious and socio-political orientation. The researcher interviewed 322 male heads of households in a semi-rural area in order to ascertain their religious and socio-political orientation. The results of the study indicate that religious conservatism is positively and significantly related to socio-political status quo orientation as well as to conservative political party preference. Conversely, Stellway found that religious liberalism is significantly and positively related to socio-political change orientation and to liberal political party preference.

In studies which summarize the relationship between religiosity and conservatism Ushio (1972) found that religious conservatism and behaviour is related to needs for affiliation, nuturance and super-ego strength, and Josefowitz and Marjoribanks (1978) found that general conservatism, as measured by the Conservatism Scale, is significantly correlated with religious affiliation and church attendance.

The abovementioned studies support the premise suggested by Wilson and Patterson (1968) and by Wilson (1973) that religious attitudes are an important and integral element in the construct of general conservatism. Wilson has stated that religion-puritanism is one of the main characteristics

found in the personality make-up of the ideal conservative and this too has been supported by the results of the studies quoted above.

5.5 Religious Conservatism and Cognitive Processes

It may be expected that just as general conservatism is related to cognitive processes, so religious conservatism will be similarly related to cognitive processes. The following studies deal with the relationship between religious conservatism and cognitive processes.

Coursey (1971) investigated the relationship between religious conservatism and scholastic aptitude. He tested a sample of Catholic high school students and found that religious liberalism correlated highly with scholastic aptitude and religious conservatism correlated inversely with level of education. This study is quoted from an abstract and the results therefore were not analysed sufficiently to make valid inferences or generalizations. Nevertheless the study was quoted in order to point out a trend that conceivably exists. Coursey (1974) investigated the cognitive dimensions of the conservative-liberal attitude continuum. The researcher administered a liberal-conservative scale to 486 Catholic high school students, a scholastic aptitude test to 215 subjects, the Otis IQ Test to 136 subjects and the Kuhlman-Anderson IQ Test to 135 subjects. The results of the study indicate that religious liberalism is consistently related to intelligence and academic achievement. Coursey (1974) inferred from these findings that religious attitudes on the liberal-conservative continuum contain a significant cognitive component.

Foy (1976) found that, in a sample of 36 male and female subjects who were administered intelligence and religiosity measures, those with superior scores on the intelligence measures scored significantly lower

on the religiosity measures than subjects with inferior scores on the intelligence measures. Foy's inferrence, that religiosity is inversely related to intelligence must be viewed with caution because of the size of the research sample.

On related issues of creativity, cognitive flexibility and rigidity, the following studies were conducted. Victor, Grossman and Eisenman (1973) administered the Personal Opinion Survey, the California F-Scale, Pearson's Internal Sensation Novelty Seeking Scale, a 12-item test of acquiescent response and the Manifest Anxiety Scale to 984 high school students. The research sample was divided into two groups, the one comprised of marijuana users and the other comprised of non-users. The results of the study indicate that as the frequency of marijuana use increased, so was there a significant increase in the levels of creativity, adventuresomeness and internal novelty sensation seeking. In addition, as marijuana use increased, the level of authoritarianism of the users decreased. Of all the religious denominations of the subjects who participated in this study, Protestants were the religious group lowest in marijuana usage, a fact which the researchers explained in the light of these subjects' adherance to the Protestant Ethic. According to Victor, Grossman and Eisenman, the Protestant Ethic is comprised of factors that load on general conservatism such as ambition, anti-hedonism, punitiveness and the rule of law and order, and therefore will be inversely related to marijuana usage.

Barron and Young (1970) investigated personality differences between groups of Italian adolescents whose grandparents had either moved to the north from the south of Italy or had immigrated to Boston in the United States. The Boston subjects were found to be more religiously orthodox

and socially conservative than the Italian subjects. On the other hand, the Italian subjects were found to have higher levels of originality and flexibility than the Boston group. Barron and Young inferred from the results of this study that social and religious conservatism is inversely related to originality and flexibility. Ahmad (1973) administered the Wesley Rigidity Scale, the Religiosity Scale and Sinha's Comprehensive Test of Anxiety to a sample of 120 male Indian graduate students in another study dealing with religiosity and cognitive processes. Ahmad found that religiosity was significantly and positively related to rigidity and anxiety, two traits that are part of the general conservatism construct.

In the studies quoted above it has been shown that religious conservatism is positively correlated with rigidity, lack of originality and lack of creativity as well as being negatively related to intelligence and academic and scholastic achievement. These findings support Wilson's (1970) postulation that conservatism is related to low cognitive performance.

5.6 Committed versus Conforming Religiosity

Certain differences exist between the individual who is strongly committed to his religion out of genuine belief and the individual who is religious because of social norms which he prefers not to challenge. Some of these differences are related to the attitudinal patterns of the individual concerned as will be demonstrated in the following studies.

Sanford et al (1950) stated that where there are signs that the acceptance of religion has been determined primarily by conventional or external considerations, the level of ethnocentrism and prejudice is found to be significantly higher than if the acceptance of religion has

been determined solely by genuine religious committment. Raschke (1973) investigated the relationship between closed cognitive style and religiosity He administered Rokeach's Dogmatism Scale and Spilka's Religious Viewpoints Scale to a research sample of 264 undergraduate students. The results of the study indicate that closed cognitive style, usually associated with general conservatism, is more positively related to consensual or conforming religiosity than to committed religiosity. In a similar study Baither and Salzberg (1978) administered the Intrinsic-Extrinsic Religious Orientation Scale, Ellis' Irrational Values Scale and the Self-Rating Scale for Rationality to a sample of 144 undergraduate students. The findings indicate that extrinsically oriented religious subjects were significantly less rational than intrinsically oriented religious subjects.

The abovementioned studies appear to support the notion that only the conforming religiously oriented individual will possess those personality traits which are defined as conservative, whereas the committed religiously oriented individual will not necessarily fit the conservative stereotype.

In a related investigation Sturgeon and Hamley (1979) tested the hypothesis that Christians who were intrinsically oriented toward their belief and internalized this belief, would have greater internal locus of control and a lower level of anxiety than Christians who were extrinsically oriented toward their belief and did not internalize this belief. The researchers administered a battery of tests which included the State-Trait Anxiety Inventory, the Religious Orientation Scale and Rotter's Internal-External Locus of Control Scale to a research sample of 144 students in order to test the research hypothesis. According to the results of the study the intrinsically oriented Christians had a greater internal locus of control and a lower level of anxiety than extrinsically oriented

Christians. Sturgeon and Hamley interpreted these results by suggesting that extrinsically oriented Christians use their belief in order to comply with social norms and to attain social desirability without really believing sincerely in their religion. The belief of extrinsically oriented Christians therefore cannot help to allay anxiety and their locus of control will be found in the external norms of society rather than in internal religious belief.

Wilson and Bagley (1973) found, in a study conducted to investigate the relationship between church affiliation and racial prejudice, that nominal church affiliation correlated with racial prejudice. Active church members were less racially prejudiced than those who professed nominal membership. It may be inferred from the findings of this study that peripheral church membership is maintained in order to maintain social norms and social desirability.

Gorsuch and Aleshire (1974) reviewed studies conducted in order to investigate the relationship between religion and prejudice. They checked the hypothesis that moderately active church members would tend to be prejudiced toward outgroups whereas highly active church members would tend to be tolerant of outgroups. In the studies under review Gorsuch and Aleshire found that the more intrinsically religious and theologically discriminating individuals were more tolerant than moderately active church members. Highly active church members were found to be as unprejudiced as non-members whereas moderately active members were found to be intolerant and prejudiced. Gorsuch and Aleshire suggested, after analysing the findings of their review, that those individuals who hold strong value positions are capable of standing outside the value traditions of society at large and as a result are capable of adopting non-prejudiced opinions. This suggestion refers to both highly religious and totally non-religious

individuals. However, Gorsuch and Aleshire suggested that moderately religious individuals are guided by social norms and social desirability and therefore perform according to the norms of society which cannot moderate prejudiced and intolerant opinions.

On the issue of social desirability Mullins (1974) found that in religious education, social desirability can influence action by affecting the individual's attitudes as well as by presenting a different range of options for his responses. The emphasis of Christian education on individual attitudes is likely to increase the social desirability of these attitudes within the group. In a study on the issue of social desirability, Eisenberg-Berg and Roth (1980) re-interviewed a research sample of 34 children 18 months after the initial interviews. Both interviews assessed prosocial moral judgement. Eisenberg-Berg and Roth found that intensive religious participation at the time of the second interview was positively related to needs-oriented and social desirable reasoning and negatively related to hedonistic reasoning.

From the above studies it may be inferred that committed religiosity is differently related to attitudes than conforming religiosity. The issue of social desirability plays a major role in the adoption of attitudes by the conforming believer and has been shown to be related to religious attitudes which conform to social norms. The conforming believer seeks social status through the adoption of attitudes that are socially desirable without necessarily internalizing the values of these attitudes. The responses of the conforming believer may be explained by his need for social status whereas the responses of the committed believer depend on his internal value positions and attitudes.

CHAPTER 6

CULTURAL ASPECTS OF RELIGIOSITY

When conducting a study dealing with religiosity in white South Africa, the inner meanings of South African religiosity must be explained. Whereas the English-speaking population in white South Africa is probably similar to any other English-speaking population with regard to religious beliefs and practices, the Afrikaans-speaking population of white South Africa has over the years developed a particular brand of fundamental Calvinism embodied in the South African Dutch Reformed Church. Scholtz (1956) and Loubser (1968) have noted that the vast majority of white Afrikaans-speaking South Africans belong to the Dutch Reformed Church. A very small minority of Afrikaners belong to other religious denominations but as will be demonstrated in the following chapter, Afrikaners are historically attached to the particularly South African brand of Calvinism as practiced in the Dutch Reformed Church. Therefore in order to understand the influence of religion on the population of white South Africa in general, and on the Afrikaans-speaking section of the population in particular it is necessary to understand Calvinism in general and South African Calvinism, as expressed in the Dutch Reformed Church, in particular.

6.1 General Calvinism

Dakin (1949) reported that one of the essential characteristics of Calvinism is the principle that the covenant of life is not preached equally to all. In addition Calvin said, according to Dakin, that all are not created on equal terms but some are preordained to eternal life, others to eternal damnation; and according as each has been created for one or

other of these ends it may be said that he has been predestined to life or to death.

Calvin regarded this doctrine of election as essential for the comfort and assurance of believers. The preaching is to all, but the illumination of the spirit creating faith is only to the elect, God deliberately withholding it from the reprobate. The faith is therefore the outcome of election. Furthermore, election is dependent on the will of God and is totally just.

Dakin noted that Calvin viewed the State and the Church as being united in one objective, that of forming a holy community. Therefore, according to Calvin, religion and politics complement each other and fit into one system that establishes the will of God.

Milner (1970) noted that Calvin referred to Abraham as the father of the Church. God made a covenant with Abraham and promised to care for him and his seed. This led Calvin to state that in the covenantal promise, God separated the Church from other nations. This act is referred to by Calvin as the general election of the People or the adoption of the whole Nation, i.e. Church. This covenant is nothing more or less than God's word. This covenant has the character of "ordinatio Dei", offering to the whole People i.e. Church, the promise of salvation.

Milner noted that according to Calvin the essential structure of the church is based on the divine appointment of pastors and ministers in whose hands the government of the church is placed. The great authority of the ministry is invested in those who have the suitable gifts necessary for being ordained to the office, for as Calvin said, the Lord did not appoint ministers without first endowing them with the requisite gifts.

According to Milner the most important aspect of ecclesiastical power in Calvinism consists of jurisdiction. Milner pointed out that discipline is achieved by structuring, training and education of any social organism through which it attains its "proper state". The procedural steps by which discipline is achieved begin with private admonishment, failing which there is public judgement and in the last resort, excommunication. Calvin said that daily discipline is God's method of rending man teachable and brings him into a state of submissive meekness. Calvin also identified the natural law - made by man, and the moral law - divinely inspired by God. Calvin repeatedly demanded that subjects obey their magistrates - even tyrants - because they have been constituted by God's ordination.

Milner quoted Calvin as saying that the law is to be made more and more manifest by the introduction of order and obedience. Obedience constitutes the true worship of the people. Obedience is also vital for preserving the order in religion and politics.

Brown (1961) stated that Protestant Fundamentalism has undergone a strong resurgence in the twentieth century. This resurgence has been especially fostered by the uncertainties of modern life and the realisation that the fundamentalist denominations, to which Calvinism belongs, offer definite and clear-cut answers to perplexing questions. The fundamentalists know where they stand and have done away with ambiguity by clarity and precision of thought.

McNeill (1962) described the ideal setting and background of a Calvinistic family. The family is characterized by intelligent industry, honest doing of daily work with a sense that it will be well done under penalties, the necessities of life moderately provided for, God-consciousness

with an urgent sense of mission, the knowledge that the human heart is deceitful and wicked and distrust of sincerity of idealistic utterances because of man's inborn evil.

Parker (1975) explained the disciplinary demands made in Calvinism. According to Calvin it is impossible to surpass the wisdom of the church and criminal to invent new wisdom. Each generation must received church wisdom, guard it faithfully and hand it on intact. Any breach of discipline is threatened with stringent measures, the most severe of which is excommunication. Complete discipline, as meted out by the divinely ordained preacher, and complete acceptance of church authority is demanded by the Calvinist Church.

Parsons (1930), in his translation of Weber's work on the Protestant Ethic, said that the entirely negative attitude of Puritanism to all the sensuous and emotional elements in culture and religion is derived from the fact that these elements do not contribute to salvation and promote sentimental illusions and idolatrous superstition. Calvin maintained that it is an absolute duty to consider oneself chosen and to combat all doubts as temptations of the devil, since the lack of self-confidence is the result of insufficient faith. Ascetism helps man to surpass all worldly morality. Calvin viewed worldly activity, based on ascetic and ethical conduct, as positive.

As indicated, Calvinism denies the pleasures of the world to its adherents. In addition all doubt and ambiguity are frowned upon. Submission to the authority of the church is vital and stringent discipline must be accepted. Calvinism, from the psychological point of view, promotes traits and attitudes that have been shown to be typical of the general conservatism construct. The typical Calvinist, therefore, may be expected

to be conservative by nature.

6.2 South African Calvinism

Calvinism in South Africa developed in a particular way as a result of the historical occurrences and situations in which the Afrikaners found themselves. According to Loubser (1968) the Afrikaners reached an understanding, because of their particular needs, that ascetic Protestantism is significant for the development of the values of a modern society. Weber's thesis, as translated by Parsons (1930), noted the importance of industrial capitalism in the modern world and as such can be described as a classic example of the Calvinistic outlook.

Loubser stated that the Calvinistic conceptions of man and of order introduce a two-class distinction between the elect and the damned, the order of grace and the order of nature. All men are created in the image of God but the elect have a special position of responsibility to implement the will of God. In the order of nature God ordained that some should rule and others should obey. These conceptions obviously provide justification for inequality and the limitation of equality strictly to the community of the elect in situations where such arrangements are deemed necessary or desirable.

In situations where Calvinists were confronted with a large population which had a different cultural background defined as less civilized, Calvinists tended to categorize the members of the large population group as belonging to the lower class of the Calvinist two-class system. Such was the situation in South Africa where the Afrikaner was confronted by a large indigenous population. The Afrikaners categorized the members of the indigenous population group as being the non-elect as compared to the Afrikaners who categorized themselves as being the elect.

Loubser defined religion as that aspect of action relating to problems of the ultimate meaning of existence. The religious individual may be faced with existential anxiety such as meaninglessness, the threat of non-being, loneliness, guilt and physical survival. In cases where existential anxiety is not reduced in a meaningful manner, an accentuation of the anxiety is likely. In situations where individuals are transplanted into a hostile environment, culturally uprooted and deprived of the resources which were formerly at their disposal, high levels of existential anxiety set in. Loubser suggested that this type of situation exists in South Africa and Afrikaner Calvinism, as projected in the Dutch Reformed Church, must be explained in the light of existential anxiety.

Loubser noted that as a result of the Afrikaners' definition of their situation, their conception of themselves, of others and of the world was derived from the symbolism of the Old Testament. The meaning of their existence in a new land found expression in the symbols of the Chosen People, the Promised Land, the Children of Ham and the Philistines. The Afrikaners were called and led by God their King, Ruler and Judge, to glorify Him by establishing His Kingdom on the dark continent among the heathens. The Calvinist doctrines of predestination and election provided justification of their position as defined by these constitutive symbols.

According to Loubser, the persistence of antihumanistic super-naturalism, anti-intellectualistic dogmatism and literalistic fundamentalism in Afrikaner Calvinism and its failure to develop in a liberal direction may be understood against the abovementioned background. Because of the traumatic threat of a totally new situation, a high level of anxiety about meaninglessness developed so as to cause regression to a primitive, totalistic dependence on the Bible. It also involved a reaction formation against

the liberal-rational tensions present in the Calvinistic faith system, the repression of these tensions and their projection on negatively affected objects such as liberals, radicals, communists and the like. The compulsive adherence of the Afrikaner to his particular brand of dogmatism and his equally compulsive rejection of the liberal ideas promoted by the modern Christian community, especially those concerning the universal fatherhood of God and brotherhood of man, are aspects of the same syndrome.

Scholtz (1956) stated that because of the anxiety syndrome, Afrikaner culture was not particularly influenced by the rationalism and naturalism of the enlightenment movement, nor was it influenced by modern liberalism. The Afrikaner shut himself off from these modern developments and continued placing his full and undivided trust and belief in his religion.

According to Loubser, the non-white population in South Africa constitutes the hostile environment for the Afrikaners. It is therefore imperative, by Divine command, to keep the non-white population in the lower position of the two-class system in the interests of creating an ideal society. The British became the symbol of liberalism for the Afrikaner. The romanticism and liberalism of the British were diametrically opposed to the Afrikaner's religious conception of order. The zeal of the British missionaries on behalf of the non-white population also caused anxiety to the Afrikaners. These confrontations provided the negative symbolism that up to the present time has formed an almost insurmountable barrier against liberalization. The United Nations Organization and other critics of South Africa, as well as advocates of change within South Africa, increasingly share this symbolic significance. The more the outside world demands change, the more fervent the Afrikaners become in their devotion

to the mission that provides legitimacy for inequality.

Loubser explained that the Calvinist views Grace as bestowing on the individual diligence, hard work, thrift, self-discipline and ascetism. The non-white is seen, by the Afrikaner, as being devoid of these characteristics and therefore devoid of Grace. This lack of Grace justifies the denial of equality of opportunity to the non-white and the maintenance of a two-class system in social, political and economic spheres.

The Afrikaner was isolated for more than two centuries in the interior of South Africa. This isolation and lack of communication and contact led to the development of a high level of anxiety about loneliness. Worship was emphasized more and performed more often than other types of religious activity, since it dispelled loneliness by affirming the belonging or solidarity of the members of the worshipping unit - usually just the family unit - with each other and with God.

As a result of the abovementioned isolation, the level of legalism was increased. Rules of conduct took the form of particularistic prescriptions and expectations of meticulous conformity by stern authoritarian parental figures. Hence compulsive conformity marked the orientation to all norms of behaviour which were firmly internalized and infused with religious meaning. External sanctions were very severe in the family that was almost a total institution on its own. As the Church later added its surveillance, strict conformity to the norms of society became widely demanded. Legalism is also evident in the South African tendency to legislate every aspect of life, private or public, that is seen slipping away from the control of the Church or of the society.

Loubser concluded by saying that in a two-class system there is no

room for non-conformity. This is especially true with respect to the central norm of inequality where non-conformity is invariably defined as disloyalty or treason. Although excommunication from the church is rare, ostracism is widely applied as a punitive sanction against any revelations of non-conformity or deviation.

The Afrikaner Calvinist, like the general Calvinist, but in a much more exaggerated manner, is prone to feelings of anxiety and to outside threat. He is forced, therefore, to adopt highly conservative attitudes which assist in the repulsion of the feelings of anxiety and threat. The Afrikaner Calvinist is a conformist par-excellence, intolerant of change, a harshly disciplined individual who believes in the value of law and order, as well as being intolerant of ambiguity and differences in ideology.

In a research designed to investigate the relationship between religion, racialism, conservatism and prejudice Bagley and Boshier (1972) administered the Conservatism Scale to research samples in Holland and in New Zealand. The subjects were divided into groups according to religious affiliation, after which the results of the research were analysed. The results of the research indicate that in the case of the Dutch sample membership of the Calvinist Reform Church was significantly related to conservatism. Membership of the Calvinist Reform Church was also significantly related to overt religious behaviour. Nominal church affiliation was found to be significantly related to racial prejudice whereas active church membership did not correlate significantly with racial prejudice. In the case of the New Zealand sample church attendance was significantly related to conservatism, irrespective of religious denomination.

It may be inferred from the results of the study conducted by Bagley and Boshier (1972) that cross-cultural differences confound the relationship

between religion, racialism, conservatism and prejudice. For the Dutch sample Calvinism was the most significant predictor of conservatism whereas for the New Zealand sample church attendance was the major predictor of conservatism. Therefore no cross-cultural generalizations may be made from Baley and Boshier's (1972) study regarding possible relationships between religion, racialism, conservatism and prejudice in the South African context.

Wilson and Shutte (1973) conducted a study in order to determine whether the same structure of attitudes would apply to a conservative group of white South Africans as it did to groups of British, Dutch, German and New Zealand conservatives, (see page 76 for a detailed analysis of this study). According to the results of Wilson and Shutte's study the Afrikaans-speaking Calvinist members of the Dutch Reformed Church who participated as subjects in this study scored highest on anti-hedonism, ethnocentrism, militarism-punitiveness and religion-puritanism which are the four main factors loading on the Conservatism Scale. In addition Afrikaans-speaking subjects were more conservative on all four components of conservatism than English-speaking subjects. In the light of these findings Wilson and Shutte inferred that Afrikaans-speaking Calvinists are highly conservative and have attitudinal structures that may be described as socially, politically and religiously conservative. Although the results of this study, and the inference on the basis of these results, support the theoretical position regarding the Afrikaner Calvinists, no generalizations may be made from the results of this study, because of a serious flaw which exists in the analysis of the data (see page for a detailed explanation).

However, notwithstanding the limitations of the studies conducted by

Bagley and Boshier (1972) as well as by Wilson and Shutte (1973) it may be inferred from the abovementioned review that the white Afrikaans-speaking South African is a highly conservative individual. His attitudes are influenced by the ideology of the Calvinist Dutch Reformed Church and, as a result, the Afrikaner conforms to the norms of his church. It should be noted that the typical white English-speaking South African is not Calvinist and therefore conservatism is not an essential aspect of his religious belief. The English-speaking South African conservative will be better compared to conservatives in other societies that have no connection with the Calvinist faith. The conservative attitudes of English-speaking South Africans will not be motivated by the same considerations which motivate the conservative attitudes of Afrikaans-speaking South Africans.

CHAPTER 7

AIM AND THEORETICAL RATIONALE OF THE THESIS

The aim of this thesis is to investigate the influence of conservative attitudes on intelligence in white South African society. Research conducted to define the relationship between attitudes and intelligence throughout the Western world has indicated, as demonstrated in the preceding chapters, that attitudes typifying the conservative personality construct are inversely related to intelligence, whereas attitudes typifying the liberal personality construct positively correlate with intelligence. The central issue in the present thesis is whether conservatism in a generally conservative society is related to intelligence as is conservatism in a generally liberal society or perhaps conservative attitudes in a generally conservative society correlate differently with intelligence from the conservatism found in a generally liberal society.

7.1 Variables Influencing Intelligence

Researchers have attempted to identify those variables which are related to intelligence. Variables connected with cognitive processes such as divergent thinking, flexibility, fluency, originality and creativity have been postulated as having significantly positive relationships with the development and functioning of intelligence. However, these variables have been identified in liberal Western societies and cannot be considered as having the same significant relationships with intelligence in a conservative society, such as white South Africa.

This thesis, therefore, deals with social attitudes which may have significant relationships with intelligence in the generally conservative white South African society. In the numerous studies quoted in the introductory chapters of this study, the typical conservative is shown to have

certain specific cognitive and personality traits which are usually inversely related to intelligence. On the other hand, the white South African conservative has been shown by Orpen (1971a) and Orpen and Tsapogas (1972), as well as others quoted in the preceding chapters, to have unique cognitive and personality attributes which do not resemble those held by the typical conservative in a liberal Western society. These attributes may have different relationships with intelligence from the relationships shown to exist between personality variables typifying the classical conservative and intelligence.

