

A STUDY OF RELIGIOUS INVOLVEMENT AMONG UNIVERSITY STUDENTS:
LITERAL, ANTI-LITERAL, AND MYTHOLOGICAL RELIGIOUS INVOLVEMENT

Thesis submitted to the Department of Psychology, University of Cape
Town, in partial fulfilment of the requirements for the degree of
Master of Science in Clinical Psychology.

by

M.H. Daneel.

October, 1976.

The copyright of this thesis is held by the
University of Cape Town.
Reproduction of the whole or any part
may be made for study purposes only, and
not for publication.

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

ACKNOWLEDGEMENTS

With thanks: Dr. H.I.J. van der Spuy for thoughtful and inspired supervision;
Lester Gilbert for invaluable statistical help;
Mrs. B. Muller for typing, and
Helène for continual encouragement and support.

The financial assistance of the Human Sciences Research Council towards the cost of this research is also hereby gratefully acknowledged. Opinions expressed or conclusions reached are those of the author and are not to be regarded as a reflection of the opinions and conclusions of the Human Sciences Research Council.

Chapter 3	<u>Results</u>	45
3.1	The LAM scales	45
3.2	Background variables	46
3.3	Intensity of Belief Scale	50
3.4	Dogmatism	54
3.5	Sixteen Personality Factors (16 PF)	55
3.6	Behavioral Scales	60
Chapter 4	<u>Discussion</u>	63
4.1	Background Variables	63
4.2	Hypothesis I Group L vs M	67
4.3	Hypothesis II Group L vs A	72
4.4	Hypothesis III Group A vs M	75
References		82
Appendix I		93
II		95
III		101
IV		105
V		111
VI		128

LIST OF TABLES AND GRAPHS

TABLE 1	Comparison of Age, Sex, Marital Status and Groups between L, A and M groups of the total sample (N=210)	27
2	Scale Reliabilities, Calculated as Dependability Coefficients (Test = Retest 4 to 7 days)	37
3.1	Mean scores for the three groups Literal, Anti-literal and Mythological on the three scales L, A and M, of the LAM scale	45
3.2.	Analysis of Variance of the 3 groups L, A and M, on the 10 Background Variables, and Comparisons between Groups L and A, A and M, and L and M	48
3.3	Analysis of variance of the 3 groups L, A and M on the 7 Belief variables of the Intensity of Belief Scale, and comparisons between groups L and A, A and M, and L and M	51
3.4	Mean and S.D. for the three groups L, A and M for the Religious Belief and Non-religious Belief Scales of the Intensity of Belief Scale	52
3.5.	Analysis of variance and comparisons between groups L and A, L and M, and A and M	54
3.6	Analysis of variance of the 3 groups L, A and M on the 20 factors of the 16 PF, and comparisons between groups L and A, A and M, and L and M	56

3.7	Comparisons of the mean scores of groups L, A, M, R.C. Priests and R.C. Brothers on the 16 primary factors of the 16 PF	57
3.8	Analysis of variance of the 3 groups L, A, and M, on the 7 scales of the Scale for Basic Religious Dimensions, and comparisons between groups L and A, A and M, and L and M	60
	* * *	
GRAPH 1	Mean scores for the three groups L, A and M on the 7 scales of the Intensity of Belief Scale	53
2	Mean scores for the three groups L, A, and M on the 20 factors of the 16 PF	59
3	Mean scores for the three groups L, A, and M on the 6 scales of the Scales for Basic Religious Dimensions	62

ABSTRACT

A sample of 210 university students were clustered into relatively homogeneous religious orientations, based on their scores on three scales of religious involvement, delineated by Hunt (1972): Literal, Anti-literal and Mythological. The three groups were compared on the following measures:

- (i) Background variables;
- (ii) Thouless (1935): Intensity of Belief Scale;
- (iii) Rokeach (1960): Dogmatism Scale;
- (iv) 16 PF by Cattell et al. (1970) and
- (v) King and Hunt (1972 b): Scales for Basic Religious Dimensions.

Hunt's notion that pro-religious subjects of different involvement might differ in terms of personality variables was supported. The Literal involvement group further held their religious beliefs with a higher degree of conviction and participated more in religious activities than the Mythological involvement group. The Anti-literal group seemed to be a non-religious group.

SUMMARY1 INTRODUCTION

Many definitions and classifications have been suggested for measuring religious involvement. Allport (1950, 1954, 1966), with his intrinsic and extrinsic dimensions, one of the earlier researchers, influenced this area of research most. Subsequently many more attempts were made to clarify this area by others such as Broen (1957), Lenski (1961), Glock and Stark (1965), Allen and Spilka (1967), Dittes (1971), Himmelfarb (1975) and others. The research in this area has been greatly restricted by problems of inadequate definitions and classifications.

Problems with definitions have generally been that either researchers have not defined religious involvement or that they derived their definitions from the dimensions of involvement that they outlined. This has obscured what is being classified and has led to dubious dimensions.

Under religious involvement we understand the degree to which a person's religion occupies his interests, beliefs, or activities. Therefore, it is obvious that measures of religious involvement should not include variables in other domains of attitude or conduct that are thought to be a consequence of religious involvement. Glock and Stark (1965) err in this way by including a consequential dimension which measures the effects of religious involvement upon other things, e.g. prejudice.

Under problems of classifications it is clear that some dimensions are not mutually exclusive, in the sense that there should only be one place for an item within a given classification. King and Hunt (1972b) use the same variables more than once to construct different scales. The correlations between these particular scales manifest the problem. Early typologies of religious involvement, e.g., Allport (1950, 1954, 1966),

Lenski (1961), and others, simply lacked sufficient categories to be exhaustive. Another difficulty with some of the classifications lies in the fact that they do not use temporally related phenomena. Religious knowledge, for example, is included by many (Clayton, 1971; Faulkner, and De Jong, 1966; Glock and Stark, 1965; King and Hunt, 1972a) as a measure of religious involvement. However, knowledge depends on many things, particularly one's ability to retain information, and is, therefore, not an acceptable measure of religious involvement per se. Another confusing problem with these classifications is that phenomena at different levels of abstraction are included. We also have the positions of typologies within typologies.

Hunt (1972) broke away from this old simplistic and literal approach to measure religious involvement. The new approach was heralded by Greeley (1972) as a "decisive turning point in religious research" (p. 287).

Hunt's new approach discards, as he terms it, the literal - fundamentalistic bias built into most of the paper-and-pencil measures of religiosity. A series of doctrinal statements are used in these scales, with the assumption that those who disagree with these statements, lack religious involvement. Hunt is concerned with the multiplicity of meanings which the respondent can attach to the same inventory item. Rümke (1952) spoke of "the shapes behind the words", meaning that religious language can have many different "shapes" for different people. Religious language can be used empirically, tautologically, emotively, ceremonially, prescriptively, mythically, paradoxically and metaphysically. Each is presumably related differently to behavioural experiences of religion. Therefore, Hunt proposed a literal-symbolic (or mythological) dimension involving usage of religious language. It is then used as a language dimension.

Hunt (1972) proposed three orientations. The first is the literal (L) interpretation of religion, where an individual will tend to accept "at face value" any religious statement without in any way questioning it. This literal position may reflect an individual who has not examined the relation of his religious statements to other cognitive, conative, and affective areas of his life" (p.43). Secondly, an individual may, on the basis of a literal, naive, unexamined interpretation of religion, reject all religion as being of no value to him or the world. "This anti-literal (A) person may be rebelling against limited childhood religious teaching and restrictive teachers (including parents) in a manner similar to the adolescent rejection of parental authority as one aspect of his search for his own identity" (p. 43). The third possibility is a reinterpretation of religious statements, to seek the deeper symbolic (mythological, M) meanings which lie beyond the literal wording. "This person's religious framework is more complex and capable of assimilating both the intention of religious orthodoxy and the realities of the contemporary world" (p. 43).

From the above, it is clear that Hunt expects each interpreter L, A and M to differ in various ways. He predicts that their cognitive styles will be different. Rokeach (1960) is of the opinion that there is a degree to which a person can "receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside world" (p. 57). He terms the two extremes as closed and open cognitive styles. According to Hunt's notion, one would expect the literal and anti-literal interpreter to use a closed cognitive style and the mythological interpreter an open style. It is, therefore, expected that the literal interpreter will tend to have a higher degree of conviction (Thouless, 1935) with which he holds his

religious beliefs, than the mythological interpreter.

This could lead to other personality factors, such as being restricted or outgoing, assertive or inhibited (Becker, 1964). One could expect the L interpreter to be more inhibited, dependent and less creative, whereas the M interpreter is expected to be more outgoing, assertive, and creative. Brown (1962a) is of the opinion that strong social support is required for the maintenance of a system of religious belief. If this is so, it is valid to argue that the literal interpreter, who is more dependent, inhibited, etc., will strive harder than the M interpreter to attain this social support. To attain this, he might be more involved in church and religious activities, such as financial support, talking and reading about religion, church attendance, etc.

The following hypothesis were then formulated.

Hypothesis I

Subjects with a high "Literal Involvement" (LI) will differ significantly at the α 0,05 level from subjects with a high "Mythological Involvement" (MI) on the following dimensions:

(i) "Intensity of Belief" will be held with a higher intensity by LI subjects than MI subjects, as LI will tend to accept the statements at face value;

(ii) LI subjects will be more dogmatic than MI subjects, as LI subjects tend to operate with a more closed cognitive system than the MI subjects;

(iii) On the personality factors of the 16 PF, the LI subjects will differ from the MI subjects, as LI subjects tend to be more threatened by the "others" because of the rigid way in which their beliefs are held;

(iv) the LI will be more involved in religious activities than the MI subjects, as the LI subjects tend to conform more to the religious establishment, in participating more in institutional activities.

Hypothesis II

Subjects with a high "Literal Involvement" (LI) will differ significantly at the $\alpha = 0,05$ level from subjects with a high "Antiliteral Involvement" (AI) on the following dimensions:

(i) "Intensity of Belief" will be held with a high intensity by LI subjects and a low intensity by AI subjects, meaning that the LI subjects accept and the AI reject the statements with the same degree of conviction;

(ii) LI subjects and AI subjects will not differ significantly on dogmatism, as both groups operate with a closed cognitive system (being dogmatic);

(iii) On the personality factors of the 16 PF, the LI subjects and AI subjects will deviate to the same degree from the mean. Both groups tend to feel threatened by the "others" because of the rigid way in which their beliefs are held.

(iv) Subjects with a "Literal Involvement" (LI) will differ significantly from subjects with an "Anti-literal Involvement" (AI) on religious activities, as LI will be involved and AI will not be involved in such activities.

Hypothesis III

Subjects with a high "Anti-literal Involvement" (AI) will differ significantly ($\alpha = 0,05$) from subjects with a high "Mythological Involvement"

ment" (MI) on the following dimensions:

(i) AI subjects will reject with a higher degree statements on "Intensity of Belief" than MI subjects, as AI subjects will tend to reject the statements at face value;

(ii) AI subjects will be more dogmatic than MI subjects, as AI subjects tend to operate within a closed cognitive system;

(iii) On the personality factors of the 16 PF, the AI subjects will differ from the MI subjects, as AI subjects tend to be more threatened by the "others" because of the rigid way in which their beliefs are held;

(iv) The AI subjects will be less involved in religious activities than the MI subjects, as the AI will be involved in other non-religious activities.

2 METHODS

The strategy of the present study was to administer Hunt's (1972) LAM Scales to university students and identify three relatively homogeneous religious involvement groups. These three groups would also complete other measures to determine if there were any significant differences between them.

2.1. Subjects

Three groups of students were approached in 1975 to complete the questionnaire. The Young Men's Christian Association, the 1st and 2nd year students following the courses in Religious Studies I and II, and the 1st year Psychology class, were approached. From these groups 426 subjects returned their questionnaires, of which 87 were spoiled. Of the

remaining 339 subjects, the 70 highest scorers on L (literal), A (anti-literal) and M (Mythological) were selected, making a total N of 210. The groups were equated for age and sex. The mean age of the total sample was 19,77 years.

2.2. Scales

The following scales were selected to determine differences between the three groups.

(i) Background variables:

These ten items were selected in the following manner. Six items were selected from Allport, Gillespie and Young's (1948) "Aspect of Religious Belief Questionnaire", mainly to measure factors which influenced the subjects religious life. Another three self-rating questions were added, where the subject had to indicate the extent to which he considered himself, his mother, and his father to be religious. In the last item the subject had to select from four statements, which statement most nearly described his religious awakening experience.

(ii) Hunt's (1972) LAM scale

This 17 item scale measures a literal, anti-literal or mythological religious involvement. For each of the 17 LAM items, three alternative statements were developed, each representing a literal, anti-literal or mythological interpretation of the item stem.

(iii) Intensity of Belief Scale

The Thouless (1935) questionnaire was used to measure different areas of belief. These areas were defined as belief in (i) Christ, (4 items); (ii) God (6 items); (iii) other orthodox Christian beliefs (5 items);

- (iv) general religious beliefs (8 items); (v) opinion (6 items);
(vi) fact (12 items) and (vii) miscellaneous (6 items).

The wording of two of the items were changed to make them applicable locally.

(iv) Dogmatism

Rokeach's (1960) Dogmatism scale form E (40 items) was used. The main purpose of the Dogmatism scale is to measure individual differences in open and closed belief systems. By virtue of the way open and closed are defined, this scale also purports to measure general authoritarianism.

(v) 16 PF

The 16 personality factor questionnaire of Cattell et al. (1970) was used to determine personality differences between the three (L, A and M) groups. Form A, with 187 items, was selected as it is recommended by the authors for research work with university students. All sixteen primary factors were scored, as well as the first four secondary factors, and the Tabular Supplement (1970) was used to convert the raw scores into stens making use of the different norms for different age and sex.

(vi) Scales for basic religious dimensions

To measure religious activity, six of the 11 scales proposed by King and Hunt (1967, 1969, 1972a, 1972b, 1975) in the Scales for Basic Religious Dimensions, were selected. The following was decided upon:

- (i) Devotionalism (5 items);
- (ii) Church Attendance (3 items);
- (iii) Organizational Activities (6 items);
- (iv) Financial Support (5 items);
- (v) Talking and Reading about Religion (7 items) and

(vi) Growth and Service (5 items) In all, there were 30 items.

each having four alternative answers, that measured how frequently a person was involved in religious activities during a specified time period.

2.3 Procedure

The abovementioned scales were assimilated into one questionnaire, which could be completed within one and a half hours. An information sheet was also included to give relevant demographic information such as age, sex, marital status and language.

Students were asked to complete voluntarily a questionnaire in their free time. They could hand it back to any campus secretary for "internal mail". The experimenter received them back through the internal mail system.

A total of 426 questionnaires were received back, of which 339 were scoreable.

2.4 Analyses

A mean and S.D. were calculated for each variable for the whole sample as well as for each separable group (L, A and M). A one-way analysis of variance was performed on each variable to establish the significance of the differences between the mean scores of the L, A, and M groups. Where the F ratio was significant, Tukey H.S.D. pairwise comparisons were conducted to establish exactly which groups differed (Tukey, 1968).

3 RESULTS

3.1. The LAM scales

Three relatively homogeneous groups were established through their total scores indicating their orientations as being literal (L), anti-literal (A) or mythological (M).

The L and A scales correlated - 0,69 (significant at the 0,01 level), which is consistent with Hunt's (1972) and Poythres's (1975) findings. The L and M scales had an expected low negative correlation of - 0,25 ($p < 0,01$), which is also in accordance with Hunt (1972) and Poythress (1975). A negative correlation of - 0,53 ($p < 0,01$) was found between A and M scales. Both Hunt (1972) and Poythress (1975) reported a negative but uncorrelated A and M correlation.

There was no significant correlation between sex and age on any of the LAM scales.

3.2 Background variables

The literal group (L) reported that their inner religious awakening was a definite awakening; they rated themselves to be "very religious"; that their own standing was firmer than their parents and their friends; that religion played an important part in their upbringing; that the following factors influenced their religious life: mother, conformity with tradition, gratitude, church teachings, aesthetic appeal, university and/or school groups, religious camps, friends of own age, and "other" influences. They also reported to feel embarrassed or isolated because of their religious views.

Group A (anti-literal) reported no experiences of a inner religious awakening; they rated themselves to be "not very religious"; that their own religious standing was less firm than their parents and their friends; that religion did not play an important part in their upbringing and that none of the influencing factors played a important part in their religious standing.

Group M (mythological) again reported that their inner religious awakening was a more gradual awakening and they rated themselves to be "moderately religious". Also, their religious standing was about the same

as their parents but firmer than their friends; that religion played an important part in their upbringing; that they were influenced in their religious lives by the following factors: mother, conformity with tradition, gratitude, church teachings, university and/or school groups, aesthetic appeal, religious camps, friends of own age and "other" influences.

3.3 Intensity of Belief Scale

On the four religious belief scales (Christ, God, Orthodox Belief and General Religious Belief), there was a significant difference ($p < 0,01$) between the means of groups L, A, and M. Group L accepted these religious statements with a high degree of conviction; group M with a lesser degree and group A actually rejected these statements.

No significant difference could be seen between the three groups on the Fact scale. On the Opinion scale only the means between groups L and A differed significantly. Group A accepted these statements with a higher degree of conviction.

The means of groups L and A, and groups L and M differed significantly on the Miscellaneous scale. Group L accepted the statements with a lesser degree of conviction than groups A and M.

The findings of Thouless (1935) and Brown (1962a) that "the tendency to certainty" is less strong amongst non-religious beliefs than amongst those of religious order, is also supported by this study.

3.4 Dogmatism

The means of the three groups L, A, and M differed significantly. Group L has the most closed cognitive system, then group M with group A having the least closed system. Their means being 143,68 for L; 168,01 for M and 179,71 for A.

3.5 16 PF

There were significant differences between the groups on six of the primary factors (E, F, G, L, M and Q_I) and on two of the secondary factors (Q_{II} and Q_{IV}).

L vs A:

They differed on factors E, G, L, M, Q_I and Q_{IV}. On all these, except for G, group L scored significantly lower than group A.

L vs M:

They differed on factors E, F, G, Q_I, Q_{II} and Q_{IV}. On all these factors, except for G, group L had significantly lower scores.

A vs M:

The difference between means reached a significant level, only on factor Q_{IV} where group A scored lower than group M.

3.6 Behavioral Scales

On all six scales, Devotionalism, Church Attendance, Organizational Activities, Financial Support, Talking and Reading about Religion and Growth and Striving, the means reached a statistically significant difference. Group L was the most active group, with group M coming second and group A being the least active in religious matters.

4 DISCUSSION

4.1 Background variables

Group L (literal) rated themselves to be very religious, with more depth than their parents and friends. They have been strongly influenced by church teachings, religious groups and camps and by their contemporaries.

They also reported to have had a definite religious awakening experience, and that they sometimes felt selfconscious because of their religious views.

Group A (anti-literal) tended to score in the opposite direction to group L. They mainly form an areligious group.

Group M (Mythological) tended to score mid-way between groups L and A, but slanted over in the direction of group A on some variables. Their religious awakening was a more gradual process and thus they rated themselves to be moderately religious. Factors influencing their religious views were slight and they do not feel selfconscious of their religious views.

4.2 Hypothesis I (L vs M) (i) Intensity of Belief Scale

The findings supported the hypothesis on the four religious belief scales, and also the Miscellaneous scale, but in the opposite direction. On the other two non-religious scales, Opinion and Fact, the findings did not support the hypothesis.

Hypothesis I (L vs M) (ii) Dogmatism Scale

This hypothesis is supported by this study in that group L was more dogmatic (and authoritarian) than group M.

Hypothesis I (L vs M) (iii) 16 PF

The hypothesis of a significant difference between the means of group L and M was supported on the factors E, F, G, Q_I, Q_{II} and Q_{IV}, but not on the 14 remaining factors. Compared to group M, group L seemed to be a more submissive, less assertive, less creative group with a stronger super-ego. Group M appears to be a more out-going, creative and anxious

group with less super-ego-strength.

Hypothesis I (L vs M) (iv) Scales for Basic Religious Dimensions

The hypothesis is supported by this study on all six scales. Group L was a more active group in their prayer life and more concerned with their relationship with God. They attended church more frequently, were more involved in organizational activities, they supported the church better, financially, they showed more openness for growth and change in their religious beliefs and they were also more active in reading and talking about religion than group M.

Hypothesis II (L vs A) (i) Intensity of Belief Scale

The hypothesis of a significant difference between the means of groups L and A, is supported by this study on all seven scales. However, the directions for the religious and non-religious beliefs are reversed, in that group L accepted the religious beliefs with a higher degree of conviction, whereas group A again accepted the non-religious beliefs with more certainty than group L.

Hypothesis II (L vs A) (ii) Dogmatism Scale

This hypothesis is not supported by this study, in that there was a significant difference between the means of groups L and A, group A being less dogmatic (and less authoritarian) than group L.

Hypothesis II (L vs A) (iii) 16 PF

On 14 of the factors the hypothesis of no significant difference was supported by this study. On the other six factors, E, G, L, M, Q₁ and Q_{IV}, the differences reached a statistically significant level. Group A appeared to be more assertive, lower on super-ego-strength, more suspicious

and jealous, more imaginative, more radical and more independent than group L. In comparison to group A, group L appeared to be more submissive, higher super-ego-strength, more trusting, less imaginative, more conservative and more subdued.

Hypothesis II (L vs A) (iv) Scales for Basic Religious Dimensions

On all six scales a significant difference was reached by this study. Group A, being basically an areligious group, naturally participated less in religious activities than group L.

Hypothesis III (A vs M) (i) Intensity of Belief Scale

This hypothesis is supported by this study for the four religious belief scales, but not for the three non-religious belief scales.

Hypothesis III (A vs M) (ii) Dogmatism Scale

The findings supported this hypothesis. Group M was more dogmatic (and authoritarian) than group A.

Hypothesis III (A vs M) (iii) 16 PF

Only on one of the 20 factors, namely Q_{IV} , could a statistically significant difference be reached between the means of groups A and M. Group A was more independent than group M.

Hypothesis III (A vs M) (iv) Scales for Basic Religious Dimensions

On all 6 scales the hypothesis was supported by this study. Group A, being an areligious group, naturally participated less in religious activities than group M, a religious group.

4.3. FURTHER RESEARCH

- (i) The LAM scales should make room for a hermeneutic dimension.
- (ii) The scoring procedure of the LAM scale should be changed to a Likert format.
- (iii) The relationship between upbringing and religious involvement should be investigated further.

REFERENCES

- Allen, R. and
Spilka, B. "Committed and consensual religion:
a specification of religious-preju-
dice relationships".
Journal for the scientific study of
religion, 1967, 6: 191-206.
- Allport, G.W.,
Gillespie, J.M. and
Young, J. "The religion of the post-war college
student".
The journal of psychology, 1948, 25,
3-33.
- Allport, G.W. The individual and his religion.
New York: MacMillan, 1950.
- Allport, G.W. The nature of prejudice.
Cambridge Mass.: Addison-Wesley,
1954.
- Allport, G.W. "The religious context of prejudice".
Journal for the scientific study of
religion, 1966, 5, 447-457.
- Becker, W.C. Consequences of different kinds of
parental discipline. In M.L. Hoff-
man and L.W. Hoffman (Eds.) Review
of child development research, Vol.1.
New York. Russel Sage Foundation,
1964.
- Brown, L.B. "A study of religious belief".
British journal of psychology, 1962a,
53 (3), 259-272.
- Broen, W.E. (Jr.) "A factor-analytic study of religious
attitudes".
The journal of abnormal and social
psychology, 1957, 54, 176-179.

