AN EMPIRICAL ANALYSIS OF RELIGIOUS ORIENTATION

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To The Graduate Council:

We are submitting herewith a thesis written by William Henry Vaughan, III, entitled "An Empirical Analysis of Religious Orientation." We recommend that it be accepted for eight hours credit in partial fulfillment of the requirement for the degree of Master of Arts with a major in psychology (counseling and guidance).

Director of Graduate Study

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Major Professor

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An Abstract of a Thesis Submitted to

The Graduate Council of Austin Peay State College

In Partial Fulfillment of the Requirements for the Degree of Master of Arts in Education

1965

by

William Henry Vaughan, III
B.A., Austin Peay State College, 1964

ABSTRACT

The Problem. This study was an empirical analysis of the term religious orientation; that is to say, this study was an attempt to further define religious orientation through specifying certain measurable dimensions, namely dogmatism and rigidity.

The Procedure. The Tulane Factors of Liberalism Conservatism, Religious Scale, Rokeach's Dogmatism Scale,
and the Gough-Sanford Rigidity Scale were administered
to I54 undergraduates at Austin Peay State College.
Scores were obtained for I49 of these subjects. A thorough
statistical analysis was then performed upon the data.

The Results. The results indicated that religious orientation, as measured by the Tulane Factors of Liberalism - Conservatism, Religious Scale, is more closely related to dogmatism, as measured by Rokeach's Dogmatism Scale, than to rigidity, as measured by the Gough-Sanford Rigidity Scale. In other words, religious orientation tends to permeate the individual's total belief system rather than being isolated as a specific set of beliefs.

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CHAPTER I

THE PROBLEM

Statement of the problem. This study was an empirical analysis of the term religious orientation; that is to say, this study was an attempt to further define religious orientation through specifying certain measurable dimensions, namely dogmatism and rigidity.

Background of the problem. The problem was originally one of investigating the relationship between religious orientation and certain personality characteristics, namely rigidity and self-acceptance. In the early stages of the original study, it was found that, while adequate empirical definitions for rigidity and self-acceptance were available, no such definition of religious orientation was. The degree to which an individual's religious beliefs, i.e., religious orientation, permeates his total belief system had not been subjected to empirical investigation. Consequently, the focal point of the study was shifted to the problem of determining the relationship between an individual's religious orientation and that individual's total belief system through an empirical analysis.

The need for a further definition of religious orientation can be seen in the wide variety of uses to which the concept $^{\mathsf{l}}$ has been put

While the term concept has its own ambiguities and problems of definition, as used in the context above, it refers to several terms used interchangeably in the literature. Said terms include, in addition to religious orientation, religious affiliation, religious beliefs, religious groups, and religious sentiment.

in psychological research. Frumkin and Frumkin (1957), Kleiner, Tuckman, and Lavell (1962), and Hanawalt (1963) are a few researchers who have been concerned with the relationship of religious beliefs to mental health and mental disorders. In the research by Frumkin and Frumkin, the religious beliefs of the individuals studied were determined by a classification of their previous religious affiliation, i.e., Protestant, Roman Catholic, Jewish, or Greek Orthodox. The relationship of these categories to first admissions to Ohio State prolonged care mental hospitals was then investigated. Kleiner, Tuckman, and Lavell determined the religious orientation of the participants of their study by classifying their particular Protestant sub-group membership, i.e., Baptist, Methodist, Episcopalian, or Presbyterian. These classifications were ascribed high status and low status ratings before their relationship to mental disorders was investigated. Hanawalt determined the religious orientation of the participants of his study by distributing a religious attitude rating sheet on which the participants wrote their names and checked Catholic, Jewish, Protestant, or other. The participants also rated their religious beliefs as very strong, strong, moderate, slight, or none. The relationship between these measurements and feelings of selfesteem and security was then investigated. Francesco's comment is pertinent to recognizing the possible significance of religious orientation to personality structure. He stated: "Knowing the religious orientation of an individual might enable a clinician to anticipate important sectors of personality concomitants" (1962, p. 469).

In spite of the numerous studies involving religious beliefs, religious orientation, as used in contemporary research and related literature, has not been empirically related to personal belief systems. Allport (1960, p. 54) speaks of a religious sentiment which is synonymous with a religious system of beliefs. However, he has not subjected his concept of religious sentiment to empirical verification. The primary approach in research related to religious beliefs has been to define religious orientation, not through empirical investigation, but by establishing a priori classifications and measuring the intensity of attitudes in regard to these classifications. For example, in the study of Hanawalt religious orientation was determined by two factors, religious affiliation and a self-rating of the strength of these beliefs. This does not account for the relationship of denominational dogma to the total belief system of the individual or for the liberal or conservative personal interpretation of various religious doctrines within religious denominations.