It may be added that religiosity has been shown, in the review of the literature, to have a significant connection with conservatism, with religious individuals functioning similarly to conservative individuals in the area of intelligence. It has also been demonstrated that in white South African society a significant relationship exists between religiosity and conservatism. However it is not at all clear that this relationship is similar to the one existing between the same variables in liberal Western societies. Studies quoted in the preceding chapters have indicated certain differences in the white South African religiosity-conservatism relationships which could conceivably affect the overall connections between these variables and intelligence.

In view of the existence of the abovementioned differences which may point to a unique type of white South African religiosity-conservatism personality construct, the researcher decided to examine the possible implications of these differences in the light of the relationships between the variables included in this construct and intelligence. Therefore it is postulated that the particular type of conservatism typical of white

South African society may not be inversely connected with intelligence as is the situation in liberal Western societies. Furthermore the researcher decided to examine the two language groups comprising white South African society, namely English speakers and Afrikaans speakers, and the possible existence of a unique brand of conservatism within both groups or either of the two groups only. This last investigation is based on observations made by Heaven (1978) and others quoted in the introductory chapters of this study who demonstrated that Afrikaans speakers are usually typified by unique conservative attitudes as opposed to English speakers whose attitudes resemble those typically held by the general population of liberal Western societies.

Thus, the central aim of the research is to pinpoint the possible existence in white South African society of a conservative attitudinal construct which has a different relationship with intelligence from that of the traditional conservative attitudinal construct. In addition this study aims to investigate possible differences in the conservative attitudinal construct of English speakers versus that of Afrikaans speakers and the resulting relationships of the respective attitudinal constructs with intelligence.

7.2 Hypotheses of the Research

1. Afrikaans speakers will have the same level of intelligence as English speakers.
2. Afrikaans speaking conservatives will have a higher level of intelligence than Afrikaans speaking liberals.
3. English speaking conservatives will have a lower level of intelligence than English speaking liberals.

4. Religious Afrikaans speaking subjects will have a higher level of intelligence than non religious Afrikaans speaking subjects.

5. Religious English speaking subjects will have a lower level of intelligence than non-religious English speaking subjects.

6. Afrikaans speakers will be more conservative than English speakers.

7. Afrikaans speakers will have a higher level of religiosity than English speakers.

CHAPTER 8

AN EMPIRICAL TEST OF THE HYPOTHESIS

8.1 Method

8.1.1. Subjects

An available sample of two hundred and ten student volunteers consisting of one hundred and ten English speaking students attending the Johannesburg College of Education and one hundred Afrikaans speaking students attending the Goudstad Onderwyskollege, both institutions being situated in the city of Johannesburg, served as subjects of the first phase of this study. The fact that the research sample was comprised of volunteers gives rise to a bias thereby mitigating against decisive conclusions being inferred from the results of the study. The researcher used the volunteer sample and took the abovementioned limitation into consideration regarding the inferences made from the results of the study.

The two hundred and ten subjects participating in this research were of average to above average intelligence as reflected by the scores obtained by the subjects on the D-48 Test which is a measure of non-verbal intelligence. The breakdown of sex, ages and intelligence of the subjects is presented in the following table:

TABLE 8.1

Breakdown of Sex, Age Range and Intelligence of the Research Subjects.

Male	N=38	Low - 18 years 1 month	English Group Mean	- 64.27
Female	N=172	High - 34 years 11 months	Afrikaans Group Mean	- 61.04
		Mean - 21 years 1 month	Total mean	- 62.69
		S.D. 2 years 2 months	S.D.	- 11.91

8.1.2 Experimental Design

The present study involved a post-test only comparison groups experimental design described by Asher (1976) on the basis of Campbell and Stanley (1966). The test sessions for the respective language groups were conducted in suitable lecture theatres at both the Johannesburg College of Education and at the Goudstad Onderwyskollege. During the test sessions, the subjects who were all volunteers from general primary school teachers training courses were completely isolated from one another.

8.1.3 Apparatus

Three questionnaires and one intelligence measure were used in this research. Each will be discussed separately.

1. Social-Religious-Political Scale. - This questionnaire was compiled in order to assess the social, religious and political attitudes of the subjects participating in the research. The scale consisted of 60 items, 20 of which were designed to assess social attitudes, 20 to assess religious attitudes and 20 to assess political attitudes. The structure of the scale was geared to measure the particular attitudes on a conservative-liberal continuum.

   The scale was compiled by the author of this study who collated approximately 200 items from various attitude scales as well as introducing original items that had, in the author's opinion, face validity for the assessment of social, religious and political attitudes. The items were then presented to 10 judges who were qualified in the field of social research and who were requested to judge the validity of the items for this research. The judges were presented with the following

definitions of social, religious and political criteria so as to facilitate their evaluation of the items.

a. Social criterion - The judges were asked to recommend those items which differentiated between liberals and conservatives on the issue of social preferences, for example "I generally find a common bond with members of my language group only."

b. Religious criterion - With regard to this category the judges were asked to recommend items which differentiated between religious and non-religious individuals on the issue of religious affiliation, for example "I am often conscious of my affiliation to a certain religious denomination."

c. Political criterion - The judges were asked to recommend those items which differentiated between liberals and conservatives on the issue of political party affiliation, for example, "Praise heaped on a member of my political affiliation gratifies me personally."

Only those items which received the affirmation of at least seven of the judges were included in the scale. 60 items received the recommendation of seven of the ten judges and consequently were included in the SRP-Scale.

The reliability of the SRP-Scale is acceptable with a reliability coefficient of 0.92 yielded for the 60 scale items by the alpha method discussed by Cronbach (1951). This coefficient compares very favourably with reliability coefficients of similar instruments.

Standardized instructions for the SRP-Scale were issued to all

the subjects participating in the research on a printed sheet attached to the scale (See Appendix A for the detailed instructions as well as for the SRP-Scale).

The items in the scale were phrased uniformly throughout as statements with multiple choice answers, for example "My religious denomination is morally superior to other religious denominations in South Africa".

1. strongly agree
2. agree
3. uncertain
4. disagree
5. strongly disagree

The subjects were instructed to circle the number signifying, in their opinion, the most suitable answer to the statement. The answers indicating conservatism were those which generally indicated agreement with the statements of the scale and those answers indicating liberalism generally showed disagreement with the statements. Nine items were reversed in order to overcome the problem concerning the development of a response set. To these items, namely items 9, item 14, item 16, item 21, item 25, item 42, item 47, item 50 and item 54 which were inserted into the scale at random, answers indicating conservatism were those which showed disagreement with the statements and answers indicating liberalism were those which showed agreement with the statements.

The marks allocated to the anwers were on a scale from 1 through to 5. The lower numbers indicated conservatism and the higher numbers

indicated liberalism. Therefore, the lower the mark obtained, the higher the degree of conservatism indicated in the answer. Conversely, the higher the mark obtained, the higher the degree of liberalism indicated in the answer. The range of possible scores was between 60 and 300 with the lower scores indicating a higher level of conservatism and the higher scores indicating a higher level of liberalism.

The SRP-Scale was compiled by the author of this study in the English language and was translated into Afrikaans by an official translator. In order to obtain optimal accuracy, the Afrikaans version was retranslated into English and only when the 60 items of the scale appeared in the retranslation as they appeared in the original English version, was the translation deemed acceptable.

2. Religiosity Scale - This scale assessed the religiosity of the subjects participating in the research. The scale consisted of 20 items, each of which dealt with a different principle. The common denominator of the 20 principles was their indication of a certain aspect of religiosity. The compilation of the scale was by the method used for the compilation of the SRP-Scale. Approximately 70 items were presented to 10 theologians who were asked to judge their suitability and validity for this study. The theologians were asked to recommend items which were congruent with religious beliefs or religious practices, both of which are accepted as the main criteria for inclusion in similar instruments designed to measure religiosity, to be included in the scale. Only those items which received the affirmation of at least seven of the theologians were included in the scale. 20 items were recommended

by seven of the ten theologians and consequently were included in the Religiosity Scale.

The reliability of the Religiosity Scale is acceptable with a coefficient of 0.89 yielded for the 20 items by Cronbach's (1951) alpha method. This coefficient of reliability compares very favourably with those of similar instruments.

Standardized instructions for the Religiosity Scale were issued to all the subjects participating in this research on a printed sheet which formed part of the scale. (See Appendix B for detailed instructions as well as for the Religiosity Scale).

The items in the Scale were presented to the subjects as principles with which they were asked to signify agreement, uncertainty or disagreement, for example:

"Biblical Miracles" - Yes ? No

The subjects were instructed to circle the word which best conveyed their feelings towards each stated principle. The answers indicating religiosity generally elicited "yes" from the subjects and the answers indicating a lack of religiosity generally elicited "no" from the subjects participating in the research. In order to overcome the problem of the formation of a response set three items were reversed. To these items, namely item 6, item 12 and item 16 which were inserted into the scale at random, answers indicating a lack of religiosity elicited "yes" from the subjects and answers indicating religiosity elicited "no". Answers affirming religiosity were allocated 2 marks, uncertainty 1 mark and answers indicating a lack of religiosity were allocated 0 marks. The range of possible scores was

between 0 and 40 with the higher scores indicating a higher level of religiosity and the lower scores indicating a lower level of religiosity.

The Religiosity Scale was compiled by the author of this study in the English language and was translated into Afrikaans by an official translator. As with the SRP-Scale, in order to attain optimal accuracy, the Afrikaans version was retranslated into English and only when the 20 items of the scale appeared in their original English form was the translation deemed acceptable.

3. Conservatism Scale - This scale compiled by Wilson and Patterson (1968) consisted of 50 items, each dealing with a component of general conservatism. A Spearman-Brown rehability coefficient of 0.94 was yielded for the 50 items included in the scale in the original reliability analysis conducted by Wilson and Patterson. In another study conducted by Wilson (1970) a reliability coefficient of 0.93 was yielded by the Spearman-Brown method. In the reliability analysis conducted on the scores obtained in the present study by Cronbach's (1951) alpha method, a reliability coefficient of 0.58 was yielded for the 50 scale items. This level of reliability is slightly lower than that yielded by the Cronbach alpha method on the 50 scale items in a study conducted by Ray (1971). It appears that the Spearman-Brown method of ascertaining reliability yields a consistently higher coefficient than Cronbach's (1951) alpha method as demonstrated above. Garrett (1967), however, has noted that in a test designed to differentiate between two groups, the reliability coefficient need be no

higher than 0.50. Therefore although lower than the reliability coefficients yielded in the studies conducted by Wilson and Patterson (1968), Wilson (1970) and Ray (1971), the reliability of the Conservatism Scale as computed in the present study is acceptable. Standardized instructions, printed on the Conservatism Scale, were issued to all the subjects participating in the research. (See Appendix C for detailed instructions as well as for the Conservatism Scale).

A multiple-choice answer format, similar to the one used in the Religiosity Scale, was used for the Conservatism Scale. The subjects participating in the research were asked to circle the word which best conveyed their feelings toward the stated component of conservatism, for example:

"Death Penalty" - Yes ? No

The pattern of the items in the Conservatism Scale was an alternating one with the "yes" answers to the odd items and the "no" answers to the even items indicating a conservative attitude which was scored 2 marks. Conversely, the "no" answers to the odd items and the "yes" answers to the even items indicated a liberal attitude and were scored 0 marks. All the items eliciting an "?" answer were scored 1 mark each. The range of possible scores was 0-100 with the higher scores indicating a higher level of conservatism and the lower scores indicating a higher level of liberalism.

The alternating pattern of the items may be seen as limiting the validity of the Conservatism Scale as respondents may be quick to recognize the pattern and form a response style. However, Wilson (1973) addressed this possibility and concluded that the balanced

structure of the Conservatism Scale should cancel out response style contamination so as to leave a very meaningful attitude content score.

In addition Wilson and Patterson (1968) stated that the main purpose behind their developing the Conservatism Scale was to combat the influence of acquiescence which contaminates other conservative measures such as the California F-Scale and Rokeach's Dogmatism Scale as pointed out by Peabody (1966). Wilson and Patterson noted that the items in the Conservatism Scale were comprised of brief catch-phrases representing familiar social issues. This format was decided upon by Wilson and Patterson (1968) because it is said, as already stated above, to avoid the problems of response style and acquiescence in addition to solving the difficulties of grammatical confusion, task conflict and social desirability. Wilson (1973) once again inferred that the short format of the Conservatism Scale makes the scale particularly immune to acquiescence and social desirability. According to Wilson (1973), the Conservatism Scale serves as a valid answer to the problems facing the California F-Scale and other similarly constructed measures which are unprotected against acquiescence.

Ray and Pratt (1979) investigated the possible existence of an acquiescence response set in the Conservatism Scale. They found that when the Conservatism Scale is scored for acquiescence, the reliability is very high. This indicates that the Conservatism Scale does produce in individuals responding to the scale a tendency to acquiesce. However, Ray and Pratt found that the balanced structure of the Conservatism Scale and the relatively large number of items included in

the scale successfully prevent an acquiescence response set from having any systematically distorting effect on the final scores obtained on the Conservatism Scale.

Orpen (1971b) has demonstrated that the Conservatism Scale is free of social desirability because of its unique structure. Therefore the scale may be used without any hesitation because the scale does not elicit any social desirability and, according to Ray and Pratt (1979), an acquiescence response set that may exist can be totally disregarded.

Wilson (1973) pointed out that the factors created in the Conservatism Scale have been included in a system of scoring for two principal components and four oblique factors which intercorrelate with one another. The principal components emanating from the scale are General Conservatism and Realism. The four oblique factors have been labelled Militarism-punitiveness, Anti-hedonism and opposition to sexual freedom, Ethnocentrism and outgroup hostility and Religion-puritanism.

Bagley (1972) has noted that, as a result of various cross-cultural studies conducted in which the Conservatism Scale was used, it may be inferred that there is a great measure of consistency in the factors loading on the scale from one culture to another. This consistency exists despite differences in levels of response in the different cultures where the scale has been administered. Hogan (1977) as well as Lapsley and Enright (1979) investigated the cross-cultural validity of the Conservatism Scale with a sample of American subjects. The results of both studies indicate that the Conservatism Scale is

a reliable and valid measure of conservatism and can be used reliably with American subjects.

Wilson and Shutte (1973) found in a study (quoted in detail on page 76) that after administering the Conservatism Scale to a sample of white South Africans, the pattern of inter-correlations between the four components of the Conservatism Scale, namely militarism-punitiveness, anti-hedonsim, ethnocentrism and religion-puritanism, was identical to the patterns emanating from studies conducted in Britain, Germany, Holland and New Zealand. It must be stressed once again that Wilson and Shutte did not compute a factor analysis on the basis of the data obtained in this study and therefore their inference that the Conservatism Scale is reliable and valid for use with white South African subjects must be treated with utmost caution.

The Conservatism Scale was translated into Afrikaans from the original English by an official translator. As with the SRP-Scale and the Religiosity Scale, in order to attain optimal accuracy, the Afrikaans version of the Conservatism Scale was retranslated into English and only when the 50 items of the scale appeared in the re-translation as they appeared in the original English version, was the translation deemed acceptable.

4. D-48 Intelligence Test - Black (undated) has stated that the D-48 Test is essentially a non-verbal analogies test primarily measuring the "g" or general factor in intelligence. The test consists of 44 problems as well as 4 examples based on various relationships among

sets of dominoes and is administered with a time limit of 25 minutes either to groups or to individuals. The D-48 Test is similar in structure to the Raven's Progressive Matrices Test as described by Raven (1956). Black (undated) has pointed out that the D-48 Test has a greater saturation of "*g*" than Raven's Progressive Matrices Test and eliminates chance factors, inherent in multiple-choice tests, that are not eliminated from Raven's Progressive Matrices Test.

The present form of the test was developed in France by the staff of the Centre de Psychologie Appliquee. Most normative and validity data are based on samples comprised of French adults and children. Gough and Domino (1963), however, conducted one study in the United States using a research sample comprised of fifth and sixth grade pupils in a California school. In this study the D-48 Test correlated significantly with the academic achievement of both fifth grade pupils ($r = .49$) and sixth grade pupils ($r = .32$).

The reliability of the D-48 Test is acceptable. Using the odd-even method corrected by the Spearman-Brown formula, Drevillon (1953) calculated the coefficient of reliability to be 0.89. The validity of the test was calculated by factor analysis which indicated that the D-48 Intelligence Test is saturated with the general factor. Domino (1968) has shown that, in cross-cultural studies, the D-48 Test has predictive validity for achievement levels in mathematics and academic achievement of foreign students in the United States. Mauer (1976) indicated that the D-48 Test correlated with the level of education of South African mineworkers who were administered the test. Mauer also pointed out that the correlation between the odd items and the even items of the D-48 Test for the South African sample was 0.90, and the

reliability coefficient using the Kuder-Richardson Test was 0.93.

The examiner's responsibility is to see that the subjects understand all four examples which precede the actual test items. The timing of the D-48 Test begins after the instructions have been understood and the examples have been fully understood and correctly completed by all the subjects responding to the test. (See Appendix D for detailed instructions).

Fully correct answers to the items of the D-48 Test were allocated 2 marks each. An answer was deemed fully correct when both halves of the domino were correct. Partially correct answers were allocated 1 mark each. An answer was deemed partially correct when only one half of the domino was correct. Completely incorrect answers were allocated 0 marks. An answer was deemed completely incorrect when both halves of the domino were incorrect. The range of possible scores, therefore, was between 0 and 88 with the higher scores indicating higher levels of intelligence and the lower scores indicating lower levels of intelligence.

The method of scoring the D-48 Test was different in this research from the usual method described by Domino (1968). In the usual scoring method 1 mark is allocated to a correct answer and 0 marks to an incorrect answer. According to the usual method an answer is deemed correct when both halves of the domino are correct. An answer is deemed incorrect when either one half or both halves of the domino are incorrect. The author of this study decided to allocate marks for a partially correct answer so as to widen the range of scores obtainable on the D-48 Test. A wider range of scores was thought to present

better possibilities for discriminating between the groups of subjects participating in the research. As the results of this study were not compared with results of other studies in which the D-48 test was used and the intelligence of the subjects was determined for the purpose of this study only, it was thought advantageous to use a scoring method different from that normally used.

The D-48 Test was translated into Afrikaans by an official translator. As in the case of the other measures used in this study, in order to attain optimal accuracy the Afrikaans version was re-translated into English. Only when the retranslation was identical to the original English version, was the Afrikaans version deemed acceptable.

8.1.4 Procedure

By arrangement with the rector of the Johannesburg College of Education and the vice-rector of the Goudstad Onderwyskollege, volunteers were called for in order to serve as subjects in this research. 110 students at the Johannesburg College of Education (16 men and 94 women) and 100 students at the Goudstad Onderwyskollege (22 men and 78 women) volunteered to participate in the study.

The researcher met with the volunteers at the respective institutions in suitable lecture theatres where the subjects had assembled at a pre-arranged time in order to respond to the various questionnaires comprising the research battery. The subjects were completely isolated from one another for the duration of the test session.

The four measures to be administered to the subjects were arranged in one battery which was distrubuted, face down, to the subjects. Those at

the Johannesburg College of Education received the English version of the test battery whereas the subjects at the Goudstad Onderwyskollege received the Afrikaans version of the test battery. The subjects were informed that they were to answer all four measures appearing in the test battery in front of them. They were also informed that only the D-48 Test was to be completed within a time limit of 25 minutes whereas no time limit was placed on the completion of the other 3 scales in the test battery.

The researcher then asked the subjects to turn over the test battery and to follow the printed instructions as these were read out aloud. The subjects were then asked if they had fully understood the instructions and if they had any questions that needed clarification. When all the questions had been answered the researcher asked the subjects to turn to the four examples of the D-48 Test, which was the first measure in the test battery and was to be answered first. The researcher verified that the subjects answered the four examples satisfactorily and then instructed the subjects to begin the D-48 Test, emphasizing that the test had to be completed within 25 minutes.

At the end of the 25 minutes period the D-48 Test answer sheets were collected from the subjects who were then instructed to answer the 3 remaining measures in the test battery. The subjects were told that there was no time limit in which the 3 measures were to be completed. They were also informed that they were at liberty to leave the lecture theatre on the completion of the 3 measures. However, before the subjects left the lecture theatres, they were requested to complete a biographical information sheet attached to the test battery (See Appendix E).

The researcher, himself, issued all the instructions at the Johannesburg

College of Education. At the Goudstad Onderwyskollege the instructions were issued by the researcher in English and translated into Afrikaans, for the benefit of the students, by a fully bilingual lecturer at the institution. 90 minutes sufficed at both institutions for the subjects to answer the D-48 Test as well as the other 3 measures in the test battery.

An undertaking was given to the authorities of both the Johannesburg College of Education and the Goudstad Onderwyskollege as well as to the subjects participating in the research that all information obtained in the research would be analysed and treated in strict confidence. All results would be treated anonymously and no names would be divulged at any time.

8.1.5 Statistical Analysis

Kerlinger (1973) has stated that factor analysis is a method for determining the number and nature of the underlying variables among larger number of measures. It may also be called a method for extracting common factor variances from sets of measures. Kerlinger noted that factor analysis indicates, in effect, what measures belong together, namely, which tests measure the same variable and how much these tests measure the same variable. Factor analysis thus reduces the number of variables to an effective and manageable number in addition to identifying unities or fundamental properties.

Three factor analyses using the principal components solutions with varimax rotations were computed. Gorsuch (1974) has stated that this particular orthogonal rotation maximises the uniqueness of each factor by ensuring that the columns in the factor analysis are simplified. Such

a method was suitable for this study as the resulting factors would each be unique in their particular construct of a general attitude or trait. In determining the significance of any item loading on a particular factor, the arbitrary level of a loading of 0.30 or greater was chosen. Finally, in determining the significance of a factor, three decisions were made. The first was to use Kaiser's criterion as quoted by Child (1973) in accepting only those factors with an eigenvalue equal to or greater than unity. The second was to accept only those factors which explained 10% or more of the variance. The third decision was to use what Cattell (1966) described as the scree test in accepting only those factors that were sharply defined from the others.

Kerlinger (1973) stated that when testing for differences between two groups and in the research design there is one dependent variable and one independent variable, a t-test is the most suitable instrument for analysing the data obtained. However, Kerlinger added that in such a situation an F-test will yield identical results to those yielded by the t-test. The difference between the two tests is that the t-test uses actual differences and standard errors whereas the F-test uses variances only.

In the present study, the attitudinal measures used were not entirely homogeneous because of the fact that each measure included more than one significant factor. Despite this fact the measures could be scored ordinally and the researcher therefore decided to use t-tests in order to ascertain potential differences between the English speaking and Afrikaans speaking groups participating in this study. The t-tests were computed for the significant factors yielded in the factor analysis of the Social-Religious-Political Scale, the Religiosity Scale and the Conservatism Scale.

Kerlinger (1973) noted that variance can be contrived to explain the differential influence of intervening variables when two identical groups achieve different scores as a result of the possible influence of the intervening variables. In addition variance can be contrived to explain inherent differences found between two different groups that have undergone identical experiences.

Analysis of variance is usually used to test statistical hypotheses concerning the significance of differences between means. It can be used when one or more independent variables exist in the research design. Kerlinger added that when there is only one dependent variable in the research design, a univariate twoway analysis of variance will adequately explain the differences that may be found between the two groups participating in the research. Therefore, in the present study in which the relationships between attitudinal variables and intelligence were investigated, the researcher analysed the data pertaining to the main hypothesis of the study by univariate twoway analyses of variance. As the researcher's aim was to investigate the possible existence of influential relationships between factors of conservatism and religiosity on the one hand and intelligence on the other, the attitudinal measures were chosen to serve as independent variables and intelligence as the dependent variable. The univariate twoway analyses of variance were computed to ascertain possible significant differences between the two groups of subjects participating in the study as well as to ascertain the possible existence of significant interactions between the attitudinal variables investigated in this study.

Kerlinger (1973) indicated that in addition to other statistical measures t-tests may be used to explain significant interactions yielded from analyses of variance. Although a number of independent variables

exist in the present study, it was deemed necessary to test the two groups on the independent variables individually so as to facilitate the explanation of the significant interactions defined from the univariate analyses of variance. The researcher used t-tests for this purpose on each of the independent variables involved in a significant interaction.

Throughout the present research the 5% level of significance ($p<0.05$) is used in assessing the significance of the various statistical analyses. In addition all t-tests are based on two-tailed tests of significance. High and low levels of conservatism as portrayed by the individual factors were determined throughout by the method of median splits.