- Clayton, R.R. "5-D or 1?"
Journal for the scientific study of religion, 1971, 10, 37-40.
- Dittes, J.E. "Typing the typologies. Some parallels in the career of church-sect and extrinsic - intrinsic".
Journal for the scientific study of religion, 1971, 10, 375-383.
- Faulkner, J.E. and De Jong, G.F. "Religiosity in 5-D: An empirical analysis".
Social forces, 1966, 45 (2), 246-254.
- Glock, Y., and Rodney Stark. Religion and society in tension.
Chicago: Rand McNally, 1965.
- Greeley, A.M. "Comment on Hunt's "Mythological-Symbolic religious commitment: The LAM scales".
Journal for the scientific study of religion, 1972, 11 (1), 42-52.
- Himmelfarb, H.S. "Measuring religious involvement"
Social forces, 1975, 53 (4), 606-618.
- Hunt, R.A. "Mythological-symbolic religious commitment: The LAM scales".
Journal for the scientific study of religion, 1972, 11 (1), 42-52.
- King, M.B. "Measuring the religious variable: Nine proposed dimensions".
Journal for the scientific study of religion, 1967, 6(2), 173-190.
- King, M.B. and Hunt, R.A. "Measuring the religious variable: Amended findings".
Journal for the scientific study of religion, 1969, 8(2), 321-323.

- King, M.B. and
Hunt, R.A. "Measuring the religious variable:
Replication".
Journal for the scientific study of
religion, 1972a, 11(3), 240-251.
- King, M.B. and
Hunt, R.A. Measuring religious dimensions.
Dallas: Southern methodist university,
1972b.
- King, M.B. and
Hunt, R.A. "Measuring the religious variable:
National replication".
Journal for the scientific study of
religion, 1975, 14 (1), 13-22.
- Lenski, G. The religious factor.
Garden City: New York: Doubleday,
1961.
- Rümke, H.C. The psychology of unbelief.
Translated form the Dutch by M.H.C.
Willems. Salisbury Square London,
1952. (First published in 1949).
- Thouless, R.H. "The tendency to certainty in reli-
gious belief".
British journal of psychology, 1935,
26, 16-31.
- Tukey, H.S.D. As in Kirk, R.E. Experimental Design:
Procedures for the behavioral sciences.
Belmont: California, 1968.

CHAPTER 1INTRODUCTION

There have been numerous attempts, in recent years, to differentiate various dimensions representing unique religious orientations (involvement) in religious research. Research has been greatly hampered by inadequate definitions and classifications. I will examine the definitions and classifications which have been put forward by other researchers, and then attempt to summarize these findings.

1.1 Definitions and classifications1.1.1 Problems of definitions

The scientific study of religion has been criticized by Van den Berg (1958) and others, for an "exclusion de la transcendance". By this criticism, it is meant that God himself is excluded from the scientific study, which brings us to the theological problem of God immanent and God transcendent.

Barth (1967) sees this problem in the light of God, the "Gans Andere" (transcendent), but who, in His free will, relates (immanent) to his creation. He states: "If, then, the freedom of God is understood primarily as His own positive freedom, it can and must be understood secondarily as his relationship to that which is other than Himself, ... as His true immanence as well as His true transcendence" (1967: p. 301).

The role of the relationship between God and creation in itself is therefore, of vital importance. Faith, in this sense, means to be in relationship with God, and not just to believe that there is a God. Faith is, therefore, a response to God's effort of forming a relationship with man. We cannot only speak of man's relationship and exclude God from this relationship. A relationship needs a partner. This is perhaps what is meant by Broen's (1957) unipolar dimension "Nearness to God",

when he states that this dimension "emphasizes the Deity's loving presence and guidance" (p. 177). Davidson (1972) termed in "vertical belief", by which is meant the "other-wordly" beliefs which define the nature of the supernatural order or emphasizes man's personal relationships to that order without reference to the social order. The "horizontal belief" concept, as used by Davidson, refers to "this-wordly" beliefs which emphasize man's relationship to other men.

Van den Berg (1958) points out that his is where the scientific study of religion falls short. He argues that only the one side (immanent) is studied and the other (transcendent) completely ignored, Grossman (1975), for example, defines religion as a system of "mental and psychological devices, which help men overcome, obviate, or counteract fear and anxiety, and the subjective and physiological effects thereof" (p. 290). In this definition the "Gans Andere" is completely absent -- there is no Partner.

In his "Varieties of Religious Experience", James (1907) drew our attention to this deficiency. He says: "At the outset we are struck by one great partition which divides the religious field. On the one side of it lies institutional, on the other personal religion. As M.T. Sabatier says: One branch of religion keeps the divinity, another keeps man most in view" (p. 48). He also stresses the point of relationship in his definition. "Religion, shall mean for us the feelings, acts, and experiences of individual men in their solitude, so far as they apprehend themselves to stand in relation (my emphasis) to whatever they may consider the divine" (p. 50). The "relationship" and the "divine" cannot simply be ignored in the study of religion. On the other hand, how can this part (transcendence) be measured? Can the gods be measured by our scales? Are they available for scientific research?

Berger (1974) tries to answer these questions and states that" the

gods are not empirically available, and neither their nature nor their existence can be verified through the very limited procedures given to the scientist. What is available to him is a complex of human experience" (p. 125). The problem is that these human experiences cannot simply be equated to religious experiences. Becker (1971), in his analysis of religion and psychological health, also states that there is an "otherness", a trans-empirical dimension about a religious faith that finds no place in psychological parlance.

I feel, as Berger (1974), that this is a limitation that we will have to accept. To quote Berger again: "The gods, which appear in the religious consciousness as possessing an ontological status transcending this consciousness, are not available to the scientist in this alleged status -- they are only available qua contents of human consciousness, thus as immanent by necessity" (p. 126) This limitation is accepted here.

At this point, we must ask, "What is religion?" Theologians, sociologists, psychologists, psychiatrists and laymen have all put forward their own definitions. These definitions have all been criticised, and have either been rejected or accepted. I do not believe that it is the task of a psychologist to define what religion is. It is primarily the task of a theologian to define religion for us. The psychologist should define what he intends to investigate.

As psychologist, I intend to investigate man's religious experiences - how he experiences his relationship with the "Gans Andere". This, then, means studying his religious beliefs, his religious attitudes (interests) and his religious behaviour (activity). This could be done by studying the individual's experiences and/or the religious experiences of a group as a whole.

I prefer to speak, as Himmelfarb (1975), of religious involvement as "the degree to which a person's religion occupies his or her interests,

beliefs, or activities" (p. 607). The implication of such a statement is that measures of religious involvement should not include variables in other domains of attitude or conduct that are thought to be a consequence of religious involvement. Hunt and King (1972), for example, include an extrinsic dimension which, according to them, measures "an instrumental selfish attitude toward religion" (p. 246). This is actually measuring the motivation behind religious involvement rather than involvement per se.

I decided, therefore, to use the term religious involvement to the more commonly used term religious commitment. In the literature on Christianity, the term commitment is generally used, and on Judaism the term Jewish identity is used. Both of these terms are meaningful and imply a certain degree of involvement on two opposite ends of a scale.

Religious involvement can range from minimally identifying as a religionist to being a committed religionist. The term involvement seems to be more neutral than commitment or identification as it implies less about degree. On the other hand, all three terms are trying to define the same phenomenon. The differences between studies, it seems, are not so much products of basically different phenomena being measured, but rather products of different conceptions of the components of the same phenomenon.

1.1.2 Problems of classifications

Many classifications have been put forward, for example, by Fromm (1941), who spoke of authoritarianism and humanistic orientations;

Adorno et al. (1950) distinguished between a religion which is conventional, externalized and neutralized and one that is more personal and internalized;

Broen (1957) reported evidence for a fundamentalism-humanitarianism factor and "nearness to God" as a separate, uncorrelated dimension;

Allport (1950, 1954, 1966) argued for the "intrinsic" and "extrinsic" dimensions;

Lenski (1961), in his careful study of religion in a Mid-West city, differentiated between a conventional and a devotional orientation to religion;

Glock (1962) and later Glock and Stark (1965), suggested that there are five "universal" dimensions. They are; ideological (belief); intellectual (knowledge or cognitive); ritualistic (overt behaviour traditionally defined as religious); experiential (experiences defined as religious in the sense of arousing feelings or emotions); and consequential (the effects of the other four dimensions applied in the secular world);

Allen and Spilka (1967) spoke of a committed religious orientation and a consensual religious orientation;

Dittes (1971) spoke of an explicit, public and social dimension as to an internal, intrinsic, subjective, committed and spiritual dimension;

King (1967) and later King and Hunt (1969, 1972a, 1972b, 1975) suggested the following eleven dimensions: creedal assent; devotionalism; church attendance; organizational activity; financial support; growth and striving; religious despair; salience behaviour and salience cognition; active regulars; intolerance of ambiguity; purpose in life: positive and negative;

Himmelfarb (1975) delineates four main dimensions with nine subdimensions:

- (i) Supernatural: a. devotional, b. doctrinal and c. experimental;
- (ii) Communal: a. affiliation, and b. ideological; (iii) Cultural: a. intellectual-esthetic, and b. affectional; (iv) Interpersonal: a. ethical. and b. moral.

In all these typologies, there is a lack of clear focus on what is being measured, and they are deficient in one or more of the following ways.

1.1.2.1. The lack of mutual exclusiveness and exhaustiveness between categories

The important studies by Allport (1950, 1954, 1966) and Allport and Ross (1967) revealed two typologies of religious involvement (or orientation): intrinsic and extrinsic. These two terms quickly proved that they were not exhaustive enough and the authors had to include another, namely indiscriminately proreligious orientation. Thompson (1974) recognized a fourth dimension, indiscriminate antireligious orientation, after a careful analysis of Allport's typology. In the excellent study by Hunt and King (1971), on the intrinsic/extrinsic typology, it was clearly shown that these two categories were not mutually exclusive. The main problem was that it neither formed a conceptual nor a scoring continuum. This finding is supported in the studies of Feagin (1964), King (1967), Hood (1971), and Thompson (1974).

King (1967) and later King and Hunt (1969, 1972a, 1972b, 1975) initially defined nine dimensions, but extended these to eleven. This seems to be a more "exhaustive" approach, but the fact that they used the same variable for different dimensions brings the problem of exclusion to the fore. The correlations between these particular scales manifest the problem, for example, Scale 2: Devotionalism, correlates + 0,72 with Scale 6: Growth and Striving (1975, p. 18). Such findings confounds the problem of typologies. Perhaps King and Hunt should rather search for main dimensions, which are mutually exclusive, with their own subdivisions.

1.1.2.2. Temporally related phenomena

We must use measures of phenomena that are occurring or have occurred recently as indications of present involvement. Adult religious involvement should not include events that happened in childhood, even though these might have influenced adult religious involvement and are highly

correlated with it.

Glock and Stark (1965) and the others who have followed their lead (Clayton: 1971; Faulkner and De Jong: 1966; King and Hunt: 1972), err by using religious knowledge as a measure of religious involvement. Knowledge depends on many variables, particularly one's ability to retain information. The latter might have very little to do with one's desire or attempts to have such knowledge. A more proper measure of an intellectual dimension would be whether one studies about religion, rather than how much he knows. This could be the growth and striving dimension measured by Hunt and King (1972).

1.1.2.3. Levels of abstraction

The debate about the number of dimensions of religious involvement (Cline and Richards: 1965; Dittes: 1969; Glock and Stark: 1965; King and Hunt: 1972, 1975; Brown: 1966; Wearing and Brown: 1972; Clayton and Gladden: 1974), with estimates running from one to eleven, stems to a large extent from the inclusion of phenomena at different levels of abstraction.

Categories have been delineated by "careful" factor analysis, without the realization that some of the categories are subcategories of larger dimensions, for instance the problem of "salience". King and Hunt (1972) suggest that it is supposed to measure the importance of religion in a person's life. Isn't that exactly what the other dimensions try to do? Conceptually, salience is an overall measure of religious involvement and not a type of involvement in itself (also see Roof and Perkins: 1975)

The religious belief dimension can serve as another example of this problem. Most researchers will agree that doctrinal belief is one of the dimensions of religious involvement. However, researchers are now suggesting that we need to distinguish between types of religious belief.

Thus, distinctions have been made between literal and symbolic interpretations of the Bible (Hunt: 1972) and this-world vs. other-world belief orientations (Greeley: 1972). This would then suggest that we have four different dimensions. These types could rather be viewed as subdimensions of a general dimension of doctrinal beliefs, rather than four separate dimensions of religious involvement.

I feel that the whole debate about the number of dimensions is unnecessarily confusing, since all of the proposed dimensions are not at the same level of abstraction. Some of the proposed dimensions are more general, and some more specific categories of religious involvement. We have now arrived at the stage where we have typologies within typologies. With these research studies, note should be taken of the purpose of the study (e.g. is it a major variable in the study?), of the particular population under investigation (e.g. are all of the dimensions applicable to the population being studied?), and of their empirical utility (e.g. do the indications explain or predict?). We must, therefore, seek to identify the level of abstraction being considered, whether they are broad dimensions of involvement or subcategories of a particular dimension.

I intend to use Hunt's (1972) three-dimensional approach for religious involvement in this study. The three orientations, Literal (L), Antiliteral (A) and Mythological (M), are broad categories which meet the above criteria. They will be used as independent variables which could be used for predictions.

Gorsuch and Aleshire (1974) also argue that for research in the domain of psychology of religion the type and degree of involvement is of vital importance. This is possible with Hunt's scheme, because the type and degree of involvement is quite clear and measurable.

The primary point of Hunt's (1972) article is that many of the paper-and-pencil measures of religiosity used by previous researchers (e.g. Thurstone and Chave: 1929; Shaw and Wright: 1967) have a built-in bias toward a literal-fundamentalist interpretation of Protestant Christianity. Acknowledging that the literal-fundamentalist orientation is indeed a valid pro-religious orientation, Hunt argued that there are other orientations which a religious person might adopt which have been ignored by early investigators. This is typically true of measures with unidimensional response formats (true/false; agree/disagree). The implications of this criticism for research are: (i) that many pro-religious (though non-fundamentalists) persons would be misclassified or inappropriately assigned to low-religious or non-religious groups because they disagree with the literal-fundamentalist bias built into the experimenter's measure of religiosity; and (ii) that findings from research utilizing such biased measures, significant group differences or correlations between religiosity and other variables, are "at best meaningless and at worst dangerous and misleading" (Hunt: 1972).

Hunt (1972), then, provides a scale to "describe a mythological-symbolic measure of religion which is independent of a literal-fundamentalistic measure of religion" (p. 43). He argues that the conservative-literal dimension should be distinguished from the literal-symbolic (or mythological) dimension involving usage of religious language. Here literal-symbolic is a language dimension assumed to be different from the conservative-literal continuum of religious doctrine. "Popular polarizations," Hunt states, "tend to equate 'conservative' with 'literal' and 'liberal' with 'symbolic'. However, it would be possible, for example, for a person to be quite 'liberal' in the sense of desiring social reforms yet be very 'literal' in permitting only one interpretation of a given doctrine" (p. 43).

Hunt's Literal (L) commitment is the one traditionally measured in religious research and represents the tendency to unquestioningly accept any religious statement at face value. "This position may reflect an individual who has not examined the relation of his religious statements to other cognitive and affective areas of his life (Hunt: 1972, p. 43).

The Anti-literal (A) commitment is basically an antireligious orientation in which a person rejects religion as being of no value to him or the world. This person may be (i) rebelling against limited childhood religious teachers (including parents); or (ii) rejecting all Christian-oriented interpretations of life.

The Mythological (M) commitment is Hunt's new entry into the religiosity measurement schema and represents the tendency to reinterpret religious statements or doctrines and to seek the deeper symbolic meanings beyond their literal wording. "The person's religious framework is more complex and capable of assimilating both the intention of religious orthodoxy and the realities of the contemporary world" (Hunt: 1972, p. 43).

1.2 Ideational, behavioural and involvement

Religious involvement, as set out above, does not operate in a vacuum but could be influenced by variables such as ideationalism and behaviourism.

1.2.1 Ideational

Glock and Stark (1965) suggested that there are five categories of religious involvement. Only one of their dimensions -- the ideational -- relates to religious beliefs as such. However, we also distinguished several subdimensions of religious ideology, and they have often been confused or mixed indiscriminately. Most of the studies have measured religious

ideology by means of single ad hoc questions (e.g. Allport, Gillespie and Young: 1948; Thurstone and Chave: 1929; Vernon: 1956; Brown and Lowe: 1951). The questions are usually focussed on measuring the commitment to orthodox Christian dogma, but questions are often included on other aspects as well, especially the importance to the individual of his beliefs. Thus an atheist whose convictions were important to his self-conception might receive a spuriously high score if the scale were regarded as a measure of orthodoxy, and a spuriously low score if the scale was regarded as a measure of the subjective importance of his belief. Correlating scores on such scales to other characteristics are limited by the confusion in the scale itself.

The relationship of an individual to any ideological system admits at least four dimensions or types of variation, as Putney and Middleton (1961) singled out.

There is, firstly, the Orthodoxy dimension, which is a person's acceptance or rejection of the tenets of the system. Secondly, the fanaticism dimension, which is his orientation toward other persons with respect to his belief. Thirdly, we have the importance dimension, which is the significance of his beliefs to his self-conception. Lastly, the ambivalence dimension, which is the degree to which he recognizes ambivalence in his beliefs.

Each of these dimensions could be largely independent of the others. Someone who is highly orthodox might, or might not, be conscious of ambivalence. Someone who rated his beliefs very important to his self-conception would not necessarily be fanatic about spreading these beliefs to others.

Although it was demonstrated by Putney and Middleton (1961) that these dimensions had high intercorrelations, being significant at the 0,001

level, it was also clearly stated that their correlations with other variables such as socio-economic status, year in college, etc., showed considerable variation. They come to the conclusion that: (i) the person who is highly orthodox in religious beliefs tends to be authoritarian, highly concerned about his social status, and conservative, is political and questioning and tends to be a female; (ii) the person who scores relatively high on fanaticism shows the same general characteristics as the highly orthodox individual, except that it does not correlate significantly with sex; (iii) the person who rates his beliefs most important to his self-conceptions shares with the orthodox and fanatic the tendency to be authoritarian, concerned over social status, and conservative, and is more likely to be female than male; and (iv) those who not acknowledge feelings of ambivalence concerning whether or not they believe in religion are likely to be authoritarian, conservative and male (p. 289).

It is clear from their study that religious ideology is neither a major determinant nor a simple resultant of personality characteristics, such as authoritarianism, conservatism or social factors such as place of residence, year in college or even church affiliation.

Davidson (1972) demonstrated a further difference when he spoke of "vertical beliefs" (other-worldly beliefs which define the nature of the supernatural order) and "horizontal beliefs" (this-worldly beliefs which emphasize man's relationships with other men). He found that vertical beliefs were positively associated with personal consequences (social-action orientations church members may derive from their religious beliefs). He then concludes that vertical beliefs have, and horizontal beliefs do not have, the same personal significance that vertical beliefs have.

Another important factor which cannot be excluded from a study of ideology, is the degree, or as Thouless (1935) termed it, the "tendency to certainty", with which a belief is held. Although Thouless pointed this out in 1935, very few studies have taken this into account. Thouless argued that people tend to accept or reject a certain belief with high intensity, while relatively few persons adopt the attitude of partial belief, that is, of regarding it as more or less probable. This third position he termed scepticism. He then defined the tendency-to-certainty law as follows: "A belief tends to be held or rejected by an individual with a high degree of conviction" (p. 24). Thouless, as well as Brown (1962a), found a significant difference ($p < 0,01$) between the mean certainty of statements measuring "religious beliefs" and statements measuring "affectively indifferent non-religious beliefs". The tendency to certainty is less strong among non-religious statements than among those of a religious order.

If the intensity-variable is taken into account, it is an oversimplification to state that "belief" correlates with another variable. The direction, as well as the intensity, with which religious beliefs are held, must be taken into account. Rümke (1959) notes that disbelief as well as belief can be held with the same outward signs of rigidity, narrowmindedness and contempt for those who think differently, even down to fanaticism and persecution.

What, then, is the relationship between religious beliefs and the personality variable? A number of research studies have placed before us a generally negative picture of the person who professes religious beliefs. Brown and Lowe (1951) demonstrated that male Bible students scored higher on the hysteria scale than male non-believers. This means that the Bible students in his sample showed a stronger tendency towards the development

of conventional physical symptoms. The same researchers, as well as Broen (1956), found that religiously oriented persons scored significantly higher on the lie scale than non-believers. This suggests a stronger tendency among religious subjects to choose responses which would place them in the most favourable light socially. Brown and Lowe also found a negative correlation between the MF (Interest) scale and male Bible students, indicating that the non-believers had a basic interest pattern more like that of females than did the male Bible students. Religious belief has also been found to correlate positively with the California F-scale for authoritarianism (Frenkel-Brunswick: 1950; Gregory: 1957; Brown: 1962a; Photiadis and Johnson: 1963; Weller et al.: 1975), meaning either that religiosity leads to authoritarianism or authoritarian individuals are more attracted to orthodox doctrine.

These results were confirmed by some clinically oriented experiments wherein the religious person was shown to be more conforming and ego-defensive while the non-religious person was more independent (Dreger: 1952). In general, then, we receive a generally negative picture of the religious believer. He is a conventional, conforming person to whom being socially acceptable means a great deal. He is rigid, prejudiced, suspicious and generally pessimistic.

All this cannot just be accepted at face value, as other researchers pointed out. Brown (1962a) stated that the "strength of religious belief is associated with acceptance and membership of a church, while certainty about opinionative and factual matters is associated with personality variables and specifically with measures of anxiety" (p. 268). Stanley (1963), in a study of students from the Evangelical Union and the Student Christian Movement in Australia, found no relationship between fundamentalism and measures of neurosis, which supported Brown's general finding of the independence of religious belief from personality measures.

Rokeach (1960, p. 264) again reported that he found a correlation of 0,36 to 0,44 between Dogmatism and Anxiety in various groups. Brown (1962a) concludes his findings by stating that "it is easier to be uncertain about a factual matter which can be settled, than to be uncertain about something which is literally a matter of belief; certainty about religious matters is possible because of the social support that can be evoked to sustain these beliefs. Anxiety plays a role in holding matters of opinion strongly, but not in matters of belief" (p. 269).

This cognitive theory of religious behaviour is not the only variable, as Argyle (1958) pointed out. It can be extended to include affective components by drawing attention to the attachments to and arousal value of signs, symbols, objects and verbal formulations in any religious system. In a further study of religious belief in two Australian interdenominational student societies, the Evangelical Union (U.E.) and the Student Christian Movement (S.C.M.), Brown (1962b) reported a significant difference between central and peripheral belief, "central" being statements about Christ, God, etc., for instance, and "peripheral" being statements about theology, for example. This he attributed to the fact that words have an arousal value. Rümke (1952) stressed the same point when he spoke of the "shapes behind the words". Binkley (1962) and Hick (1962) have described eight ways in which religious language can be used: empirical, tautological, emotive, ceremonial, prescriptive, mythical, paradoxical and metaphysical. Hunt (1972) also referred to the problem of religious language, and how the different types of "religious language" can be confused and confounded in most paper-and-pencil measures of religiosity (e.g. Wilson: 1960; Feagin: 1964; Allport: 1954, 1966; Stark and Glock; 1968; Rokeach: 1969).

In their extensive review on studies on prejudice, Gorsuch and Aleshire (1974) found that the traditional personality approach of most investigators was difficult to interpret as it was not clear what influenced what. They state that speculations concerning personality characteristics as "causes" is not necessary; "the 'causes' are the environmental experiences which lead a person to commit himself to a nonconventional ideological position" (p. 289). Commitment helps the individual transcend the cultural traditions and evaluate those traditions according to a consistent value standard.

To summarize the above: it is important, when dealing with the ideational dimension, that the following should be kept in mind: (i) there could be subdimensions; (ii) the intensity with which the belief is held, varies; and (iii) that it correlates with personality variables. Therefore, when we want to examine the relationship between religious involvement and the ideational dimension, the above points will have to be considered.

2.2. Behavioural

Under this heading we mean religious activity, for instance how frequently a person is involved in religious activities such as church and prayer meetings, choir, Sunday school, financial support etc., during a specified time period.