The ambiguities resulting from not having religious orientation empirically related to an individual's total belief system has left much to be desired in adequate interpretations of the significance of religious orientation to personality structure. An empirical analysis of this relationship is needed in order to make research in this area of religious beliefs and personality structure more valid.

Related literature. Little research and related literature dealing specifically with empirical analysis of religious beliefs was

found in a survey of the literature. However, the work of Rokeach, Broen, Kerr, Allport, Vernon, Lindzey, and Appleby is relevant. The work of Milton Rokeach (1960) has provided much new information regarding the structure and content of belief systems. One of his main contributions has been to differentiate between dogmatism and rigidity. This discrimination was highly relevant to this study's empirical analysis of religious orientation. Rokeach (p. 183) points out that both rigid and dogmatic thinking appear to be synonymous in that they both refer to resistance to change. However, a measurable distinction may be made between the two. Rokeach defines rigidity and dogmatism in the following manner:

Thus, the referent of dogmatic thinking seems to be a total cognitive configuration of ideas and beliefs organized into a relatively closed system; rigidity, on the other hand, points to difficulties in overcoming single sets or beliefs encountered in attacking, solving, or learning specific tasks or problems (p. 183).

The distinction which is pointed out in the definitions of rigidity and dogmatism is found in the specificity of rigidity. Rigidity refers to the resistance to change of specific beliefs or habits, whereas dogmatism refers to resistance to change of systems of beliefs. Dogmatism may be thought of as a general concept with rigidity existing as a specific concept within this general concept.

The importance of rigid and dogmatic thinking to an empirical analysis of the relationship between religious orientation and personal belief systems is significant and will be considered in relation to research concerned with defining religious orientation.

Broen (1957) provided support for the continued use of the concept religious orientation through an inverse factor analysis. In his research, he was able to isolate two basic religious attitude dimensions. These were a Nearness of God dimension and a Fundamentalism-Humanitarianism dimension. However, the relationship of these dimensions to the individual's total cognitive configuration of ideas and beliefs was not investigated by Broen.

Kerr (1955) plots religious orientation on a continuum ranging from a radical category on the extreme left to a reactionary category on the extreme right. In between these extreme poles are the liberal, center, and conservative categories. Again, there are problems with which this classification procedure does not cope. For example, one who makes an extreme reactionary score may be characterized as one who holds to fundamentalistic doctrines with their correlated ethics and religious practices. The question which now must be asked is whether this fundamentalistic orientation permeates the whole of the person's attitudes, beliefs, and feelings, or is his fundamentalism isolated to certain beliefs, attitudes, and feelings? If the former is the case, we may define religious orientation as a general concept, using the term in the sense of Rokeach's dogmatism. On the other hand, if the latter is the case, we may define religious orientation as a specific concept, using the term in the sense of Rokeach's rigidity. The problem thus becomes one of determining the degree of correlation between an individual's total belief system and that individual's religious orientation. The degree of correlation obtained will indicate whether religious orientation is a general or a specific concept.

In most instances instruments which purport to measure religious orientation follow rather standard categorical procedures. Allport, Vernon, and Lindzey (1960), in their Study of Values inventory, attempt to measure degree of religiosity through the use of "high," "average," and "low" profiles. Appleby (1958), in his study, administered a Religious Participation Scale leading to "high," "middle," "low," and "non-participant" classifications. Kerr (1955), in the Religious Scale of the Tulane Factors of Liberalism - Conservatism, plots religious orientation on a liberal--conservative continuum. Broen (1957) constructed a Religious Attitude Inventory based upon his inverse factor analysis of religious attitude dimensions. Thus, it would appear, with occasional exceptions, such as Broen, that current approaches to measuring religious orientation have been based on a priori classifications.

Restatement of the problem. To restate the problem, this study investigated the relationship between a measure of religious orientation and measures of dogmatism and rigidity. As a result of this investigation, it may be found that religious orientation can be defined as either a general concept permeating the individual's total belief system or a specific concept comprising but a segment of the individual's total belief system.

The study as a whole. The following three chapters are a report of the empirical analysis of religious orientation. Chapter two deals with the research design, i.e., the hypotheses, subjects used, inventories used, and the procedure. Chapter three is a presentation of the statistical analysis and interpretation of the data. Chapter four is a brief summary of the entire study with recommendations for further research.