8.2 Results

The first measure to be factor analysed was the Social-Religious-Political Scale. The principal components factor analysis with varimax rotation for this scale yielded two acceptable factors. Analysis of the fifteen items defining the first factor resulted in this factor being labelled "religious attitudes". Fourteen items contributed significantly to the second factor which was labelled "socio-political attitudes". Thirty-five items did not load significantly on either of the two factors. The communality of the items was generally high and consequently the varimax rotation resulted in a factor structure in which only four items (item 5, item 6, item 12 and item 56) loaded significantly on both factors (See Table 8.2).

TABLE 8.2

Principal Components Factor Analysis with Varimax Rotation for the Social-Religious-Political Scale

(N= 210)

Item	Factor		Communality
No	1	2	
31	0.75	0.02	0.72
17	0.62	0.07	0.68
12	0.48	0.36	0.52
22	0.48	0.21	0.67
32	0.45	0.07	0.65
23	0.42	0.20	0.58
6	0.42	0.38	0.61
5	0.42	0.38	0.60
1	0.40	-0.03	0.28
4	0.36	0.13	0.67
15	0.34	0.11	0.58
56	0.32	0.31	0.55
11	0.32	0.08	0.72
44	0.31	0.12	0.65
13	0.30	0.12	0.61
29	0.11	0.73	0.65
52	0.07	0.58	0.53
43	0.03	0.45	0.56
30	0.05	0.43	0.42
49	0.03	0.40	0.43
58	0.11	0.37	0.76

TABLE 8.2 (continued)

Item	Factor		Communality
No	1	2	
51	0.20	0.36	0.71
59	0.04	0.34	0.59
60	0.24	0.31	0.63
55	0.10	0.31	0.64
2	-0.13	0.17	0.54
3	0.08	-0.00	0.49
7	0.20	0.13	0.48
8	0.09	0.09	0.63
9	0.05	0.08	0.55
10	0.08	0.08	0.40
14	0.09	0.09	0.51
16	0.05	-0.05	0.51
18	0.11	0.14	0.44
19	0.24	0.17	0.56
20	0.09	0.02	0.67
21	0.04	0.02	0.46
24	-0.00	-0.00	0.52
25	0.24	-0.06	0.49
26	0.17	0.04	0.63
27	0.00	0.12	0.45
28	0.18	0.03	0.62
33	0.15	-0.08	0.41

TABLE 8.2 (continued)

Item	Factor		Communality
No	1	2	
34	0.20	0.17	0.58
35	0.07	-0.00	0.55
36	0.08	0.02	0.54
37	0.07	0.10	0.46
38	0.15	0.16	0.52
39	-0.04	0.07	0.54
40	0.09	0.08	0.59
41	-0.10	0.09	0.66
42	-0.01	0.01	0.43
45	0.08	0.11	0.56
46	-0.01	0.12	0.42
47	-0.08	0.13	0.53
48	-0.00	0.16	0.56
50	0.00	-0.03	0.47
53	0.17	0.11	0.57
54	0.04	0.06	0.46
57	0.19	-0.04	0.53
Eigenvalue	11.84	4.47	
% Variance	35.20	13.30	

The Religiosity Scale was then subjected to a principal components factor analysis with varimax rotation. This analysis demonstrated that

the scale was explained by two factors. Analysis of the 11 items defining the first factor resulted in this factor being labelled "religious principles". 9 items contributed significantly to the second factor which was labelled "religious practices". 5 items did not load significantly on either of the factors. The communality of the items was generally high and the varimax rotation resulted in a factor structure in which 5 items (item 1, item 10, item 13, item 14 and item 19) loaded significantly on both factors (See Table 8.3)

TABLE 8.3

Principal Components Factor Analysis
with Varimax Rotation for the
Religiosity Scale
(N= 210)

Item	Factor		Communality
No	1	2	
19	0.64	0.44	0.63
2	0.63	0.14	0.40
1	0.61	0.32	0.65
5	0.57	0.21	0.62
11	0.55	0.01	0.49
4	0.53	0.18	0.38
10	0.52	0.30	0.65
14	0.43	0.56	0.64
15	0.41	0.23	0.54

TABLE 8.3 (continued)

Item No	Factor 1	Factor 2	Communality
13	0.38	0.71	0.69
3	0.36	0.11	0.53
20	0.24	0.65	0.55
8	0.29	0.44	0.57
9	0.10	0.40	0.31
7	0.09	0.31	0.36
6	0.24	0.29	0.38
12	0.06	0.16	0.19
16	-0.01	-0.02	0.14
17	-0.10	0.06	0.22
18	0.03	0.04	0.12
Eigenvalue	7.15	1.12	
% Variance	71.70	11.30	

The Conservatism Scale was then factor analysed using a principal components factor analysis with varimax rotation. 13 items defined the first factor and analysis of these items resulted in this factor being labelled "traditionalism". 11 items defined the second factor, which on analysis, was labelled "anti-modernism". 28 items did not load significantly on either of the factors. The communality of the items was generally high and the varimax rotation resulted in a factor structure in which only two items (item 2 and item 3) loaded significantly on both factors. (See Table 8.4).

TABLE 8.4

Principal Components Factor Analysis
with Varimax Rotation for the
Conservatism Scale
(N= 210)

Item	Factor		Communality
No	1	2	
17	0.64	-0.05	0.62
33	0.63	-0.11	0.86
23	0.50	-0.03	0.56
40	-0.49	0.22	0.66
3	0.44	-0.34	0.41
39	0.43	-0.20	0.62
13	0.39	0.06	0.55
36	-0.37	0.12	0.20
14	-0.35	0.29	0.66
41	0.34	-0.13	0.64
2	-0.34	0.44	0.53
7	0.30	-0.07	0.38
37	0.30	-0.29	0.51
22	-0.13	0.60	0.44
4	-0.14	0.57	0.62
46	-0.01	0.53	0.36
34	-0.25	0.44	0.62

TABLE 8.4 (continued)

Item	Factor		Communality
No	1	2	
38	-0.04	0.40	0.39
10	-0.01	0.37	0.31
50	-0.22	0.35	0.43
6	-0.23	0.33	0.48
42	-0.03	0.31	0.27
5	0.17	-0.15	0.48
8	-0.20	0.15	0.25
9	-0.03	-0.05	0.30
11	0.03	0.14	0.33
12	-0.03	0.27	0.40
15	0.16	-0.26	0.70
16	-0.09	0.02	0.31
18	-0.04	0.14	0.43
19	0.15	0.03	0.42
20	-0.09	0.06	0.49
21	0.23	0.02	0.29
24	0.10	-0.04	0.57
25	0.17	-0.09	0.70
26	-0.01	0.05	0.39
27	0.16	-0.14	0.46
28	-0.10	0.13	0.35
29	0.06	0.10	0.38

TABLE 8.4 (continued)

Item No	Factor 1	Factor 2	Communality
30	-0.06	0.25	0.30
31	0.09	-0.10	0.34
32	-0.12	0.08	0.51
35	0.26	-0.22	0.72
43	0.11	-0.19	0.33
44	0.01	0.13	0.34
45	-0.03	-0.02	0.37
47	-0.05	0.06	0.56
48	-0.08	0.08	0.38
49	0.19	-0.25	0.66
Eigenvalue	9.18	2.39	
% Variance	39.00	10.10	

Mention must be made of the fact that only two acceptable factors emerged from the factor analysis of the Conservatism Scale, whereas in studies carried out by Wilson (1970) and by Bagley, Wilson and Boshier (1970) four factors emerged from factor analyses of the Conservatism Scale. In order to explain the difference found in the factor analysis of the Conservatism Scale in the present study as opposed to factor analyses of the Conservatism Scale in the studies carried out by Wilson and by Bagley, Wilson and Boshier it may be pointed out that the factor of traditionalism in the present study includes the factors of general conservatism and racialism which emerged in the previous studies. In addition the factor

labelled anti-modernism in the present study includes the factors of anti-hedonism and religiosity which emerged in the previous studies. In effect, the four factors found in the previous studies are included in the two factors which emerged in the present study demonstrating that the difference between the present and previous factor analyses of the Conservatism Scale is actually minimal.

Regarding the factor analysis, it is important to stress that the process of labelling the factors in the three research scales requires elaboration. Huizinga (1970) has stated that the process of labelling factors is so subjective that it may be likened to the completion of projective tests. The researcher therefore labelled the factors yielded in the three research scales according to a subjective evaluation of a common denominator permeating the significant items which loaded on each of the six significant factors. The factors emerging from the Conservatism Scale did not conform exactly with the factors described and labelled by Wilson (1973) or by Barling and Evans (1978) in their factor analyses of the same scale, therefore the two significant factors yielded by the scale were given new labels.

In order to investigate the various factors of conservatism and religiosity of English speakers and Afrikaans speakers as reflected in the SRP-Scale, the R-Scale and the Conservatism Scale, 6 t-tests were conducted.

In the test examining the differences between the two groups on the "religious attitudes"variable, a significant difference was found (t = 9.45, df = 200.83, $p < 0.05$). The test examining the differences between English speakers and Afrikaans speakers on the "socio-political-attitudes" factor demonstrated that significant differences exist between the two groups (t = 3.95, df = 197.97, $p < 0.05$). The test examining the differences between the two groups on the "religious principles" variable indicated significant differences between the groups (t = -10.82, df = 115.85, $p < 0.05$). In the test examining the differences on the "religious practices"factor significant differences were found between English speakers and Afrikaans speakers (t = -13,56, df = 126.24, $p < 0.05$). The test examining differences between the two groups on the "traditionalism" factor demonstrated that significant differences exist between English speakers and Afrikaans speakers (t = -15.23, df = 170.50, $p < 0.05$). In the final test examining the differences between English speakers and Afrikaans speakers on the "anti-modernism" factor a significant difference was found (t = -8.45, df = 193.87, $p < 0.05$).

TABLE 8.5

t-test results for English speakers and Afrikaans speakers on 6 factors derived from SRP-Scale, R-Scale and Conservatism Scale.

Variable	Lang.	No.	M.	SD	t	D.F.	P
	Eng.	104	56.75	10.04			
relig.att					9.45	200.83	< 0.05
	Afrik.	99	43.92	9.28			

TABLE 8.5 (continued)

	Eng	104	50.75	8.77		
soc.pol.att					3.95	197.97 <0.05
	Afrik	99	45.69	9.45		
	Eng	104	14.21	6.06		
relig.prin					-10.92	115.85 <0.05
	Afrik	99	20.89	1.48		
	Eng	104	9.01	5.31		
relig.prac.					-13.56	126.24 <0.05
	Afrik	99	16.48	1.75		
	Eng	104	12.10	5.36		
traditionalism					-15.23	170.50 <0.05
	Afrik	99	21.51	3.23		
	Eng	104	10.70	5.14		
anti-mod					- 8.45	193.87 <0.05
	Afrik	99	16.17	4.03		

Three three-way univariate ANOVAs were computed. In each ANOVA the dependent variable was intelligence and one independent variable was language. The two additional independent variables in the first ANOVA were "religious attitudes" and "socio-political attitudes", i.e. the two factors emerging from the SRP-Scale. In the second ANOVA the two additional independent variables were "religious principles" and "religious practices" which are the two factors emerging from the R-Scale. The two

additional independent variables in the third ANOVA were the factors which emerged from the Conservatism Scale i.e. "traditionalism" and "antimodernism".

One seven-way univariate ANOVA including all seven independent variables emerging from the present research was not computed. The fact that the research sample comprised 210 subjects meant that in a seven-way ANOVA each cell would be populated by an insignificant number of subjects ruling out the possibility of making valid inferences. The researcher decided to compute three ANOVAs, each being based on one of the research questionnaires and the significant factors emerging from each questionnaire as described above. The approach taken in computing the three ANOVAs was that which yielded a regression solution. In this approach, according to Nie, Hull, Jenkins, Steinbrenner and Bent (1975), each effect is considered as an additional contribution to the explained variance. The regression solution therefore emphasizes the salience of each effect and interaction and as such is suitable for the analysis of the data of this research.

In the first three-way univariate ANOVA computed no significant main effects were yielded for language ($F = 1.25$, $DF = 1$, $p > 0.05$), for religious attitudes ($F = 0.12$, $DF = 1$, $p > 0.05$) or for socio-political attitudes ($F = 2.11$, $DF = 1$, $p > 0.05$). The interactions of language x religious attitudes ($F = 0.64$, $DF = 1$, $p > 0.05$), language x socio-political attitudes ($F = 3.26$, $DF = 1$, $p > 0.05$) and religious attitudes x socio-political attitudes ($F = 0.20$, $DF = 1$, $p > 0.05$) were not statistically significant.

In the second three-way univariate ANOVA computed main effects for language ($F = 2.74$, $DF = 1$, $p > 0.05$), religious principles ($F = 0.47$, $DF = 1$, $p > 0.05$) and religious practices ($F = 0.08$, $DF = 1$, $p > 0.05$) were

not significant. The interactions for language x religious principles (F = 7.02, DF = 1, $p < 0.05$) and language x religious practices (F = 5.71, DF = 1, $p < 0.05$) were statistically significant. The religious principles x religious practices interaction (F = 0.01, DF = 1, $p > 0.05$) was not significant.

In the third three-way univariate ANOVA computed no significant main effects were yielded for language (F = 0.67, DF = 1, $p > 0.05$), for traditionalism (F = 0.00, DF = 1, $p > 0.05$) or for anti-modernism (F = 1.31, DF = 1, $p > 0.05$). The language x traditionalism interaction (F = 8.41, DF = 1, $p < 0.05$) was statistically significant but the language x anti-modernism interaction (F = 0.36, DF = 1, $p > 0.05$) and the traditionalism x anti-modernism interaction (F = 1.09, DF = 1, $p > 0.05$) were not significant.

The Beta values for the significant variables of the research were computed. In the first computation the Beta value of language was 0.14, in the second computation the language Beta value was 0.17 and in the third computation the Beta value of language was 0.13. These values represent fair partial correlation ratios between the independent variable of language and the dependent variable of intelligence. In addition the Beta values of socio-political attitudes was 0.10, of religious principles 0.25 and of religious practices 0.13 indicating fair partial correlation ratios between the abovementioned factors and intelligence. According to Nie, Hull, Jenkins, Steinbrenner and Bent (1975), the Beta value can be viewed as a standardized partial regression coefficient in the sense that those independent variables with a fair Beta value namely language, socio-political attitudes, religious principles and religious practices are positively related to the dependent variable of intelligence.

TABLE 8.6

Three-way Univariate ANOVA

results for the Language, Religious Attitudes

and Socio-political Attitudes Independent

Variables and the Intelligence Dependent Variable

Source	S.S.	DF	M.S.	F	P
Language	206.84	1	206.84	1.25	>0.05
Relig.att.	21.12	1	21.12	0.12	>0.05
Soc.pol.att.	348.31	1	348.31	2.11	>0.05
Lang x Rel.att.	106.56	1	106.56	0.64	>0.05
Lang x Soc.pol.att.	538.71	1	538.71	3.26	>0.05
Rel.att. x Soc-pol.att.	33.45	1	33.45	0.21	>0.05
Residual	32166.33	195	164.95		

TABLE 8.7

Three-way Univariate ANOVA results

for the Language, Religious Principles and

Religious Practices Independent Variables

and the Intelligence Dependent Variable

Source	S.S.	DF	M.S.	F	P
Language	443.58	1	443.58	2.74	>0.05
Relig.prin.	76.38	1	76.38	0.47	>0.05
Relig.prac.	13.50	1	13.50	0.08	>0.05
Lang. x Rel.prin.	1137.74	1	1137.74	7.02	<0.05
Lang. x Rel.prac.	924.41	1	924.41	5.71	<0.05
Rel.prin. x Rel.prac.	2.63	1	2.63	0.01	>0.05
Residual	31562.62	195	161.86		

TABLE 8.8

Three-way Univariate ANOVA results
for the Language, Traditionalism and
Anti-modernism Independent Variables
and the Intelligence Dependent Variable

Source	S.S.	DF	M.S.	F	P
Language	111.79	1	111.79	0.67	> 0.05
Traditionalism	0.36	1	0.36	0.00	> 0.05
Anti-modernism	218.98	1	218.98	1.31	> 0.05
Lang. x Trad.	1399.18	1	1399.18	8.41	< 0.05
Lang. x Anti-mod.	60.65	1	60.65	0.36	> 0.05
Trad. x Anti-mod.	181.57	1	181.57	1.09	> 0.05
Residual	32407.21	195	166.19		

The three significant interactions computed in the three ANOVAs, namely language x religious principles, language x religious practices and language x traditionalism were disordinal as demonstrated in Figure 8.1. In order to investigate the significance of these interactions, six t-tests were conducted. No significant differences were found between English speakers with a high level of religious principles and English speakers with a low level of religious principles. ($\underline{t} = 0.93$, $\underline{df} = 21.80$, $\underline{p} > 0.05$). Significant differences were found however, between Afrikaans speakers with a high level of religious principles and Afrikaans speakers with a low level of religious principles ($\underline{t} = -2.53$, $\underline{df} = 46.80$, $\underline{p} < 0.05$). The differences between English speakers with a high level of religious practices and English speakers with a low level

of religious practices were not statistically significant (t = -1.16, df = 16.62, $p > 0.05$). Additionally, no significant differences were found between Afrikaans speakers with a high level of religious practices and Afrikaans speakers with a low level of religious practices (t = 0.48, df = 33.33, $p > 0.05$). No significant differences were found between English speakers with a high level of traditionalism and English speakers with a low level of traditionalism (t = 1.52, df = 20.06, $p > 0.05$). Significant differences were found,however, between Afrikaans speakers with a high level of traditionalism and Afrikaans speakers with a low level of traditionalism (t = -2.20, df = 16.36, $p < 0.05$).

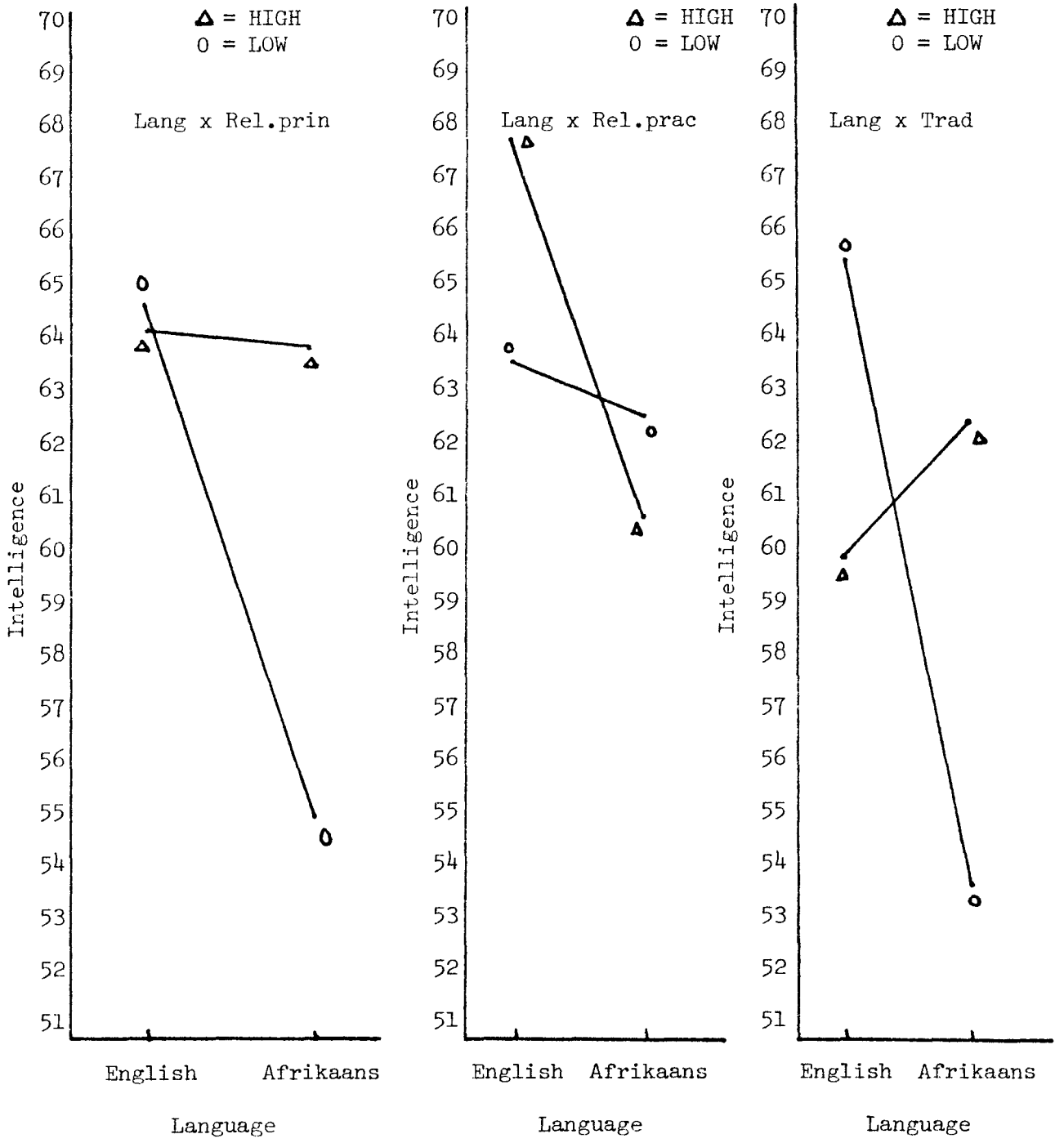

Figure 8.1 Effects of Disordinal Interactions between Language and Religious Principles, Language and Religious Practices, Language and Traditionalism and the Intelligence Dependent Variable.

8.3 Discussion

The results of this study partially confirm the different research hypotheses as set out in the previous chapter.

Hypothesis 1: This hypothesis is confirmed by the results of the research. No significant differences in intelligence were found between Afrikaans speakers and English speakers.

Hypothesis 2: The results of the study confirm the hypothesis for the conservatism factor of traditionalism. Afrikaans speakers high in traditionalism were found to be significantly more intelligent than Afrikaans speakers low in traditionalism.

Hypothesis 3: This hypothesis is not confirmed by the results of the research. No significant differences were found between English speakers low in the conservatism factor of traditonalism and English speakers high in the same factor.

Hypothesis 4: This hypothesis is partially confirmed by the results of this study. Afrikaans speakers high in the religious principles factor were significantly more intelligent than Afrikaans speakers low in religious principles. There was no significant difference however between Afrikaans speakers high in religious practices and Afrikaans speakers low in the same factor.

Hypothesis 5: The results of the research do not confirm this hypothesis. No significant differences were found between English speakers high in religious principles or religious practices and English speakers low in the same factors.

Hypothesis 6: This hypothesis was partially confirmed by the results of the research. Although English speakers were significantly higher than

Afrikaans speakers on the conservatism factor of socio-political attitudes, Afrikaans speakers were significantly higher than English speakers in the conservatism factors of traditionalism and anti-modernism.

Hypothesis 7: The results of the study partially confirm this hypothesis. Whilst English speakers were significantly higher than Afrikaans speakers on the factor of religious attitudes, Afrikaans speakers were significantly higher than English speakers in the religious principles and religious practices factors.

In addition, the results of this study partially confirm the results obtained in previous research. The Afrikaans speaking population was shown to be generally more conservative and religious than the English speaking population in the research sample (except for the religious attitudes and socio-political attitudes factors yielded from the SRP-Scale). These results confirm conclusions reached by Wilson and Shutte (1973) that Afrikaans speaking subjects are more conservative on the four components of conservatism demonstrated in the Conservatism Scale than English speaking subjects. The above researchers also found that Afrikaans speakers, being strongly influenced by the Dutch Reformed Church, have a higher level of religiosity than English speakers, a conclusion partially confirmed by the present research.

The results of Orpen (1970) are also partially confirmed by the present study in that Afrikaans speakers have been shown to be more conservative than English speakers. This may be understood against the background of the factor analysis of the Conservatism Scale in which the two significant factors of "traditonalism" and "anti-modernism" respectively load strongly on those attitudinal traits demonstrated by Orpen

who stated in his conclusions that it appears that the Afrikaans speaking white South Africans have internalized the prevailing authoritarian norms of the South African society, presumably laid down by the authoritarian and dogmatic Calvinistic church, and are especially receptive to the conservative ideas of their culture.