Most of the literature on Christians concentrate predominantly on ideational measures, particularly orthodoxy (doctrinal beliefs). In fact, Clayton and Gladden (1973) argue that all other dimensions of religious involvement are simply components of the more significant dimension, orthodoxy (ideology). The surprising fact is that some researchers,

such as Himmelfarb (1975) and Cline and Richards (1965), have found that the more efficient measures of religious involvement are behavioural rather than ideational. Behavioural variables are efficient in the sense that they explain more of the variance in religious involvement and that more of the variance within them is explainable. According to this paradigm in Himmelfarb's study, as well as in the study by Lazerwitz (1973), this is particularly true for American Jews. Until more comparative studies are available, we do not know if this holds true for Christian populations. Allport et al. (1948) reported that they found that fully half of the students who, in some sense, lead religious lives, do so without doctrinal convictions. Their explanation of this fact is that the adolescent has not yet found a mature structure of faith to support the religious experiences they have and the practices to which they hold.

Cline and Richards' (1965) study of Mormons in Salt Lake also found the same implication in their male sample. After performing a factor analysis for each sex, using varimax solutions for the rotations, they found that the primary factor, Factor 1, was Religious Behaviour, and "another somewhat distant and independent Factor X which we would title Religious Belief. What this means, apparently, is that with men, some can be very high in their religious activity yet at the same time come close to 'failing' a belief test" (p. 575)

I am not arguing that the one dimension is more important than the other, but am stressing the importance of the behavioural dimension. The one distinct advantage of the measure of the behavioural (activity) variable is that the criterion is a report of observable behaviour, as opposed to a religious belief or attitude. Another important advantage of this variable is that it provides a ready definition of religious involvement by equating it with institutional commitment.

On the other hand, it can also have two disadvantages: (i) the meaning of involvement in church activities varies across denominations. Some groups have five or six events each week in which all members can participate, but others may have only one or two. (ii) People who are religious on a self-rating scale may not be involved institutionally. Consequently, these people would be categorized as nonreligious, even though they view themselves as religious.

It is, therefore, felt that a behavioural dimension is advantageous to a study like this one of religious involvement, and will therefore be included.

* * *

It is quite clear in evaluating the abovementioned research studies on religious involvement, that we have not gained much in our understanding of this area. There is still great confusion in the areas of definition and classification. On the other hand, these studies have not been in vain, but have pointed out some problems, some pitfalls and some areas in which to search for the answers. This study, then, wants to pursue a new direction, as propagated by Hunt (1972).

His breakaway from the old simplistic and literal approach to measure religious involvement, will be my main focus. The old simplistic and literal approach was one of a literal-fundamentalistic interpretation of Protestant Christianity, in which measuring instruments are typically constructed with a single statement to which the subject must respond with true/false, agree/disagree, or other variations of these essentially unidimensional response formats. A simplistic bias is built into most of these measures, in that those who disagree with these doctrinal statements are lacking in religious involvement (commitment). The main problem lies in the fact that there is a great number of different meanings

which the respondent can attach to the same doctrinal statement. This is what Rümke (1952) meant when he said that statements and words have different "shapes" behind them for different people. The word god could mean a swear word or the Creator of heaven and earth, all depending on what your "shape behind the word" is.

Therefore, Hunt's breakaway is to make use of the literal-symbolic dimension involving usage of religious language. Here "literal-symbolic" is a language dimension assumed to be different from the conservative-liberal continuum of religious doctrine. This will allow a person who become less literal and rigid in his religious perspectives, not to appear less religious, but to fall within a symbolic (mythological) religious orientation.

Hunt, therefore, constructed a Literal, Antiliteral and Mythological (LAM) scale which enables us to distinguish between those with a literal and those with a mythological involvement. Under Literal we understand the person who accepts the doctrinal statements at face value and has not examined the relationship of these statements to other areas of his life. Under the mythological orientations we understand the person who reinterprets these doctrinal statements to seek their deeper symbolic meanings which lie beyond their literal wording.

The LAM scale, furthermore, complies to the requirements set out above for such a scale. Firstly, it excludes measures in other areas which might be a consequence of the orientation, e.g. activity (church attendance). Another advantage is that they are not time-bound. The scale is not interested to find out what influences there were in early childhood, but is simply measuring a phenomenon (literal or symbolic) which is occurring at the present. A third important factor is that the degree

of involvement can be measured. With this scale we can select people with a high degree of literal or symbolic orientation. Two groups can, therefore be selected with the same degree of involvement. This leads us to the fourth factor, that the two groups are mutually exclusive, making it possible to have two distinct groups who have the same degree of involvement.

The main question is, how will these two groups, literal and mythological, differ on various measurements? Do they differ, say, in ideational variables? Is there any difference between them on personality measures? How will they differ on behavioural (activity) scales?

If Hunt's notion of a literal person, is accepted, we may conclude that such a person is using a closed cognitive system. One of the characteristics of a closed cognitive system is to accept statements dogmatically. Rokeach (1960) found this to be so because of the threat (anxiety) caused by a disbelief system. An interpretation or a reinterpretation by the "other" causes anxiety. This then results in a closed cognitive system. When the "other" does not hold a threat, an open system should result. Therefore, the person who is able to reinterpret the doctrinal statements in seeking their deeper symbolic meaning, will be less threatened by the "other" and find it easier to develop an open cognitive style.

If the person with a literal involvement uses a closed cognitive system, it is further postulated that such a person will tend to accept religious statements with a high degree of conviction. Thouless (1935) stated in his law of "tendency to certainty", that a "belief tends to be held or rejected by an individual with a high degree of conviction" (p. 24). This finding was supported by Brown's (1962a) research. It can then be further argued that the person with an open cognitive system will accept these religious statements with a lesser degree of conviction as they are not so threatened by the "other side".

The person with a literal commitment will then be inclined to be authoritarian, taking up a position where his belief system is quite safe. On personality factors it is accepted that such a person will tend to deviate more from the norm than the person who is less threatened (e.g. a person with a mythological involvement).

Subjects with high literal commitments, with closed cognitive systems, who accept religious statements with a high degree of conviction, who feel threatened by the "other side", will tend to be more active in institutional matters, e.g. church attendance. This is partly so because they function within a closed cognitive system where it is the "right" thing to do. Brown (1962a) drew the attention to the fact that social support is required for the maintenance of a system of religious belief. Not only social support is sought after, but also social acceptance. This can be gained by saying and doing the right things. Brown and Lowe (1951) reported that they found male Bible students to have a strong tendency to choose responses which would place them in the most favourable light socially, whereas the subject with the mythological involvement might not think it is necessary to partake in everything to gain social support and acceptance. When an appeal is made for active participation, he might not feel so threatened and therefore not participate. It is, therefore, postulated that such a person will be less active in religious matters.

1.3 Hypotheses

1.3.1 Hypothesis I

Subjects with a high "Literal Involvement" (LI) will differ significantly at the $\alpha = 0,05$ level from subjects with a high "Mythological Involvement" (MI) on the following dimensions:

- (i) "Intensity of Belief" will be held with a higher intensity by LI subjects than MI subjects, as LI will tend to accept the statements at face value;
- (ii) LI subjects will be more dogmatic than MI subjects, as LI subjects tend to operate with a more closed cognitive system than the MI subjects;
- (iii) On the personality factors of the 16 PF, the LI subjects will differ from the MI subjects, as LI subjects tend to be more threatened by the "others" because of the rigid way in which their beliefs are held;
- (iv) the LI will be more involved in religious activities than the MI subjects, as the LI subjects tend to conform more to the religious establishment, in participating more in institutional activities.

1.3.2 Hypothesis II

Subjects with a high "Literal Involvement" (LI) will differ significantly at the $\alpha=0,05$ level from subjects with a high "Antiliteral Involvement"

(AI) on the following dimensions:

- (i) "Intensity of Belief" will be held with a high intensity by LI subjects and a low intensity by AI subjects, meaning that the LI subjects accept and the AI reject the statements with the same degree of conviction;
- (ii) LI subjects and AI subjects will not differ significantly on dogmatism, as both groups operate with a closed cognitive system (being dogmatic);

- (iii) On the personality factors of the 16PF, the LI subjects and AI subjects will deviate to the same degree from the mean. Both groups tend to feel threatened by the "others", because of the rigid way in which their beliefs are held;
- (iv) Subjects with a "Literal Involvement" (LI) will differ significantly from subjects with an "Antiliteral Involvement" (AI) on religious activities, as LI will be involved and AI will not be involved in such activities.

1.3.3 Hypothesis III

Subjects with a high "Antiliteral Involvement" (AI) will differ significantly ($\alpha = 0,05$) from subjects with a high "Mythological Involvement" (MI) on the following dimensions:

- (i) AI subjects will reject with a higher degree statements on "Intensity of Belief" than MI subjects, as AI subjects will tend to reject the statements at face value;
- (ii) AI subjects will be more dogmatic than MI subjects, as AI subjects tend to operate within a closed cognitive system;
- (iii) On the personality factors of the 16 PF, the AI subjects will differ from the MI subjects, as AI subjects tend to be more threatened by the "others" because of the rigid way in which their beliefs are held;
- (iv) the AI subjects will be less involved in religious activities than the MI subjects, as the AI will be involved in other non-religious activities.

CHAPTER 2THE PRESENT STUDY

The strategy of the present study was to administer the LAM scales of Hunt (1972) to a sample of students of the University of Cape Town, and to identify a number of relatively homogenous religious types based on their LAM scores. This would determine three separate groups, an L (Literal), an A (Anti-literal) and an M (Mythological) group. Having identified these different religious groups with their specific involvements, it was decided to compare these relatively distinct groups on a number of dependent measures popular in the religious research literature, to determine if these groups differ significantly on these variables.

The main aim is, to determine the difference between the L and M groups. The L group, is the literal involvement group who tends to unquestioningly accept at face value a religious statement within their religious paradigm without considering the symbolic interpretations. The M or symbolic involvement group represents those with the tendency to reinterpret religious statements or doctrines and to seek deeper symbolic meanings which lie beyond literal wording.

The A, or anti-literal involvement group, will be compared to the L and M groups. As this is basically an anti-religious orientation in which a person rejects religion as being of no value to him or the world, and being negatively correlated to L and uncorrelated to M (Hunt : 1972; Poythress : 1975), it is expected that it will differ significantly from L and M.

2.1 Method

2.1.1 Subjects

Three different groups were approached during the first term of 1975 to complete the questionnaire. The one group consisted of members of the Young Men's Christian Association (YMCA) of the University of Cape Town. The second group consisted of 1st and 2nd year students following the courses in Religious Studies I and II. The last group was the 1st year Psychology class.

46 Subjects from the YMCA group responded. From the Religious Studies I and II group, 71 subjects returned their questionnaires, and 309 from the 1st year Psychology class. This gives us a total of 426 subjects. From this total 87 questionnaires had to be discarded as they were incomplete, which left a total sample of 339 subjects.

The 339 LAM (Literal, Anti-literal, Mythological) questionnaires were scored and grouped into high L, high A, and high M scorers. A fourth group then, were those whose scores did not place them within any of these three (LAM) groups.

The 70 highest scorers from each of the L,A and M groups were selected, thus giving three distinct groups with a total N of 210.

The range of scores in each group was such that high scorers on L (Literal) ranged from 13 to 17, high scorers on A (Anti-literal) and M (Mythological) ranged from 11 to 17. The mean score of each group could have been equalized by varying the cut-off points for each group. This would, however, have meant unequal numbers in the 3 groups and a lesser number of subjects in two of the groups (A and M). As a larger sample is more statistically viable, it was, therefore, decided to keep the N

in each group the same. This method in no way biases the probable outcome in favour of any of the hypotheses. Indeed, it reduces the probability of obtaining significant results because of the lesser intensity of the scores in two of the categories (A and M). This method was nevertheless decided upon because it was felt that it would yield more reliable results.

TABLE I

Comparison of Age, Sex, Marital Status and Groups between L, A and M groups of the total sample (N=210)

	AGE		SEX		MARITAL STATUS		GROUPS			TOTAL
	18-19	20-25	Male	Female	Married	Single	YMCA	Rel. st.	Psych. I & II	
L	32	38	34	36	2	68	28	14	28	70
A	38	32	17	53	4	66	1	9	60	70
M	45	25	24	46	6	64	3	17	50	70
Total	115	95	75	135	12	198	32	40	138	210

The N of 210 were all English-speaking students enrolled at the University of Cape Town for 1975. Of the 210 subjects, 75 were male and 135 female (for a further breakdown of these figures, see Table I), with no significant correlations between the sex of the subject and his score on either of the L,A and M scales; thus the three groups are equated for sex.

The mean age for the total sample was 19,77 years, with no significant differences between the means of the L,(mean 19,77; S.D. 1,73) A (mean 19,83; S.D. 1,68) and M (mean 19,53; S.D. 1,76) groups. The groups are thus also equated for age.

2.2 Techniques of assessment

The following instruments were used.

1. Background variables were obtained in selecting items from Allport, Gillespie and Young's (1948) Aspects of Religious Belief Questionnaire (ARBQ).
2. Hunt's (1972) Literal, Antiliteral and Mythological Scale (LAM Scale).
3. Thouless' (1935) Intensity of Belief Scale.
4. Rokeach's (1960) Dogmatism Scale.
5. 16PF by Cattell et al. (1970).
6. King and Hunt's (1972b) Scales for Basic Religious Dimensions.

Each scale will be briefly discussed to demonstrate its applicability for this study.

Background variables

These were items selected from Allport, Gillespie and Young's (1948) Aspects of Religious Belief Questionnaire (ARBQ). It originally consisted of 18 questions, many of which had several parts. Following Hunt's (1968) procedure, the questions were renumbered to form independent questions, yielding one answer per question. Questions 4, 6, 8a, 9 and 10 from the ARBQ were treated in this way, giving 19 independent scores.

Each of the influences, listed as item 6 in the original ARBQ, was listed independently with the alternatives of "1= does not apply, 2= slightly, somewhat, and 3= strongly important". In addition, "parental influence" was divided into "influence of mother" and "influence of father". The "personal influence of people other than parents" was divided into "influence of other relatives" and "influence of friends of own age". Other possible influences not in the original instrument were listed as "university/college/school groups", "religious camps", "crime" and "other influences".

In the first question the subject had to select from four statements which statement best described his "religious awakening" experience. The four items were mentioned lastly, and were selected from Stanley's (1964) questionnaire.

This scale has 23 items which are reproduced in Appendix I.

Hunt's LAM scale

To measure religious involvement, the Literal, Anti-literal and Mythological (LAM) scale, as introduced by Hunt (1972) was used. Only one other study (Poythress: 1975), using this scale, has been reported in literature. After commenting on the LAM scale, Greeley (1972) concluded that it "is clearly the best scale anyone has yet developed" (p. 289). Greeley also predicted that Hunt's "break with the old simplistic and literal approach to measuring such attitudes ought to mark a decisive turning point in religious research" (p. 287). Until now, unfortunately, little of this prediction has become true.

This is a 17 item paper-and-pencil measure which was derived from the original Mclean (1952) scale of 25 items and his agree/disagree answer

format. Three alternative statements, a Literal, an Anti-literal and a Mythological statement, were developed for each LAM item stem. Each alternative began with the word "agree" or "disagree", followed by a statement of the reason for the answer.

A sample item from the scale follows: "I believe in the guidance of the Holy Spirit".

- Agree, since God has said that he will be with us always; Prayer thus is an effective way of listening to God's guidance. (L)
- Disagree, since the supernatural, if it exists at all, is in no way directly involved in telling man what to do. (A.)
- Agree, because this is one way of describing the involvement of God with his creation and man. (M.)

An ipsative scoring procedure of 1-0-0 is used. Therefore, a total of 17 points are to be distributed among the three scales. This scoring procedure was also followed in this study.

The reported scale homogeneity, after performing Gulliksen's variance = covariance procedure, were 0,87 for the L scale, 0,92 for the A scale, and 0,77 for the M scale.

Although Poythress (1975) used a modified version of the LAM scale by converting each statement into three Likert items, he found that the split-half reliabilities (corrected by Spearman-Brown formula) for L, A and M, were 0,94, 0,95 and 0,76 respectively. Thus, it can be accepted with confidence that these scales will distinguish three rather clear positions regarding religion. Hunt (1972) further reported that none of the differences between sexes on any of the LAM scales are, statistically significant.

The L (Literal) scale is to identify, according to Hunt, those who commit themselves "to a literal interpretation of religion in which he takes at face value any religious statement without in any way questioning it. This literal position may reflect an individual who has not examined the relation of his religious statements to other cognitive areas of his life" (Hunt: 1972, p. 43).

The A (Anti-literal) scale identifies that person who, on the basis of a literal, naive, unexamined interpretation of religion, rejects all religion as being of no value to him or the world. Hunt (1972) suggested that the A scale probably measures the extent of negative reaction to a literal interpretation of religion, since it is negatively correlated with the L scale. This is also supported by the research of Poythress (1975) where he reported that L and A scales correlated - 0,88 ($p < 0.01$), while the A and M scales were not related ($r = 0,17$ non-significant).

The M (Mythological) scale identifies those who reinterpret religious statements to seek the deeper symbolic meanings beyond literal wording "This person's religious framework is more complex and capable of assimilating both the intention of religious orthodoxy and the realities of the contemporary world" (Hunt: 1972, p. 43).

One of the limitations of this scale is that it is obviously limited to the Christian framework for interpreting religion. Another difficulty lies in measuring the mythological involvement. By its very nature, the Mythological orientation is more subject to individual idiosyncrasy than is either the L or A orientation. As such, one who designs items to measure such an orientation, as Hunt has done, is likely to grasp only in part the particular symbolic interpretation which any given individual would consider appropriate for a given religious event or happening. This is what Rümke (1952) meant when he spoke about "the shapes behind the words" (p. xv) each individual has.

For further discussion of this scale, see Chapter 4, p. 79. This scale is reproduced in Appendix II.

Intensity of Belief Scale

The 40 items from Thouless' (1935) questionnaire were used to measure the degree of conviction with which a subject will accept or reject a belief statement. In following Brown (1962a), another seven items were added. These 47 items were broken down to defined areas, following Thouless' procedure in terms of item content. The areas were: belief in (i) Christ (4 items); (ii) God (6 items); (iii) other orthodox Christian beliefs (5 items); (iv) general religious beliefs (8 items); (v) opinion (6 items); (vi) fact (12 items) and (vii) miscellaneous items (6 items).

The following items were changed to make the scale more indigenous. Item 33 was changed to "Piet Retief was killed by Dingaan's soldiers between 1840 to 1850" instead of "Mary Queen of Scots, was beheaded between 1580 and 1590". In item 44 "India" was changed to "Rhodesia" so that the statement read: "Rhodesia has, on the whole, benefited from British rule". Item 45 was changed from "The total national debt of Great Britain is more than a thousand million pounds" to "the total national debt of South Africa is more than ten thousand million Rand". These changes occur under areas Opinion and Fact.

The scale is reproduced in Appendix III.

In the study by Brown (1962a), 27 years after the study by Thouless (1935), he found the scale to be reliable as he could replicate the same mean certainty for religious statements as well as for non-religious statements as reported by Thouless.

Brown reported a mean certainty for religious statements of 2,10 (Thouless 2,13) and for non-religious statements a mean certainty of 1,56 (Thouless 1,575). Brown also did a retest after 8 months of 40 students. He reported the following test-retest correlations: Orthodox Beliefs 0,85; General Religious Beliefs 0,92; Opinion 0,35; Fact 0,3; and Miscellaneous 0,5. He feels that the low reliability coefficients for the Opinion and Fact scales are probably spurious, as they may be due in part to the instability of beliefs about these questions, and to homogeneity in the scores.

Brown, as well as Thouless, reported that there were no significant differences between sexes.

The following scoring procedure was carried out. Each subject was asked to indicate to what extent he agreed or disagreed with a statement, on a scale of 1 (one) as "certainly true" to 7 as "certainly false". The sum total for each of the 7 scales would be the score for that particular scale.

Dogmatism (D)

Rokeach's (1960) Dogmatism scale form E was used, which consists of 40 items on which the subject had to rate from 1 to 6 the extent to which he agreed (1 to 3) or disagreed (4 to 6). For scoring purposes a zero point was included, being a score of 4, so that the agree range was 1-3, and the disagree range then becomes 5-7. This is done to avoid subjects choosing an "uncertain" position. The total score, ranging from 40 to 280, is the sum of scores obtained on all items in the test. For all statements, agreement is scored as "closed", and disagreement as "open". Therefore, a high sum score would indicate an open cognitive system.

Rokeach reported a corrected reliability (odd/even reliabilities, corrected by Spearman-Brown formula) of 0,81 for the English Colleges II sample (N=80) and 0,78 for the English workers sample (N=60). In other samples, also reported by him (p. 90), the reliabilities ranged from 0,68 to 0,93. Rokeach comments on this: "These reliabilities are considered to be quite satisfactory especially when we remember that the Dogmatism Scale contains quite a strange collection of items that cover a lot of territory and appear on the surface to be correlated to each other. The fact that subjects agree or disagree with these items in a consistent manner is borne out by item analysis" (p. 90).

Quite a number of studies reported using this scale and finding it a valuable measure, e.g. Stanley (1963, 1964); Feather (1964); Wearing and Brown (1972); Raschke (1973); Hoge and Carrol (1973); Thompson (1974) and Poythress (1975).

The main purpose of the Dogmatism scale is to measure individual differences in open and closed belief systems. By virtue of the way open and closed are defined, this scale also purports to measure general authoritarianism and intolerance.

The person with the open cognitive style is concerned with the relationships between his various beliefs and disbeliefs. Thus he can be expected to hold his religious beliefs in a manner that is relevant for the other aspects of his life; the contents of his disbeliefs are likely to be abstract and related to one another, he is likely to differentiate between the relative importance of various beliefs and be willing to examine beliefs different from his own. The open cognitive style is characterized by a high degree of differentiation among the relative values of beliefs one does not accept and thus it is not likely that such a person will reject everything which he does not believe in with

the same degree of disapproval. Therefore, the open-minded person can be expected to be discerning concerning the meaning and implications of his religious beliefs as well as willing to examine sympathetically beliefs different from his own.

The person with a closed cognitive system holds his various beliefs and disbeliefs separated and isolated from each other without concern for the relationships among them. He can be expected to hold on to the contents of his religious beliefs in a concrete and literal manner without concern for contradictions within or between beliefs. He is likely to understand religious beliefs in only one way and to make judgements of the rightness and wrongness of all ethical issues in an absolute manner, without distinguishing between the relative importance of such issues. Because the closed-minded person holds his beliefs isolated from each other, he is likely to be more vague concerning the meanings, relationships and implications of his beliefs. Since the closed-minded person rejects strongly and on an equal basis all beliefs he does not hold, he has a high degree of differentiation between what he believes and disbelieves; sees the world as basically threatening, and sees authority as absolute -- he is likely to be relatively inaccessible to religious ideas different from his own.

A problem that can be encountered with the questionnaire is that acquiescence response set (yeasaying) and its opposite (naysaying) can strongly influence the scores. Acquiescence and negativistic response sets refer to the tendency of some persons to respond to questionnaires with rather consistent styles regardless of item content -- tending either to agree with most statements or to disagree with most. Therefore, a highly acquiescent person's responses would produce a low score (meaning an closed cognitive system according to the Dogmatism scale). When interpreting these scores one must keep the above problem in mind.

The scale is reproduced in Appendix IV.

Cattell's 16 Personality Factor Questionnaire (16PF) Form A

What is now well-known as the 16PF, is the most comprehensive test used in this study. Consisting of 16 scales, the test covers the fundamental personality traits isolated by Cattell and his colleagues during thirty years of factor analytic research. Form A, one of a number (6) of possible alternatives to the test, consists of 187 items, each allowing three possible answers, e.g. "I somewhat dislike having a group watch me at work" -- (a) yes; (b) in between; and (c) no. The test may be administered both in group and individual situations. As indicated by Cattell, Eber and Tatsuoka (1970), the items are designed for ordinary newspapers-literate adults, and Form A and B are recommended for research work with university and high school students. Form A was, therefore, thought to be appropriate for the present subjects.