CHAPTER II

THE RESEARCH DESIGN

Hypotheses. The following null hypotheses were established for this study:

- l. there is no significant relationship between religious orientation as measured by the <u>Tulane Factors of Liberalism</u> <u>Conservatism</u>, Religious Scale, and an individual's total belief system as measured by Rokeach's <u>Dogmatism Scale</u>, Form E, significance being defined as the five percent level of confidence;
- 2. there is no significant relationship between religious orientation as measured by the <u>Tulane Factors of Liberalism</u> <u>Conservatism</u>, Religious Scale, and an individual's specific beliefs or sets as measured by the <u>Gough-Sanford Rigidity Scale</u>, significance being defined as the five percent level of confidence.

Subjects used. The subjects for this study were 154 sophomores, juniors, and seniors at Austin Peay State College. Five subjects did not score their inventories correctly and were eliminated, leaving a total of 149 subjects in the study.

Inventories used. The inventories used in this study were Rokeach's Dogmatism Scale, Form E, the Gough-Sanford Rigidity Scale, and the Tulane Factors of Liberalism - Conservatism, Religious Scale.

The Religious Scale of the <u>Tulane Factors of Liberalism</u> - Conservatism is based upon the progressive historical religious trends of several centuries. The frame of reference used is a reactionary—radical continuum similar to a fundamentalism—humanitarianism dichotomy. In explaining this continuum. Kerr states:

Implementing the general statement of this frame of reference demands that the religious liberal hold an attitude which allows religion to give up controversial non-religious functions, indicates that religion delete practices and ritual which demand that the individual forgo such normal biological processes as not eating on certain days or not eating certain foods. and extends more freedom or non-uniformity to religious groups and institutions within this progressive context. Beyond this latter statement, the religious radical defines himself by minimizing the importance of religion, the specific nature of God, the necessity of strong family ties, etc. Conversely, the religious reactionary operationally defines himself by ascribing authoritarian power to religious leadership and favoring the idea of a monopolistic state church (p. 1).

The highest possible score on the Religious Scale of the <u>Tulane</u>

Factors of <u>Liberalism</u> - <u>Conservatism</u> is seventy with the lowest possible score being fourteen. Each item is scored on a five point verbal continuum with all items equally weighted. Five points is the weight of a most liberal (radical) reply and one point is the weight for a most conservative (reactionary) reply.

The <u>Dogmatism Scale</u> (Rokeach, p. 71) measures individual differences in the openness and closedness of belief systems. This scale is made up of forty equally weighted items with a possible plus three to minus three reply on each item. Minus scores indicate openness of belief system and plus scores indicate closedness of belief system.

The Gough-Sanford Rigidity Scale is a measure of rigidity.

As Rokeach (p. 185) points out, the referents of the items in the scale seem to be specific tasks or habits rather than total belief systems. The scale is made up of twenty-two equally weighted items with a possible plus three to minus three reply on each item. Plus scores indicate rigidity and minus scores indicate lack of rigidity.

Procedure. Permission was obtained to administer the <u>Dogmatism</u>

Scale, <u>Rigidity Scale</u>, and <u>Tulane Factors of Liberalism</u> - <u>Conservatism</u>,

Religious Scale, to one general psychology class, one child development class, two philosophy of education classes, and one psychology of adjustment class. These inventories were administered, using a standardized procedure, in the Spring term of 1965. The inventories were given matched numbers with no names being required. The scales were then scored and the data were entered on calculation sheets.

The appropriate statistics, which are discussed in detail in the following chapter, were then applied to the data.

CHAPTER III

THE FINDINGS

Treatment of the data. The first step in the statistical analysis of the data was to obtain a Pearson product-moment correlation coefficient for scores on the religious and dogmatism scales and the religious and rigidity scales. A constant of one hundred was added to the dogmatism and rigidity scores to eliminate minus values. The computational formula for rho was then applied to the data yielding a rho of .37 for the religious and dogmatism scales and a rho of of these correlation coefficients were significant at the one percent level of confidence. However, because of the small degree of difference between the obtained rho">rho" and because the correlations were too low to have predictive power, further analysis of the data was conducted.

In order to take advantages of the discriminative powers of the scales used, further statistical analysis was based on the top and bottom ten percent of the religious scores with their corresponding dogmatism and rigidity scores. Analysis of Variance was then performed on the data with the results presented in Table I. The F value, which is significant at the one percent level of confidence, indicates that the means of the various scale scores differ significantly.