The two factors yielded from the Religiosity Scale which were labelled "religious principles" and "religious practices" also verify the results of the studies conducted by Wilson and Shutte (1973) and Orpen (1970). The results of the abovementioned studies however were not confirmed by the findings of the present study with regard to the factors yielded from the SRP-Scale i.e. "religious attitudes" and "socio-political attitudes" on which English speakers were found to be more conservative than Afrikaans speakers. It may be inferred from the conflicting results achieved in the SRP-Scale, as opposed to the R-Scale and the Conservatism Scale, that the factors yielded from the SRP-Scale describe different aspects of conservatism and religiosity than the factors yielded from the R-Scale and the Conservatism Scale. This may explain why in the factors yielded from the SRP-Scale English speakers were more conservative and in the factors yielded from the R-Scale and the Conservatism Scale Afrikaans speakers were found to be more conservative.

The present study apparently bears out the conclusion reached by Barling and Evans (1978) that the factor structure of psychological conservatism tends to be culture specific. The factors derived from the three research scales all load highly on a typically South African brand of conservatism which consists of religiosity, ethnocentrism and a strong feeling of traditionalism and resistance to change as has been demonstrated by Loubser (1968).

The main hypothesis of this study, namely that Afrikaans speaking subjects will have the same level of intelligence as English speaking subjects was confirmed by the results of the research indicating that language is not the key variable affecting intelligence. The significant interactions emerging from the ANOVAs namely language x religious principles, language x religious practices and language x traditionalism further indicate that the critical variables are those connected with attitudes and not the language variable. It is therefore impractical to speak of the effect that language has on intelligence when attitudinal variables which significantly interact with language are apparently those which have an effect on intelligence.

All the abovementioned significant interactions are disordinal. This disordinal pattern serves as an interesting illustration of the different attitudinal patterns held by the Afrikaans speakers as opposed to the English speakers in the research population. It is interesting to note that of the English speakers, those with a low level in "religious principles" achieved better results on the intelligence measure than English speakers with a high level in "religious principles," although this difference is not statistically significant. On the other hand Afrikaans speakers with a high level in "religious principles" achieved significantly higher scores on the intelligence measure than Afrikaans speakers with a low level in "religious principles". It may be inferred that within the different language groups the attitudinal patterns and dynamics are different and cause different effects on cognitive behaviour and processes.

Regarding the second significant factor yielded from the R-Scale, English speakers with a high level in "religious practices" scored higher

on the intelligence measure than English speakers with a low level in "religious practices". However, Afrikaans speakers with a low level in "religious practices" achieved better results on the intelligence measure than Afrikaans speakers with a high level in "religious practices". In both language groups the differences on the intelligence measure between those high and low in "religious practices" were not statistically significant.

For the "traditionalism" variable English speakers low in this factor achieved better results than English speakers high in this factor. The difference on the intelligence measure in this language group was not significant. However, Afrikaans speakers with a high level in "traditionalism" achieved significantly better results on the intelligence measure than the Afrikaans speakers with a low level in "traditionalism".

The results of the study demonstrate that on the significant factors yielded from the R-Scale and the Conservatism Scale namely "religious principles", "religious practices", "traditionalism" and "anti-modernism" the Afrikaans speaking subjects were significantly more conservative than English speakers. It may be inferred then that, broadly speaking, Afrikaans speakers are generally more conservative than English speakers although exceptions do exist as was demonstrated regarding the significant factors yielded from the SRP-Scale where English speakers were significantly more conservative than Afrikaans speakers on "religious attitudes" and "socio-political attitudes".

It is apparent from the conflicting results yielded from the SRP-Scale as opposed to the R-Scale and the Conservatism Scale that Afrikaans speakers are higher in most aspects of conservatism although English speakers are higher in certain fields of conservatism.

If the above inference is correct and Afrikaans speakers can be considered as being more generally conservative than English speakers in most areas of conservatism, then the difference in attitudinal patterns between those typical of Afrikaans speakers as opposed to those typical of English speakers may be better understood. Pettigrew (1960), Orpen (1971a), Orpen and Rookledge (1972), Orpen and Tsapogas (1972) as well as Lambley (1972) found that ethnocentrism and conservatism serve a utilitarian function of personality in a highly authoritarian and conservative society as opposed to an ego-defensive function served by the same variables in a more liberal society. Heaven (1977) concurred with the above findings in his study in which he demonstrated that conservatism and authoritarianism serve as utilitarian functions of personality for white Afrikaans speaking South Africans rather than ego-defensive functions.

The differences in attitudinal patterns between English speakers and Afrikaans speakers as demonstrated by the results of the present research could conceivably be explained in the light of the abovementioned studies, namely that Afrikaans speakers utilize certain aspects of conservatism for utilitarian purposes whereas English speakers utilize other aspects of conservatism for ego-defensive purposes.

From the results of the present study it may be inferred that language per se does not have a significant influence on intelligence. In addition no conclusion can be reached regarding the influence of the variables of conservatism on intelligence as these were mediated by language. The intelligence measure used in the study, namely the D-48 Test, also limits the possible conclusions because of its nature as a non-verbal analogies test which primarily measures the "g" or general

factor in intelligence. The results in the present study indicate the possible existence of different cognitive behaviours and patterns in English and Afrikaans language groups. The D-48 Test is too general to tap these possible differences because of its homogeneity of purpose.

The research sample was homogeneous in that all the subjects were trainee teachers. The sample was not a cross-section of the general population in South Africa or even the student population in South Africa. Therefore no general conclusions or inferences can be made from the present study regarding the influence on intelligence for the general population.

In the light of the abovementioned limitations, the results of the present research must be seen in their true perspective. No general conclusions may be reached and no clear-cut explanation can be proposed regarding the true influence of conservative attitudes on intelligence.

8.4 Summary

The results of this study indicate that Afrikaans speakers have significantly higher levels in most aspects of conservatism and religiosity tested in this research than English speakers. In addition the results seem to confirm that the attitudinal patterns of the more conservative Afrikaans speakers are different from those of the more liberal English speakers.

No conclusion however could be reached regarding the main aim of

this study, namely the investigation of the influence of attitudes on intelligence. Because language was found to mediate conservative attitudes and these attitudes, and not language, were found to be the critical variables, no inferences could justifiably be made.

The researcher therefore decided to embark upon a second study where the influence of attitudinal variables only on intelligence would be examined. In such a study the researcher felt that it would be possible to evaluate the influence of attitudes on intelligence without other variables, such as language, contaminating the experiment.

CHAPTER 9

GENERAL CONSERVATISM AND INTELLIGENCE

In this study, the researcher decided to use only those variables directly connected with the personality construct of general conservatism and by so doing to determine, as precisely as possible, the influence of those variables on intelligence. This study is directly based on the assumption emanating from the first part of this research, namely that attitudinal variables connected with conservatism are those which influence intelligence and not those variables, such as language, which mediated the attitudinal variables. In addition it may be inferred from the results of the first part of the research that Afrikaans speaking subjects have different cognitive behaviours and processes from English speaking subjects. Therefore in this study, the influence of conservative attitudes on the various aspects of intelligence will be examined in order to ascertain whether there are, in effect, cognitive differences between English and Afrikaans speakers.

9.1 Conservative Attitudes and Intelligence

Uhes and Shaver (1970) used the model describing the structure of the intellect, as postulated by Guilford (1959), in order to ascertain the differences between high and low dogmatics with regard to cognitive ability. Uhes and Shaver postulated that the second dimension described by Guilford, namely divergent and convergent cognitive operations would seem likely to be related to dogmatism. The results of their study indicate that dogmatism is inversely related to divergent cognitive operations and positively related to convergent cognitive operations. It may be inferred that convergent operations do not require originality, creativity or flexibility

and therefore dogmatism does not hinder convergent operations. It may further be inferred that as no flexibility is necessary for convergent cognitive operations, the dogmatic trait of rigidity positively contributes to such operations. Costin (1965) confirmed the existence of the above-mentioned connection between dogmatism and convergent and divergent cognitive operations.

Taylor (1964) found that independence and openmindedness are necessary preconditions for creative and intellectual functioning. Wrenn (1962) stated that highly dogmatic individuals tend to accept group conformity and to value reinforcement by group thinking. This finding is in direct contradiction to those traits shown by Taylor to facilitate creative and intellectual functioning. The dogmatic, according to Taylor's findings, will not be a creative or intellectually productive individual.

In a study dealing with conservatism and authoritarianism, Abraham (1972) found that conservatives and authoritarians were less independent than liberals and non-authoritarians. The conservatives and authoritarians were also less creative than their liberal and non-authoritarian counterparts.

Maini (1973) administered a battery of creativity, originality and personality measures to a sample of high school students. As predicted in the research hypothesis, the group high in originality was more fluent, less rigid and less stimulus-bound than the group low in originality. In addition those high in originality were more tolerant of ambiguity, lower in social desirability and more subjective than those low in originality. It may be inferred from the results of Maini's study that those low in originality have typically conservative personality traits.

Kohlberg (1976) in a review of the literature pointed out that the higher stages of moral judgement reflect increasing cognitive complexity. It may be inferred that this cognitive complexity forces the conservative to be unoriginal, rigid in thought patterns, uncreative and generally anti-intellectual. Haugeland (1978) found that "cognitivism" is explained by rational, flexible and original thought. The conservative, who is irrational, inflexible, rigid and unoriginal will not in any way be related to "cognitivism".

The abovementioned studies seem to indicate that a connection exists between conservatism and variables connected with intelligence and intellecuality. It appears that conservatism is inversely related to cognitive behaviours and processes as well as intelligence.

9.2 Aim of the Present Phase of the Research

The researcher decided to investigate the relationship between the attitudinal factors directly connected with general conservatism without any mediating variables, such as language, and the different specific factors which underly the construct of intelligence. Thurstone and Thurstone (1941) described what they called the multiple factor theory of intelligence. As the results of the first part of this research indicate the existence of different cognitive patterns between English and Afrikaans speakers, the researcher chose to use, in this study, an intelligence measure which would emphasize the multiple factor theory of intelligence and would not be confined to measuring general and non-verbal intelligence only.

In addition the researcher decided to use the SRP-Scale and the Conservatism Scale only in the second phase of the research thus excluding the R-Scale. The reason for the exclusion of the R-Scale lies in the

fact that the "religious attitudes" factor which emerged from the SRP-Scale as well as the "anti-modernism" factor which emerged from the Conservatism Scale covered to a large extent, the factors of "religious principles" and "religious practices" which emerged from the R-Scale. The researcher felt that the use of the SRP-Scale factors and the Conservatism Scale factors only would adequately compensate the exclusion of the R-Scale.

The researcher decided to investigate the abovementioned attitudinal variables, bearing in mind the findings of Costin (1965) and Uhes and Shaver (1970) regarding the differential connections between conservative personality traits and liberal personality traits on the one hand and intelligence on the other.

The researcher chose to include in the research sample university students studying in different faculties and whose academic interests lay in a variety of fields. According to the researcher, the research sample would thus be far more heterogeneous and representative than the one which was tested in the first part of this study. The conclusions emerging from the present study would then have increased validity.

In conclusion, the aim of this part of the research is to ascertain the influence of the attitudinal variables directly connected to conservatism on the various aspects of intelligence. Furthermore, the study will further investigate whether South African conservatism is not inversely correlated with intelligence as classical conservatism has been shown to be in the studies quoted in this chapter.

9.3 Hypotheses of the Research

1. South African conservatives will have the same level of general intelligence as South African liberals.
2. South African liberals will have a higher level of verbal intelligence than South African conservatives.
3. South African conservatives will have a higher level of practical intelligence than South African liberals.

CHAPTER 10

AN EMPIRICAL TEST OF THE HYPOTHESES

10.1 Method

10.1.1 Subjects

The research sample consisted of one hundred student volunteers. Fifty of the students were English speaking and attended the University of the Witwatersrand and fifty students were Afrikaans speaking and attended the Rand Afrikaans University. Both institutions are situated in the city of Johannesburg. As explained in the first phase of the research, a volunteer research sample gives rise to a bias which mitigates against the inferring of decisive conclusions from the results of the study. However, the volunteer sample included subjects with a wide variety of interests and therefore was used in the study.

The one hundred subjects participating in this phase of the study were of average to above average intelligence. Intelligence was reflected by the scores obtained by the subjects on the South African Wechsler Adult Intelligence Scale which is a measure of full-scale, verbal and practical intelligence. The breakdown of sex, ages and intelligence of the subjects is shown in the following table.

TABLE 10.1

Breakdown of Sex, Age Range and

Intelligence Range of the Research Subjects

Sex	Age Range	Intelligence Range
Male - N = 42	Low - 18 years 0 months	Low - 100.00
Female - N = 58	High 36 years 10 months	High- 135.00
	Mean 19 years 1 month	Mean 116.58
	S.D. 2 years 1 month	S.D. 7.71

10.1.2 Experimental Design

The present study consisted of a post-test only comparison groups experimental design described by Asher (1976) following Campbell and Stanley (1966). The test sessions were conducted at suitable venues at the University of the Witwatersrand and the Rand Afrikaans University.

10.1.3 Apparatus

Two questionnaires and one intelligence measure were used in the study. Each will be discussed separately.

1. Social-Religious-Political Scale - As has been explained at length in the section dealing with the method of the first phase of this study, this scale was designed to assess the social, religious and political attitudes of the respondents of the respondents. However, in the factor analysis performed on the data of the first phase of the research, two significant factors, namely "religious attitudes" and "socio-political attitudes" emerged. Therefore in this phase of the

study the researcher concentrated entirely on those items in the SRP-Scale which comprised the two significant factors.

2. Conservatism Scale - This scale compiled by Wilson and Patterson (1968), and explained at length in the first section of this study, was designed to assess the level of general conservatism of the respondents. In the factor analysis carried out in the first phase of the research two significant factors were yielded, namely "traditonalism" and "anti-modernism". The researcher,therefore, made use of only those items in the Conservatism Scale from which the two significant factors were comprised.

3. South African Wechsler Adult Intelligence Scale (WAIS) - The WAIS was devised by Wechsler (1958) and was intended to measure different aspects of intelligent behaviour. The scale consists of six verbal tests and five performance tests. The sub-tests in the WAIS are as follows:-

   1. General Information: 25 questions on general knowledge, avoiding items of specific information which might have been acquired in the course of formal education.
   2. General Comprehension: 10 questions drawing on the ability of the respondent to utilize judgement and past experience in solving problems.
   3. Arithmetical Reasoning: 10 questions posing fairly simple arithmetical problems, to be solved without the use of pencil and paper.

4. Digit Span: A test of the immediate memory span for the repetition of digits, both forwards and backwards.
5. Similarities: 12 pairs of words, the subject being required to indicate the essential similarities between words of each pair.
6. Vocabulary: The respondent is presented with 42 words and is required to define them. This sub-test is not used when computing the IQ of the respondent.
7. Picture Completion: 15 drawings in each of which the subject is required to indicate a missing part.
8. Object Assembly: A manikin, a profile and a hand, presented in jig-saw fashion, to be assembled to form a logical whole.
9. Block Design: 7 patterns, based on Koh's Block Design Test, to be completed by the respondent.
10. Digit Symbols: A test in which the subject is required to substitute symbols for figures in a given period of time.
11. Picture Arrangement: 6 series of pictures are presented in confused order to the respondent who is required to rearrange each series so as to tell a logical story.

Wechsler devised separate IQ scores for the verbal and performance results, combining the two for an overall intelligence rating. Separate norms were also devised for the 18-19 year age group as well as for five-year age groups from 20 years upwards, so that respondents are rated in relation to their peers, and any deterioration with age is taken into account.

Liddicoat and Roberts (1962) noted that before the WAIS could be utilized in South Africa a number of alterations had to be introduced, par-

ticularly in order to eliminate items relating too specifically to the American background. This applied mainly to the General Information sub-test in which questions with a South African orientation were substituted for unsuitable American-oriented items.

The Arithmetical Reasoning sub-test required adjustment as many of the items involved money and these had to be reformulated in terms of South African currency. In addition "Americanisms" were reworded throughout this sub-test.

The Picture Arrangement sub-test was changed completely as some of the American series could not be reproduced in South Africa. It was necessary to introduce an entirely new picture series that was comparable to the original American version.

Translation of the WAIS into Afrikaans did not materially affect the sub tests except for Vocabulary. An entirely new Afrikaans Vocabulary sub test had to be constructed since a direct translation of many words from English into Afrikaans made their meanings immediately self evident e.g. mammal (soogdier), join (verbind), belfry (kloktoring).

The various changes in the South African WAIS were all standardized. Liddicoat and Roberts reported that the amendments to the WAIS were made in South Africa on the basis of results obtained from two population samples: a) 235 individuals with physical and psychiatric disabilities who were in sheltered employment, and b) 400 subjects tested over a period of eighteen months. In addition a well-stratified sample of 2948 white South African subjects, where age, occupation, education and socio-economic status were the most important stratifiers, was used to standardize the scale in its final form. This standardization was executed by the Psychometric Depart-

ment of the National Institute of Personnel Research. The mean of the South African scale was set at 100 with a standard deviation of 15, identical to the original American mean and standard deviation. The coefficients of reliability and validity for the various sub-tests and for the verbal, performance and full-scale scores are in essence similar to those quoted in Tables 10.2 and 10.3.

Matarrazo (1972) has stated that the emphasis of a dichotomy in the WAIS, regarding possible types of ability called for by the individual sub-tests, does not imply that these are the only abilities tapped by the tests. Nor does it presume that there are different kinds of intelligence e.g. verbal and practical. The dichotomy of verbal tests and performance tests merely implies that these are different ways in which intelligence may manifest itself. The sub-tests are different measures of intelligence, and not measures of different kinds of intelligence. The dichotomy into two distinct areas of verbal and practical intelligence is only one of several ways in which the sub-tests could be grouped.

Wechsler (1958) reported the reliability coefficients for all the sub-tests that comprise the WAIS. These coefficients were permuted on a sample of volunteers in the United States.

TABLE 10.2

Reliability Coefficients for WAIS

	Ages 18-19	Ages 25-34	Ages 45-54
Information	0.91	0.91	0.92
Comprehension	0.79	0.77	0.79
Arithmetic	0.79	0.81	0.86
Digit Span	0.87	0.85	0.85
Similarities	0.71	0.66	0.66
Vocabulary	0.94	0.95	0.96
Verbal IQ	0.96	0.96	0.96
Picture Completion	0.92	-	-
Object Assembly	0.82	0.85	0.83
Block Design	0.86	0.83	0.82
Digit Synbols	0.66	0.60	0.74
Picture Arrangement	0.65	0.68	0.71
Non-Verbal IQ	0.93	0.93	0.94
Full-Scale IQ	0.97	0.97	0.97

In addition the following coefficients of correlation, indicating validity, were achieved with the listed intelligence measures.

TABLE 10.3

Correlation Coefficients for WAIS

WAIS with Stanford-Binet	0.74
WAIS with Raven Progressive Matrices	0.72
WAIS with Peabody Picture-Vocabulary	0.86
WAIS with Shipley-Hartford	0.78
WAIS with Otis	0.78

As stated above, it may be accepted that the reliability and validity of the South African WAIS is acceptable, based on the reliability and validity coefficients obtained for the American sample.

10.1.4. Procedure

The subjects, who participated in the research, were chosen at random from a representative cross-section of volunteer students who answered the researchers appeal for participants in the present study. The research assistants contacted the volunteers and set up an individual appointment for each subject at a time convenient for both tester and subject. At the appointed time the subject was asked to complete a confidential biographical information form (see Appendix E) which was attached to the SRP-Scale and the Conservatism Scale.

After completing the biographical information form, the subject was asked to follow the printed instructions for the SRP-Scale and the Conservatism Scale as the tester read the instructions aloud. The subject was then asked if the instructions were clear and if any further clarification was necessary. When all questions had been answered by the research assistant, the subject was asked to complete the SRP-Scale and the Conservatism Scale. No time limit was set for the above-mentioned scales.

On completion of the SRP-Scale and the Conservatism Scale, the tester then administered the South African Wechsler Adult Intelligence Scale. The instructions relevant to the WAIS were issued to the subject after which the tester administered all eleven sub-tests of the WAIS. On completion of the scale the subject was thanked by the research assistant for volunteering for the study and was then dismissed. The subjects were informed

that their responses would be treated in the strictest confidence and results would be reported anonymously without any names being divulged at any time.

The testers who administered the English version of the SRP-Scale, the Conservatism Scale and the WAIS were fully fluent in the English language. Similarly, the assistants who administered the Afrikaans version of the SRP-Scale, the Conservatism Scale and the WAIS were absolutely fluent in Afrikaans.

10.1.5 Statistical Analysis

As explained in the Apparatus section of this study, the researcher used only those items in the SRP-Scale and the Conservatism Scale that loaded significantly on the factors yielded in the factor analysis described in Chapter 7. These factors, namely "religious attitudes" and "socio-political attitudes" emerging from the SRP-Scale and "traditonalism" and "anti-modernism" emanating from the Conservatism Scale, were tested in a Pearson Correlation with factors yielded in Wilson's (1973) analysis of the Conservatism Scale and Barling and Evans'(1978) analysis of the same scale. The aim of this procedure was to confirm that the factors yielded in the first phase of this research were valid when compared to factors yielded in similar studies. (see Appendix F).

Four-way univariate ANOVAs were to be computed for each of the subtests of the WAIS, as well as for Total Verbal IQ, Total Practical IQ and Full-Scale IQ. The univariate ANOVAs were to be specifically used in order to determine the potential relationships that any of the independent variables may have had with the dependent variables. In addition the researcher decided to use this method in order to ascertain any

possible significant interactions between the independent variables which could conceivably influence the dependent variables in any way.

However, prior to the computation of the univariate ANOVAs, the issue of orthogonality of the experimental design was investigated. It was found that the factorial design of this study was nonorthogonal. Overall and Spiegel (1969) have noted that when an ordinary ANOVA is used to analyse data, the factorial design should be orthogonal so that the analysis may be considered reliable. A problem arises when the factorial design is nonorthogonal, as is the situation in the present study, namely, when the number of subjects in each cell of the design is unequal.

After considering various options for the analysis of a nonorthogonal factorial design, Overall and Spiegel contended that the classical experimental approach for an ANOVA would be invalid. In addition the above-mentioned statisticians invalidated the use of an ANOVA based on the regression approach in the case of factorial nonorthogonality. The only valid approach according to Overall and Spiegel (1969) would be to compute an ANOVA of hierarchical design which would constitute a reliable analysis when the factorial design is nonorthogonal. Overall and Spiegel explained that the hierarchical method, based on the step down procedure has the advantage that the possibility that significant effects will cancel one another is minimized. In the step down procedure there is an initial ordering of effects after which each effect is estimated after being adjusted for those preceeding it and ignoring those following it. This method is recommended by Overall and Spiegel for nonorthogonal factorial designs when a logical <u>a priori</u> ordering exists among the hypotheses to be tested.

Rawlings (1972) criticized the hierarchical method suggested by Overall and Spiegel (1969) and stated that the stepdown procedure was not suitable for analysing nonorthogonal factorial designs. Rawlings suggested an alternative method based on a general linear hypothesis approach. The suggested approach is based on the test described by Scheffe (1959) as a test for interactions. Rawlings stated that the Scheffe test is actually a lack of fit test as used in regression analysis. According to Rawlings in a nonorthogonal design, the Scheffe test is used to determine lack of fit. If no lack of fit exists then main effects are tested for.

Overall and Spiegel (1973) answered Rawlings' criticism by contending that the alternative method suggested by Rawlings (1972) is identical to the hierarchical method of computing ANOVAs for nonorthogonal factorial designs as first suggested by Overall and Spiegel (1969). The researcher in this study, therefore, decided to use the hierarchical method of computing ANOVAs for nonorthogonal factorial designs following Overall and Spiegel (1969).

An additional problem that needs to be solved prior to the computation of a univariate ANOVA is that pertaining to the homogeneity of variance. Rogan and Kesselman (1977) have stated that when the underlying assumption of the homogeneity of variance is violated, than a parametric test of significance, such as a regular univariate ANOVA, could not be justifiably used. Consequently the Bartlett Box F coefficient, a stringent measure of homogeneity of variance, was computed for all the variables of this study.

For certain of the variables, the criterion of homogeneity of variance

was not satisfied. In such situations, Wilson (1956) has provided a factorial ANOVA that is not based on the assumption of the homogeneity of the variance. This test is applicable, therefore, where the homogeneity of the variance assumption is not met. Wilson's (1956) test is preferred to the usual $\underline{x}^2$ technique in such situations, as it provides a statistic for assessing both the main effects and the interaction effects simultaneously.