The reason for not using the South African Form A is that the manual detailing South African norms has not yet been published by the Human Sciences Research Council (personal communication). Therefore, the American Form A and norms (Tabular Supplement, 1970) were used.

The factors that Cattell measures with the 16PF are not fundamentally different from the underlying variables of other personality theorists. What is novel however, is the technique of factor analysis which was employed in arriving at these variables, Cattell mentioned 100 factors in his Universal Index of Source Traits (Cattell, 1957), which contains only those factors considered to be established with some degree of certainty. Of the 100, Cattell considered the 16 contained in the 16PF to be fundamental. However, even these factors are not completely independent and basic, i.e. they are oblique and not orthogonal, correlations

between the loadings of the different factors indicating that these so-called factors are still due to more fundamental factors. Thus further factor analyses have revealed eight second order factors, although only a few are commonly used, and a number of tertiary factors, whilst fourth order factors must still be envisaged (Cattell et al: 1970).

In this study the 16 primary factors as well as 4 secondary factors were used.

Over the years an impressive body of reliability and validity data has been collected. Probably the most important of several varieties of reliability coefficients, is the dependability coefficient which assesses the degree of change between two administrations of the test when the time lapse is insufficient for the subjects themselves to alter. Table 2 shows test-retest reliability after one week with a group of 18 year olds on Form A (Cattell et al: 1970, p. 30).

TABLE 2

Scale Reliabilities, Calculated as dependability Coefficients (Test-Retest 4 to 7 days)

<u>SOURCE TRAITS</u>																
Form	A	B	C	E	F	G	H	I	L	M	N	O	Q1	Q2	Q3	Q4
A*	81	58	78	80	79	81	83	77	75	70	61	79	71	71	62	81

*American subjects: N=146

Note: Decimals have been omitted

The somewhat lower reliability on particular scales is thought by the authors to reflect less on the factors themselves than on varying test administration and rapport, as well as test-retest learning effects.

The validity of the 16PF is in a real sense reflected in its development. The items included in the present 16PF are those that remain from several thousand originally tried, and they consist of those which continue to have significant validity against the factors after three successive factor analyses (Cattell et al.: 1970). These analyses both supported and bore out the existence and structure of the 16 factors, and cross-validated the items against the factors on different populations.

In spite of the sophistication of Cattell's research and the 16PF, the technique of factor analysis does have some logical limitations, an awareness of which is important.

Firstly it should be emphasized that the notion sometimes implied by factor theorists, that the specific factors discovered are in some sense "universally fundamental", is erroneous. In short, the definition of the factor is strongly dependent on the surface variables used in the investigation and a comparison of factors obtained from different variables, is difficult. Thus, Cattell derives different factors from data based on life histories and questionnaires (L and Q data) compared with that based on tests and experimentation (T data) (Hall and Lindzey, 1970). For the same reason Guilford (Hall and Lindzey, 1970), using other traits of behaviour, arrived at still different factors. In principle, then, factorial analysis should be based on "every trait of behaviour" in order to discover truly fundamental factors. As this is not possible, factorial analysis must to some degree be fragmentary. Possibly the recent debate between Cattell (1972) and Eysenck (1971) over the relative validity of the 16PF and EPI is, in fact, partly a result of this precise limitation of factor analysis, as well as the utilization of subtly different factor analytic procedures by the respective scientists.

In addition it should be stressed that the method by which the factor

analysts work is not wholly objective. This is so particularly if the factors consist of diverse elements. In this situation the psychological meaning of the factor is by no means clear, and considerable effort is required in interpreting and understanding the factor. "These interpretations are the weak point of factorial analysis and each factor requires numerous complementary studies before it can be clearly defined" (Meili, in Fraisse and Piaget; 1968). This subjectivity involved in naming the factors is to a greater or lesser extent then, inevitable.

More specifically, an examination of clinical research with the 16PF suggests two major weaknesses which could under certain experimental circumstances preclude its reliable use. The first is that unlike many other personality questionnaires such as the MMPI and the Californian Psychological Inventory, the 16PF has no built-in validity scales to assess lying, faking or some other motivational distortion. Although it must be admitted that these validity scales on the above-mentioned tests are still somewhat crude, they do help significantly to decide whether to reject a subject's answer sheet altogether or, more helpfully, to apply corrections. Although research at the present time is proceeding into this area (Meredith, 1968), Cattell recommends the use of the Objective-Analytic battery when distortion dangers are excessive (Cattell et al: 1970).

The second specific weakness of the 16PF is its inability "to substantiate the whole diagnosis of psychoticism" (Cattell et al; 1970, p. 269), and Cattell admits that until this aspect of the 16PF is considerably improved, the test will be unable to play its full role in psychiatric hospitals.

It is thought however, that the above-mentioned limitations of the 16PF are only moderately relevant to the present study. As already mentioned,

the present sample is selective to the extent that all psychotic subjects were excluded from the sample so that the 16PF's inadequacy in this respect does not apply. The distortion factor, however, is more complex and no easy solution is possible. However, it should be emphasized that the present experimental situation is not a "distorting situation" to the same extent as an occupational selection situation is; or even a clinical situation is, where "fake bad" or "fake good" response sets are common.

This scale is reproduced in Appendix V.

Behavioural

To measure religious activity, several scales were selected from King and Hunt's Scales for Basic Religious Dimensions, as set out by them in a series of papers (1967, 1969, 1972 a and 1972 b, 1975). They attempted to develop scales measuring different aspects of religious belief and practice related, directly or indirectly, to congregational and denominational life.

The data came from questionnaires containing a large number of diverse items. Factor analysis was used to look for sets of items which could be interpreted as different aspects of religious behaviour. The highest loading items in each factor were subjected to item-scale analysis. This analysis greatly aided the judgement whether and which, items from a factor formed a cluster homogeneous enough to be potentially useful as a scale. Scales were developed for the following basic dimensions: Creedal Assent, Devotionalism, Church Attendance, Organizational Activity, Financial Support, Religious Knowledge, Orientation to Growth and Striving, Extrinsic Orientation, Salience-Behaviour and Salience-Cognition (King and Hunt, 1972 b).

For each scale, a coefficient of homogeneity (Cronbach's alpha), and for each separate item a correlation coefficient with that scale, is provided. The coefficient of homogeneity (CH) is reported for each scale below. This is the ratio of the covariance among items on a scale to the total scale variance, in relation to the number of items. It is called a "homogeneity" coefficient to emphasize interitem relationships as the basis for an estimate of internal consistency or reliability. As the coefficient approaches 1,0, the more each item measures what all the other items on the scale measures. As it approaches zero, the separate items measure different characteristics.

Two cautions should be noted. First, alpha reliabilities are not the same as test-retest correlations. Alpha is based on the same matrix (sample) from which the items for the scales were selected. Second, reliability is influenced by more than items, e.g. differences between samples of subjects and changes in subject behaviour over time. In the absence, then, of clear norms or binding conventions, it is assumed that coefficients of 0,75 and above, indicate enough homogeneity among items to discuss them as a potential scale. The higher the coefficient, the better, since single-dimension scales are desired.

In the original study the validity of a scale was judged in terms of its utility or explanatory power. Alternative forms of all possible scales were correlated with each other and with measures of independent variables. Examination of the intercorrelations led to elimination of some scales and to selection of one form of each scale.

The following scales were selected for this study:

Devotionalism (Coefficient of homogeneity (CH) = 0,852; 5 items).

It is similar to Lenski's (1961) "devotionalism", less so to Glock's (1962) "experimental". The items deal with personal prayer life, with closeness to and communication with God, e.g., "I frequently feel very close to God in prayer, during public worship, or at important moments in my daily life" (strongly agree - strongly disagree).

Church Attendance (CH = 0,821; 3 items)

These items related to frequency of church attendance and frequency of Communion; e.g. "How often have you taken Holy Communion during the last year?" (regularly; fairly regularly; occasionally; seldom/never).

Organizational Activities (CH = 0,831; 6 items)

These items relate to the frequency of participation in, and the satisfaction derived from, congregational activities, as well as a self-rating of congregational activity, e.g. "I enjoy working in the activities of the Church" (strongly agree - strongly disagree).

Financial Support (CH = 0,734; 5 items).

It contains items which report the amount and percentage of income contributed to the Church and the regularity of giving, e.g., "I make financial contributions to Church": (in a regular planned amounts; irregularly but fairly often; irregularly and only occasionally; seldom or never).

The last three scales, Church Attendance, Organizational Activity and Financial Support, represent the dimension which Glock (1962 termed "ritualistic", Fukuyama (1961) "cultic", and Lenski (1961) "associational".

Talking and Reading about Religion (CH = 0,825, 7 items).

This dealt with the frequency of talking about religion with others in everyday life and frequency of reading the Bible and church publications, e.g., "How often do you talk about religion with your friends, neighbours, or fellow workers?" (regularly - seldom/never).

Growth and Striving (CH = 0,806; 6 items)

The item content suggest a combination of two Wesleyan descriptions of a Christian who is not stagnant, but growing in grace: "groaning after salvation" and "moving on toward perfection", e.g. "I try hard to grow in understanding of what it means to live as a child of God" (strongly agree - strongly disagree).

A high scorer expresses dissatisfaction with his current religious state and a feeling of need to learn, change and grow.

Four of the six items are also on other scales, therefore, interpretation in relation to these scales should be especially cautious.

In all, these scales consist of 30 items which have four alternative answers. All items are answered on a four-point scale from "strongly agree" to "strongly disagree". The "how often" items have "regularly", "fairly frequently", "occasionally" and "seldom or never" as alternatives

The scale is reproduced in full in Appendix VI.

2.3 Procedure

The six scales, as described above, were assimilated into one questionnaire. To complete this questionnaire, subjects required approximately one and a half hours. They also completed an information sheet giving

relevant demographic material such as age, sex, marital status and language.

The experimenter met the subjects in their various groups (e.g. Y.M.C.A.; Religious Studies I and II; etc.) and explained the purpose of this research study. Students who were interested were asked to complete voluntarily a questionnaire. They were also assured that all the information requested from them would remain anonymous. The subjects completed the questionnaires in their own time and handed them back to any campus secretary for "internal mail". The experimenter received them back through the internal mail system of the university.

On receiving the questionnaires they were scored as described earlier.

2.3.1 Statistical Analyses

A mean and standard deviation were calculated for each variable, for the whole sample ($N = 210$) as well as for the Literal (L), Antiliteral(A) and Mythological(M) groups, separately.

An one-way analysis of variance was performed on each variable to establish the significance of the differences between the mean scores of the L, A, and M groups. Where the F ratio was significant, Tukey H.S.D. pairwise comparisons were conducted to establish exactly which groups differed: These procedures follow the guides laid down in Kirk (1968), chapters 3 and 4.

CHAPTER IIIRESULTS3.1 The LAM scales

The first step in the data analysis was to cluster members of the present sample into relatively homogeneous groups, based on their scores in the LAM scales. By inspecting the mean scores for each separate group as set out in Table 3.1., it is clear that we have three distinct groups.

TABLE 3.1

Mean scores for the three groups Literal, Antiliteral and Mythological on the three scales L, A and M, of the LAM scale.

Groups	Mean			
	L	A	M	N
Literal group	15,13	,33	1,86	70
Antiliteral group	0,03	13,06	2,49	70
Mythological group	1,84	3,61	12,66	70

The Literal (L) and Antiliteral (A) scales correlated - 0,69 (significant at 0,01) which is consistent with Hunt's (1972) and Poythress' (1975) findings. It seems that Hunt's notion that the A scale probably measures the extent of negative reaction to a literal interpretation of religion, is confirmed by this study.

The Literal (L) and Mythological (M) scales also had a low negative correlation of $-0,25$ ($p < 0,01$). This weak relationship between L and M is to be expected in view of the fact that several of the L and M items differ only in rationale, not in direction of agreement, regarding the same religious concept. A low correlation between L and M was also reported by Hunt (1972) and Poythress (1975).

A negative correlation of $-0,53$ ($p < 0,01$) was found between the A and M scales. Both Hunt (1972) and Poythress (1975) reported a negative but uncorrelated A and M correlation.

Hunt (1972) reported that none of the differences between sexes on any of the LAM scales were statistically significant. This finding is also supported by this study in that there was no significant correlation between sex and any of the LAM scales. There was also no significant correlation between age and any of the LAM scales.

3.2 Background variables

The first item was the "conversion" statement, where the subject indicated which form his inner religious awakening may have taken. A significant difference ($p < 0,01$) was found between the L, A and M groups. (See Table 3.2). The Literal group reported a definite awakening more frequently; the Anti-literal group reported no awakening more frequently and the Mythological group reported a more gradual religious awakening more frequently.

The next question was a religious self-rating 5 point item. Again a significant difference ($p < 0,01$) was found between the L, A and M groups. The Literal group tended to rate themselves as "very religious"; the Anti-

literal group as "not very religious" and the Mythological group as "moderately religious".

In expressing their views of their parents' (items 3 and 4) religious standing, all three groups rated their fathers and mothers equally "religious". Comparing their own firmness (or depth) of their belief in religion to that of their parents, (items 7 and 8), the Literal group rated their own firmness more often as "more firm"; the Mythological group tended to rate themselves as "about the same" and the Antiliteral group rated themselves as "less firm". Comparing the firmness (depth) of their belief in religion to other young people of their own age (item 9), the L and M groups rated themselves as being "stronger", but the A group rated themselves to be less firm in their religious beliefs.

TABLE 3.2

Analysis of Variance of the 3 groups L, A, and M, on the 10 Background Variables, and Comparisons between Groups L and A, A and M, and L and M.

Items			L vs A		A vs M		L vs M	
	F ¹	P	t ²	P	t	P	t	P
1 Conversion	77,83	,01	17,65	,01	9,3	,01	8,35	,01
2 Religious self-rating	160,2	,01	24,43	,01	13,3	,01	12,1	,01
3 Father's religion	2,35	NS		NS		NS		NS
4 Mother's religion	2,58	NS		NS		NS		NS
5 Influence: Mother	4,74	,01	2,35	NS	4,35	,01	2	NS
Father	2,71	NS		NS		NS		NS
Tradition	4,49	,01	1,71	NS	2,31	NS	4,03	,05
Relatives	0,22	NS		NS		NS		NS
Gratitude	5,87	,01	4,83	,01	2,7	NS	2,05	NS
Studies	0,98	NS		NS		NS		NS
Church Teachings	33,82	,01	11,52	,01	7,2	,01	4,32	,01
Aesthetic	6,13	,01	2,25	NS	5,03	,01	2,78	NS
Groups	38,11	,01	12,1	,01	3,74	,01	8,35	,01
Camps	34,22	,01	11,24	,01	3,16	NS	8,08	,01
Friends of own age	25,63	,01	10	,01	2,98	NS	7,02	,01
Death	1,11	NS		NS		NS		NS
Crime	0,47	NS		NS		NS		NS
Other	9,49	,01	6,21	,01	3,15	NS	3,05	NS
6 Religion in upbringing	12,37	,01	6,32	,01	6,04	,01	0,28	NS
7 Firmness - Mother	55,36	,01	14,82	,01	5,77	,01	9,05	,01
8 Firmness - Father	68,5	,01	16,54	,01	8,41	,01	8,13	,01
9 Firmness - Friends	70	,01	16,64	,01	8,9	,01	7,75	,01
10 Embarrassed	14,7	,01	7,03	,01	0,86	NS	6,17	,01

1 df = 2 : 207

2 Refer to tables of the Studentized Range Statistic with df = 3 : 207

Religion as an influence in the subjects' upbringing (item 5), played a more significant role in groups L and M than in group A. (See table 3.2.) There were no significant differences between groups L and A, and L and M on mothers' influence, but it reached statistical significance between groups A and M.

There was no significant difference in the way fathers influenced group L; A and M. Group M seemed to be influenced more by "conformity with tradition" than group L, but not more than group A. Influence of other relatives was non-significant in all these groups. Gratitude was a stronger influence in group L than in A, but not stronger than in M, and "studies in school or college", "illness or death" and "crime" were non-significant influences in all these groups.

"Church teachings" as well as the influence of university and/or school groups were significantly different in all three groups ($p < 0,01$). These influences were highest in group L, less in group M and least in group A. The "aesthetic appeal" was the highest in group M, but not significantly higher than group L, and significantly higher than group A. "Religious camps" and "influence of friends of own age" played a significant role in groups L and M, giving a significant difference ($p < 0,01$) between groups L and A, and L and M but not between groups A and M. The L group reported a significantly higher degree of "other influences".

To summarize the above: The L group reported that their inner religious awakening was a definite awakening; they rated themselves to be "very religious"; that their own standing was more firm than their parents and their friends; that religion played an important part in their upbringing; that they were influenced by mother, conformity with tradition, gratitude, church teachings (more than group M), aesthetic appeal, university and/or school groups (more than group M), religious camps (more than group M),

friends of own age (more than group M) and "other influences".

The A group reported that they did not experience an inner religious awakening; they rated themselves to be not very religious; that their own religious standing was less firm than their parents, and their friends; that religion did not play an important part in their upbringing; that none of the influence factors played an important part in their religious standing.

Group M reported that their inner religious awakening was a more gradual awakening and they rated themselves to be "moderately religious", that their religious standing was about the same as their parents but firmer than their friends; that religion played an important part in their upbringing; that they were influenced by mother, conformity with tradition (more so than group L), gratitude, church teachings, university and/or school groups, aesthetic appeal, religious camps, friends of own age and "other influences".

Group L also reported (on item 10), that they more often feel embarrassed or isolated because of their religious views (significant at ,01 level).

3.3 Intensity of Belief Scale

On the four religious belief scales, Christ, God, Orthodox Belief and General Belief, there was a significant difference ($p < 0,01$) between groups L, A and M (See table 3.3). Group L scored significantly lower (meaning a higher intensity) than groups A and M. Group M again scored significantly lower (meaning a higher intensity) than Group A, but significantly higher (meaning a lower intensity) than Group L. See graph 3.1.

TABLE 3.3

Analysis of variance of the 3 groups L, A and M on the 7 Belief variables of the Intensity of Belief Scale, and comparisons between groups L and A, A and M, and L and M.

Measure	F ¹	P	L vs A		A vs M		L vs M	
			t ²	P	t	P	t	P
Christ	331,84	0,01	36,08	0,01	15,8	0,01	20,28	0,01
God	370,08	0,01	38,19	0,01	23,44	0,01	14,75	0,01
Orthodox Belief	181,48	0,01	26,84	0,01	11,58	0,01	15,26	0,01
General Belief	583,23	0,01	46,83	0,01	13,09	0,01	33,73	0,01
Opinion	3,23	0,05	3,59	0,05	1,58	NS	2,01	NS
Fact	1,74	NS		NS		NS		NS
Miscellaneous	43,68	0,01	9,79	0,01	2,83	NS	12,62	0,01

1 df = 2:207

2 Refer to tables of the Studentized Range Statistic with df = 3:207

On the non-religious scale "Opinion", the differences were significant ($p < 0,05$) between groups L and A, but not between L and M, nor between A and M. Group A had a higher intensity than Group L.

There ~~was~~^{were} no significant differences between the three groups on the "Fact" subscale.

On the non-religious scale "Miscellaneous", the differences were significant ($p < 0,01$) between groups L and A, and groups L and M, but not so for groups A and M. On this measure group L scored a "lower intensity" than groups M and A.

Both Thouless (1935) and Brown (1962 a) reported that "the tendency to certainty" is less strong amongst non-religious (statements) than amongst those of religious order. This finding is also supported in this study, by the L group where the mean certainty for religious statements is much higher than the mean certainty for non-religious statements (A low score meaning a high intensity). This finding does not hold true for groups A and M. See table 3.4.

TABLE 3.4

Mean and S.D. for the three groups L, A and M for the Religious Belief and Non-religious Belief Scales of the Intensity of Belief Scale

Group	Religious Belief ¹		Non-religious Belief ²	
	MEAN	S.D.	MEAN	S.D.
L	1,41	0,28	4,04	0,35
A	5,13	0,69	3,64	0,4
M	3,54	0,76	3,65	0,5

1 Scales = Christ; God; Orthodox Beliefs; General Beliefs.

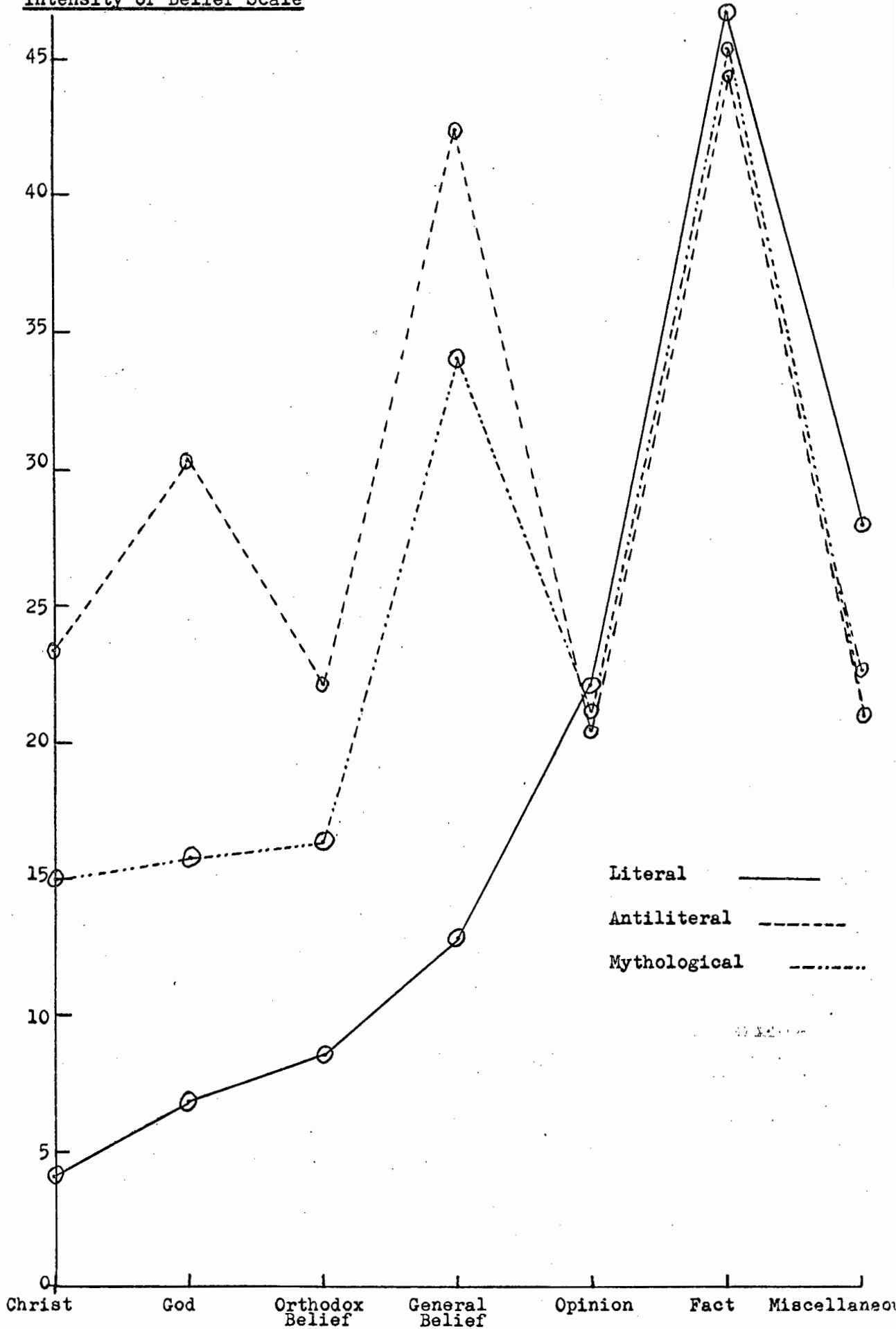
2 Scales = Opinion; Fact; Miscellaneous.