TABLE I

SUMMARY OF THE ANALYSIS OF VARIANCE OF THE UPPER AND LOWER TEN PERCENT
OF THE RELIGIOUS SCORES WITH THEIR CORRESPONDING DOGMATISM
AND RIGIDITY SCORES

Sum of Square	df	Mean Square	F
60,773.41	5	12,154.68	35 . 88**
28,457.59	84	338.78	
89,231.00	89		
	60,773.41 28,457.59	60,773.41 5 28,457.59 84	60,773.41 5 12,154.68 28,457.59 84 338.78

^{**}significant at the one percent level

Bartlett's Test of Homogeneity of Variance was then applied to the data as a supplementary test to determine whether or not possible variance within the groups contributed to the significant F score. The corrected X² was 79.62 which was significant at the one percent level of confidence. Since X² indicated heterogeneity of variance, the square root transformation scale was employed in an attempt to reduce error size. An Analysis of Variance was performed on the transformed data with the results presented in Table II. The significant F score indicated a slightly greater difference in the means of the scale scores than was indicated by the F score of the untransformed data.

TABLE II

SUMMARY OF THE ANALYSIS OF VARIANCE OF THE TRANSFORMED DATA USING THE UPPER AND LOWER TEN PERCENT OF THE RELIGIOUS SCORES WITH THEIR CORRESPONDING DOGMATISM AND RIGIDITY SCORES

Source of Variation	Sum of Square	đf	Mean Square	F
Between groups	234.11	5	46.82	38.38**
Within groups	102.69	84	1.22	
Total	336.80	89		

^{**}significant at the one percent level

Bartlett's Test of Homogeneity of Variance was performed on the transformed data yielding a corrected X^2 of 296.11. This indicated that the variance within the group was very dissimilar making an interpretation of the significance of the F score less meaningful. This difficulty led to further investigation of the influence of non-normality on F scores and \underline{t} tests.

Edwards (1950, pp. 165-166) points out that this problem has been investigated and that the evidence indicates that the two-tailed \underline{t} test will be influenced little by departures from normality. Cochran (cited in Edwards, p. 165), summarizing the results of other investigations in this area, states that the concensus is that there is no serious error introduced by non-normality in the significance levels of the F-test or of the two-tailed \underline{t} test. Based upon these

findings, the significant F value was interpreted as indicating a significant difference between the means of the samples and two-tailed <u>t</u> tests were performed between the appropriate scales. The results are presented in Table III.

SUMMARY OF THE TWO-TAILED t TESTS BASED ON THE UPPER AND LOWER
TEN PERCENT OF RELIGIOUS SCORES WITH THEIR CORRESPONDING
DOGMATISM AND RIGIDITY SCORES

Pair	Obtained <u>t-</u> value	Significance
Religious - Dogmatism (upper ten percent)	•037	
Religious - Rigidity (upper ten percent)	7.77	**
Religious - Dogmatism (lower ten percent)	7.88	**
Religious - Rigidity (lower ten percent)	16.96	**
Religious - Religious (upper and lower ten percent)	24.28	**

^{***}significant at one percent level

Pearson product-moment correlation coefficients were then obtained for the upper and lower ten percent of the religious scores with their corresponding dogmatism and rigidity scores. The results are presented in Table IV.

TABLE IV

CORRELATION COEFFICIENTS FOR THE UPPER AND LOWER TEN PERCENT OF THE RELIGIOUS SCORES WITH THEIR CORRESPONDING DOGMATISM AND RIGIDITY SCORES

Pair	Rho	Significance
Religious - Dogmatism (upper ten percent)	•43	
Religious - Rigidity (upper ten percent)	•13	
Religious - Dogmatism (lower ten percent)	•27	
Religious - Rigidity (lower ten percent)	•29	

None of these <u>rho's</u> was significant. However, testing the significance of the difference between the <u>rho's</u> of the Religious - Dogmatism, upper ten percent, and the Religious - Rigidity, upper ten percent, resulted in a \underline{z} score of 2.33 which was significant at the five percent level of confidence.