Therefore, because of the nonorthogonality of the variables, only ANOVAs of hierarchical design were computed. In the case of a lack of homogeneity of variance Wilson's (1956) distribution-free ANOVA was used. In order to explain the significant interactions that were yielded in certain of the univariate hierarchical ANOVAs, t-tests were computed for the independent variables contributing to the significant interactions. In this way, the researchers was able to ascertain the contribution of each independent variable to the significant interaction. As in the first phase of this study, and following Kerlinger (1973) mentioned in detail in chapter 8, t-tests were preferred when examining the significant interactions so as to test the independent variables individually.

In order to ascertain the relationship between the various sub-tests comprising the South African WAIS, Pearson correlation coefficients for the sub-tests, verbal intelligence and practical intelligence were computed. In addition Pearson correlation coefficients were computed for the four significant factors yielded in the first phase of this research namely "religious attitudes", "socio-political attitudes", "traditionalism" and "anti-modernism" together with Wilson's (1973) four factors yielded from the Conservatism Scale and Barling and Evans' (1978) four factors

yielded from the same scale. This computation was conducted in order to reaffirm the validity of the factors yielded in the first phase of the present study (see Appendix G).

Throughout this phase of the research the 5% level of significance ($p < 0.05$) is utilized in assessing the significance of any of the statistical analyses. In addition all t-test results are based on two-tailed tests of significance. High and low levels of conservatism as portrayed by the individual factors were determined by median splits.

10.2 Results

The Pearson correlation coefficients for the four significant factors, namely "religious attitudes" and "socio-political attitudes" yielded from the SRP-Scale as well as "traditionalism" and "anti-modernism" yielded from the Conservatism Scale, together with Wilson's (1973) factors and Barling and Evans' (1978) factors were highly significant with the exception of the correlation between "religious attitudes" yielded from the SRP-Scale and the "control" factor yielded from the Conservatism Scale in Barling and Evans' (1978) factor analysis. The validity of the factors yielded from the SRP-Scale and the Conservatism Scale in the first phase of this study is thereby indicated.

Fourway (religious attitudes x socio-political attitudes x traditionalism x anti-modernism) univariate hierarchical ANOVAs were computed for the dependent variables for which the Bartlett Box F coefficients were not significant and which were, therefore, of homogeneous variance. These were general comprehension (Bartlett Box $F = 1.35$, $p > 0.05$), arithmetical reasoning (Bartlett Box $F = 0.53$, $p > 0.05$) digit span (Bartlett Box $F =$ 0.82, p 0.05), similarities (Bartlett Box $F = 1.00$, $p > 0.05$),

vocabulary (Bartlett Box F 0.44, $p > 0.05$), verbal IQ (Bartlett Box F = 1,28, $p > 0.05$), picture completion (Bartlett Box F = 0.65, $p > 0.05$), object assembly (Bartlett Box F = 0.70, $p > 0.05$), block design (Bartlett Box F = 0.65, $p > 0.05$), digit symbols (Bartlett Box F = 1.14, $p > 0.05$), picture arrangement (Bartlett Box F = 1.36, $p > 0.05$) and full-scale IQ (Bartlett Box F = 0.06, $p > 0.05$).

In five of the univariate hierarchical ANOVAs either significant main effects or significant interations were yielded. The results of these ANOVAs are as follows:-

In the univariate ANOVA computed for the dependent variable of arithmetical reasoning, no significant main effects were yielded for religious attitudes (F = 3.44, DF = 1, $p > 0.05$), for socio-politcal attitudes (F = 1.15, DF = 1, $p > 0.05$) for traditionalism (F = 0.17, DF = 1, $p > 0.05$) and for anti-modernism (F = 0.01, DF = 1, $p > 0.05$). There were three significant interactions in this ANOVA. The interaction between religious attitudes x socio-political attitudes was significant (F = 4.91, DF = 1, $p < 0.05$) as was the interaction between socio-political attitudes and traditionalism (F = 5.12, DF = 1, $p < 0.05$) and the interaction between traditionalism x anti-modernism (F = 4.77, DF = 1, $p < 0.05$). The interactions between religious attitudes x traditionalism (F = 1.57, DF = 1, $p > 0.05$), religious attitudes x anti-modernism (F = 0.43, DF = 1, $p > 0.05$) and socio-political attitudes x anti-modernism (F = 2.41, DF = 1, $p > 0.05$) were not significant. The beta value of religious attitudes was 0.11, of socio-political attitudes was 0.13, of traditionalism was 0.05 and of anti-modernism was 0.04.

The univariate ANOVA computed for the dependent variable of vocabulary

yielded no significant main effects for religious attitudes ($\underline{F}$ = 0.80, $\underline{DF}$ = 1, $\underline{p} > 0.05$), for socio-political attitudes ($\underline{F}$ = 0.09, $\underline{DF}$ = 1, $\underline{p} > 0.05$), for traditionalism ($\underline{F}$ = 1,31, $\underline{DF}$ = 1, $\underline{p} > 0.05$) and for anti-modernism ($\underline{F}$ = 0.10, $\underline{DF}$ = 1, $\underline{p} > 0.05$). The interaction between traditionalism x anti-modernism ($\underline{F}$ = 3.99, $\underline{DF}$ = 1, $\underline{p} < 0.05$) was statistically significant. No statistical significance was yielded for the interactions between religious attitudes x socio-political attitudes ($\underline{F}$ = 0.24, $\underline{DF}$ = 1. $\underline{p} > 0.05$), religious attitudes x traditionalism ($\underline{F}$ = 0.21, $\underline{DF}$ = 1, $\underline{p} > 0.05$), religious attitudes x anti-modernism ($\underline{F}$ = 0.10, $\underline{DF}$ = 1, $\underline{p} > 0.05$), socio-political attitudes x traditionalism ($\underline{F}$ = 0.43, $\underline{DF}$ = 1, $\underline{p} > 0.05$) and socio-political attitudes x anti-modernism ($\underline{F}$ = 0.03, $\underline{DF}$ = 1, $\underline{p} > 0.05$). The beta value of religious attitudes was 0.07, of socio-political attitudes was 0.04, of traditionalism was 0.15 and of anti-modernism was 0.02.

The results of the univariate ANOVA computed for the dependent variable of object assembly indicated that no significant main effects were yielded for religious attitudes ($\underline{F}$ = 0.72, $\underline{DF}$ = 1, $\underline{p} > 0.05$), for socio-political attitudes ($\underline{F}$ = 0.25, $\underline{DF}$ = 1, $\underline{p} > 0.05$), for traditionalism ($\underline{F}$ = 3.48, $\underline{DF}$ = 1, $\underline{p} > 0.05$) and for anti-modernism ($\underline{F}$ = 1.91, $\underline{DF}$ = 1, $\underline{p} > 0.05$). There was one significant interaction in this ANOVA namely the interaction between religious attitudes x socio-political attitudes ($\underline{F}$ = 6.69, $\underline{DF}$ = 1, $\underline{p} < 0.05$). None of the remaining interactions between religious attitudes x traditionalism ($\underline{F}$ = 0.95, $\underline{DF}$ = 1, $\underline{p} > 0.05$), religious attitudes x anti-modernism ($\underline{F}$ = 2.66, $\underline{DF}$ = 1, $\underline{p} > 0.05$), socio-political attitudes x traditionalism ($\underline{F}$ = 0.04, $\underline{DF}$ = 1, $\underline{p} > 0.05$), socio-political attitudes x anti-modernism ($\underline{F}$ = 0.01, $\underline{DF}$ = 1, $\underline{p} > 0.05$) and traditionalism x anti-modernism ($\underline{F}$ = 0.57, $\underline{DF}$ = 1, $\underline{p} > 0.05$) were significant. The beta value of religious attitudes was 0.05, of socio-political attitudes was 0.06, of traditionalism was 0.05 and of anti-modernism was 0.21.

In the univariate ANOVA computed for the dependent variable of block design significant main effects were yielded for socio-political attitudes ($F = 4.59$, $DF = 1$, $p < 0.05$), and for traditionalism ($F = 4.37$, $DF = 1$, $p < 0.05$). Th main effects for religious attitudes ($F = 2.00$, $DF = 1$, $p > 0.05$) and for anti-modernism ($F = 2.56$, $DF = 1$, $p > 0.05$) were not statistically significant. None of the following interactions were significant; religious attitudes x socio-political attitudes ($F = 2.03$, $DF = 1$, $p > 0.05$), religious attitudes x traditionalism ($F = o.59$, $DF = 1$, $p > 0.05$), religious attitudes x anti-modernism ($F = 0.41$, $DF - 1$, $p > 0.05$), socio-political attitudes x traditionalism ($F = 0.77$, $DF = 1$, $p > 0.05$), socio-political attitudes x anti-modernism ($F = 0.25$, $DF = 1$, $p > 0.05$) and traditionalism x anti-modernism ($F = 0.17$, $DF = 1$, $p > 0.05$). The beta value of religious attitudes was 0.00, of socio-political attitudes was 0.26, of traditionalism was 0.37 and of anti-modernism was 0.19.

In the last univariate ANOVA which was computed for the dependent variable of digit symbols, the results indicated significant main effects for socio-political attitudes ($F = 4.93$, $DF = 1$, $p < 0.05$) and for traditionalism ($F = 4.19$, $DF = 1$, $p < 0.05$). No significant main effects were indicated for religious attitudes ($F = 0.19$, $DF - 1$, $p > 0.05$) or for anti-modernism ($F = 0.17$, $DF = 1$, $p > 0.05$). The interactions between religious attitudes x socio-political attitudes ($F = 1.45$, $DF = 1$, $p > 0.05$), religious attitudes x traditionalism ($F = 0.13$, $DF = 1$, $p > 0.05$), religious attitudes x anti-modernism ($F = 0.78$, $DF = 1$, $p > 0.05$), socio-political attitudes x traditionalism ($F = 0.02$, $DF = 1$, $p > 0.05$), socio-political attitudes x anti-modernism ($F = 1.38$, $DF = 1$, $p > 0.05$) and traditionalism x anti-modernism ($F = 2.18$, $DF = 1$, $p > 0.05$) were not statistically significant.

The beta value of religious attitudes was 0.20, of socio-political attitudes was 0.27, of traditionalism was 0.18 and of anti-modernism was 0.03.

No higher order three-way for four-way interactions were yielded in any of the univariate ANOVAs reported above because of empty cells which did not permit such computations.

In the remaining univariate ANOVAs computed for the dependent variables of general comprehension, digit span, similarities, picture completion, picture arrangement, verbal IQ and full-scale IQ no statistically significant main effects or interactions were yielded (see Appendix G).

TABLE 10.4

Fourway Univariate ANOVA results

for the Arithmetical Reasoning Dependent Variable

Source	S.S.	DF	M.S	F	P
Rel.Att.	13.93	1	13.93	3.44	> 0.05
Soc.Pol.Att.	4.66	1	4.66	1.15	> 0.05
Trad.	0.69	1	0.69	0.17	> 0.05
Anti-mod.	0.02	1	0.02	0.01	> 0.05
Rel.AttxSoc.Pol.Att.	19.90	1	19.90	4.91	< 0.05
Rel.Att.xTrad.	6.39	1	6.39	1.57	> 0.05
Rel.Att.xAnti-mod	1.77	1	1.77	0.43	> 0.05
Soc.Pol.Att.xTrad.	20.95	1	20.95	5.17	< 0.05
Soc.Pol.Att.xAnti.mod	9.76	1	9.76	2.41	> 0.05
Trad.xAnti-mod.	19.33	1	19.33	4.77	< 0.05
Residual	360.54	89	4.05		

TABLE 10.5

Fourway Univariate ANOVA results

for the Vocabulary Dependent Variable

Source	S.S	DF	M.S.	F	P
Rel.Att.	1.44	1	1.44	0.80	> 0.05
Soc.Pol.Att.	0.17	1	0.17	0.09	> 0.05
Trad.	2.36	1	2.36	1.31	> 0.05
Anti-mod.	0.18	1	0.18	0.10	> 0.05
Rel.Att.xSoc.Pol.Att.	0.43	1	0.43	0.24	> 0.05
Rel.Att.xTrad.	0.38	1	0.38	0.21	> 0.05
Rel.Att.xAnti-mod.	0.19	1	0.19	0.10	> 0.05
Soc.Pol.Att.xTrad.	0.77	1	0.77	0.43	> 0.05
Soc.Pol.Att.xAnti-Mod.	0.06	1	0.06	0.03	> 0.05
Trad.xAnti-mod.	7.16	1	7.16	3.99	< 0.05
Residual	159.46	89	1.79		

TABLE 10.6

Fourway Univariate ANOVA results

for the Object Assembly Dependent Variable

Source	S.S.	DF	M.S.	F	P
Rel.Att.	4.39	1	4.39	0.72	> 0.05
Soc.Pol.Att.	1.51	1	1.51	0.25	> 0.05
Trad.	21.12	1	21.12	3.48	> 0.05
Anti-mod.	11.58	1	11.58	1.91	> 0.05
Rel.Att.xSoc.Pol.Att.	40.59	1	40.59	6.69	< 0.05
Rel.Att.xTrad.	5.76	1	5.76	0.95	> 0.05
Rel.Att.xAnti-mod.	16.15	1	16.15	2.66	> 0.05
Soc.Pol.Att.xTrad.	0.28	1	0.28	0.04	> 0.05
Soc.Pol.AttxAnti-mod.	0.02	1	0.02	0.01	> 0.05
Trad.xAnti-mod.	3.50	1	3.50	0.57	> 0.05
Residual	539.38	89	6.06		

TABLE 10.7

Fourway Univariate ANOVA results

for the Block Design Dependent Variable

Source	S.S.	DF	M.S.	F	P
Rel.Att.	6.45	1	6.45	2.00	> 0.05
Soc.Pol.Att.	14.79	1	14.79	4.59	< 0.05
Trad.	14.10	1	14.10	4.37	< 0.05
Anti-mod.	8.25	1	8.25	2.56	> 0.05
Rel.Att.xSoc.Pol.Att.	6.56	1	6.56	2.03	> 0.05
Rel.Att.xTrad.	1.91	1	1.91	0.59	> 0.05
Rel.Att.xAnti-mod.	1.32	1	1.32	0.41	> 0.05
Soc.Pol.Att.xTrad.	2.49	1	2.49	0.77	> 0.05
Soc.Pol.Att.xAnti-mod.	0.82	1	0.82	0.25	> 0.05
Trad.xAnti-mod.	0.56	1	0.56	0.17	> 0.05
Residual	286.73	89	3.22		

TABLE 10.8

Fourway Univariate ANOVA results for

the Digit Symbols Dependent Variable

Source	S.S.	DF	M.S.	F	P
Rel.Att.	0.64	1	0.64	0.19	>0.05
Soc.Pol.Att.	16.71	1	16.71	4.93	<0.05
Trad.	14.22	1	14.22	4.19	<0.05
Anti-mod.	0.58	1	0.58	0.17	>0.05
Rel.Att.x Soc.Pol.Att.	4.93	1	4.93	1.45	>0.05
Rel.Att.x Trad.	0.45	1	0.45	0.13	>0.05
Rel.Att.x Anti-mod.	2.65	1	2.65	0.78	>0.05
Soc.Pol.Att.x Trad.	0.09	1	0.09	0.02	>0.05
Soc.Pol.Att.x Anti-mod.	4.68	1	4.68	1.38	>0.05
Trad.x Anti-mod.	7.41	1	7.41	2.18	>0.05
Residual	301.63	89	3.38		

Wilson's (1956) distribution free factorial ANOVAs were computed for the dependent variables for which the Bartlett Box F coefficients were significant, indicating that the assumption of homogeneity of variance was not met. Therefore the dependent variables of general information (Bartlett Box $\underline{F} = 2.31$, $\underline{p} < 0.05$) and practical IQ (Bartlett Box $\underline{F} = 2.14$, $\underline{p} < 0.05$) were analysed by Wilson's (1956) distribution free factorial ANOVAs.

The fourway distribution free ANOVA computed for the dependent variable of general information indicated that no significant main effects were yielded for religious attitudes ($\underline{x}^2 = 1.98$, $\underline{DF} = 1$, $\underline{p} > 0.05$), for

socio-political attitudes ($\underline{x}^2$ = 1.44, $\underline{DF}$ = 1, $\underline{p} > 0.05$), for traditionalism ($\underline{x}^2$ = 0.14, $\underline{DF}$ = 1, $\underline{p} > 0.05$) or for anti-modernism ($\underline{x}^2$= 0.04, $\underline{DF}$ = 1, $\underline{p} > 0.05$). None of the interactions between religious attitudes x socio-political attitudes ($\underline{x}^2$ = 0.63, $\underline{DF}$ = 1, $\underline{p} > 0.05$), religious attitudes x traditionalism ($\underline{x}^2$= 0.00, $\underline{DF}$ = 1, $\underline{p} > 0.05$) religious attitudes x anti-modernism ($\underline{x}^2$= 0.33, $\underline{DF}$ = 1, $\underline{p} > 0.05$), socio-political attitudes x traditionalism ($\underline{x}^2$ = 0.15, $\underline{DF}$ = 1, $\underline{p} > 0.05$), socio-political attitudes x anti-modernism ($\underline{x}^2$= 2.44, $\underline{DF}$ = 1, $\underline{p} > 0.05$) and traditionalism x anti-modernism ($\underline{x}^2$ = 1.85, $\underline{DF}$ = 1, $\underline{p} > 0.05$) were statistically significant.

In the fourway distribution free ANOVA computed for the dependent variable of practical IQ a significant main effect was yielded for traditionalism ($\underline{x}^2$ = 4.88, $\underline{DF}$ = 1, $\underline{p} < 0.05$). No significant main effects were yielded for religious attitudes ($\underline{x}^2$= 2.29, $\underline{DF}$ = 1, $\underline{p} > 0.05$), for socio-political attitudes ($\underline{x}^2$= 1.00, $\underline{DF}$ = 1, $\underline{p} > 0.05$) or for anti-modernism ($\underline{x}^2$= 1.45, $\underline{DF}$ = 1, $\underline{p} > 0.05$). There was a significant interaction between traditionalism x anti-modernism ($\underline{x}^2$= 5.22, $\underline{DF}$ = 1, $\underline{p} < 0.05$) but no significant interactions between religious attitudes x socio-political attitudes ($\underline{x}^2$= 0.70, $\underline{DF}$ = 1, $\underline{p} > 0.05$) religious attitudes x traditionalism ($\underline{x}^2$= 1.90, $\underline{DF}$ = 1, $\underline{p} > 0.05$), religious attitudes x anti-modernism ($\underline{x}^2$= 2.22, $\underline{DF}$ = 1, $\underline{p} > 0.05$), socio-political attitudes x traditionalism ($\underline{x}^2$= 1.38, $\underline{DF}$ = 1, $\underline{p} > 0.05$) and socio-political attitudes x anti-modernism ($\underline{x}^2$= 2.69, $\underline{DF}$ = 1, $\underline{p} > 0.05$) were yielded.

Kerlinger (1973) has pointed out that when there is a significant main effect as well as a significant interaction effect yielded from an ANOVA, the salience of the significant main effect is completely minimized. Therefore it may be inferred that in the distribution free ANOVA computed for the dependent variable of practical IQ, the significant main effect yielded for traditionalism is minimized because of the statistical significance of the traditionalism x anti-modernism interaction.

TABLE 10.9

Wilson's Distribution-free ANOVA results

for the General Information Dependent Variable

Source	DF	x^2	P
Rel.Att.	1	1.98	> 0.05
Soc.Pol.Att.	1	1.44	> 0.05
Trad.	1	0.14	> 0.05
Anti-mod.	1	0.04	> 0.05
Rel.Att.xSoc.Pol.Att.	1	0.63	> 0.05
Rel.Att.xTrad.	1	0.00	> 0.05
Rel.Att.xAnti-mod	1	0.33	> 0.05
Soc.Pol.Att.xTrad.	1	0.15	> 0.05
Soc.Pol.Att.xAnti-mod.	1	2.44	> 0.05
Trad.xAnti-mod.	1	1.85	> 0.05

TABLE 10.10

Wilson's Distribution-free ANOVA results

for the Practical IQ Dependent Variable

Source	DF	x^2	P
Rel.Att.	1	2.29	>0.05
Soc.Pol.Att.	1	1.00	>0.05
Trad.	1	4.88	<0.05
Anti-mod.	1	1.45	>0.05
Rel.Att.xSoc.Pol.Att.	1	0.70	>0.05
Rel.Att.xTrad.	1	1.90	>0.05
RelAtt.xAnti-mod.	1	2.22	>0.05
Soc.Pol.Att.xTrad.	1	1.38	>0.05
Soc.Pol.Att.xAnti-mod.	1	2.69	>0.05
Trad.xAnti-mod.	1	5.22	<0.05

In order to investigate the significant interactions yielded in the ANOVAs for the dependent variables of arithmetical reasoning, vocabulary, object assembly and practical IQ, t-tests were computed. In each of the t-tests one factor in the significant interaction was controlled whilst the differences between the subjects on the other factor score were evaluated. In all 24 t-tests were computed, 4 for each of the six significant interactions reported earlier in this chapter.

Statistically significant differences were yielded in 4 of the 24 t-tests computed. When the dependent variable was arithmetical reasoning and the significant interaction tested for was religious attitudes x socio-

political attitudes (with low religious attitudes controlled for) significant differences were found between those subjects high on socio-political attitudes and those low on the same factor (t = 3.07, DF = 19.10, $p < 0.05$). When low socio-political attitudes were controlled for, the results of the t-test computed for the arithmetical reasoning dependent variable and the religious attitudes x socio-political attitudes interaction indicate significant differences between those subjects high on religious attitudes and those low on religious attitudes (t = 2.20, DF = 15.95, $p < 0.05$).

The results of the t-test computed for the dependent variable of vocabulary and the significant traditionalism x anti-modernism interaction (with high anti-modernism controlled for) indicate significant differences between those subjects high on traditionalism and those low on traditionalism (t = -2.29, DF = 11.40, $p < 0.05$). When the dependent variable was practical IQ and the significant interaction tested for was traditionalism x anti-modernism (with low anti-modernism controlled for) significant differences were found between those subjects high on traditionalism and those low on traditionalism (t = -2.49, DF = 7.12, $p < 0.05$).

TABLE 10.11

t-test results for subjects high and low on socio-political attitudes (controlling for low religious attitudes) for the arithmedical reasoning dependent variable

Variable	Level	No.	M	S.D.	t	DF	p
	High	10	12.30	1.56			
Arith					3.07	19.10	<0.05
	Low	39	10.43	2.18			

TABLE 10.12

t-test results for subjects high and low on religious attitudes (controlling for low socio-political attitudes) (for the arithmetical reasoning dependent variable

Variable	Level	No.	M	S.D.	t	DF	P
	High	11	12.09	2.21			
Arith					2.20	15.95	<0.05
	Low	39	10.43	2.18			

TABLE 10.13

t-test results for subjects high and low on traditionalism (controlling for high anti-modernism) for the vocabulary dependent variable

Variable	Level	No.	M	S.D.	t	DF	P
	High	41	12.09	1.44			
Vocab					-2.29	11.40	<0.05
	Low	8	11.00	1.19			

TABLE 10.14

t-test results for subjects high and low on traditionalism (controlling for low anti-modernism) for the practical IQ dependent variable

Variable	Level	No.	M	S.D.	t	DF	P
	High	7	122.00	12.75			
Practical IQ					-2.49	7.12	<0.05
	Low	44	109.45	9.61			

The results of the remaining t-tests were all statistically insignificant (see Appendix H). The significant interactions yielded from the ANOVAs and analysed by the t-tests were to a large extent disordinal as illustrated in the following figures.