To summarize the above: Group L scored a higher intensity of belief on subscales Christ, God, Orthodox belief and General belief than groups A and M. On subscales "Opinion" and "Miscellaneous", group A again scored a higher intensity than group L but not higher than group M. Group M, again, scored a higher intensity than group A on all the subscales, except for "Opinion", "Fact" and "Miscellaneous", for which no significant differences could be found. (See graph 1).

GRAPH 1

Mean scores for the three groups L, A and M on the 7 scales of the

Intensity of Belief Scale



3.4 Dogmatism

There is a significant difference between groups L and A, L and M and A and M. See table 3.5

TABLE 3.5

Dogmatism: Analysis of variance and comparisons between groups

L and A, L and M, and A and M

		L vs A		L vs M		A vs M	
F ¹	P	t ²	P	t	P	t	P
35,78	0,01	11,74	0,01	7,93	0,01	3,81	0,05

1. df = 2 : 207.

2. Refer to tables of the Studentized Range Statistic with df = 3 : 207.

Group L (mean 143,68; SD 24,66) was significantly more dogmatic than groups A (mean 179,71; SD 26,02) and M (mean 168,01 SD 26,41). M again was significantly more dogmatic than A but significantly less than group L.

Hunt (1972) suggested that the relationships between religiosity and other personality variables might vary depending on the particular religious orientation involved. Thus, if type of religious orientation (e.g., Literal vs. Mythological) is important, these comparisons should show differences.

These findings (see table 3.5) are supportive of Hunt's notion that differing pro-religious orientations might be differentially related to personality variables. Group L was the most dogmatic or authoritarian, group M

was less so and group A the least. Poythress (1975) failed to find support for Hunt's notion, but this may be due to the modified scale he used.

3.5 Sixteen Personality Factors (16 PF.)

On six of the primary factors (E, F, G, L, M and Q_1) and on two of the secondary factors (Q_{II} and Q_{IV}), there were significant ($p < 0,05$) differences between the groups. See table 3.6. and graph 2.

When comparing the mean scores of Group L with the mean scores of the Roman Catholic Priest profile and the profile of the Roman Catholic Brothers as reported by Cattell et al. (1970) there is a marked similarity on a large number of these factors. See table 3.7

TABLE 3.6

Analysis of variance of the 3 groups L, A and M on the 20 factors of the 16 PF, and comparisons between groups L and A, A and M, and L and M.

Factors	F ¹	P	L vs A		A vs M		L vs M	
			t ²	P	t	P	t	P
A	2,57	NS		NS		NS		NS
B	0,63	NS		NS		NS		NS
C	0,89	NS		NS		NS		NS
E	13,91	0,01	7,14	0,01	3,17	NS	3,97	0,05
F	4,23	0,05	3,13	NS	0,77	NS	3,91	0,05
G	14,5	0,01	7,59	0,01	3,28	NS	4,31	0,01
H	1,44	NS		NS		NS		NS
I	0,24	NS		NS		NS		NS
L	4,03	0,05	3,93	0,05	1,26	NS	2,67	NS
M	3,26	0,05	3,67	0,05	2,47	NS	1,21	NS
N	2,83	NS		NS		NS		NS
O	1,31	NS		NS		NS		NS
Q ₁	38,42	0,01	11,84	0,01	2,71	NS	9,13	0,01
Q ₂	2,19	NS		NS		NS		NS
Q ₃	1,54	NS		NS		NS		NS
Q ₄	0,31	NS		NS		NS		NS
Q _I	0,84	NS		NS		NS		NS
Q _{II}	3,24	0,05	3,03	NS	0,17	NS	3,2	0,05
Q _{III}	1,52	NS		NS		NS		NS
Q _{IV}	33,32	0,01	11,49	0,01	4,89	0,01	6,6	0,01

1 df = 2 : 207.

2 Refer to tables of the Studentized Range with df = 3 : 207.

TABLE 3.7

Comparisons of the mean scores of groups L, A, M, R.C. Priests and R.C. Brothers on the 16 primary factors of the 16 PF.

Factor	Group L	Group A	Group M	R.C. ¹ Priests	R.C. ² Brothers
A	5,51	4,76	5,24	4,7	7,0
B	5,73	5,43	5,39	6,2	5,9
C	4,84	4,41	4,8	5,0	4,9
E	4,64	6,24	5,53	4,3	4,7
F	4,33	5,06	5,24	3,9	5,0
G	5,66	3,9	4,66	5,6	6,1
H	4,66	5,17	5,13	4,5	4,7
I	6,5	6,26	6,44	7,4	6,6
L	5,37	6,34	6,03	5,1	5,1
M	5,87	6,66	6,13	5,8	6,3
N	6,66	5,93	5,9	5,1	5,0
O	5,67	5,9	6,2	6,6	6,2
Q ₁	4,46	6,86	6,31	5,6	4,7
Q ₂	5,76	6,34	5,89	5,3	6,1
Q ₃	4,99	4,46	4,51	4,4	5,8
Q ₄	5,7	5,89	5,99	5,7	5,6

1 Cattell et al (1970) p. 212. N = 1707 males.

2 Cattell et al (1970) p. 212. N = 121 males.

L vs A

The differences between group L and A reached significance ($p < 0,05$) on the following factors: E, G, L, M, Q_1 and Q_{IV} . On all these factors, except for G, group L scored significantly lower than group A. This means, that group L is more humble (E), stronger in super-ego strength (G), more trusting (L), practical (M), more conservative (Q_1) and relaxed (Q_{IV}) than members of group A.

L vs M

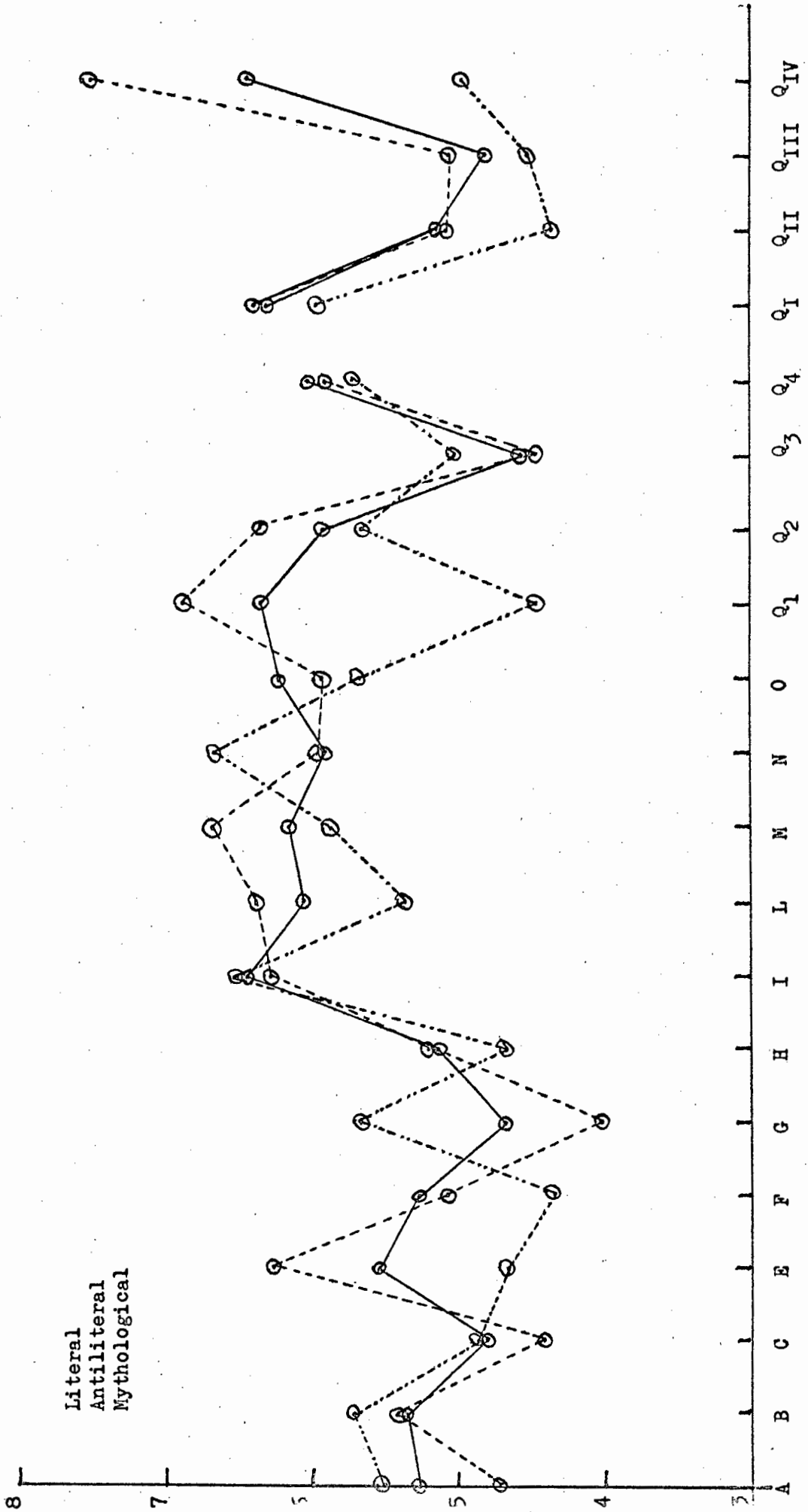
A significant difference ($p < 0,05$) between these two groups was reached on the following factors: E, F, G, Q_1 , Q_{II} , Q_{IV} . On all these factors, except for G, group L had significantly lower scores. This means, that group L scored more in the direction of being humble (E), sober (F), conservative (Q_1), group dependent (Q_{II}), relaxed (Q_{IV}) and stronger super-ego strength (G), than the members of group M. These findings are again supportive of Hunt's (1972) notion that differing pro-religious orientations might be differentially related to personality variables.

A vs M

The only factor on which the differences between groups A and M reached significance ($p < 0,01$) was the secondary factor Q_{IV} , where group M was less tense than group A.

GRAPH 2

Mean scores for the three groups L, A, and M on the 20 factors of the 16 PF.



3.6 Behavioural Scales

On all 6 scales chosen for this study (Devotionalism = Dev.; Church Attendance = C.A.; Organizational Activities = O.A.; Financial Support = F.S.; Talking and Reading about Religion = T.R.R.; and Growth and Striving = G.S.) there were significant differences ($p < 0,01$) between all three groups. See table 3.8

TABLE 3.8

Analysis of variance of the 3 groups L, A and M, on the 7 scales of the Scale for Basic Religious Dimensions, and comparisons between groups L and A, A and M, and L and M.

Scale			L vs A		A vs M		L vs M	
	F ¹	P	t ²	P	t	P	t	P
Dev. ³	287,3	0,01	33,84	0,01	15,07	0,01	18,76	0,01
C.A.	224,71	0,01	29,22	0,01	8,77	0,01	20,45	0,01
O.A.	150,73	0,01	24,1	0,01	7,76	0,01	16,33	0,01
F.S.	99,29	0,01	19,51	0,01	6,27	0,01	13,24	0,01
T.R.R.	118,44	0,01	21,3	0,01	6,77	0,01	14,52	0,01
G.S.	248,75	0,01	31,36	0,01	13,05	0,01	18,32	0,01

1 df = 2 : 207.

2 Refer to tables of the Studentized Range Statistic with df = 3 : 207

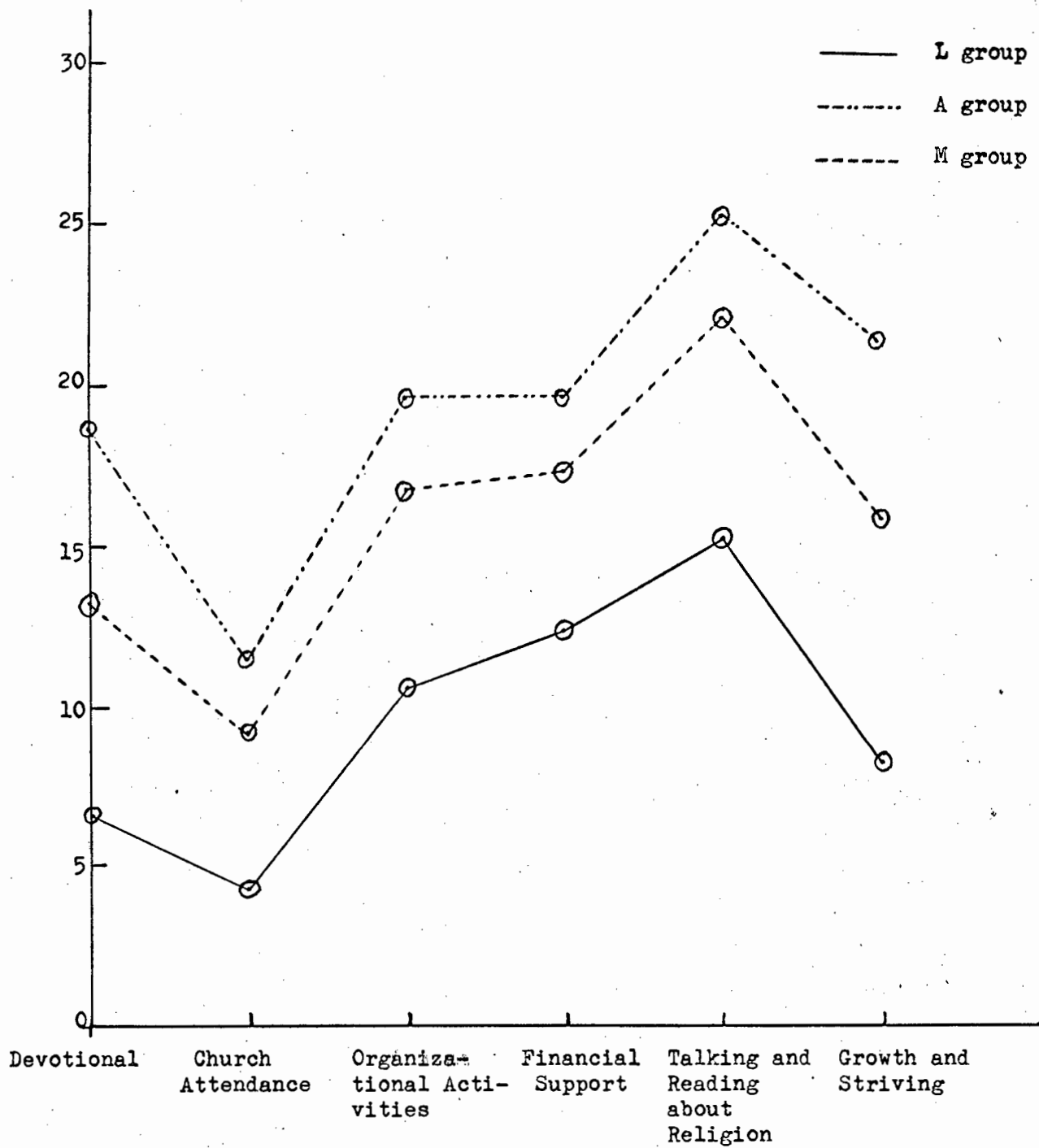
3 Dev = Devotional; C.A. = Church Attendance; O.A. = Organizational Activities; F.S. = Financial Support; T.R.R. = Talking and Reading about Religion; G.S. = Growth and Striving.

There was a significant difference ($p < 0,01$) between groups L and A, L and M, and A and M. Group L scored consistently lower than groups A and M, meaning that group L is a more active group than the others. A low score meaning higher activity in that area e.g. a low score on Church Attendance (C.A.) means a high frequency of church attendance.

Group A scored consistently higher than group M and group M scored consistently between group L and A. (See graph 3).

GRAPH 3.

Mean scores for the three groups L, A, and M on the 6 scales of the Scales for Basic Religious Dimensions.



CHAPTER IVDISCUSSION4.1 Background Variables

There were ten background variables which distinguished the three groups L, A and M. These were:

- (i) the extent to which an inner religious awakening was experienced;
- (ii) the religious self-rating item;
- (iii) influence of church teachings;
- (iv) influence of school and university groups;
- (v) influence of school and university camps;
- (vi) influence of friends of own age;
- (vii) comparing your own firmness (or depth) of belief in religion to your mother's
- (viii) and father's belief;
- (ix) comparing your own religious sentiments and needs with those of other young people of your own age; and
- (x) the extent to which your religious views caused you to feel isolated or embarrassed from your contemporaries.

On some of the other variables, e.g. the influence of religious camps, there was an expected differentiation between groups L and A, but not between groups L and M. This is due to the fact that groups L and A tended to score in opposite directions.

Taking the above-mentioned ten background variables, we then have three distinct groups, L (Literal), A (Anti-literal) and M (Mythological).

Group L (Literal)

This group reported to have had an experience of a definite inner religious awakening, or as Allport et al. (1948) termed it, "a distinct religious conversion" (p. 6). This means that there was a distinct point in time at which a definite decision was made in favour of religion. Unfortunately, we do not know what exactly precipitated this change. This warrants a study on its own.

They more often rated themselves to be "very religious". It is impossible to determine what is meant here by "religious", but taking into account that there was a distinct religious awakening in this group, this self-rating is no surprise.

This group rates their own firmness (or depth) of religion as more firm than that of their parents or friends of their own age. Although Allport et al. (1948) reported that students seldom regarded themselves as more religious than they believe their parents to be, Allport et al. did not distinguish between different religious involvement groups as was done in this study. However, groups L and M did not rate themselves to be more religious than their parents although they felt that they had more depth than their parents. It is, therefore, important, for further research, to take note of these three items, as they tend to be powerful discriminators between different religious orientations.

The factors having the most significant influence on their religious background were: (i) church teachings; (ii) university and school groups; (iii) religious camps and (iv) friends of own age. The first three are of an institutional nature, requiring participation on the student's part. The last factor might refer back to these camps and groups where contemporaries might have formed the nucleus of the participants, and had a significant influence on them. These influences under-

line the importance training still holds in influencing people religiously.

On the tenth variable this group felt that their religious views, no matter what they were, marked them off from their contemporaries in such a way that they sometimes felt embarrassed or isolated. This finding is in accordance to the Allport et al. (1948) study. They attribute this to the fact that the religious group is a minority group and that the developing personality has to come to terms with this. This could also be true for this sample, as the mean age is 19,95 and they also form a minority group on the campus, which could contribute to their self-consciousness in this respect.

Group L is thus a distinct religious group who rated themselves to be very religious, with more depth than their parents and friends, who had been strongly influenced by church teachings, religious camps and groups and by their contemporaries. They have experienced a definite religious awakening and sometimes felt self-conscious because of their religious views.

Group A (Anti-literal)

This group, as hypothesized, tended to score in the opposite direction to group L.

They more often reported not to have had an experience of an inner religious awakening and, rated themselves not to be religious. It is, therefore, understandable that church teachings, religious groups and camps and their friends as factors influencing them, did not "apply" to them. Their firmness (or depth) of belief in religion was less firm than that of their parents and friends. They also did not experience feelings of embarrassment or isolation because of their views of religion.

On these ten background variables, group A formed a distinct areligious group as they rated themselves not to be religious at all.

Group M (Mythological)

Group M tended to score mid-way between groups L and A, but were inclined to score in the direction of group A on some variables.

They felt that their religious awakening was more gradual. There was no single or specifiable occasion that was decisive in causing this awakening.

They rated themselves to be "moderately religious", and that the firmness (or depth) of their belief in religion was about the same as their parents, but more firm than their contemporaries. However, group L was more convinced than group M, that their belief was firmer than their contemporaries.

Church teachings, religious groups and camps, and friends of own age, had a "slight" influence in their religious upbringing. However, this influence was marked enough to distinguish them from group A, who reported no influence at all.

Group M did not experience feelings of embarrassment or isolation.

Thus we have a group who rated themselves as moderately religious, more so than their contemporaries but not more than their parents. Factors influencing their religious views were slight and they did not feel self-conscious of their views. Although they formed a separate group on the ten background variables, they tended to score more in the direction of group A.

According to the ten background variables, we have two clear groups L and A and a group M which lies between these two groups, but more to the side of group A.

4.2 Hypothesis I Group L vs M

Hypothesis I (1): Intensity of Belief Scale:

Subjects with a high literal involvement will differ significantly from subjects with a high mythological involvement on the Intensity of Belief Scale. Subjects with a literal involvement will hold religious beliefs with a higher intensity than subjects with a mythological involvement.

This hypothesis was supported in that on 4 of the 7 scales, Group L had a significantly higher degree of conviction on the religious scales Christ, God, Orthodox Christian Belief and General Religious Belief than group M. On the last scales which measure, according to Thouless (1935), affectively indifferent non-religious belief (Opinion), non-religious "tabliods" (Fact) and political beliefs (Miscellaneous), the hypothesis is not supported, as on Opinion and Fact there is no significant difference. On Miscellaneous there is a significant difference, but in the opposite direction, as hypothesised as group M tended to score with a higher degree of conviction than group L.

The finding that there was a difference between the degree of conviction with which religious terms and non-religious items were held, is substantiated by the findings of Thouless (1935) and Brown (1962 a). Brown is of the opinion that this is so, as Certainty about religious matters is possible because of the social support that can be evoked to sustain these beliefs. He further reports that in his study religious certainty was unrelated to certainty about factual and opinionative matters.

The important factor here is that group L had a higher degree of certainty on religious items than group M. This might be due, as Brown (1962 a) suggested, to social support, but it could also be due to a closed cognitive style or personality factors. This will be discussed in more detail later.

The fact that group L had a lower degree of certainty on Miscellaneous than group M, is difficult to explain from these results.

Hypothesis I (ii): Dogmatism Scale

Subjects with a high literal involvement will differ significantly from subjects with a high mythological involvement on the Dogmatism Scale. Literal subjects will be more dogmatic than mythological subjects.

This hypothesis is supported in that there is a significant difference ($p < 0,01$) on dogmatism between groups L and M. According to Rokeach's (1960) hypothesis, group L was more dogmatic than group M, therefore, group L used a more closed cognitive style than group M. This might explain the difference in degree of certainty of religious beliefs as mentioned above.

Hunt (1972) suggested that the relationship between religiosity and other personality variables might vary, depending on the particular religious orientation involved. The above measure supports Hunt's notion.

Poythress (1975), in a study similar to the present one, was unable to support Hunt's notion. He found that within pro-religious groups, type of religious commitment (Literal or Mythological) at either primary or secondary level, is not differentially related to any of the personality variables (authoritarianism or prejudice) he used in his study.

However, it was felt that a more sensitive measure of personality factors should be used to test Hunt's hypothesis and therefore, the 16 PF was included.

Hypothesis I (iii): 16 PF

Subjects with a high literal involvement will differ significantly from subjects with a high mythological involvement on the factors of the 16 PF.

The hypothesis of a significant difference ($p < 0,05$) between groups L and M was supported on four of the 16 primary factors, and on two of the secondary factors. On the remaining factors the hypothesis was not supported.

The significant factors were E, F, G, Q_1 , Q_{II} and Q_{III} . On factor E, group L was more submissive (obedient, mild, easily led, docile, accommodating) than group M. On factor F, group M tended to be more surgent (enthusiastic, happy-go-lucky) and group L to be desurgent (sober, serious). Factor G revealed that group L was higher on super-ego strength (conscientious, persistent, moralistic) than group M. In psychoanalytic terms, this would mean a tendency to drive the ego and to restrain the id.

Group L tended, on factor Q_1 , to be conservative of temperament (conservative, respecting, established ideas, tolerant of traditional difficulties), whereas group M was more radical of temperament (experimenting, liberal, analytical, free-thinking). On the secondary factor Q_{II} , group M scored higher on anxiety than group L, and on Q_{IV} group L showed the tendency to be more subdued than group M.

These six factors, therefore, demonstrate that when more sensitive measurements of personality variables are used, there is a difference between pro-religious orientations as Hunt suggested. Group L was more subdued, less anxious, more conservative in temperament, stronger in super-ego strength, more submissive and less surgent than group M.

We could thus speak of group L as a more submissive less assertive, less adventurous and thus less creative group, with a strong super-ego, thus

a restricted (inhibited), less outgoing group. This reminds one of the description Becker (1964) gave of children who grew up in a warm but restrictive atmosphere. He described these children as polite and well-behaved, but nevertheless more inhibited, more dependent and less creative.