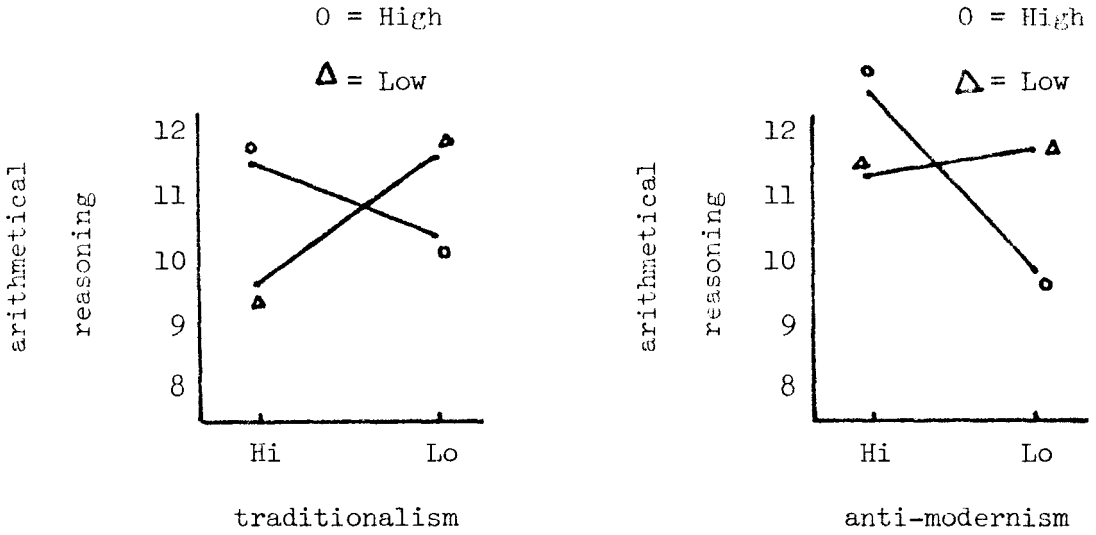

Figure 10.1 Effects of the traditonalism x anti-modernism disordinal interaction for the arithmetical reasoning dependent variable

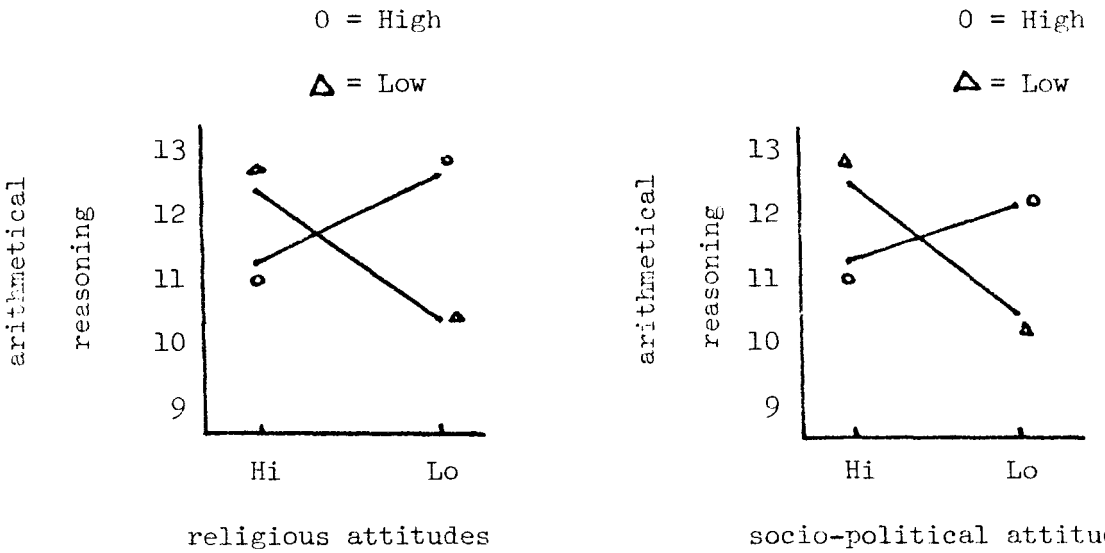

Figure 10.2 Effects of the religious attitudes x socio-politcal attitudes disordinal interaction for the arithmetical reasoning dependent variables

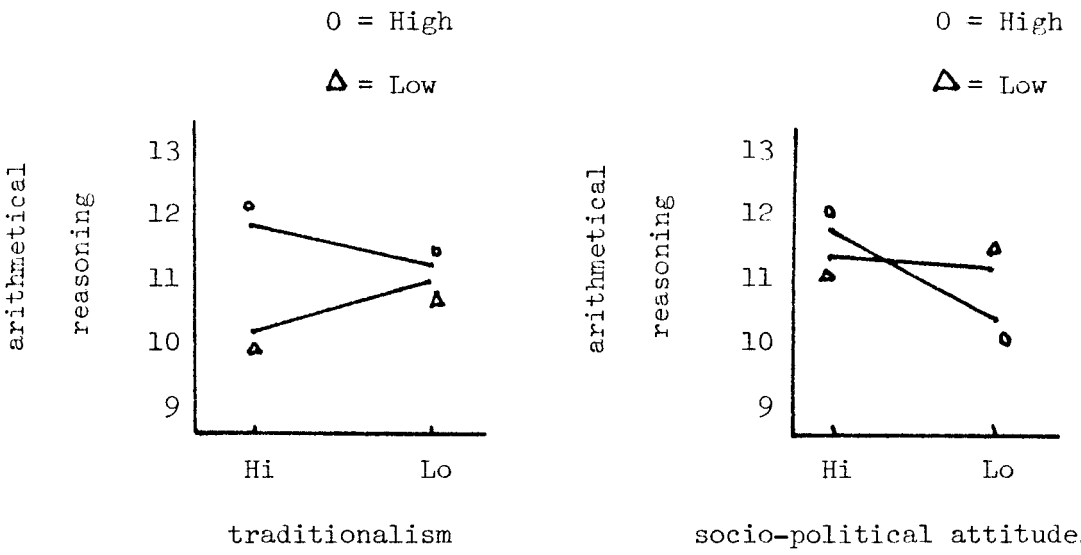

Figure 10.3 Effects of the traditionalism x socio-politcal attitudes partially disordinal interaction for the arithmetical reasoning dependent variable

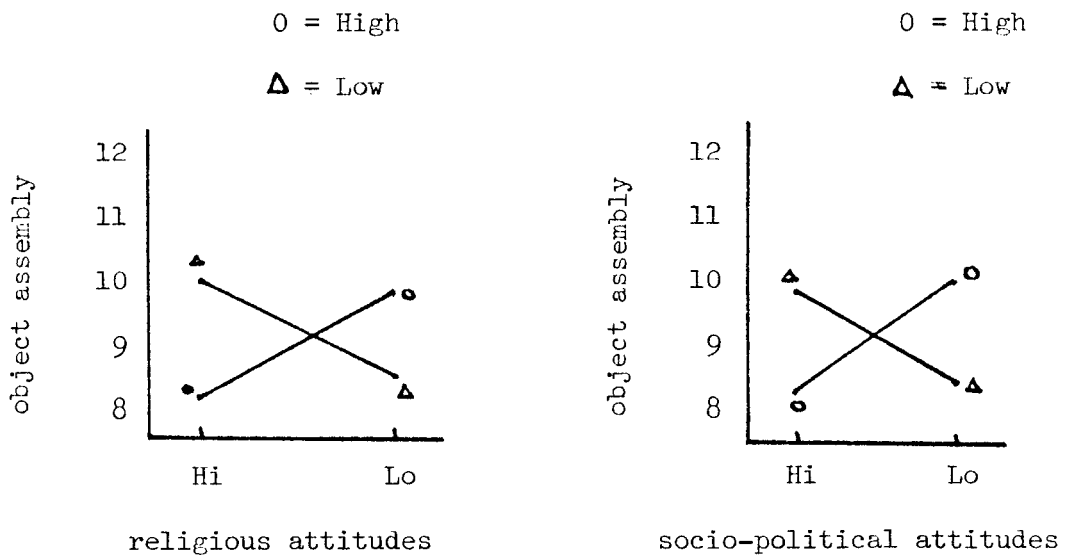

Figure 10.4 Effects of the religious attitudes x socio-political attitudes disordinal interaction for the object assembly dependent variable

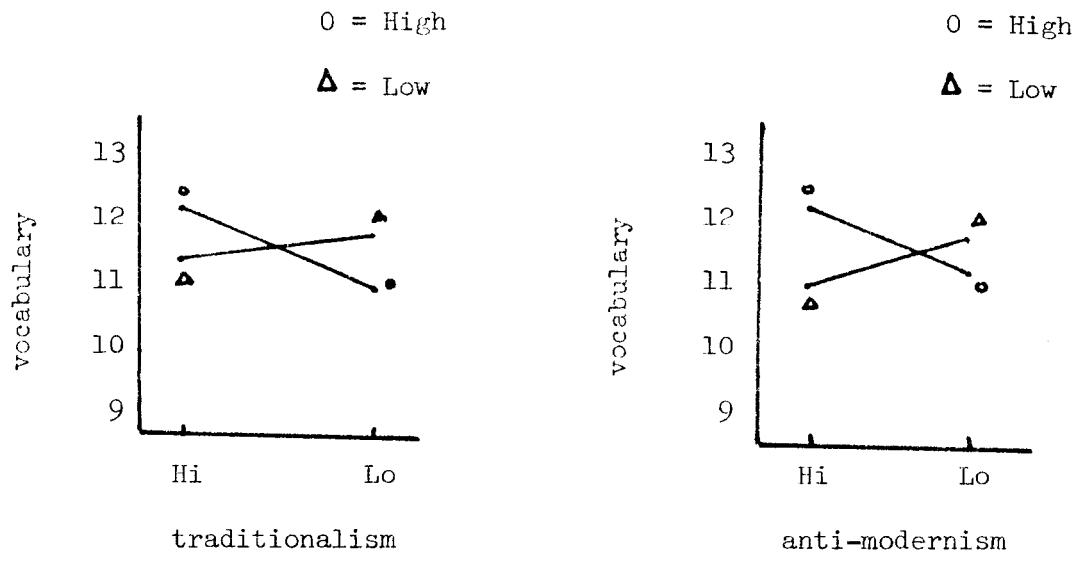

Figure 10.5 Effects of the traditionalism x anti-modernism disordinal interaction for the vocabulary dependent variable

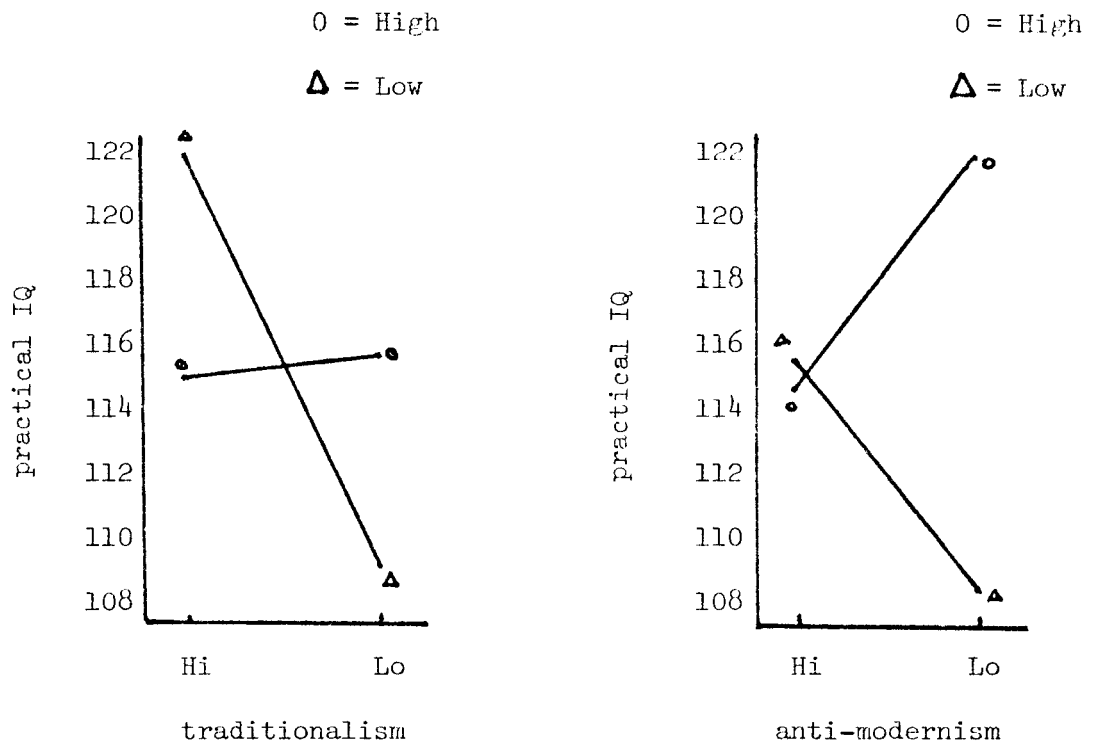

Figure 10.6 Effects of the traditionalism x anti-modernism disordinal interaction for the practical IQ dependent variable

The results of the Pearson correlations computed for the subtests comprising the South African WAIS indicated that significant relationships existed between certain of the subtests only. General Information was significantly related to General Comprehension, to Vocabulary, to Picture Completion and to Picture Arrangement. General Comprehension was significantly related to Vocabulary. Arithmetical Reasoning was significantly related to Vocabulary and to Picture Completion. Similarities was significantly related to Vocabulary and to Digit Symbols. In addition to the abovementioned significant relationships, Picture Completion was also significantly correlated with Object Assembly, Block Design and Picture Arrangement. Likewise, Object Assembly was significantly related to Block Design (see Table 10.15)

TABLE 10.15

Intercorrelation Matrix between Subtests

Comprising the South African WAIS

	Info.	Comp.	Arith.	Dig.span	Simil.	Vocab.	Piccom.	Objass.	Blocdes.	Dig.sym.	Picarr.
Info		0.32*	-0.16	0.01	0.06	0.25*	0.22*	0.10	0.05	0.12	0.24*
Comp.	0.32*		0.05	-0.06	0.04	0.22*	0.10	-0.12	0.08	-0.10	-0.13
Arith	-0.16	0.05		0.05	0.03	0.20*	-0.28*	0.01	-0.03	-0.03	-0.03
Dig.span	0.01	-0.06	0.05		0.03	0.02	-0.14	0.10	-0.01	0.01	0.12
Simil.	0.06	0.04	0.03	0.03		0.20*	-0.05	-0.02	0.02	-0.20*	0.12
Vocab.	0.25*	0.22*	0.20*	0.02	0.20*		-0.01	-0.04	-0.02	0.14	0.01
Piccom	0.22*	0.10	-0.28*	-0.14	-0.05	-0.01		0.26*	0.25*	-0.01	0.20*
Objass	0.10	-0.12	0.01	0.10	-0.02	-0.04	0.26*		0.33*	0.09	0.15
Blocdes.	0.05	0.08	-0.03	-0.01	0.02	-0.02	0.25*	0.33*		0.13	0.14
Dig.sym.	0.12	-0.10	-0.03	0.01	-0.20*	0.14	-0.01	0.09	0.13		0.06
Picarr.	0.24*	-0.13	-0.03	0.12	0.12	0.01	0.20*	0.15	0.14	0.06	

* $p < 0.05$

10.3 Discussion

The results of this phase of the research partially confirm the various research hypotheses described in the previous chapter.

Hypothesis 1: This hypothesis is confirmed by the results of the research. No significant differences were found between South African conservatives and South African liberals on the general intelligence variable

Hypothesis 2: This hypothesis is not confirmed by the results yielded in this research. No statistically significant differences on the variable of verbal intelligence were found between South African liberals and South African conservatives.

Hypothesis 3: The results of this research partially confirm this hypothesis. South Africans with a high level on the traditionalism factor of conservatism and a low level on the factor of anti-modernism were found to have a significantly higher level of practical intelligence than South Africans with a low level on the traditionalism factor of conservatism and a low level on the anti-modernism factor. However the results do not confirm this hypothesis for all other combinations of factors defining South African conservatives as opposed to the combinations of the factors defining South African liberals.

Before embarking on the theoretical explanation of the results, it must be emphasized that although the South African WAIS is divided into two distinct categories, namely verbal intelligence and practical intelligence following Wechsler (1958), Matarrazo (1972) has said, as quoted in the previous chapter, that the subtests of the WAIS are different measures of intelligence and not measures of different kinds of intelligence. Matarrazo added that the dichotomy of verbal subtests and practical subtests does not imply two distinctly different sets of abilities inherent

in intelligence.

Roach (1979), to mention one of many, has pointed out that conceptual and cognitive style has a definite influence on intelligence. Roach concluded that for higher levels of intelligence, a sophisticated analytic conceptual style is necessary. Roach did not differentate between types of intelligence but rather discussed the overall concept of intelligence as one homogeous concept. Similarly, Guilford (1967) and Cattell (1971) confirmed that flexibility, fluency, originality and divergent thinking are prerequisites for a high level of intelligence which is also referred to by them as a homogeneous concept.

In addition to partially confirming the hypothesis set out in the previous chapter as demonstrated above, the results of this phase of the research indicate that conservatives achieve significantly higher scores on certain subtests of the South African WAIS, namely Arithmetical Reasoning, Vocabulary, Block Design and Digit Symbols as well as the general category of Practical Intelligence, than liberals. The results also demonstrate the lack of statistically significant correlations between the majority of the subtests belonging to the category of Verbal Intelligence and the subtests belonging to the category of Practical Intelligence.

In view of the above results it may be inferred that there may be a dichotomy between certain subtests and others comprising the WAIS, not only in terms of a differentiation into two distinct categories, but also in terms of different abilities, cognitive processes and personality traits which characterize the specific subjects who are uniquely successful in specific subtests.

It has been generally confirmed by studies quoted in the earlier

chapters of this research that conservative personality constructs such as authoritarianism, dogmatism, ethnocentrism, religiosity and their allied traits, namely inflexibility, rigidity of thought, cognitive simplicity, cognitive isolation, intolerance of ambiguity, lack of creativity, dependence on and submission to authority, anxiety, the need for clear cut rules and regulations and inconsistency are inversely related to high levels of intelligence. Studies conducted by Wilson and Patterson (1969), Wilson (1973), Sarkar and Hassan (1973), Bhutani (1977), Wright and Phillips (1979) and Lapsley and Enright (1979), as well as others, confirm the existence of a negative relationship between general conservatism and high levels of intelligence.

The results of the present study, however, seem to indicate that the particular brand of general conservatism found in white South African society, does not rigidly conform to the orthodox pattern of general conservatism known in other societies and countries in the Western World. This is especially evident in the relationship between conservatism and intelligence as demonstrated by the results of this study. It may be thus inferred that within white South African society a relationship, different from the classical one mentioned above, exists between conservatism and intelligence. Therefore it may be postulated that the specifically South African brand of conservatism is different from the classical and orthodox brands of conservatism.

Contrary to the findings of the studies quoted earlier in this study dealing with the conservatism of subjects living in various countries of the world, studies carried out on white South African population groups have indicated the validity of the contention that in white South Africa,

exists a particularly unique brand of conservatism that is differently related to intelligence from the classical brand of conservatism. Orpen (1971), Orpen and Rookledge (1972), Orpen and Tsapogas (1972), Lambley (1973) and Heaven (1977) have all indicated in one way or another that South African conservatism does not fulfill the functions usually associated with classical conservatism. South African conservatism has been shown by the above researchers to involve different cognitive and behavioural patterns from conservatism that exists in Western society. These researchers have further demonstrated that the conservative who is a member of a conservative society will function differently from a conservative who is a member of a liberal society.

The univariate hierarchical ANOVA results for the Full-Scale IQ dependent variable indicate that, in addition to the different behavioural patterns exhibited by the white South African conservative in comparison with his conservative Western counterpart as demonstrated above, white South African conservatism has different influences on intelligence from classical conservatism. This conclusion may be inferred from the fact that no significant differences were indicated between South African conservatives and liberals on the Full-Scale Intelligence variable. Therefore it appears that, in addition to the different behavioural patterns evident in the case of South African conservatism, different cognitive patterns feature in South African conservatism as opposed to classical conservatism.

The above conclusion is strengthened by the results of the univariate ANOVA for the Verbal Intelligence variable. The fact that no significant differences were indicated between South African conservatives and South African liberals confirms the premise that no differences can be inferred

between the two population groups in the field of verbal IQ. This is contrary to the results of research studies reported by Mouw (1969), Kayser (1972), Steininger and Seliger (1978) and Mozdzierz and Semyck (1980) who, among others, demonstrated an inverse relationship between authoritarianism, dogmatism and ethnocentrism as well as their allied personality traits and verbal ability and prowess. From the above studies it may be inferred that conservatives are inferior in verbal performance to liberals, an inference contradicted by the results of the present study.

A possible explanation for the results of the study reported above is that white South African society in general is considered as being conservative. This gives rise to the notion that not only South African conservatives will function differently from classical Western conservatives found in liberal societies as demonstrated by Orpen (1971), Orpen and Rookledge (1972), Orpen and Tsapogas (1972), Lambley (1973) and Heaven (1977), but also South African liberals, who function within the framework of the conservative South African milieu, will have different cognitive and behavioural patterns from the classical liberal who is a member of Western society.

The results of the first phase of this study contribute to the above explanation. In the first phase of this research no significant differences were found between English speakers and Afrikaans speakers on the Intelligence variable. English speakers were found to be significantly more conservative than Afrikaans speakers on two factors of conservatism, namely "religious attitudes" and "socio-political attitudes". On the other hand Afrikaans speakers were significantly more conservative than English speakers on the remaining four factors of conservatism yielded in the first phase of this study, namely "religious principles", "religious

practices", "traditionalism" and "anti-modernism". It may be inferred from the results of the first phase of this study that conservatism permeates both English and Afrikaans speaking sections of white South African society. Therefore liberals as well as conservatives appear to be influenced by the normative conservative attitudes inherent in white South African society.

It may be tentatively postulated, therefore, that in addition to white South African conservatives who have different attitudinal and congnitive patterns from classical conservatives, white South African liberals may have different attitudinal and cognitive patterns from classical liberals, because of the influence of the underlying conservatism in the white South African society at large. This postulation however needs further empirical verification.

The conservative influence on white South African society exerted by the highly conservative South African version of the Calvinist Church, namely the Dutch Reformed Church of South Africa, may be partially responsible for conservatism permeating white South African society. The Dutch Reformed Church has much say in the laying down of official policy in South Africa with Loubser (1968) having pointed out that the vast majority of white Afrikaans speakers are members of the Dutch Reformed Church. (Afrikaans speakers are unofficially estimated to form 60%+ of the white South African population). It may be inferred that the Dutch Reformed Church influences white South African society in general and even liberals, who may not be members of the Church, may have their behavioural and cognitive patterns influenced and modified by the Church. The Church's contribution to conservatism in white South African society, therefore, may

be one of the factors affecting conservative and liberal functioning in South Africa and accentuating the differences between South African conservatives and classical conservatives as well as South African liberals and classical liberals.

Katz (1976), in a study of integration achieved in the Israeli school system, has indicated that forced integration led to changes in the behavioural patterns of Israeli junior high school pupils although their prejudices remained unchanged. Katz concluded that integration, which in Israel is government policy, can influence the action tendency component of the individual's attitudes although his cognitive or affective attitudinal components remain unaffected. Therefore in the Israeli sample, the attitudinal prejudices against children from different ethnic and cultural backgrounds continued to exist as these prejudices were dependent on the cognitive and affective attitudinal components. However the behavioural patterns towards children of different ethnic and cultural groups, which were dependent on the action tendency component of the attitude, changed for the better as a result of the forced integration.

It may be inferred from the results of Katz's (1976) study that although cognitive and affective aspects of attitude may not change as a result of societal influences, the action tendency aspect of attitude, directly connected with behaviour, may conceivably change. In the South African perspective it may be hypothesized that the influence of the Church against liberalism and change, and the resulting effect that this influence has on government policy in South Africa, permeates white South African society as a whole and encompasses conservatives and liberals alike. Katz (1976) pointed out that the official policy of integration in Israeli schools is meant to affect and change the action tendency

component of the attitude and to introduce inconsistency among the three attitudinal components. As a result, the individual pupil will strive to retain consistency as pointed out by Krech, Crutchfield and Ballachey (1962) and will accordingly effect changes in the cognitive and affective attitudinal components in order to achieve consistency.

In the South African context it may be postulated that the official government policy of conservatism and opposition to liberalism influences the action tendency aspect of attitude after which the cognitive and affective aspects are influenced thereby partially contributing to the general conservatism of white South African society both in behaviour and in attitudinal outlook. Just as the white South African conservative has been shown to function differently from the classical conservative, it may be hypothesized that the white South African liberal functions differently from the classical liberal both cognitively and behaviourally. The lack of statistically significant differences between white South African conservatives and white South African liberals on the dependent variable of full-scale intelligence, contrary to results reported by Mouw (1969), Kayser (1972), Steininger and Seliger (1978) and Mozdzierz and Semyck (1980) from which it may be inferred that classical liberals are significantly superior to classical conservatives on the verbal intelligence variable, leads to the conclusion that both South African conservatism and South African liberalism are unique categories of conservatism and liberalism that do not resemble the classical brands of these constructs either in cognitive or behavioural functions.