The above pattern of upbringing is often found in authoritarian homes. There is a marked similarity between the findings of Becker (1964) and Weigert and Thomas (1972), where the latter authors reported that adolescents receiving a high degree of both support (positive affect) and control (discipline) tend to have the highest self-esteem, to conform most to parental expectations, and to adhere most strongly to traditional forms of religiosity. Weller et al. (1975) is of the opinion that authoritarian individuals are more attracted to orthodox doctrine than less authoritarian people. This hypothesis, it seems, is supported by this study.

Group M seems to be a more out-going, creative group with less ego-strength but with more anxiety. Becker (1964) is of the opinion that an upbringing where there is a reasonable amount of freedom coupled with lots of parental warmth, is more likely to result in children who are outgoing, creative, assertive and less neat and polite, but resulting in adults capable of acting and thinking for themselves.

It would be interesting to make a study of the way in which subjects of groups L and M were brought up, but unfortunately it does not fall within the scope of this study.

Rokeach (1960), with his Dogmatism scale, measures the extent to which a person's belief system is open or closed, which he defines as being "the extent to which the person can receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within

the person or from the outside" (p. 57).

It seems more likely then that group L will accept religious statements within their religious paradigm without questioning them, but that group M will be more free and willing to question, and reinterpret the statements.

Hypothesis I (iv): Scale for Basic Religious Dimensions

Subjects with a high literal involvement will differ significantly from subjects with a high mythological involvement on the 6 scales of the Scale for Basic Religious Dimensions. Literal Subjects will be more active in religious activities than mythological subjects.

The hypothesis of a significant difference ($p < 0,01$) between groups L and M was supported on all six scales. Group L was always more involved than group M.

Group L was more active in prayer life and more concerned about their relationship with God. They attended church more frequently, were more involved in organizational activities, they supported the church better financially, they showed more openness for growth and change in their religious beliefs, and they were more active in reading and talking about religion than group M.

Although King and Hunt (1969, 1972a, 1972b, 1975) have done extensive research with this scale, it has always been administered to White main-line Protestant groups, without trying to distinguish different orientations within their samples. Therefore, there are no other data available with which one can compare the findings of this research.

However the findings of this research are not surprising, as the L group has been identified as a group which holds their religious beliefs with a high degree of certainty, operates with a closed cognitive style

(dogmatic), is more submissive and an active group in religious matters. Group M again, holds their religious beliefs with a lower degree (than group L) of certainty, operates with a less closed cognitive system, is more assertive and not so active in religious matters.

Hunt (1972) suggests that the M orientation represents most moderate to liberal Christian groups and according to him this may be considered to be the most mature type of involvement. Unfortunately we do not know on what basis "maturity" is assigned, therefore we cannot take part in this judgement between groups L and M.

4.3 Hypothesis II. Group L vs A

Hypothesis II (1): Intensity of Belief Scale

Subjects with a high literal involvement will differ significantly from subjects with a high anti-literal involvement on the Intensity of Belief Scale. Subjects with a literal involvement will hold religious beliefs with a high degree of conviction, and the anti-literal subjects will reject the religious beliefs.

This hypothesis was supported for the four religious scales, Christ, God, Orthodox Christian Beliefs and General Religious Belief, in that group L accepted these items with a high degree of certainty, and group A rejected these items with a high degree of conviction.

For the last three non-religious belief scales, Opinion, Fact and Miscellaneous, there was a significant difference ($p < 0,05$) between the means of group L and A on Opinion and Miscellaneous. However, the hypothesis is not supported as the direction of conviction is reversed. Group A now tended to accept these statements with a higher degree of conviction than group L. Why this is so, is not yet clear.

Hypothesis II (ii): Dogmatism Scale

Subjects with a high literal involvement will not differ significantly from subjects with a high anti-literal involvement on Dogmatism. It is expected that both groups operate with a closed cognitive system.

The hypothesis of no difference is not supported by these findings.

Group L tended to be more dogmatic than group A. This does not support Hunt's (1972) notion that Anti-literal subjects reject religion on the basis of a literal, naive, unexamined interpretation of religion - thus using a closed cognitive system. In fact, in this study, it was found that anti-literal subjects used a more open cognitive system.

Hunt's interpretation that L subjects might not have examined the relationship of their religious statements to other areas of their lives, and accept any religious statement at face value without in any way questioning it (closed cognitive system), is supported by these findings.

The finding that group L (a religious group) is more authoritarian than group A (a non-religious group), is also supported by various researchers. (Brown, 1962a; Stanley, 1963; Weller et al. 1975; Poythress, 1975).

Brown (1962a) is of the opinion that the relationship between belief and church membership, attitudinal acceptance of the Church and authoritarianism, in his research, suggests that strong social support is required for the maintenance of a system of religious belief. Another important fact might be that authoritarianism is used as a "defence mechanism" to protect the minority group (here group L) and to give it a feeling of superiority (security). Weller et al. (1965), in his study of religiosity and authoritarianism in a Jewish community, found no support for the hypothesis that authoritarianism develops out of differing socialization practises as suggested by Adorno et al. (1950), e.g. the way

children are brought up, but felt that it was the current religious state, and not the religious background, that was the link in authoritarianism. Therefore, they concluded that authoritarian individuals were more attracted to orthodox doctrine, than that orthodox believers became authoritarian through being conditioned by a doctrine which is authoritarian. A final conclusion about the correlation between religiosity and authoritarianism awaits further research.

Hypothesis II (iii) 16 PF

Subjects with a high literal involvement and subjects with a high anti-literal involvement will deviate to the same degree from the mean on the personality factors of the 16 PF.

The hypothesis of no-difference between groups L and A, was supported on eleven of the sixteen primary factors, and on three of the four secondary factors. However, the hypothesis was not supported on the remaining factors E, G, L, M, Q_I and Q_{IV}. When interpreting these factors, we found that group L was more submissive (E) than group A, where group A tended to be dominant (assertive, aggressive, competitive). On factor G, group L rated higher on super-ego strength (conscientious, persistent, moralistic) than group A. On factor L again, group L was more alaxia (trusting, accepting conditions) than group A, where group A tended to be protension (suspecting and jealous). On factor M, group A was more autia (imaginative, Bohemian, absent-minded) than group L. On factor Q_I, group L was conservative of temperament (conservative, respecting established ideas) and group A was radical (experimenting, liberal, analytical, free thinking). On the secondary factor Q_{IV}, group A was more independent (radical, autistic) and group L was more subdued.

These six factors then reveal a meaningful difference between group L and A on personality variables. Group L, is more submissive, with higher super-ego strength, is trusting, less imaginative, conservative and subdued. Whereas group A is more assertive, lower on super-ego strength,

suspecting and jealous, more imaginative, radical and independent. (Compare this with Hypothesis I (iii) p. 69.)

Hypothesis II (iv) Scales for Basic Religious Dimensions

Subjects with a high literal involvement will differ significantly from subjects with a high antiliteral involvement on the 6 scales of the Scales for Basic Religious Dimensions. Literal subjects will be more active in religious activities than anti-literal subjects.

On all six variables, e.g. church attendance, financial support, talking and reading about religion, etc., the hypothesis of a significant difference ($p < 0,01$) between the means of groups L and A on religious activities was supported.

This is quite an obvious finding as group A, as a non-religious group, was not expected to take part in religious institutional activities to the same degree as group L.

4.4 Hypothesis III: Group A vs M

Hypothesis III (i): Intensity of Belief Scale

Subjects with a high anti-literal involvement will differ significantly from subjects with a high mythological involvement on the Intensity of Belief Scale. Subjects with a anti-literal involvement will reject religious beliefs whereas mythological subjects will hold these beliefs with a high degree of conviction.

This hypothesis was supported at the 0,01 level for the four religious scales, Christ, God, Orthodox Christian Beliefs, and General Religious Belief. Group M accepted these items with a higher degree of conviction than group A.

The last three non-religious belief scales, Opinion, Fact and Miscellaneous, proved non-significant differences between the means of group A and M, and therefore the hypothesis is not supported on these 3 scales.

This finding of a significant difference between religious beliefs but not between general beliefs, supports the results of Brown's (1962a) research. His study points towards religious belief as being a relatively isolated cognitive system, in which intensity of belief is independent of the strength of opinions about other matters. He found that it is not religious belief measures which have high loadings on personality factors, but opinion and factual scores. Therefore, one could postulate that we are dealing here with two different cognitive styles and different personality factors. This will be discussed under Hypothesis III (ii) and (iii).

Hypothesis III (ii): Dogmatism Scale

Subjects with a high anti-literal involvement will differ significantly from subjects with a high mythological involvement on the Dogmatism Scale. Anti-literal subjects will tend to operate with a more closed cognitive system than mythological subjects.

This hypothesis is supported in that there is a significant difference ($p < 0,05$) on dogmatism between groups A and M. However, the direction as suggested by the hypothesis is not supported in that group M was more dogmatic than group A. This might explain the abovementioned findings that religious belief statements are accepted or rejected with a high degree of conviction but general belief statements are not. Group M uses a more closed cognitive system than group A, but they only differ in degree of conviction on religious belief, and not on non-religious beliefs. This supports Raschke's (1973) theory that there is an underlying cognitive style which an individual possesses that is consistent with the manner in which he holds his religious beliefs. Rokeach (1960) is of the opinion that a closed system is developed in childhood. Therefore, Raschke (1973) inclines to view that cognitive style exercises greater influence over religious attitudes than religious attitudes exercise over cognitive style. It still remains difficult to interpret which

variables are temporally prior, but the above seems, at present, to be the most logical.

Hypothesis III (iii): 16 PF

Subjects with a high anti-literal involvement will differ significantly from subjects with a high mythological involvement on the personality factors of the 16 PF.

All sixteen primary personality factors as well as three secondary factors, failed to reach a point of significant difference. The hypothesis of difference between means of the two groups is, therefore, not supported.

Only on Q_{IV} , a secondary personality factor, was there a significant difference ($p < 0,01$) between groups A and M. Group A was more independent (radical, autistic, a law to himself) than group M.

We can conclude that there were no real meaningful differences of personality factors on this measure, between groups A and M, except that group A was more independent than group M. This then again supports Brown's (1962a) notion that it is not religious belief measures (in which groups A and M differ) which have high loadings on personality factors (where groups A and M hardly differ), but rather opinion and factual scores (where groups A and M don't differ).

Hypothesis III (iv): Scales for Basic Religious Dimensions

Subjects with a high mythological involvement will differ significantly from subjects with a high anti-literal involvement on the 6 scales of the Scales for Basic Religious Dimensions. Mythological subjects will be more active in religious activities than anti-literal subjects.

On all six variables, e.g. financial support, church attendance, organizational activities, talking and reading about religion, etc., the hypothesis is supported in that group A will be less active in religious matters than group M. The reason for this is quite obvious. Group A is a

non-religious group and will be active in non-religious activities.

We can now distinguish between these three groups by summarizing the findings.

GROUP L

These subjects rated themselves to be very religious, even more so than their parents and friends. They were strongly influenced by church teachings, religious camps and groups and by their contemporaries. They have experienced a definite religious awakening and are sometimes embarrassed or isolated because of their belief. They hold their religious convictions with a high degree of certainty and they tend to make use of a closed cognitive style, thus being dogmatic.

As a group they were submissive, sober (serious), had strong ego strength. They were trusting, conservative and subdued. They were very active in religious matters, such as devotionism, and high church attendance. They participated in organizational activities, supported the church financially. They talked and read about religion, and had an openness for growth and change in religious views.

GROUP A

This is primarily a non-religious group. These subjects rated themselves as not religious. They rejected religious statements with a high degree of conviction and they used a more open cognitive style.

As a group they were assertive, had low super-ego strength, were radical and independent and they participated very little in religious activities.

GROUP M

This is a religious group (as group L), but with lesser conviction, activity and intensity than group L. These subjects rated themselves to be moderately religious, more religious than their contemporaries, but not more than their parents. Church teachings, religious groups and camps, and friends of own age only had a slight influence on their religious views. They did not feel embarrassed or isolated because of their religious views and they accepted religious statements with a mild (compared to group L) degree of conviction. They operated with a more open (compared to group L) cognitive style.

As a group they were radical and independent and, although they participated in religious activities, they did it to a lesser degree than group L.

Although Hunt (1972), Poythress (1975), as well as this research, were able to distinguish three different groups, the Mythological group still presents a problem. This group is not always clearly separable from either group L and/or group A. The reason for this might be in the LAM scale itself, and it would be wise to start at this point.

Hunt's break with the old simplistic and literal approach to measuring religious orientation is of the highest importance. Unfortunately, Hunt is unable to break completely from the old approach as he only permits the subject one kind of interpretation. The symbolic or mythical interpretation which Hunt makes available, is largely immanent in its orientation. It provides a this-worldly interpretation of religious symbols, mostly in humanistic categories. This is certainly one possible interpretation, but it reduces religious symbols to general ethical principles and to a considerable extent interprets away their transcendental impli-

cations. As was pointed out in Chapter One, that the transcendental implication is of vital importance. It should be perfectly possible to interpret symbolically myths in such a way that the transcendental referent remains. The symbol is then seen as a statement about the nature of the "Ganz Andere" and, as such, both a statement of and a path to the transcendent. As the scale is designed now, only the literalists are given an opportunity to vote for the transcendent.

Let me illustrate my point by considering some of Hunts items.

ITEM 4 (see Appendix II) The Miracles

According to most New Testament scholars the miracles are not intended to be proof but are signs. Hence, one could see the miracle stories as signs of the intervention of God in the person of Jesus.

ITEM 5., The virgin birth

The symbol of the Virgin birth may mean that God was present in Jesus in a way decisively different from the way God is present in the rest of us.

ITEM 13. Prophecy

Prophecy does not have to do with future events in concrete detail but it does reveal the plan of God's involvement in human events.

These examples will suffice. The responses described above are responses of those who may choose to listen very carefully to the symbol and accept its "signal of transcendence"- to use Berger's (1974) phrase - while at the same time not accepting its literal interpretation - Greeley (1972) suggests that another dimension should be added which he, for want of a better name, calls a hermeneutic dimension.

Permitting the subject only one kind of interpretation, I feel would force an individual to distinguish between a "literal" and "mythological" interpretation which, were he to be confronted with those interpretations independently, he might not make. This is particularly important in the case of the individual who is "indiscriminately proreligious" (Allport and Ross, 1967), or the individual whose religious concepts are so vague and confused that he might not distinguish between L and M statements, were he forced to do so. Therefore, it is suggested that for further research a Likert format be used in order to assess degrees of L, A, and M religious orientations independently. This could be done by creating three Likert statements from each of the original LAM items by incorporating the three response alternatives into the basic religious statement. This format would allow pure L, A, and M types to emerge in cases where the individuals are conceptually clear enough to distinguish the commitment types on their own. It would not force them to do so. It also allows for the identification of mixed types without a reduction in strength (or degree) of involvement.

Poythress (1975) is further of the opinion that by its very nature the mythological orientation is more subject to individual idiosyncrasy than either the literal or anti-literal orientations. This is a grave problem for anyone who wants to construct a measure to measure a mythological orientation.

In connection with the anti-literal group it is also felt that it is unfair to group all the "non's" in one group. Poythress (1975) already demonstrated a difference between what he termed non-religious and anti-religious students. A further breakdown of the anti-literal group could be valuable.

REFERENCES.

- Adorno, T.W.,
Frenkel-Brunswik, E.,
Levinson, D.J. and
Sanford, R.N. The authoritarian personality.
New York: Harper and Row., 1950.
- Allen, R. and
Spilka, B. "Committed and consensual religion:
a specification of religious-prejudice
relationships."
Journal for the scientific study
of religion, 1967, 6: 191-206.
- Allport, G.W. The individual and his religion.
New York: MacMillan, 1950.
- Allport, G.W. The nature of prejudice.
Cambridge Mass.: Addison Wesley, 1954.
- Allport, G.W. "The religious context of prejudice."
Journal for the scientific study of
religion, 1966, 5, 447-457.
- Allport, G.W.
Gillespie, J.M. and
Young, J. "The religion of the post war college
student." The journal of psychology,
1948, 25, 3-33.
- Allport, G.W. and
Ross, J.M. "Personal religious orientation and
prejudice." Journal of personality
and social psychology, 1967, 5(4),
432-443.
- Argyle, M. Religious behaviour. London:
Routledge and Kegan Paul, 1958.
- Barth, K. Church Dogmatics 11. 1.
Edinburg, 1967.

- Becker, R.J. Religion and psychological health. chp. 10 in Strommen, M.P. Research on religious development: A comprehensive handbook. New York: Hawthorn Press, 1971.
- Becker, W.C. Consequences of different kinds of parental discipline. In M.L. Hoffman and L.W. Hoffman (Eds.) Review of child development research, Vol.I. New York. Russel Sage Foundation, 1964.
- Bettelheim, B. and Janowitz, M. "Ethnic tolerance: a function of social and personal control." American Journal of Sociology. 1949, 55, 137-145.
- Berger, P.L. "Some second thoughts on substantive versus functional definitions of religion." Journal for the scientific study of religion, 1974, 13; 125-133.
- Binkley, L.J. "What characterizes religious language?" Journal for the scientific study of religion, 1962, 2(1), 18-21.
- Broen, W.E. (Jr.) "Personality correlates of certain religious attitudes". Journal of consulting psychology, 1955, 19; 64.
- Broen, W.E. (Jr.) "A factor analytic study of religious attitudes". The Journal of abnormal social psychology, 1957, 54, 176-179.
- Brown, D.G. and Lowe, W.L. "Religious beliefs and personality characteristics of college students." The journal of social psychology, 1951, 33, 103-129.
- Brown, L.B. "A study of religious belief." British journal of psychology, 1962a, 53(3), 259-272.

- Dittes, J.E. "Typing the typologies. Some parallels in the career of Church-sect and extrinsic-intrinsic." Journal for the scientific study of religion., 1971, 10, 375-383.
- Dreger, R.M. "Some personality correlates of religious attitudes as determined by projective techniques." Psychol. Monog., 1952, 66, No.3 (Whole No. 335).
- Faulkner, J.E. and De Jong, G.F. "Religiosity in 5-D: An empirical analysis." Social forces, 1966, 45(2), 246-254.
- Feagin, J.R. "Prejudice and religious types: A focused study of southern fundamentalists." Journal for the scientific study of religion, 1964, 4, 3-13.
- Feather, N.T. "Acceptance and rejection of arguments in relation to attitude strength, critical ability and intolerance of inconsistency." Journal of abnormal and social psychology, 1964, 69, 127-136.
- Frenkel-Brunswick, E. "Comparative scores and summary of interview results". In T.W. Adorno, The authoritarian personality. New York: Harper, 1950. p: 468-486.
- Fromm, E. Escape from freedom. Holt, Rinehart and Winston, 1941.
- Glock, C.Y. "On the study of religious commitment" Religious education, research supplement, 1962, 42, 98-110.

- Glock, C.Y. and
Rodney Stark. Religion and society in tension.
Chicago: Rand McNally, 1965.
- Gorsuch, R.L. and
Aleshire, D. "Christian faith and ethnic prejudice:
A review and interpretation of research".
Journal for the scientific study of
religion, 1974, 13, 281-307.
- Greeley, A.M. "Comment on Hunt's "Mythological-
Symbolic religious commitment: The
IAM scales."
Journal for the scientific study of
religion, 1972, 11(1), 42-52.
- Gregory, W. "The orthodoxy of the authoritarian
personality".
Journal of social psychology, 1957,
45, 217-232.
- Grossman, N.J.D. "On Peter Berger's definition of religion".
Journal for the scientific study of
religion, 1975, 14(3), 289-292.
- Hick, J.H. "Comment on 'What characterizes religious
language?'"
Journal for the scientific study of
religion, 1962, 2(1), 22-24.
- Himmelfarb, H.S. "Measuring religious involvement".
Social forces, 1975, 53(4), 606-618.
- Hoge, D.R. and
Carroll, J.W. "Religiosity and prejudice in northern
and southern churches."
Journal for the scientific study of
religion, 1973, 12, 181-197.
- Hood, R.W. (Jr.) "A comparison of the Allport and
Feagin scoring procedures for intrinsic/
extrinsic religious orientation."
Journal for the scientific study of
religion, 1971, 10(4), 370-374.

- Hunt, R.A. "The interpretation of the religious scale of the Allport-Vernon-Lindzey study of values."
Journal for the scientific study of religion, 1968, 7(1), 65-77.
- Hunt, R.A. "Mythological-symbolic religious commitment: The LAM scales."
Journal for the scientific study of religion, 1972, 11(1), 42-52.
- Hunt, R.A. and King, M.B. "The intrinsic-extrinsic concept: A review and evaluation."
Journal for the scientific study of religion, 1971, 10, 339-356.
- IPAT Manual 16 PF.
Institute for personality and ability testing : Illinois 1972.
- James, W. The varieties of religious experience.
The Fontana library 1974. (Originally published 1902.)
- King, M.B. "Measuring the religious variable: Nine proposed dimensions."
Journal for the scientific study of religion, 1967, 6(2), 173-190.
- King, M.B. and Hunt, R.A. "Measuring the religious variable: amended findings."
Journal for the scientific study of religion, 1969, 8(2), 321-323.
- King, M.B. and Hunt, R.A. "Measuring the religious variable: Replication."
Journal for the scientific study of religion, 1972(a), 11(3), 240-251.

- King, M.B. and
Hunt, R.A. Measuring religious dimensions.
Dallas: Southern Methodist University,
1972 (b).
- King, M.B. and
Hunt, R.A. "Measuring the religious variable:
National replication."
Journal for the scientific study of
religion, 1975, 14(1), 13-22.
- Lazerwitz, B. "Religious identification and it's
ethnic correlates: A multivariate
model."
Social forces, 1973, 52, 204-220.
- Lenski, G. The religious factor.
Garden City: New York: Doubleday, 1961.
- Martin, C. and
Nichols, R.C. "Personality and religious belief."
The journal of social psychology,
1962, 56, 3-8.
- McLean, M. "Religious world views."
Motive, 1952, 12, 22-26.
- Photiadis, J.D. and
Johnson, A.L. "Orthodoxy, church participation, and
authoritarianism."
American journal of sociology, 1963,
69, 244-248.
- Putney, S. and
Middleton, R. "Dimensions and correlates of religious
ideologies."
Social forces, 1961, 39(4), 285-290.
- Raschke, V. "Dogmatism and committed and consensual
religiosity." Journal for the scien-
tific study of religion, 1973, 12(3),
339-343.
- Rokeach, M. The open and closed mind. Investiga-
tions into the nature of belief systems
and personality systems. New York:
Basic Books, 1960.

- Rokeach, M. "Value systems in religion: Religious values and social compassion." Review of religious research, 1969, 11, 3-39.
- Roof, W.C. and Perkins, R.B. "On conceptualizing salience in religious commitment." Journal for the scientific study of religion, 1975, 14, 111-128.
- Rümke, H.C. The psychology of unbelief. Translated from the Dutch by M.H.C. Willems. Salisbury Square London, 1952. (First Published in 1949.)
- Shaw, M.E. and Wright, J.M. Scales for the measurement of attitudes. N.Y. McCrow - Hill Book Co., 1967.
- Stanley, G. "Personality and attitude characteristics of fundamentalist university students." Australian Journal of Psychology, 1963, 15(3), 199-200.
- Stanley, G. "Personality and attitude correlates of religious conversion." Journal for the scientific study of religion, 1964, 4(1), 60-63.
- Strickland, B.R. and Shaffer, S. "I-E, I-E, and F". Journal for the scientific study of religion, 1971, 10, 366-369.
- Thompson, A.D. "Open-mindedness and indiscriminate antireligious orientation." Journal for the scientific study of religion, 1974, 13, 471-477.
- Thouless, R.H. "The tendency to certainty in religious belief." British journal of psychology, 1935, 26, 16-31.

- Thurstone, L.L. and
Chave, E.J. The measurement of attitude.
Chicago: University of Chicago Press,
1929.
- Tukey, H.S.D. As in Kirk, R.E. Experimental design:
Procedures for the behavioral sciences.
Belmont: California, 1968.
- Van den Berg, J.H. Psychologie en geloof.
G.F. Callenbach N.V., Nijkerk, 1958.
- Vernon, G.M. "Background factors related to church
orthodoxy." Social forces, 1956,
34, 252-254.
- Wearing, A.J. and
Brown, L.B. "The dimensionality of religion."
British journal of social and clinical
psychology, 1972, 11(2), 143-148.
- Weigert, A.J. and
Thomas, D.L. "Parental support, control and adoles-
cent religiosity: An extension of
previous research." Journal for the
scientific study of religion, 1972,
11(4), 389-393.
- Weller, L. "Religiosity and authoritarianism".
Levinbok, S., The journal of social psychology, 1975
Maimon, R. and 95, 11-18.
Shaham, A.
- Wilson, W.C. "Extrinsic religious values and preju-
dice." Journal of abnormal and social
psychology, 1960, 60(2), 286-288.

This is a study of religious beliefs, attitudes and behaviour.

We are trying to gain more knowledge about this complex area.

We are interested in 6 areas: 1. namely some personal background information; 2. your religious commitment; 3. your attitudes and beliefs; 4. your opinion; 5. your interests, and 6; your religious experiences. We would therefore appreciate your own true answers to these questions. There are no "right" or "wrong" answers, because everyone has the right to his own views. There is also no reason for trying to present a "good" religious picture as this "good picture" might be to others a "less good picture". We would like to encourage you to be frank and open, as this will only help our understanding of the psychology of religion, and will serve to His glory.

Almost all the questions are self-rating questions, in which you indicate to what extent you agree or disagree. Follow the instructions as carefully as possible. There is no time limit, but we suggest that you work as rapidly as possible. Do not discuss the questions with your friends until you have completed this questionnaire. All information will be confidential.

Please turn over.

APPENDIX I

PERSONAL INFORMATION

Make an X in the appropriate box.

Date

1. Date of birth :
2. Marital status : unmarried married divorced.
3. Sex: Male female.
4. My home tongue is Afrikaans English

APPENDIX I.BACKGROUND VARIABLES.

1. Of the following statements please check the statement which most nearly describes your own experience.
- a) I consider that my present religious commitment is a gradual outgrowth of many years of religious instruction and training and that I cannot point to any single event in my life which wrought a definite change from unbelief to belief. a.
- b) Although there was a time in my life when I had no religious belief, the change from unbelief to belief has been a gradual one. b.
- c) Although I have always held some religious beliefs I can vividly recall the occasion when I became more vitally committed to these beliefs. c.
- d) There was a time in my life when religion had no interest for me and I can attribute my present religious commitment to a distinct point in my life at which I made a definite decision in favour of religion. d.
2. I consider myself to be:
- very religious quite religious moderately religious
 not very religious not at all religious.
3. On the whole I would say that my father was :
- very religious religious indifferent
 antagonistic very antagonistic.
4. On the whole I would say that my mother was :
- very religious religious indifferent
 antagonistic very antagonistic.
5. If at any time you have felt yourself to be religious how did the following factors influence you and to what degree did they contribute to this?:

	Does not apply.	Slight, somewhat influence.	Strong Important Influence
Influence of mother _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Influence of father _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conformity with tradition _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Influence of other relatives _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gratitude _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Studies in school or college _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Church teachings _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aesthetic appeal _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
University/College/School groups _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Religious camps _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Influence of friends of own age _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Illness or death _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crime _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other influence _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. To what degree has religion been an influence in your upbringing?
 very marked moderate slight none at all.
7. How, in general, does the firmness (or depth) of your belief in religion compare with your mother's belief?
 more firm about the same less firm don't know.
8. How, in general, does the firmness (or depth) of your belief in religion compare with your father's belief?
 more firm about the same less firm don't know.
9. How would you say that your own religious sentiments and needs compare with those of other young people of your own age?
 stronger than or about average or less than average.
10. Do you feel that your views regarding religion, no matter what they are, in any way mark you off from your contemporaries, so that you sometimes feel embarrassed or isolated because of these views?
 yes no doubtful.
-

APPENDIX II

APPENDIX II.RELIGIOUS COMMITMENT.

Select one of the 3 answers for each statement and mark X in the appropriate

Be sure to answer all statements.

1. I believe in God the Father Almighty, maker of heaven and earth.
 1. Agree, since available evidence proves that God made everything. (L)*
 2. Disagree, since available evidence suggests some type of spontaneous creation for which it is unnecessary to assume a God to create. (A)
 3. Agree, but only in the sense that this is an anthropomorphic way of talking about whatever Process, Being, or Ultimate Concern stands behind the creative process. (M)

2. I believe that men working and thinking together can build a just society without supernatural help.
 1. Disagree, since man without God's help can do very little that is good. (L)
 2. Agree, since men have and are increasing the ability and technical knowledge to improve society if they will apply this knowledge to the problems of society. (A)
 3. Disagree, although men's ability and technical knowledge is increasing, they must build on the ultimate power within oneself(sic) to understand and accomplish the full implications of justice and a good society. (M)

3. The writings of such commentators on human life as Plato, Aristotle, Dante, and Shakespeare are as much inspired as are the writings of Moses and Paul.
 1. Disagree, because the writings of Moses and Paul contain a special inspiration from God which other human writings do not have. (L)
 2. Agree, since there is really little difference in these writings. In fact, Plato and Aristotle may be even more important for us than Moses and Paul. (A)
 3. Disagree, although any writing may be inspired, the writings of Moses and Paul are especially significant because they form part of the revelation of God in history. (M)

4. All miracles in the Bible are true.
- 1. Agree, because the Bible cannot contain any false report of God's word. (L)
 - 2. Disagree, since "miracles" can be explained by our modern understanding of the principles by which nature and human society operate. (A)
 - 3. Agree, but only in the sense that "miracles" are a dramatic report and interpretation of a natural process, with the literary purpose of pointing to the sovereignty of God. (M)
5. Jesus was born of the Virgin in a manner different from human beings.
- 1. Disagree, although most religions claim a Virgin birth for their founder, we know that such an event is physically impossible. (A)
 - 2. Agree, but only in the sense that this is an ancient mythological way of talking about the Ultimate Reality as manifested in Jesus. (M)
 - 3. Agree, since God conceived Jesus in Mary's womb before she had sexual relationship with Joseph, her husband. (L)
6. The attempt to believe in a supernatural being is a sign of a person's failure to accept responsibility for his own life.
- 1. Agree, since belief in God is usually an escape from the problems of everyday life. Such belief does nothing to help solve one's problems. (A)
 - 2. Disagree, because belief in God is really the only way in which man can be saved and make his life worthwhile. (L)
 - 3. Disagree, since belief in God is basically man's way of talking about his full acceptance of personal responsibility in the face of ultimate and sometimes uncertain reality. (M)
7. I believe in the guidance of the Holy Spirit.
- 1. Agree, since God has said that he will be with us always. Prayer thus is an effective way of listening to God's guidance. (L)

2. Disagree, since the supernatural, if it exists at all, is in no way directly involved in telling man what to do. (A)
3. Agree, because this is one way of describing the involvement of God with his creation and man. (M)
8. The chief end of man is to glorify God and enjoy him forever.
1. Agree, since God created man and expects man to do God's will at all times. (L)
2. Disagree, since man must find his own purposes in life. There are probably no purposes for man which are apparent in nature. (A)
3. Agree, because the essential purpose of God is that man achieve his own maximum fulfillment through personal development and service to others. (M)
9. I believe Hell is a form of existence in a future life.
1. Disagree, since Hell is not a future life existence, but rather a present state in this life which occurs when man disregards his own code of ethics and/or the rights of other individuals. (M)
2. Disagree, since there is little, if any, evidence for any type of existence after this life. (A)
3. Agree, since there is ample evidence in the Bible and other authoritative sources for Hell as a form of future existence. (L)
10. The four gospels, Matthew, Mark, Luke and John, contain some legendary materials.
1. Agree, since most of the material in the gospels cannot be supported by other historical sources or is not relevant to life in today's world. (A)
2. Disagree, since nothing in the four gospels could be legendary or in error, because these are part of the Bible and therefore infallible. (L)
3. Agree, but this does not deny the basic purpose of the gospels, which is to use written language (however inadequate) to announce God's revelation of himself to man. (M)

11. We were made for fellowship with God and our hearts are restless until they rest in him.

- 1. Agree, although this is merely a way of talking about the ultimate nature of man's activities as being in some way related to God's purposes. (M)
- 2. Disagree, since man's restlessness results from his inability to identify with a group of persons and enjoy people about him, not in a supposed relation to some God. (A)
- 3. Agree, since God's basic purpose in creating man is so that man can be a companion to God. (L)

12. Man is saved by the free gift of God's grace.

- 1. Agree, since the Bible clearly states that salvation is by man's faith in God and his grace. (L)
- 2. Disagree, since whatever salvation there is must come through man's work in the world about him. (A)
- 3. Agree, since this is a traditional expression which really refers to the unconditional nature of God's grace toward man. (M)

13. The biblical writers were endowed with a divine wisdom which enabled them to foretell specific events in the distant future.

- 1. Disagree, since the basic purpose of prophecy in the Bible was to announce God's judgement of the ways in which that present generation failed to act in harmony with God's purposes for man. (M)
- 2. Agree, since many of these prophecies either came true in earlier history, in the Bible, or are coming true in the world today. (L)
- 3. Disagree, since the biblical writers had no greater wisdom than other men of their day. Any prophecies which may have come true were the result of a knowledge of cause and effect which any man could achieve. (A)

14. Man is ultimately responsible to God.

- 1. Disagree, because man is finally responsible only to himself and his society. (A)

- 2. Agree, because this is a way of describing the basic assumption upon which all other concepts of responsibility depend. (M)
- 3. Agree, because God has created man in his image and expects man to do God's will. (L)

15. God is only a symbol of man's ideals.

- 1. Disagree, although man's experiences may be symbolized in the image of God, the reality of God always transcends man's symbols for that reality. (M)
- 2. Agree, since religious men tend to ascribe to God their own highest ideals. (A)
- 3. Disagree, since there is clear evidence for a real God who is much more than just the result of man's rational powers. (L)

16. Jesus walked on water and raised the dead.

- 1. Disagree, since these are probably exaggerated reports of events which could be explained through our knowledge of nature. (A)
- 2. Agree, since there are several accounts in which Jesus actually brought a physically dead person back to life. These accounts provide evidence for God's power over nature. (L)
- 3. Agree, but only in the sense that these are figurative ways of describing man's awareness of the meaning of life in relation to the revelation of God. (M)

17. The biblical story of creation is probably based on one of the early Babylonian myths.

- 1. Agree, but the basic purpose of the creation story is to symbolize God's creative and redemptive relation to the universe and to man. (M)
- 2. Disagree, since the biblical story of creation has not been duplicated in any way at any time. It refers to God's creation of the world and man. (L)

3. Agree, since most religions provide such a creation story. Modern scientific theories of the origin of the universe have replaced these ancient accounts. (A)

L A M

* Not included on the questionnaire the subject completed.

L = Literal A = Antiliteral M = Mythological.

APPENDIX III

APPENDIX III.ATTITUDES AND BELIEFS.

Read each statement carefully and decide if it is true or false or to which degree it is true or false. If you are completely sure that the statement is true, make the X in the box number 1; if you think it is to some extent true, make it near to true. You are actually rating your beliefs of how true or how false a particular statement is.

1. (1)^x There is a personal God.
 Certainly true 1 2 3 4 5 6 7 Certainly false.
2. (2) Jesus Christ was God the Son.
 Certainly true 1 2 3 4 5 6 7 Certainly false.
3. (3) There are spiritual realities of some kind.
 Certainly true 1 2 3 4 5 6 7 Certainly false.
4. (4) The world was created by God.
 Certainly true 1 2 3 4 5 6 7 Certainly false.
5. (5) There is a personal Devil.
 Certainly true 1 2 3 4 5 6 7 Certainly false.
6. (6)⁻ Matter is the sole reality.
 Certainly true 1 2 3 4 5 6 7 Certainly false.
7. (7) There is a God who is all-powerful.
 Certainly true 1 2 3 4 5 6 7 Certainly false.
8. (8) There is a God who is altogether good.
 Certainly true 1 2 3 4 5 6 7 Certainly false.
9. (9) There are such spiritual beings as angels.
 Certainly true 1 2 3 4 5 6 7 Certainly false.
10. (10) Jonah was swallowed by a great fish and afterwards emerged alive.
 Certainly true 1 2 3 4 5 6 7 Certainly false.

11. (11) Man has been evolved from lower forms of life.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
12. (12) There is an impersonal God.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
13. (13) Evil is a reality.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
14. (14) The spirits of human beings continue to exist after the
 death of their bodies.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
15. (15) Religion is the opium of the people.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
16. (16)⁻ There is no God (personal or impersonal).
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
17. (17) The universe is expanding.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
18. (18) Attendance at church is a better way of spending Sunday than
 taking a walk in the country.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
19. [†] Jesus changed water into wine.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
20. ^{*} God made man out of dust and breathed life into him.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
21. ^{*-} There is no life after death.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
22. (19) Moses was the author of the first five books of the Bible.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
23. (20) Christianity is a better religion than Buddhism.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.

24. (21) The Bible is literally true in all its parts.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
25. (22) Man is, in some degree, responsible for his actions.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
26. (23) There is a Hell in which the wicked will be everlastingly
 punished.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
27. (24) The spirits of persons who have died can sometimes communicate
 with the living.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
28. (25) Right will triumph.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
- 29.* Jesus Christ was born of a Virgin.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
- 30.* Jesus walked upon the water while his disciples waited for
 him in their boat.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
31. (26) Belief in evolution is compatible with belief in a Creator.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
32. (27) Hardships strengthen character.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
33. (28) Piet Retief was killed by Dingaan's soldiers between
 1840 to 1850.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
34. (29) Everything is relative.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
35. (30) Tigers are found in parts of China.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
36. (31) Hornets live in nests under the ground.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.

37. (32) Sex is evil.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
38. (33) Light travels to us from the sun in less than one minute.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
39. (34) Bacon was the author of the plays attributed to Shakespeare.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
40. (35) Green is a primary colour.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
41. (36) Sunlight is good for human health.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
42. (37) Members of the leisured class are supported by the 'surplus
 value' created by the workers.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
43. (38) Tariffs improve trade.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
44. (39) Rhodesia has, on the whole, benefited from British rule.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
45. (40) The total national debt of South Africa is more than ten
 thousand million Rand.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
- 46.* Salvation is only for Christian believers.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.
- 47.* It makes no difference whether one is a Christian or not, as
 long as one has good will for others.
 Certainly 1 2 3 4 5 6 7 Certainly
 true false.

* Order as in Thouless' questionnaire.

* Items included by Brown (1962A).

- Scoring reversed.

APPENDIX IV

APPENDIX IV.PERSONAL OPINION.

The following is a study of what the general public thinks and feels about a number of important social and personal questions.

The best answer to each statement below is your personal opinion.

We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Mark each statement according to how much you agree or disagree with it.

1	2	3	4	5	6
I agree very much	I agree on the whole	I agree little	I disagree little	I disagree on the whole	I disagree very much

1. The United States and Russia have just about nothing in common.

Strongly agree 1 2 3 4 5 6 Disagree strongly

2. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

Strongly agree 1 2 3 4 5 6 Disagree strongly

3. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

Strongly agree 1 2 3 4 5 6 Disagree strongly

4. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.

Strongly agree 1 2 3 4 5 6 Disagree strongly

5. Man on his own is a helpless and miserable creature.

Strongly agree 1 2 3 4 5 6 Disagree strongly

1	2	3	4	5	6
I agree very much	I agree on the whole	I agree little	I disagree little	I disagree on the whole	I disagree very much

6. Fundamentally, the world we live in is a pretty lonesome place.
- Strongly agree 1 2 3 4 5 6 Disagree strongly
7. Most people just don't give a "damn" for others.
- Strongly agree 1 2 3 4 5 6 Disagree strongly
8. I'd like it, if I could find someone who would tell me how to solve my personal problems.
- Strongly agree 1 2 3 4 5 6 Disagree strongly
9. It is only natural for a person to be rather fearful of the future.
- Strongly agree 1 2 3 4 5 6 Disagree strongly
10. There is so much to be done and so little time to do it in.
- Strongly agree 1 2 3 4 5 6 Disagree strongly
11. Once I get wound up in a heated discussion I just can't stop.
- Strongly agree 1 2 3 4 5 6 Disagree strongly
12. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
- Strongly agree 1 2 3 4 5 6 Disagree strongly
13. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what the others are saying.
- Strongly agree 1 2 3 4 5 6 Disagree strongly
14. It is better to be a dead hero than to be a live coward.
- Strongly agree 1 2 3 4 5 6 Disagree strongly

1	2	3	4	5	6
I agree very much	I agree on the whole	I agree little	I disagree little	I disagree on the whole	I disagree very much

15. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, or Beethoven, or Shakespeare.

Strongly agree 1 2 3 4 5 6 Disagree strongly

16. The main thing in life is for a person to want to do something important.

Strongly agree 1 2 3 4 5 6 Disagree strongly

17. If given the chance I would do something of great benefit to the world.

Strongly agree 1 2 3 4 5 6 Disagree strongly

18. In the history of mankind there have probably been just a handful of real great thinkers.

Strongly agree 1 2 3 4 5 6 Disagree strongly

19. There are a number of people I have come to hate because of the things they stand for.

Strongly agree 1 2 3 4 5 6 Disagree strongly

20. A man who does not believe in some great cause has not really lived.

Strongly agree 1 2 3 4 5 6 Disagree strongly

21. It is only when a man devotes himself to an ideal or cause that life becomes meaningful.

Strongly agree 1 2 3 4 5 6 Disagree strongly

22. Of all the different philosophies which exist in this world there is probably only one which is correct.

Strongly agree 1 2 3 4 5 6 Disagree strongly

1	2	3	4	5	6
I agree very much	I agree on the whole	I agree little	I disagree little	I disagree on the whole	I disagree very much

23. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.

Strongly agree 1 2 3 4 5 6 Disagree strongly

24. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

Strongly agree 1 2 3 4 5 6 Disagree strongly

25. When it comes to differences of opinion in religion one must be careful not to compromise with those who believe differently from the way we do.

Strongly agree 1 2 3 4 5 6 Disagree strongly

26. In times like these, a person must be pretty selfish if he considers primarily his own happiness.

Strongly agree 1 2 3 4 5 6 Disagree strongly

27. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.

Strongly agree 1 2 3 4 5 6 Disagree strongly

28. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.

Strongly agree 1 2 3 4 5 6 Disagree strongly

29. A group which tolerates too much differences of opinion among its own members cannot exist for long.

Strongly agree 1 2 3 4 5 6 Disagree strongly

1	2	3	4	5	6
I agree very much	I agree on the whole	I agree little	I disagree little	I disagree on the whole	I disagree very much

30. There are two kinds of people in this world: those who are for the truth and those who are against the truth.

Strongly agree 1 2 3 4 5 6 Disagree strongly

31. My blood boils whenever a person stubbornly refuses to admit he's wrong.

Strongly agree 1 2 3 4 5 6 Disagree strongly

32. A person who thinks primarily of his own happiness is beneath contempt.

Strongly agree 1 2 3 4 5 6 Disagree strongly

33. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

Strongly agree 1 2 3 4 5 6 Disagree strongly

34. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

Strongly agree 1 2 3 4 5 6 Disagree strongly

35. It is often desirable to reserve judgement about what's going on until one has had a chance to hear the opinions of those one respects.

Strongly agree 1 2 3 4 5 6 Disagree strongly

36. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

Strongly agree 1 2 3 4 5 6 Disagree strongly

37. The present is all too often full of unhappiness. It is only the future that counts.

Strongly agree 1 2 3 4 5 6 Disagree strongly

1	2	3	4	5	6
I agree very much	I agree on the whole	I agree little	I disagree little	I disagree on the whole	I disagree very much

38. If a man is to accomplish his mission in life it is sometimes necessary to gamble "all or nothing at all".

Strongly agree 1 2 3 4 5 6 Disagree strongly

39. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.

Strongly agree 1 2 3 4 5 6 Disagree strongly

40. Most people just don't know what's good for them.

Strongly agree 1 2 3 4 5 6 Disagree strongly

Appendix V

APPENDIX V.ATTITUDES AND INTERESTS.

The following questions are to see what attitudes and interests you have. There is no "right" and "wrong" answers because everyone has the right to his own views.

Record your answers on the answer sheet which you will find at the back of this questionnaire. You may tear it off and put an X on the a, b or c box, depending on which one you choose.

When you answer, keep these four points in mind:

1. You are asked not to spend time pondering. Give the first, natural answer as it comes to you. Of course, the questions are too short to give you all the particulars you would sometimes like to have. For instance, the above question asks you about "team games" and you might be fonder of football than basketball. But you are to reply "for the average game", or to strike an average in situations of the kind stated. Give the best answer you can at a rate not slower than five or six a minute. You should finish in a little more than half an hour.
2. Try not to fall back on the middle, "uncertain" answers except when the answer at either end is really impossible for you - perhaps once every four or five questions.
3. Be sure not to skip anything, but answer every question, somehow. Some may not apply to you very well, but give your best guess. Some may seem personal; but remember that the answer sheets are kept confidential and cannot be scored without a special stencil key. Answers to particular questions are not inspected.
4. Answer as honestly as possible what is true of you. Do not merely mark what seems "the right thing to say" to impress the examiner.

1. I have the instructions for this test clearly in mind.
a. yes, b. uncertain, c. no.
2. I am ready to answer each question as truthfully as possible.
a. yes, b. uncertain, c. no.
3. I would rather have a house:
a. in a sociable suburb,
b. in between,
c. alone in the deep woods.
4. I can find enough energy to face my difficulties.
a. always, b. generally, c. seldom.
5. I feel a bit nervous of wild animals even when they are in strong cages.
a. yes (true), b. uncertain, c. no (false).
6. I hold back from criticizing people and their ideas.
a. yes, b. sometimes, c. no.
7. I make smart, sarcastic remarks to people if I think they deserve it.
a. generally, b. sometimes, c. never.
8. I prefer semiclassical music to popular tunes.
a. true, b. uncertain, c. false.
9. If I saw two neighbors' children fighting, I would:
a. leave them to settle it,
b. uncertain,
c. reason with them.
10. On social occasions I:
a. readily come forward,
b. in between,
c. prefer to stay quietly in the background.
11. It would be more interesting to be:
a. a construction engineer,
b. uncertain,
c. a writer of plays.
12. I would rather stop in the street to watch an artist painting than listen to some people having a quarrel.
a. true, b. uncertain, c. false.
13. I can generally put up with conceited people, even though they brag or show they think too well of themselves.
a. yes, b. in between, c. no.

14. You can almost always notice on a man's face when he is dishonest.
a. yes, b. in between, c. no.
15. It would be good for everyone if vacations (holidays) were longer and everyone had to take them.
a. agree, b. uncertain, c. disagree.
16. I would rather take the gamble of a job with possibly large but uneven earnings, than one with a steady, small salary.
a. yes, b. uncertain, c. no.
17. I talk about my feelings:
a. only if necessary,
b. in between,
c. readily, whenever I have a chance.
18. Once in a while I have a sense of vague danger or sudden dread for reasons that I do not understand.
a. yes, b. in between, c. no.
19. When criticized wrongly for something I did not do, I:
a. have no feeling of guilt,
b. in between,
c. still feel a bit guilty.
20. Money can buy almost everything.
a. yes, b. uncertain, c. no.
21. My decisions are governed more by my:
a. heart,
b. feelings and reason equally,
c. head.
22. Most people would be happier if they lived more with their fellows and did the same things as others.
a. yes, b. in between, c. no.
23. I occasionally get puzzled, when looking in a mirror, as to which is my right and left.
a. true, b. uncertain, c. false.
24. When talking, I like:
a. to say things, just as they occur to me,
b. in between,
c. to get my thoughts well organized first.
25. When something really makes me furious, I find I calm down again quite quickly.
a. yes, b. in between, c. no.