Additional evidence further confirming the above inferrences is contributed by the results of Wilson's distribution free ANOVA for the

Practical Intelligence dependent variable. The statistically significant main effects yielded from the abovementioned ANOVA indicating differences between South African conservatives and South African liberals must be disregarded. Kerlinger (1973) has stated that in the event of significant interaction effects, the salience of significant main effects is completely minimized. Therefore, in the above distribution free ANOVA, the significant main effects for traditionalism are ignored because of existence of the significant interaction between traditionalism x anti-modernism. The rationale for the hypothesis tested by the above ANOVA, namely that South African conservatives will have a higher level of practical intelligence than South African liberals, was based on the fact that for the mechanical and performance tasks of intelligence, different abilities from those necessary for verbal and academically oriented tasks are called upon. It was postulated that cognitive simplicity associated with the conservative would be better suited to the performance of practical tasks of intelligence than the more sophisticated cognitive processes evident in the liberal.

The uniqueness of South African conservatism and liberalism, however, has demonstrated that inferred differences between classical conservatives and classical liberals cannot be applied to the South African situation. Because of the differences between the cognitive and behavioural patterns of South African conservatives and liberals and those of classical conservatives and liberals, it is obvious that cognitive simplicity does not exemplify the South African conservative just as cognitive sophistication does not apparently exemplify the South African liberal. The results of the distribution free ANOVA indicate that no apparently intrinsic differences

exist between South African conservatives and South African liberals in the field of practical intelligence, just as no apparent differences exist between South African conservatives and South African liberals in the field of verbal intelligence.

On the strength of the above findings it may be postulated that although no differences were indicated between South African liberals and South African conservatives on the dependent variables of full-scale intelligence, verbal intelligence and practical intelligence because of the different influences affecting white South African society as a whole, as opposed to classical Western societies, certain other differences, unique to the South African societal context, do exist between conservatives and liberals. These differences may be inferred from the significant main effects and interaction effects computed for certain of the dependent variables in this study. It has been demonstrated above that significant main effects were yielded for the dependent variables of block design and digit symbols. For both these dependent variables the main effects centred on the traditionalism and socio-political attitudes. It is apparent that within white South African society the factors of traditionalism and socio-political attitudes are salient in the explanation of intelligence as indicated by the results obtained on the block design and digit symbol subtests, both of which are part of the practical intelligence category. It is to be noted that South African subjects, who were high on the traditionalism factor scored significantly higher on the block design and digit symbol subtests than South African subjects low on the traditionalism factor. Conversely, South African subjects low on socio-political attitudes, scored higher on the block design and digit symbols

subtests than South African subjects high on the same factor.

This result is in direct conflict with results yielded in studies conducted by Bagley, Wilson and Boshier (1970), Eysenck and Coulter (1972) and Ray (1973) in liberal Western societies in which it was demonstrated that a strong relationship exists between the various factors and traits comprising general conservatism including the factors of ethnocentrism and resistance to change-traditionalism. The findings of the above studies indicate, therefore, that the classical conservative will be high on traditionalism as well as on ethnocentrism as these two factors are integrally part of the conservative make-up.

The findings of the present study, particularly with reference to the main effects yielded for the block design and digit symbols subtests, indicate that traditionalism and the socio-political attitudes factor (which includes ethnocentrism) are not integrally incorporated into the same general factor of conservatism. It is clear from the pattern of the significant main effects yielded for the block design and the digit symbols subtests that the positive interrelationship between the various factors of conservatism described by Bagley, Wilson and Boshier (1970), Eysenck and Coulter (1972) and Ray (1973) refer to the classical construct of general conservatism and not to the unique South African brand of conservatism.

The results obtained by Orpen and Rookledge (1972) seem to confirm the above conclusion. Orpen and Rookledge found that conservative personality factors in a conservative society, such as exists in South Africa, are relatively unimportant in determining the holding of prejudiced and ethnocentric views in settings characterized by prejudiced and ethnocentric

norms. In addition, Orpen and Rookledge demonstrated that conservatism in South Africa does not have a significant relationship with prejudice, ethnocentrism or social distance as opposed to the situation in liberal Western societies. Just as the researcher inferred from the findings of the present study, it may be inferred from the findings of Orpen and Rookledge that the uniqueness of the South African societal situation lies in the particular brand of conservatism generated by the highly conservative overtones permeating white South African society. In the light of Orpen and Rookledge's findings, confirming the existence of a unique brand of conservatism in South African society, the results of the present study, which contradict results found in studies conducted by Bagley, Wilson and Boshier (1970), Eysenck and Coulter (1972) and Ray (1973), may be better understood.

The Pearson correlation coefficients computed for the four significant factors which emerged in this study together with the factors yielded in the studies conducted by Wilson (1973) and Barling and Evans (1978) confirm the existence of a significant negative relationship between traditionalism and socio-political attitudes. This is in keeping with the inference based on the results of the present study that whilst traditionalism is an integral part of South African conservatism, socio-political attitudes (which include ethnocentrism) are not part of the South African conservative construct. Orpen and Rookledge (1972) have strengthened the above-mentioned inference with their findings as have Colman and Lambley (1970) who stated that in a highly conservative society, such as white South Africa, ethnocentrism is encouraged rather as the societal norm than as the prerogative of the individual. Ethnocentrism, therefore, which in essence is not integrally part of the South African conservative construct

serves a utilitarian function of personality in such a society rather than an ego-defensive function usually served by traits integrally part of the conservative construct. It may be concluded from the above that in the present study socio-political attitudes (which include ethnocentrism) are accepted in the conservative white South African society because of societal norms but are not necessarily manifested in an ethnocentric attitude or behavioural pattern as happens among classical conservatives in Western societies.

Orpen (1970) has pointed out that in a highly conservative society where norms connected with prejudice prevail, individuals will be encouraged to hold attitudes of intolerance irrespective of their basic personality structure. The socio-political attitude, which includes the ethnocentrism factor, therefore, is largely compliance with the norms of the prejudiced society and not an integral ego-defensive personality function, such as found amongst classical conservatives in Western society.

In conclusion it may be said that the influence of high traditionalism and low socio-political attitudes on the dependent variables of block design and digit symbols is peculiar to the unique South African pattern of conservatism. Low socio-political attitudes, indicating a low level of ethnocentrism, do not mitigate against the general conservatism of the South African conservative as has been demonstrated by Colman and Lambley (1970), Orpen (1970) and Orpen (1971) as well as being confirmed by the results of the present study.

The white South African conservative, although different from his classically conservative counterpart who is a member of a typically Western society, still possesses personality traits which would be universally recognized as traits of conservatism. The difference between

the South African conservative and the classical conservative is evident in cognitive and attitudinal patterns rather than in the individual traits found in the South African conservative and classical conservative personalities. The personality traits are essentially similar but the cognitive and attitudinal patterns are different as indicated by the results of the present study.

The significant main effects yielded for the block design and digit symbols subtests indicate that the conservative is able to cope more easily with tasks of practical intelligence than with verbal intelligence tasks. This is explained by the personality make-up of the conservative which includes the typically conservative attributes of rigidity, lack of originality, lack of creativity, intolerance of ambiguity and other similar traits that do not mitigate against a high level of practical intelligence as exemplified by the block design and digit symbols subtests. These conservative traits, however, mitigate against a high level of intelligence in the verbal intelligence category. This conceivably explains the superiority of the conservatively oriented white South African on block design and digit symbols as opposed to a lack of superiority on subtests in the category of verbal intelligence.

All the significant interactions (except one) computed for the dependent variables of arithmetical reasoning, vocabulary, object assembly and practical IQ were disordinal. The disordinality of the interactions indicates, as does the disordinality of the interactions in the first phase of this study, the differences in the cognitive patterns of white South African conservatives and white South African liberals (see Figures 10.1, 10.2, 10.3, 10.4, 10.5, 10.6 for significant disordinal interactions).

For the arithmetical reasoning and vocabulary dependent variables, which both belong to the category of verbal intelligence (although vocabulary does not contribute to the full verbal intelligence score), a definite pattern emerges from the disordinal interactions between traditionalism and anti-modernism. Consistently high levels of both traditionalism and anti-modernism as well as consistently low levels of both factors ensure high levels of arithmetical reasoning and vocabulary. However, low scores in arithmetical reasoning and vocabulary are obtained when high traditionalism is accompanied by low anti-modernism and vice versa.

This is in contrast to the effect of the disordinal interaction between religious attitudes and socio-political attitudes as well as traditionalism and socio-political attitudes on arithmetical reasoning. A high level of arithmetical reasoning is achieved when there is a high level of religious attitudes and a low level of socio-political attitudes and vice versa. A consistently high or low level in both factors contributes to a low level of arithmetical reasoning. Regarding the traditionalism x socio-political attitudes interaction, a high socio-political attitudes rating is necessary for a high level of arithmetical reasoning, whereas a low socio-political attitudes rating contributes to a low level of arithmetical reasoning, irrespective of the level of traditionalism in both interactions.

Regarding the object assembly and practical IQ dependent variables another distinct pattern emerges. A high level of religious attitudes and a low level of socio-political attitudes and vice versa contribute to a high level of object assembly. Similarly, a high level of traditionalism

and a low level of anti-modernism and vice versa contribute to a high level of practical IQ.

A possible explanation for the different interaction patterns may be rooted in the cognitive processes signified by the disordinal interactions. In the case of arithmetical reasoning and vocabulary, consistently high or low levels in both traditionalism and anti-modernism promote the required cognitive patterns for high achievement as both variables have similar structures and are intrinsic to the conservative personality as shown by Wilson and Patterson (1969) and Wilson (1973). Inconsistent levels (a high level in one independent variable and a low level in the other) mitigate against this cognitive pattern which is efficiently achieved only if the levels in the two independent variables are similar.

However the effect of the religious attitudes and socio-political attitudes independent variables on arithmetical reasoning is different from that described above. A high level in one independent variable, coupled with a low level in the other, promotes the necessary cognitive pattern necessary for a high level of arithmetical reasoning. A possible explanation for this phenomenon is that religious attitudes are an intrinsic factor in the general trend of white South African conservatism, as stated by Loubser (1968). Socio-political attitudes, which include ethnocentrism and other normative attitudes, are an intrinsic factor in white South African conservatism, serving the interests of conformity rather than the personality needs of the conservative individual as demonstrated earlier in this study and following Colman and Lambley (1970), Orpen (1970), Orpen (1971) as well as Orpen and Rookledge (1972). It may

be inferred that a combination of high intrinsic and low extrinsic or low intrinsic and high extrinsic factors facilitates a high level of arithmetical reasoning, as opposed to a consistent level of both intrinsic and extrinsic factors which compromises the level of arithmetical reasoning.

The above explanation dealing with the effect of intrinsic and extrinsic factors on arithmetical reasoning may be utilized to understand the similar disordinal interaction effect of religious attitudes and socio-political attitudes on the independent variable of object assembly. Here too, a low level in one factor and a high level in the other, rather than a high or low level in both factors, contribute to a high level in the independent variable. Although object assembly belongs to the category of practical intelligence, it may be postulated that the effect of a combination of high intrinsic and low extrinsic or low intrinsic and high extrinsic factors is similar in both verbal and practical intelligence categories and therefore facilitates a high level of achievement in object assembly.

Regarding the significant disordinal interaction of traditionalism and anti-modernism for the practical IQ independent variable, a distinctly contradictory pattern to that evident for the same factors and their effect on arithmetical reasoning and vocabulary emerges. In the case of practical IQ, a high level of traditionalism and a low level of anti-modernism and vice versa contribute to a high level of practical IQ achievement. A consistently high level or low level in both factors mitigates against high achievement in the practical IQ dependent variable.

It may be postulated, that in the case of traditionalism and anti-

modernism which are both intrinsically part of the conservative personality construct as indicated by Wilson and Patterson (1969) and Wilson (1973), different combinations of the two factors have different effects on different categories of intelligence. Consistently high or consistently low combinations of traditionalism and anti-modernism contribute to the cognitive pattern necessary for a high level of achievement in the verbal intelligence categories such as arithmetical reasoning and vocabulary. However, inconsistent combinations of a high level of one factor and a low level of the other contribute to a different cognitive pattern which facilitates high levels of achievement in the categories of practical intelligence such as practical IQ.

Bearing in mind the general homogeneity found in the attitudes underlying the factors of traditionalism and anti-modernism, the critical issue to be resolved deals with the differences in the interaction patterns of traditionalism and anti-modernism for arithmetical reasoning and vocabulary as opposed to practical IQ. From the results of this study it appears that the dependent variable of practical IQ is intrinsically different from the dependent variable of arithmetical reasoning and vocabulary and is therefore mediated by different cognitive patterns. Wechsler (1958) and Matarrazo (1972) have stated that the subtests comprising the WAIS are different measures of the same variable of intelligence and not measures of different kinds of intelligence. According to both Wechsler and Matarrazo the division of the subtests of the WAIS into two categories of verbal intelligence and practical intelligence is only one of several ways in which the subtests could be grouped.

The different pattern indicated in the interaction between traditionalism and anti-modernism for practical IQ from the pattern demonstrated in the interaction between the same factors for arithmetical reasoning and vocabulary show that contrary to the abovementioned statements of Wechsler (1958) and Matarrazo (1972) there may be different kinds of intelligence and the different subtests comprising the WAIS may be measures of these distinct types of intelligence. Different cognitive patterns mediate practical IQ from those which mediate arithmetical reasoning and vocabulary as has been demonstrated in this study. Corroborating evidence is provided by the Pearson correlation coefficients (see Table 10.15) which indicates that arithmetical reasoning and vocabulary are not positively and significantly related to the practical IQ subtests.

A logical conclusion that may be inferred from the results of this study is that verbal IQ differs from practical IQ with different abilities and cognitive patterns motivating and promoting the different categories. This conclusion is particularly suited to the research sample of white South Africans which has been shown to be uniquely conservative and different from classical conservatives who are members of a liberal society. In addition it may be postulated that the cognitive patterns affecting intelligence in white South African society are different from those mediating intelligence in liberal societies. The mere fact that a unique brand of conservatism exists within the white South African society, giving rise to a conservative personality containing attitudes which directly affect cognitive patterns, indicates that the influence of typically white South African conservative variables on intelligence may differ from the influence of classical conservative variables on intelligence as has been

demonstrated in this study.

In conclusion it may be said that typical white South African conservatism influences intelligence differently from typical classical conservatism because of the fact that South African conservatism is part and parcel of the norms of a religious and highly authoritarian society whereas classical conservatism indicates an individual attitudinal pattern that is not necessarily integrally connected to the norms of the society.

10.4 Summary

The present study set out to investigate whether white South African conservatives would have the same level of general intelligence as white South African liberals, whether white South African liberals would have a higher level of verbal intelligence than white South African conservatives and whether white South African conservatives would have a higher level of practical intelligence than white South African liberals. The results of this study indicate that, in the broad categories of general intelligence, verbal intelligence and practical intelligence, there are no significant differences between white South African conservatives and white South African liberals.

However, the fact that certain major differences were indicated between white South African conservatives and classical conservatives living in a typical Western liberal society, as well as differences in the cognitive patterns which emerge from the factors affecting intelligence, is an important result of this study. It has been demonstrated that, contrary to the opinion of Wechsler (1958) and Matarrazo (1972) that intelligence, as measured by the various subtests of the WAIS, is one more or less homogeneous variable, different patterns of conservatism, which promote

different cognitive processes, may influence the different categories of intelligence in different ways. As a result, the existence of more than one distinctly homogeneous variable in the field of intelligence may be indicated.

CHAPTER 11.

IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The aim of this thesis was to investigate the influence of some attitudes on intelligence, bearing in mind the highly conservative nature of white South African society from which the research samples were drawn.

The results of the first phase of the study in which a group of white English speaking South Africans was compared with a group of white Afrikaans speaking South Africans on the variable of general intelligence, as measured by the D-48 Test, proved inconclusive for the following reasons:-

a) the critical research variable was demonstrated to be conservatism and not language.

b) the D-48 Test primarily tests the "g" or general factor of intelligence, because of its nature as a non-verbal analogies test, and does not tap possible specific differences in intelligence.

c) the research sample was homogeneous, as it was comprised of white English and Afrikaans speaking trainee teachers, and did not serve as a representative sample of the white South African population.

The results must therefore be seen in their true limited perspective. No general conclusions may be reached and no decisive implications may be drawn from the research results.

In the second phase of the study, white English and Afrikaans university students served as the research sample. Contrary to the emphasis placed on language in the first phase, attention was paid in this phase of the study to the different factors of conservatism and their influence

on intelligence. In addition, the intelligence measure used in the second phase of the study, the South African WAIS, tapped specific areas of intelligence and not only the "g" or general factor.

The results of the second phase of the study indicate the existence of a unique type of general conservatism typical of white South African society and dissimilar in many aspects to typically classical conservatism found in Western liberal societies. White South Africans form a highly conservative and religiously oriented society and culture and conform to norms, which originate from the beliefs and traditions of the Dutch Reformed Church, and have been adopted by the society which is highly influenced by the Church.

White South Africans, therefore, conform to the norms of a society which is conservative and resistant to change. As a result, the white South African conservative adopts conservatism as an attitudinal construct because of the social pressures brought to bear by the society. Conservatism does not serve, therefore, as an ego-defensive personality function, as found in classical conservatives in a liberal society. These inferrences are congruent with the various research findings of Colman and Lambley (1970), Orpen (1970), Orpen (1971), Orpen and Rookledge (1972), Orpen and Tsapogas (1972), Lambley (1973) and Heaven (1977) who conducted studies on white South African samples.

The emerging theory, based on the abovementioned studies, which postulates that the white South African conservative has a unique conservative attitudinal construct, is supported by the findings of the present research. It appears from the present study that white South African

conservatives have conservative personality attributes as a result of the wish to conform to societal norms and not because of ego-defensive needs.

The conclusions reached in this study support the findings of Wilson and Bagley (1973) who demonstrated that individuals who are committed to religion are less ethnocentric than those nominally religious. Conservative white South Africans adopt religious attitudes because of societal norms and just as the conservative personality attributes are not adopted as ego-defensive functions, neither are the religious attitudes. Loubser (1968) pointed out that the vast majority of white Afrikaans speaking South Africans are active members of the Dutch Reformed Church and are not considered as being just nominally religious, thereby differentiating the white South African population from that of other countries in the Western World.

Therefore this study adds to the theory of conservatism in authoritarian and conservative cultures by indicating that the white South African conservative adopts his religious and conservative attitudes for reasons different from those of the typically classical conservative. Norms are the central influence on the formation of the white South African's conservative and religious attitudes rather than other personality needs.

Regarding intelligence, it has been pointed out that conservative personality attributes generally inhibit the development of high levels of intelligence. Studies carried out by Jacobson and Rettig (1959), Cattell and Butcher (1968), Luck and Gruner (1970), Uhes and Shaver (1970), Cattell (1971), Kidd and Kidd (1972), Bierhoff-Alferman (1976) and Sidanius (1977) all indicated a negative relationship between conservative and

religious attributes and intelligence. The present study which has demonstrated that white South African conservatism and religiosity differs from classical conservatism and religiosity, indicates that the abovementioned relationship does not exist in the white South African conservative context. White South African conservatives do not differ in their level of intelligence from white South African liberals.

In addition it was found that certain combinations of conservative factors, namely religious attitudes, socio-political attitudes, traditionalism and anti-modernism, promote high levels of achievement in the intelligence categories of arithmetical reasoning, vocabulary, object assembly and practical IQ. Therefore the traditional theory of intelligence supported by the abovementioned researchers cannot be accepted in toto for a white South African conservative sample, and new postulations regarding the relationship between white South African conservatism and intelligence may have to be formulated.

This phase of the study has certain basic limitations which prevent far reaching suggestions from being made. The fact that white South African conservatives were compared to classical conservatives without white South African liberals being compared to classical liberals makes it impossible to draw conclusions regarding the comparison of white South African liberals to classical liberals. In addition, the research sample, albeit heterogeneous from the university point of view, is not a representative cross-section of the white South African population. It is possible that conservatism and intelligence variables found in a white South African university sample are not indicative of conservatism and intelligence variables that are conceivably found in the general white

South African population. Another technical limitation of this phase of the study is the relatively small sample of 100 subjects which limited the extent of statistical analysis (a factor analysis could not be computed for the South African WAIS).

In order to infer more than the fact that the white South African conservative has a unique conservative attitudinal structure which is related to intelligence differently from the classically conservative personality structure, it is suggested that further research be conducted. In additional research, comparisons must be made between white South African conservatives and liberals and classical conservatives and liberals in order to investigate whether the different categories of liberals have the same attitudinal structures or not. Larger samples must be used in order to ensure that all types of statistical analyses can be conducted so that the results will be as valid as possible. In addition a research sample which is representative of white South African society at large must be used.

If further research, which overcomes the limitations of the present study, indicates that the findings of the present study are valid, then far reaching implications will be available for consideration regarding the modification of the theory of conservatism in authoritarian and conservative societies as well as for the theory of intelligence in the same societies.

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APPENDIX A

Social Religious Political Scale

There is only one type of question making up the questionnaire. You are requested to mark the number of the most suitable answer to each question on the questionnaire in front to you.
Please answer all the items.

For example: Basketball is the most interesting sport from a spectator point of view.

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

Here the subject answered "strongly agree" because he feels that basketball is the most interesting sport to watch.

1. I am often conscious of my affiliation to a certain religious denomination.

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

2. My being a member of a certain language group spoils my chances of success in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

3. Praise heaped on a member of my political affiliation gratifies me personally

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

4. My religious denomination is morally superior to other religious denominations in South Africa.

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

5. On the completion of my studies I will prefer to work in the company of people belonging to my own religious denomination

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

6. I would like to spend my leisure time in the company of members of my own religious denomination only.

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

7. The political party to which I am affiliated is morally superior to other political parties in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

8. There is definitely enough co-operation between the members of the different religious denominations in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

9. Members of all language groups must learn to "get on" with one another socially in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

10. I am often conscious of my affiliation to a certain language group.

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

11. My family always objects to my befriending members of religious denominations different from mine

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

12. When considering marriage, I will most definitely consider my future partner's language before making a decision

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

13. It should be forbidden for members of one language group to marry members of another language group in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

14. When you really get to know the members of other political affiliations, they can be as close to you as members of your own political affiliation

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

15. I do not have any social relationships with members of religious denominations other than mine as they are completely different from me in all respects.