26. With the same hours and pay, it would be more interesting to be:
- a. a carpenter or cook,
 - b. uncertain,
 - c. a waiter in a good restaurant.
27. I have been elected to:
- a. only a few offices,
 - b. several,
 - c. many offices.
28. "Spade" is to "dig" as "knife" is to:
- a. sharp, b. cut, c. point.
29. I sometimes can't get to sleep because an idea keeps running through my mind.
- a. true, b. uncertain, c. false.
30. In my personal life I reach the goals I set, almost all the time.
- a. true, b. uncertain, c. false.
31. An out-dated law should be changed:
- a. only after considerable discussion,
 - b. in between,
 - c. promptly.
32. I am uncomfortable when I work on a project requiring quick action affecting others.
- a. true, b. in between, c. false.
33. Most of the people I know would rate me as an amusing talker.
- a. yes, b. uncertain, c. no.
34. When I see "sloppy", untidy people, I:
- a. just accept it,
 - b. in between,
 - c. get disgusted and annoyed.
35. I get slightly embarrassed if I suddenly become the focus of attention in a social group.
- a. yes, b. in between, c. no.
36. I am always glad to join a large gathering, for example, a party, dance, or public meeting.
- a. yes, b. in between, c. no.
37. In school I preferred (or prefer):
- a. music,
 - b. uncertain,
 - c. handwork and crafts.

38. When I have been put in charge of something, I insist that my instructions are followed or else I resign.
a. yes, b. sometimes, c. no.
39. For parents, it is more important to:
a. help their children develop their affections,
b. in between,
c. teach their children how to control emotions.
40. In a group task I would rather:
a. try to improve arrangements,
b. in between,
c. keep the records and see that rules are followed.
41. I feel a need every now and then to engage in a tough physical activity.
a. yes, b. in between, c. no.
42. I would rather mix with people than rough, rebellious individuals.
a. yes, b. in between, c. no.
43. I feel terribly dejected when people criticize me in a group.
a. true, b. in between, c. false.
44. If I am called in by my boss, I:
a. make it a chance to ask for something I want,
b. in between,
c. fear I've done something wrong.
45. What this world needs is:
a. more steady and "solid" citizens,
b. uncertain,
c. more "idealists" with plans for a better world.
46. I am always keenly aware of attempts at propaganda in things I read.
a. yes, b. uncertain, c. no.
47. As a teenager, I joined in school sports:
a. occasionally,
b. fairly often,
c. a great deal.
48. I keep my room well organized, with things in known places almost all the time.
a. yes, b. in between, c. no.
49. I sometimes get in a state of tension and turmoil as I think of the day's happenings.
a. yes, b. in between, c. no.

50. I sometimes doubt whether people I am talking to are really interested in what I am saying.
a. yes, b. in between, c. no.
51. If I had to choose, I would rather be:
a. a forester,
b. uncertain,
c. a high school teacher.
52. For special holidays and birthdays, I:
a. like to give personal presents,
b. uncertain,
c. feel that buying presents is a bit of a nuisance.
53. "Tired" is to "work" as "proud" is to:
a. smile, b. success, c. happy.
54. Which of the following items is different in kind from the others:
a. candle, b. moon, c. electric light.
55. I have been let down by my friends:
a. hardly ever,
b. occasionally,
c. quite a lot.
56. I have some characteristics in which I feel definitely superior to most people.
a. yes, b. uncertain, c. no.
57. When I get upset, I try hard to hide my feelings from others.
a. true, b. in between, c. false.
58. I like to go out to a show or entertainment:
a. more than once a week (more than average),
b. about once a week (average),
c. less than once a week (less than average).
59. I think that plenty of freedom is more important than good manners and respect for the law.
a. true, b. uncertain, c. false.
60. I tend to keep quiet in the presence of senior persons (people of greater experience, age, or rank).
a. yes, b. in between, c. no.
61. I find it hard to address or recite to a large group.
a. yes, b. in between, c. no.

62. I have a good sense of direction (find it easy to tell which is North, South, East, or West) when in a strange place.
a. yes, b. in between, c. no.
63. If someone got mad at me, I would:
a. try to calm him down,
b. uncertain,
c. get irritated.
64. When I read an unfair magazine article, I am more inclined to forget it than to feel like "hitting back".
a. true, b. uncertain, c. false.
65. My memory tends to drop a lot of unimportant, trivial things, for example, names of streets or stores in town.
a. yes, b. in between, c. no.
66. I could enjoy the life of an animal doctor, handling disease and surgery of animals.
a. yes, b. in between, c. no.
67. I eat my food with gusto, not always so carefully and properly as some people.
a. true, b. uncertain, c. false.
68. There are times when I don't feel in the right mood to see anyone.
a. very rarely, b. in between, c. quite often.
69. People sometimes warn me that I show my excitement in voice and manner too obviously.
a. yes, b. in between, c. no.
70. As a teenager, if I differed in opinion from my parents, I usually:
a. kept my own opinion,
b. in between,
c. accepted their authority.
71. I would prefer to have an office of my own, not sharing it with another person.
a. yes, b. uncertain, c. no.
72. I would rather enjoy life quietly in my own way than be admired for my achievements.
a. true, b. uncertain, c. false.
73. I feel mature in most things.
a. true, b. uncertain, c. false.

74. I find myself upset rather than helped by the kind of criticism that many people offer one.
a. often, b. occasionally, c. never.
75. I am always able to keep the expression of my feelings under exact control.
a. yes, b. in between, c. no.
76. In starting a useful invention, I would prefer:
a. working on it in the laboratory.
b. uncertain,
c. selling it to people.
77. "Surprise" is to "strange" as "fear" is to:
a. brave, b. anxious, c. terrible.
78. Which of the following fractions is not in the same class as the others?
a. $\frac{3}{7}$, b. $\frac{3}{9}$, c. $\frac{3}{11}$
79. Some people seem to ignore or avoid me, although I don't know why.
a. true, b. uncertain, c. false.
80. People treat me less reasonably than my good intentions deserve.
a. often, b. occasionally, c. never.
81. The use of foul language, even when it is not in a mixed group of men and women, still disgusts me.
a. yes, b. in between, c. no.
82. I have decidedly fewer friends than most people.
a. yes, b. in between, c. no.
83. I would hate to be where there wouldn't be a lot of people to talk to.
a. true, b. uncertain, c. false.
84. People sometimes call me careless, even though they think I'm a likeable person.
a. yes, b. in between, c. no.
85. "Stage-fright" in various social situations is something I have experienced:
a. quite often, b. occasionally, c. hardly ever.
86. When I am in a small group, I am content to sit back and let others do most of the talking.
a. yes, b. in between, c. no.

87. I prefer reading:
- a. a realistic account of military or political battles,
 - b. uncertain,
 - c. a sensitive, imaginative novel.
88. When bossy people try to "push me around", I do just the opposite of what they wish.
- a. yes,
 - b. in between,
 - c. no.
89. Business superiors or members of my family, as a rule, find fault with me only when there is real cause.
- a. true,
 - b. in between,
 - c. false.
90. In streets or stores, I dislike the way some persons stare at people.
- a. yes,
 - b. in between,
 - c. no.
91. On a long journey, I would prefer to:
- a. read something profound, but interesting,
 - b. uncertain,
 - c. pass the time talking casually with a fellow passenger.
92. In a situation which may become dangerous, I believe in making a fuss and speaking up even if calmness and politeness are lost.
- a. yes,
 - b. in between,
 - c. no.
93. If acquaintances treat me badly and show they dislike me:
- a. it doesn't upset me a bit,
 - b. in between,
 - c. I tend to get downhearted.
94. I find it embarrassing to have praise or compliments bestowed on me:
- a. yes,
 - b. in between,
 - c. no.
95. I would rather have a job with:
- a. a fixed, certain salary,
 - b. in between,
 - c. a larger salary, which depended on my constantly persuading people I am worth it.
96. To keep informed, I like:
- a. to discuss issues with people,
 - b. in between,
 - c. to rely on the actual news reports.
97. I like to take an active part in social affairs, committee work, etc.
- a. yes,
 - b. in between,
 - c. no.

98. In carrying out a task, I am not satisfied unless even the minor details are given close attention.
a. true, b. in between, c. false.
99. Quite small setbacks occasionally irritate me too much.
a. yes, b. in between, c. no.
100. I am always a sound sleeper, never walking or talking in my sleep.
a. yes, b. in between, c. no.
101. It would be more interesting to work in a business:
a. talking to customers,
b. in between,
c. keeping office accounts and records.
102. "Size" is to "length" as "dishonest" is to:
a. prison, b. sin, c. stealing.
103. AB is to dc as SR is to:
a. qp, b. pq, c. tu.
104. When people are unreasonable, I just:
a. keep quiet, b. uncertain, c. despise them.
105. If people talk loudly while I am listening to music, I:
a. can keep my mind on the music and not be bothered,
b. in between,
c. find it spoils my enjoyment and annoys me.
106. I think I am better described as:
a. polite and quiet,
b. in between,
c. forceful.
107. I attend social functions only when I have to, and stay away any other time.
a. yes, b. uncertain, c. no.
108. To be cautious and expect little is better than to be happy at heart, always expecting success.
a. true, b. uncertain, c. false.
109. In thinking of difficulties in my work, I:
a. try to plan ahead, before I meet them,
b. in between,
c. assume I can handle them when they come.
110. I find it easy to mingle among people at a social gathering.
a. true, b. uncertain, c. false.

111. When a bit of diplomacy and persuasion are needed to get people moving, I am generally the one asked to do it.
a. yes, b. in between, c. no.
112. It would be more interesting to be:
a. a guidance worker helping young people find jobs,
b. uncertain.
c. a manager in efficiency engineering.
113. If I am quite sure that a person is unjust or behaving selfishly, I show him up, even if it takes some trouble.
a. yes, b. in between, c. no.
114. I sometimes make foolish remarks in fun, just to surprise people and see what they will say.
a. yes, b. in between, c. no.
115. I would enjoy being a newspaper writer on drama, concerts, opera, etc.
a. yes, b. uncertain, c. no.
116. I never feel the urge to doodle and fidget when kept sitting still at a meeting.
a. true, b. uncertain, c. false.
117. If someone tells me something which I know is wrong, I am more likely to say to myself:
a. "He is a liar,"
b. in between,
c. "Apparently he is misinformed."
118. I feel some punishment is coming to me even when I have done nothing wrong.
a. often, b. occasionally, c. never.
119. The idea that sickness comes as much from mental as physical causes is much exaggerated.
a. yes, b. in between, c. no.
120. The pomp and splendor of any big state ceremony are things which should be preserved.
a. yes, b. in between, c. no.
121. It bothers me if people think I am being too unconventional or odd.
a. a lot, b. somewhat, c. not at all.
122. In constructing something I would rather work:
a. with a committee, b. uncertain, c. on my own.

123. I have periods when it's hard to stop a mood of self-pity.
a. often, b. occasionally, c. never.
124. Often I get angry with people too quickly.
a. yes, b. in between, c. no.
125. I can always change old habits without difficulty and without slipping back.
a. yes, b. in between, c. no.
126. If the earnings were the same, I would rather be:
a. a lawyer,
b. uncertain,
c. a navigator or pilot.
127. "Better" is to "worst" as "slower" is to:
a. fast, b. best, c. quickest.
128. Which of the following should come next at the end of this row of letters: xooooxooooxxx?
a. oxxx, b. oox, c. xooo.
129. When the time comes for something I have planned and looked forward to, I occasionally do not feel up to going.
a. true, b. in between, c. false.
130. I can work carefully on most things without being bothered by people making a lot of noise around me:
a. yes, b. in between, c. no.
131. I occasionally tell strangers things that seem to me important, regardless of whether they ask about them.
a. yes, b. in between, c. no.
132. I spend much of my spare time talking with friends about social events enjoyed in the past.
a. yes, b. in between, c. no.
133. I enjoy doing "daring," foolhardy things "just for fun."
a. yes, b. in between, c. no.
134. I find the sight of an untidy room very annoying.
a. yes, b. in between, c. no.
135. I consider myself a very sociable, outgoing person.
a. yes, b. in between, c. no.
136. In social contacts I:
a. show my emotions as I wish,
b. in between,
c. keep my emotions to myself.

137. I enjoy music that is:
 a. light, dry, and brisk,
 b. in between,
 c. emotional and sentimental.
138. I admire the beauty of a poem more than that of a well-made gun.
 a. yes, b. uncertain, c. no.
139. If a good remark of mine is passed by, I:
 a. let it go,
 b. in between,
 c. give people a chance to hear it again.
140. I would like to work as a probation officer with criminals on parole.
 a. yes, b. in between, c. no.
141. One should be careful about mixing with all kinds of strangers, since there are dangers of infection and so on.
 a. yes, b. uncertain, c. no.
142. In travelling abroad, I would rather go on an expertly conducted tour than plan by myself the places I wish to visit.
 a. yes, b. uncertain, c. no.
143. I am properly regarded as only a plodding, half-successful person.
 a. yes, b. uncertain, c. no.
144. If people take advantage of my friendliness, I do not resent it and I soon forget.
 a. true, b. uncertain, c. false.
145. If a heated argument develop between other members taking part in a group discussion, I would:
 a. like to see a "winner,"
 b. in between,
 c. wish that it would be smoothed over.
- 146. I like to do my planning alone, without interruptions and suggestions from others.
 a. yes, b. in between, c. no.
147. I sometimes let my actions get swayed by feelings of jealousy.
 a. yes, b. in between, c. no.
148. I believe firmly "the boss may not always be right, but he always has the right to be boss."
 a. yes, b. uncertain, c. no.

149. I get tense as I think of all the things lying ahead of me.
a. yes, b. sometimes, c. no.
150. If people shout suggestions when I'm playing a game, it doesn't upset me.
a. true, b. uncertain, c. false.
151. It would be more interesting to be:
a. an artist,
b. uncertain,
c. a secretary running a club.
152. Which of the following words does not properly belong with the others?
a. any, b. some, c. most.
153. "Flame" is to "heat" as "rose" is to:
a. thorn, b. red petals, c. scent.
154. I have vivid dreams, disturbing my sleep.
a. often, b. occasionally, c. practically never.
155. If the odds are really against something's being a success, I still believe in taking the risk.
a. yes, b. in between, c. no.
156. I like it when I know so well what the group has to do that I naturally become the one in command.
a. yes, b. in between, c. no.
157. I would rather dress with quiet correctness than with eye-catching personal style.
a. true, b. uncertain, c. false.
158. An evening with a quiet hobby appeals to me more than a lively party.
a. true, b. uncertain, c. false.
159. I close my mind to well-meant suggestions of others, even though I know I shouldn't.
a. occasionally, b. hardly ever, c. never.
160. I always make it a point, in deciding anything, to refer to basic rules of right and wrong.
a. yes, b. in between, c. no.
161. I somewhat dislike having a group watch me at work.
a. yes, b. in between, c. no.
162. Because it is not always possible to get things done by gradual, reasonable methods, it is sometimes necessary to use force.
a. true, b. in between, c. false.

163. In school I preferred (or prefer):
a. English, b. uncertain, c. mathematics or arithmetic.
164. I have sometimes been troubled by people's saying bad things about me behind my back, with no grounds at all.
a. yes, b. uncertain, c. no.
165. Talk with ordinary, habit-bound, conventional people:
a. is often quite interesting and has a lot to it,
b. in between,
c. annoys me because it deals with trifles and lacks depth.
166. Some things make me so angry that I find it best not to speak.
a. yes, b. in between, c. no.
167. In education, it is more important to:
a. give the child enough affection,
b. in between,
c. have the child learn desirable habits and attitudes.
168. People regard me as a solid, undisturbed person, unmoved by ups and downs in circumstances.
a. yes, b. in between, c. no.
169. I think society should let reason lead it to new customs and throw aside old habits or mere traditions.
a. yes, b. in between, c. no.
170. I think it is more important in the modern world to solve:
a. the question of moral purpose,
b. uncertain,
c. the political difficulties.
171. I learn better by:
a. reading a well-written book,
b. in between,
c. joining a group discussion.
172. I like to go my own way instead of acting on approved rules.
a. true, b. uncertain, c. false.
173. I like to wait till I am sure that what I am saying is correct, before I put forth an argument.
a. always, b. generally, c. only if it's practicable.
174. Small things sometimes "get on my nerves" unbearably, though I realize they are trivial.
a. yes, b. in between, c. no.

175. I don't often say things on the spur of the moment that I greatly regret.
a. true, b. uncertain, c. false.
176. If asked to work with a charity drive, I would
a. accept, b. uncertain, c. politely say I'm too busy.
177. Which of the following words does not belong with the others?
a. wide, b. zigzag, c. straight.
178. "Soon" is to "never" as "near" is to:
a. nowhere, b. far, c. away.
179. If I make an awkward social mistake, I can soon forget it.
a. yes, b. in between, c. no.
180. I am known as an "idea man" who almost always puts forward some ideas on a problem.
a. yes, b. in between, c. no.
181. I think I am better at showing:
a. nerve in meeting challenges,
b. uncertain,
c. tolerance of other people's wishes.
182. I am considered a very enthusiastic person.
a. yes, b. in between, c. no.
183. I like a job that offers change, variety, and travel, even if it involves some danger.
a. yes, b. in between, c. no.
184. I am a fairly strict person, insisting on always doing things as correctly as possible.
a. true, b. in between, c. false.
185. I enjoy work that requires conscientious, exacting skills.
a. yes, b. in between, c. no.
186. I'm the energetic type who keeps busy.
a. yes, b. uncertain, c. no.
187. I am sure there are no questions that I have skipped or failed to answer properly.
a. yes, b. uncertain, c. no.

APPENDIX VI

A	B	C	E	F	G	H	I	L	M	N	O	Q ₁	Q ₂	Q ₃	Q ₄	
<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	<input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c
<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d	<input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d <input type="checkbox"/> d
<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a	<input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a <input type="checkbox"/> a
<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b	<input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b <input type="checkbox"/> b
176 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	177 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	178 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	179 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	180 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	181 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	182 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	183 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	184 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	185 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	186 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	187 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	188 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	189 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	190 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	191 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	192 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c
151 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	152 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	153 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	154 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	155 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	156 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	157 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	158 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	159 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	160 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	161 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	162 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	163 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	164 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	165 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	166 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	167 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c
126 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	127 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	128 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	129 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	130 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	131 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	132 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	133 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	134 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	135 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	136 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	137 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	138 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	139 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	140 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	141 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	142 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c
101 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	102 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	103 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	104 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	105 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	106 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	107 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	108 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	109 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	110 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	111 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	112 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	113 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	114 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	115 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	116 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	117 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c
76 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	77 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	78 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	79 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	80 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	81 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	82 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	83 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	84 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	85 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	86 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	87 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	88 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	89 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	90 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	91 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	92 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c
51 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	52 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	53 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	54 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	55 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	56 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	57 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	58 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	59 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	60 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	61 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	62 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	63 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	64 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	65 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	66 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	67 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c
26 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	27 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	28 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	29 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	30 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	31 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	32 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	33 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	34 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	35 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	36 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	37 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	38 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	39 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	40 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	41 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	42 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c
1 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	2 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	3 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	4 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	5 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	6 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	7 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	8 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	9 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	10 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	11 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	12 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	13 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	14 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	15 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	16 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	17 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c
18 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	19 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	20 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	21 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	22 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	23 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	24 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	25 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	26 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	27 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	28 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	29 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	30 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	31 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	32 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	33 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c	34 <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c <input type="checkbox"/> c

FILL IN THE BOX COMPLETELY ERASE ENTIRELY ANY ANSWER YOU WISH TO CHANGE.

END OF TEST

Do not write here.

NORMS USED:

HS

Collt

Gen Pop

A

B

A + B

M

F

APPENDIX VI.PERSONAL RELIGIOUS EXPERIENCE.

Please indicate to what extent you agree by putting an X in the appropriate . Try not to fall back on the middle "uncertain" answers too many times.

1. How often do you pray privately in places other than at Church? (D)*
 regularly fairly regularly occasionally seldom/never
2. How often do you ask God to forgive your sin? (D)
 regularly fairly regularly occasionally seldom/never
3. Private prayer is one of the most important and satisfying aspects of my religious experience. (D)
 strongly agree agree disagree strongly disagree
4. When you have decisions to make in your everyday life, how often do you try to find out what God wants you to do? (D)(G.S.)
 regularly fairly regularly occasionally seldom/never
5. I frequently feel very close to God in prayer, during public worship, or at important moments in my daily life. (D)
 strongly agree agree disagree strongly disagree
6. How often have you taken Holy Communion (The Lord's Supper, The Eucharist) during the past year? (C.A.)
 regularly fairly regularly occasionally seldom/never
7. During the last year, how many Sundays per month on the average have you gone to a worship service? (C.A.)(Scoring reversed)
 none 1 2 3 or more.
8. If not prevented by unavoidable circumstances, I attend Church: (C.A.)
 more than once a week about once a week 2 or 3 times a month less than once a month
9. How would you rate your activity in your congregation? (O.A.)
 very active active slight active inactive
10. How often do you spend evenings at Church meetings or in Church work? (O.A.)
 regularly fairly regularly occasionally seldom/never
11. I enjoy working in the activities of the Church, (O.A.)
 strongly agree agree disagree strongly disagree
12. Church activities (meetings, committee work, etc.) are a major source of satisfaction in my life. (O.A.)
 strongly agree agree disagree strongly disagree

13. I keep pretty well informed about my congregation and have some influence on its decisions. (O.A.)
 strongly agree agree disagree strongly disagree
14. List the church offices, committees, or jobs of any kind in which you served during the past 12 months: (O.A.)
 a) d)
 b) e)
 c) f)
15. Last year, approximately what per cent of your income was contributed to the Church? (F) (Scoring reversed)
 1% or less 2 - 4% 5 - 9% 10% or more
16. How often do you read literature about your faith (or church)? (G.S.)
 frequently occasionally rarely never
17. I make financial contributions to Church: (F)
 in regular planned amounts irregularly but fairly often irregularly and only occasionally seldom or never
18. How often do you read the Bible? (G.S.)(B.)
 regularly fairly regularly occasionally seldom/never
19. During the last year, what was your average monthly contribution towards your congregation and/or other Christian organizations? (F) (Scoring reversed).
 under R1 under R5 R10 above R10
20. In proportion to your income, do you consider that your contributions to the church are: (F)
 generous substantial modest small
21. I try hard to grow in understanding of what it means to live as a child of God. (G.S.)
 strongly agree agree disagree strongly disagree
22. During the last year, how often have you made contributions to the Church in addition to the general budget and Sunday School? (F)
 regularly fairly regularly occasionally never
23. The amount of time I spend trying to grow in understanding of my faith is: (G.S.)
 very much above average not much little or none
24. I try hard to carry my religion over into all my other dealings in life. (G.S.)
 strongly agree agree disagree strongly disagree

25. How often in the last year have you shared with another christian the problems and joys of trying to live a life of faith in God?(B)
 regularly fairly frequently occasionally seldom/never
26. How often have you personally tried to convert someone to faith in Jesus Christ (God)? (B)
 regularly fairly frequently occasionally seldom/never
27. How often do you talk about religion with your friends, neighbours, or fellow workers? (B)
 regularly fairly frequently occasionally seldom/never
28. When faced by decisions regarding social problems, how often do you seek guidance from statements and publications provided by the Church? (B)
 regularly fairly frequently occasionally seldom/never
29. How often do you talk with the pastor (or some other official) about some part of the worship service: e.g. the sermon, scripture, choice of hymns, etc. (B)
 regularly fairly frequently occasionally seldom/never
30. During the last year, how often have you visited someone in need, besides your own relatives? (B)
 regularly fairly frequently occasionally seldom/never

* D = Devotionalism; C.A. = Church Attendance; O.A. = Organizational Activity; F = Financial Support; G.S. = Growth and Striving; B = Talking and Reading about Religion (Behaviour).