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

16. Members of all political affiliations must learn to "get on" with one another socially in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

17. It should be forbidden for members of one religious denomination to marry members of another religious denomination in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

18. People of one language group should live in different suburbs from people of other language groups.

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

19. My family always objects to my befriending members of political affiliations different from mine

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

20. There is definitely enough co-operation between the members of the different language groups in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

21. I have the highest regard for any decent person irrespective of his political affiliation

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

22. When I consider forging a friendship with a person I have just met, I always take his religious denomination into consideration

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

23. When choosing a home I will take the religious denomination of the neighbours into consideration before making a final decision

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

24. If I could be born again I would choose to be born to parents of another language group

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

25. When you really get to know the member of other religious denominations, they can be as close to you as members of your own denomination

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

26. Members of other language groups tend to wish members of my language group harm

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

27. I generally find a common bond with members of the political party to which I am affiliated only

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

28. Praise heaped on a member of my language group gratifies me personally

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

29. On the completion of my studies I will prefer to work in the company of people belonging to my own language group

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

30. I generally find a common bond with members of my language group only

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

31. When considering marriage, I will most definitely consider my future partner's religious denomination before making a decision

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

32. When considering marriage, I will most definitely consider my future partner's political affiliation before making a decision

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

33. If I could be born again I would choose to be born to parents of another religious denomination

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

34. When I consider forging a friendship with a person I have just met, I always take his political affiliation into consideration

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

35. There is definitely enough co-operation between the members of different political affiliations in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

36. Members of other political affiliations tend to wish members of my political affiliation harm

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

37. My being a member of a certain religious denomination spoils my chances of success in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

38. I do not have any social relationships with members of political parties other than mine as they are completely different from me in all respects

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

39. People of one political affiliation should live in different suburbs from people of other political affiliations

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

40. If I could be born again I would choose to be born to parents of another political affiliation

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

41. My being a member of a certain political affiliation spoils my chances of success in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

42. When you really get to know the members of other language groups they can be as close to you as members of your own language group

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

43. I do not have any social relationships with members of language groups other than mine as they are completely different from me in all respects

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

44. Praise heaped on a member of my religious denomination gratifies me personally

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

45. It should be forbidden for people of one political affiliation to marry people of another political affiliation in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

46. I am often conscious of my affiliation to a certain shade of political opinion

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

47. I have the highest regard for any decent person irrespective of his language group

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

48. People of one religious denomination should live in different suburbs from people of other religious denominations

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

49. When choosing a home I will take the language spoken by the neighbours into consideration before making a final decision

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

50. I have the highest regard for any decent person irrespective of his religious denomination

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

51. On the completion of my studies I will prefer to work in the company of people belonging to my own political affiliation

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

52. I would like to spend my leisure time in the company of members of my own language group only

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

53. When choosing a home I will take the political affiliation of the neighbours into consideration before making a final decision

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

54. Members of all religious denominations must learn to "get on" with one another socially in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

55. When I consider forging a friendship with a person I have just met, I always take his language group into consideration

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

56. I generally find a common bond with members of my religious denomination only

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

57. Members of other religious denominations tend to wish members of my religious denomination harm

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

58. I would like to spend my leisure time in the company of members of my political affiliation only

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

59. My family always objects to my befriending members of language groups different from mine

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

60. My language group is morally superior to other language groups in South Africa

1	2	3	4	5
strongly agree	agree	uncertain	disagree	strongly disagree

APPENDIX B
Religiosity Scale

Which of the following do you Favour or Believe in? Circle "Yes" or "No". If absolutely uncertain, circle "?". There are no right or wrong answers, simply give your first reaction. Please answer all the items.

1. Biblical miracles	Yes	?	No
2. Life after death	Yes	?	No
3. God rules nature	Yes	?	No
4. Messianic peace	Yes	?	No
5. Biblical Truth	Yes	?	No
6. Theory of evolution	Yes	?	No
7. Sabbath observance	Yes	?	No
8. Confessing sins	Yes	?	No
9. Modest dress	Yes	?	No
10. Divine law	Yes	?	No
11. Ten Commandments	Yes	?	No
12. Modern philosophies	Yes	?	No
13. Church attendance	Yes	?	No
14. Sunday school	Yes	?	No
15. Regular prayer	Yes	?	No
16. Idolatry	Yes	?	No
17. Orthodoxy	Yes	?	No
18. Reward and punishment	Yes	?	No
19. Resurrection of the dead	Yes	?	No
20. Authority of the church	Yes	?	No

APPENDIX C

Conservatism Scale

Which of the following do you Favour or Believe in? Circle "Yes" or "No". If absolutely uncertain, circle "?". There are no right or wrong answers, simply give your first reaction. Please answer all the items.

1.	death penalty	Yes ? No	26.	computer music	Yes ? No
2.	evolution theory	Yes ? No	27.	chastity	Yes ? No
3.	school uniforms	Yes ? No	28.	fluoridation	Yes ? No
4.	striptease shows	Yes ? No	29.	royalty	Yes ? No
5.	Sabbath observance	Yes ? No	30.	women judges	Yes ? No
6.	hippies	Yes ? No	31.	conventional clothes	Yes ? No
7.	patriotism	Yes ? No	32.	teenage drivers	Yes ? No
8.	modern art	Yes ? No	33.	apartheid	Yes ? No
9.	self denial	Yes ? No	34.	nudist camps	Yes ? No
10.	working mothers	Yes ? No	35.	church authority	Yes ? No
11.	horoscope	Yes ? No	36.	disarmament	Yes ? No
12.	birth control	Yes ? No	37.	censorship	Yes ? No
13.	military drill	Yes ? No	38.	white lies	Yes ? No
14.	co-education	Yes ? No	39.	birching	Yes ? No
15.	Divine Law	Yes ? No	40.	mixed marriage	Yes ? No
16.	socialism	Yes ? No	41.	strict rules	Yes ? No
17.	white superiority	Yes ? No	42.	jazz	Yes ? No
18.	cousin marriage	Yes ? No	43.	dagga laws	Yes ? No
19.	moral training	Yes ? No	44.	casual living	Yes ? No
20.	suicide	Yes ? No	45.	learning Latin	Yes ? No
21.	chaperons	Yes ? No	46.	divorce	Yes ? No
22.	legalized abortion	Yes ? No	47.	inborn conscience	Yes ? No
23.	citizen commandos	Yes ? No	48.	black consciousness	Yes ? No
24.	student pranks	Yes ? No	49.	Bible truth	Yes ? No
25.	licensing laws	Yes ? No	50.	pyjama parties	Yes ? No

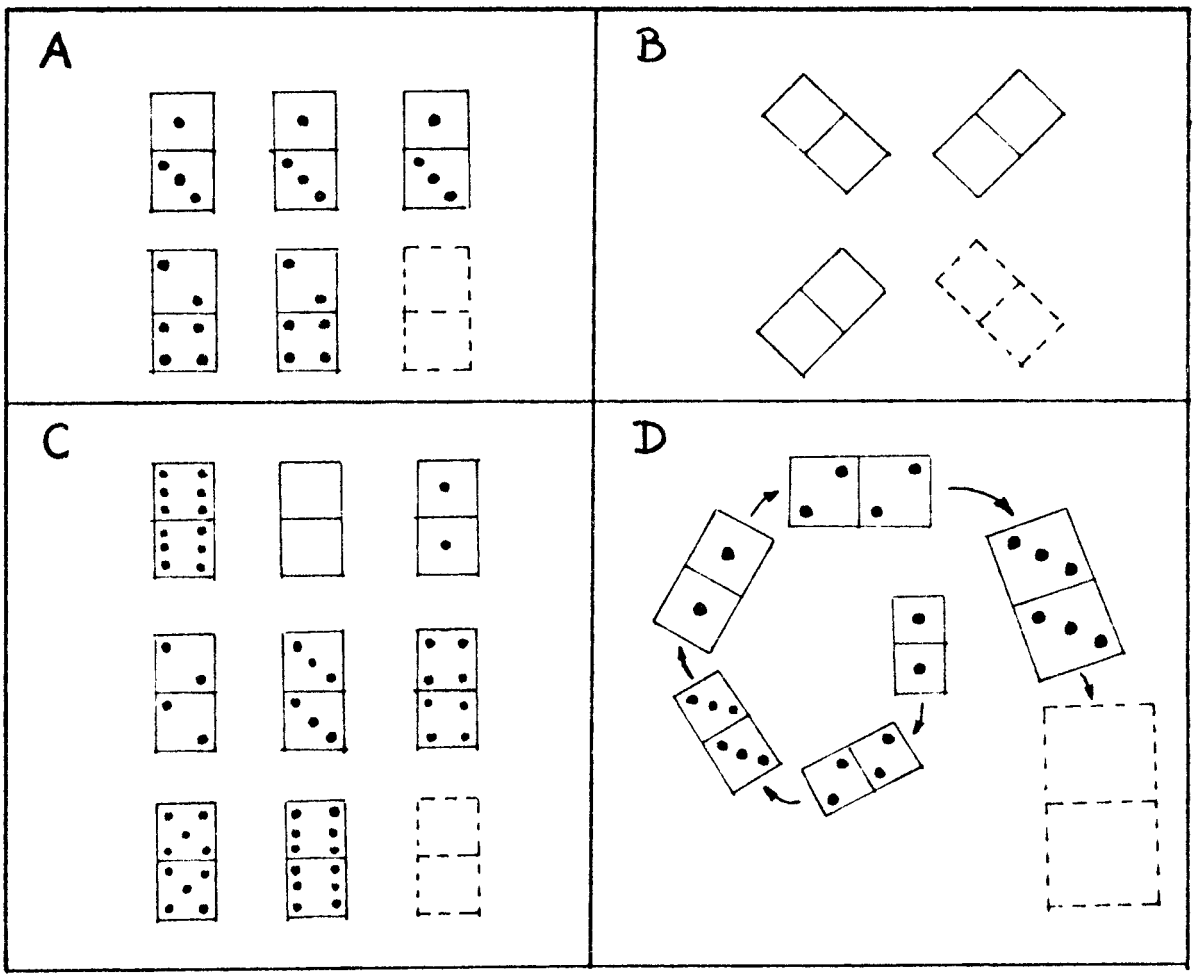
APPENDIX D

The D - 48 Test

DIRECTIONS

Each diagram represents a set of dominoes. The number of dots on each half of a domino may vary from 0 to 6. Look carefully at each set and try to decide the correct numbers for each half of the domino which is blank. White these numbers in the corresponding domino on your anwer sheet. You need not draw dots on the domino. MAKE NO MARKS ON THIS TEST BOOKLET.

TRY THESE SAMPLES. The correct answers for each are printed on your answer sheet.



When you are told to do so, turn the page and begin work. The problem will change frequently; each time there will be something different to notice. Work as rapidly as you can. Do not spend too much time on any one problem; you are not expected to answer every one correctly. You will have 25 minutes to work on the test.

DO NOT TURN THIS PAGE UNTIL TOLD TO DO SO

APPENDIX E

Biographical Information Sheet

1. SURNAME:_____

2. FIRST NAMES:_____

3. AGE: YEARS_____MONTHS_____

4. SEX: *MALE/FEMALE

5. HOME LANGUAGE:_____

6. RACIAL GROUP TO WHICH YOU BELONG:_____

   *WHITE/ASIAN/COLOURED/AFRICAN

* DELETE THOSE STATEMENTS THAT ARE INAPPLICABLE

APPENDIX F

Intercorrelation Matrix Between Significant factors yielded from SRP-Scale and Conservatism Scale and Significant factors yielded from Conservatism Scale in studies of Wilson (1973) and Barling and Evans (1978)

		1	2	3	4	5	6	7	8	9	10	11	12
1	Barling & Evans Control		0.52*	0.78*	0.48*	0.62*	0.75*	0.50*	0.75*	0.74*	0.72*	-0.28*	-0.09
2	Barling & Evans Ethnocentrism	0.52*		0.54*	0.63*	0.76*	0.47*	0.78*	0.59*	0.90*	0.64	-0.40*	-0.33*
3	Barling & Evans Anti hedonism	0.78*	0.54*		0.68*	0.58*	0.87*	0.61*	0.88*	0.70*	0.88*	-0.48*	-0.29*
4	Barling & Evans Social conformity	0.48*	0.63*	0.68*		0.69*	0.57*	0.76*	0.70*	0.64*	0.83*	-0.45*	-0.34*
5	Wilson Militarism	0.62*	0.76*	0.58*	0.69*		0.49*	0.62*	0.65*	0.84*	0.68*	-0.34*	-0.26*
6	Wilson Anti hedonism	0.75*	0.47*	0.87*	0.57*	0.49*		0.58*	0.74*	0.63*	0.79*	-0.50*	-0.36*
7	Wilson Ethnocentrism	0.50*	0.78*	0.61*	0.76*	0.62*	0.58*		0.64*	0.76*	0.73*	-0.48*	-0.41*
8	Wilson Religion	0.75*	0.59*	0.88*	0.70*	0.65*	0.74*	0.64*		0.74*	0.83*	-0.49*	-0.32*
9	Traditionalism	0.74*	0.90*	0.70*	0.64*	0.84*	0.63*	0.76*	0.74*		0.77*	-0.41*	-0.29*
10	Antimodernism	0.72*	0.64*	0.88*	0.83*	0.68*	0.79*	0.73*	0.83*	0.77*		-0.47*	-0.30*
11	Relig.Attitudes	-0.28*	-0.40*	-0.48*	-0.45*	-0.34*	-0.50*	-0.48*	-0.49*	-0.41*	-0.47*		0.86*
12	Soc.Pol.Attitudes	-0.09	-0.33*	-0.29*	-0.34*	-0.26*	-0.36*	-0.41*	-0.32*	-0.29*	-0.30*	0.86*	

* $p < 0.05$

APPENDIX G

TABLE G.1

Fourway Univariate ANOVA results for

the General Comprehension Dependent Variable

Source	S.S.	DF	MS	F	P
Rel.att.	0.13	1	0.13	0.02	> 0.05
Soc.Pol.Att.	0.10	1	0.10	0.02	> 0.05
Trad.	2.93	1	2.93	0.55	> 0.05
Anti-mod.	2.13	1	2.13	0.40	> 0.05
Rel.Att. x Soc.Pol.Att.	0.97	1	0.97	0.18	> 0.05
Rel.Att. x Trad.	1.13	1	1.13	0.21	> 0.05
Rel.Att. x Anti-mod.	1.85	1	1.85	0.34	> 0.05
Soc.Pol.Att. x Trad.	9.99	1	9.99	1.87	> 0.05
Soc.Pol.Att. x Anti-mod.	0.44	1	0.44	0.08	> 0.05
Trad. x Anti-mod.	1.28	1	1.28	0.24	> 0.05
Residual	474.17	89	5.32		

TABLE G.2

Fourway Univariate ANOVA results for

the Digit Span Dependent Variable

Source	S.S.	DF	MS	F	P
Rel.Att.	5.46	1	5.46	1.32	>0.05
Soc.Pol.Att.	7.68	1	7.68	1.85	>0.05
Trad.	1.98	1	1.98	0.48	>0.05
Anti-mod.	3.74	1	3.74	0.90	>0.05
Rel.Att.x Soc.Pol.Att.	0.22	1	0.22	0.05	>0.05
Rel.Att. x Trad.	1.29	1	1.29	0.31	>0.05
Rel.Att. x Anti-mod.	0.20	1	0.20	0.04	>0.05
Soc.Pol.Att. x Trad.	1.36	1	1.36	0.33	>0.05
Soc.Pol.Att. x Anti-mod.	1.77	1	1.77	0.42	>0.05
Trad. x Anti-mod.	0.47	1	0.47	0.11	>0.05
Residual	367.86	89	4.13		

TABLE G.3

Fourway Univariate ANOVA results for

the Similarities Dependent Variable

Source	S.S.	DF	MS	F	P
Rel.Att.	2.77	1	2.77	0.95	> 0.05
Soc.Pol.Att.	1.29	1	1.29	0.44	> 0.05
Trad.	0.39	1	0.39	0.13	> 0.05
Anti-mod.	0.35	1	0.35	0.12	> 0.05
Rel.Att.x Soc.Pol.Att.	0.10	1	0.10	0.03	> 0.05
Rel.Att.x Trad.	3.40	1	3.40	1.17	> 0.05
Rel.Att.x Anti-mod.	0.95	1	0.95	0.33	> 0.05
Soc.Pol.Att. x Trad.	1.20	1	1.20	0.41	> 0.05
Soc.Pol.Att.x Anti-mod.	7.52	1	7.52	2.60	> 0.05
Trad. x Anti-mod.	4.81	1	4.81	1.66	> 0.05
Residual	257.53	89	2.89		

TABLE G.4

Fourway Univariate results for

the Picture Completion Dependent Variable

Source	S.S.	DF	MS	F	P
Rel.Att.	2.24	1	2.24	0.49	> 0.05
Soc.Pol.Att.	4.05	1	4.05	0.89	> 0.05
Trad.	1.15	1	1.15	0.25	> 0.05
Anti-mod.	0.92	1	0.92	0.20	> 0.05
Rel.Att. x Soc.Pol.Att.	3.00	1	3.00	0.66	> 0.05
Rel.Att. x Trad.	10.33	1	10.33	2.28	> 0.05
Rel.Att. x Anti-mod.	0.47	1	0.47	0.10	> 0.05
Soc.Pol.Att. x Trad.	0.06	1	0.06	0.01	> 0.05
Soc.Pol.Att. x Anti-mod.	1.22	1	1.22	0.27	> 0.05
Trad. x Anti-mod.	15.77	1	15.77	3.48	> 0.05
Residual	402.58	89	4.52		

TABLE G.5

Fourway Univariate ANOVA results for

the Picture Arrangement Dependent Variable

Source	SS.	DF	MS	F	P
Rel.Att.	0.00	1	0.00	0.00	> 0.05
Soc.Pol.Att.	9.71	1	9.71	2.05	> 0.05
Trad.	8.54	1	8.54	1.80	> 0.05
Anti-mod.	1.71	1	1.71	0.36	> 0.05
Rel.Att. x Soc.Pol.Att.	2.44	1	2.44	0.51	> 0.05
Rel.Att.x Trad.	10.32	1	10.32	2.18	> 0.05
Rel.Att. x Anti-Mod.	2.89	1	2.89	0.61	> 0.05
Soc.Pol.Att. x Trad.	0.00	1	0.00	0.00	> 0.05
Soc.Pol.Att. x Anti-mod.	11.99	1	11.99	2.54	> 0.05
Trad. x Anti-mod.	10.48	1	10.48	2.22	> 0.05
Residual	420.25	89	4.72		

TABLE G.6

Fourway Univariate ANOVA results for

the Verbal IQ Dependent Variable

Source	S.S.	DF	MS.	F	P
Rel. Att.	38.69	1	38.69	0.46	> 0.05
Soc.Pol.Att.	42.39	1	42.39	0.50	> 0.05
Trad.	5.09	1	5.09	0.06	> 0.05
Anti-mod.	0.82	1	0.82	0.01	> 0.05
Rel.Att.X Soc.Pol.Att.	24.83	1	24.83	0.29	> 0.05
Rel.Att. x Trad.	26.23	1	26.23	0.31	> 0.05
Rel.Att. x Anti-mod.	41.40	1	41.40	0.49	> 0.05
Soc.Pol.Att.x Trad.	215.54	1	215.54	2.58	> 0.05
Soc.Pol.Att. x Anti-mod.	1.84	1	1.84	0.02	> 0.05
Trad. x Anti-mod.	200.55	1	200.55	2.40	> 0.05
Residual	7432.62	89	83.51		

TABLE G.7

Fourway Univariate ANOVA results for

the Full-Scale IQ Dependent Variable

Source	S.S.	DF	MS	F	P
Rel.Att.	0.91	1	0.91	3.62	> 0.05
Soc.Pol.Att.	0.02	1	0.02	0.08	> 0.05
Trad.	0.00	1	0.00	0.00	> 0.05
Anti-mod.	0.02	1	0.02	0.08	> 0.05
Rel.Att. x Soc.Pol.Att.	0.02	1	0.02	0.10	> 0.05
Rel.Att. x Trad.	0.14	1	0.14	0.55	> 0.05
Rel.Att. x Anti-mod.	0.59	1	0.59	2.35	> 0.05
Soc.Pol.Att. x Trad.	0.10	1	0.10	0.40	> 0.05
Soc.Pol.Att. x Anti-mod.	0.08	1	0.08	0.35	> 0.05
Trad. x Anti-mod.	0.03	1	0.03	0.12	> 0.05
Residual	22.34	89	0.25		

APPENDIX H

TABLE H.1

t-test results for subjects high and low on anti-modernism (controlling for low traditionalism) for the arithmetical reasoning dependent variable.

Variable	Level	No	M	SD	t	DF	p
	High	8	10.25	1.66			
Arith					1.77	11.43	> 0.05
	Low	44	11.43	2.09			

TABLE H.2

t-test results for subjects high and low on anti-modernism (controlling for high traditionalism) for the arithmetical reasoning dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	41	11.29	1.90			
Arith					-1.06	6.62	> 0.05
	Low	7	9.85	3.48			

TABLE H.3

t-test results for subjects high and low on traditionalism (controlling for low anti-modernism) for the arithmetical reasoning dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	7	9.85	3.48			
Arith					1.16	6.71	> 0.05
	Low	44	11.43	2.09			

TABLE H.4

t-test results for subjects high and low on traditionalism (controlling for high anti-modernism) for the arithmetical reasoning dependent variable.

Variable	Level	No	M	SD	t	DF	p
	High	41	11.29	1.90			
Arith					-1.58	10.87	> 0.05
	Low	8	10.25	1.66			

TABLE H.5

t-test results for subjects high and low on socio-political attitudes (controlling for high religious attitudes) for the arithmetical reasoning dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	40	11.35	1.96			
Arith					-1.01	14.65	> 0.05
	Low	11	12.09	2.21			

TABLE H.6

t-test results for subjects high and low on religious attitudes (controlling for high socio-political attitudes) for the arithmetical reasoning dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	40	11.35	1.96			
Arith					-1.62	16.89	> 0.05
	Low	10	12.30	1.56			

TABLE H.7

t-test results for subjects high and low on socio-political attitudes (controlling for low traditionalism) for the arithmetical reasoning dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	22	11.45	1.79			
Arith					0.63	49.66	> 0.05
	Low	30	11.10	2.26			

TABLE H.8

t-test results for subjects high and low on socio-politcal attitudes (controlling for high traditionalism) for the arithmetical reasoning dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	28	11.60	2.04			
Arith					1.97	38.23	> 0.05
	Low	20	10.35	2.27			

TABLE H.9

t-test results for subjects high and low on traditionalism (controlling for high socio-political attitudes) for the arithmetical reasoning dependent variable

Variable	Level	No	M	SD	t	DF		p
	High	28	11.60	2.04				
Arith					0.28	47.37	>	0.05
	Low	22	11.45	1.79				

TABLE H.10

t-test results for subjects high and low on traditionalism (controlling for low socio-political attitudes) for the arithmetical reasoning dependent variable

Variable	Level	No	M	SD	t	DF		p
	High	20	10.35	2.27				
Arith					1.14	40.71	>	0.05
	Low	30	11.10	2.26				

TABLE H.11

t-test results for subjects high and low on socio-political attitudes (controlling for high religious attitudes) for the object assembly dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	40	8.32	2.31			
Objass					-1.77	13.70	> 0.05
	Low	11	10.00	2.89			

TABLE H.12

t-test results for subjects high and low on socio-political attitudes (controlling for low religious attitudes) for the object assembly dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	10	9.80	3.04			
Objass					1.23	12.35	> 0.05
	Low	39	8.51	2.52			

TABLE H.13

t-test results for subjects high and low on religious attitudes (controlling for high socio-political attitudes) for the object assembly dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	40	8.32	2.31			
Objass					-1.43	11.72	> 0.05
	Low	10	9.80	3.04			

TABLE H.14

t-test results for subjects high and low on religious attitudes (controlling for low socio-political attitudes) for the object assembly dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	11	10.00	2.89			
Objass					1.54	14.55	> 0.05
	Low	39	8.51	2.52			

TABLE H.15

t-test results for subjects high and low on anti-modernism (controlling for low traditionalism) for the vocabulary dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	8	11.00	1.19			
Vocab					1.78	9.68	> 0.05
	Low	44	11.81	1.18			

TABLE H.16

t-test results for subjects high and low on anti-modernism (controlling for high traditionalism) for the vocabulary dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	41	12.09	1.44			
Vocab					-1.16	8.35	> 0.05
	Low	7	11.42	1.39			

TABLE H.17

t-test results for subjects high and low on traditionalism (controlling for low anti-modernism) for the vocabulary dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	7	11.42	1.39			
Vocab					0.70	7.44	> 0.05
	Low	44	11.81	1.18			

TABLE H.18

t-test results for subjects high and low on anti-modernism (controlling for low traditionalism) for the practical IQ dependent variable.

Variable	Level	No	M	SD	t	DF	p
	High	8	115.75	12.66			
Prac. IQ					-1.34	8.53	> 0.05
	Low	44	109.45	9.61			

TABLE H.19

t-test results for subjects high and low on anti-modernism (controlling for high traditionalism) for the practical IQ dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	41	115.46	14.15			
Prac.IQ					1.23	8.73	> 0.05
	Low	7	122.00	12.75			

TABLE H.20

t-test results for subjects high and low on traditionalism (controlling for high anti-modernism) for the practical IQ dependent variable

Variable	Level	No	M	SD	t	DF	p
	High	41	115.46	14.15			
Prac.IQ					0.06	10.72	> 0.05
	Low	8	115.75	12.66			

APPENDIX I

Letter to volunteers participating in the research

Dear Student,

The following research is being conducted under the auspices of the Department of Education, University of the Witwatersrand, in order to ascertain the influence of some attitudes on intelligence.

In order to achieve reliable results, I ask you to answer all questions seriously and truthfully. All responses will be treated in the strictest confidence and only I will see the actual responses to the various scales used in the research. At the end of the research a general report will be published in which no names of subjects will be mentioned.

I thank you for your trouble and co-operation.

Yours sincerely,

Y.J. Katz