Interpretation of data. The statistical analysis of the data indicates that religious orientation, as measured by the Religious Scale of the <u>Tulane Factors of Liberalism - Conservatism</u>, is more closely related to the total system of beliefs of an individual than with specific beliefs. Although the correlation coefficient between the measures of religious orientation, upper ten percent, and the

corresponding dogmatism scores was not statistically significant, the correlation was significantly greater than the correlation between the measures of religious orientation, upper ten percent, and the corresponding rigidity scores. Further substantiation for this conclusion is to be found in the t value obtained between measures of religious orientation and dogmatism, upper ten percent. That value indicated that there was no significant difference between the means of the religious scale and dogmatism scale. In other words, subjects who scored in the top ten percent of scores on the measure of religious orientation also tended to score in a consistent manner on the measure of dogmatism and did not tend to score similarly on the measure of rigidity. Thus, although the complexity of the data prevented a simple test for the acceptance or rejection of the original hypotheses (see p. 8), the more extensive analysis of the data allows the following inferences: hypothesis one: reject; hypothesis two: accept.

CHAPTER IV

SUMMARY AND RECOMMENDATIONS

Brief summary of the entire study. This study was an empirical analysis of religious orientation; that is to say, this study was an attempt to further define religious orientation through specifying certain measurable dimensions, namely dogmatism and rigidity. The Tulane Factors of Liberalism - Conservatism, Religious Scale, Rokeach's Dogmatism Scale, and the Gough-Sanford Rigidity Scale were administered to 15h undergraduates at Austin Peay State College. Scores were obtained for 1h9 of these subjects. A thorough statistical analysis of the data indicated that religious orientation, as measured by the Tulane Factors of Liberalism - Conservatism, Religious Scale, is more closely related to the total system of beliefs of an individual than with specific beliefs. In other words, an individual's religious orientation, i.e., religious beliefs, tends to permeate his general belief system.

Recommendations for further research. In the replication of this study on other samples, attempts should be made to obtain a greater range of subjects which would include more reactionary scores on the Tulane Factors inventory. Further investigations into the area of religious beliefs and belief systems would be more fruitful if more valid instruments which purport to measure general belief systems and specific beliefs could be obtained.

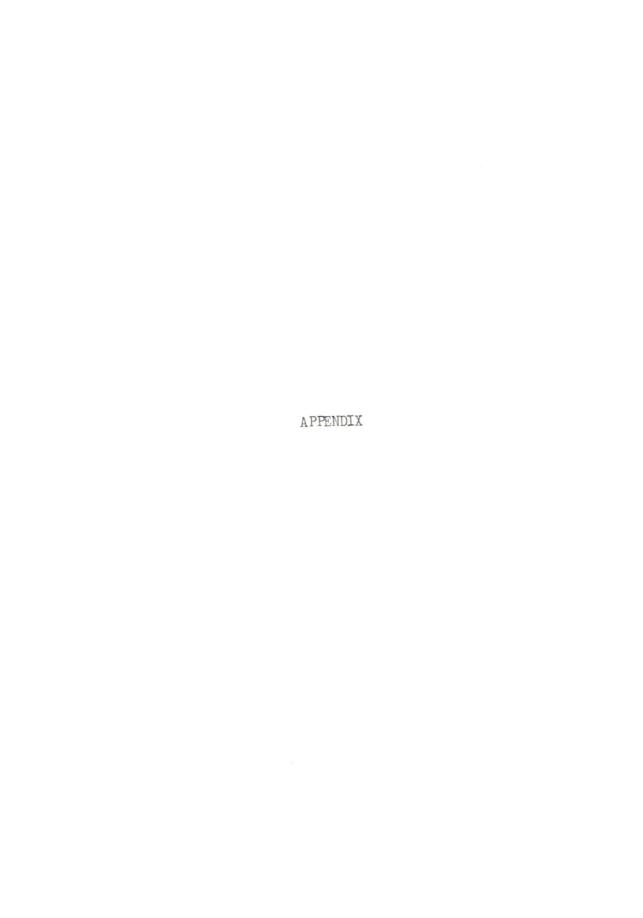
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APPENDIX A
RAW SCORES FOR THREE SCALES

Rokea c h S cor e	Gough-Sanford Score	Tulane L-C Score
~ 72	+10	59
-31	-314	55
-21	+20	58
-1+0	- 27	53
-34	- 39	62
+19	+9	47
- 60	- 29	54
-26	-1/1	53
- 13	- 8	62
-33	- 39	48
-26	- 20	58
-21,	-1	43
- 16	+16	50
+41	+38	45
+1	+6	34
-19	+22	32
+14	-1	39
	-11	37
-15	+21,	46
	-72 -31 -21 -140 -34 +19 -60 -26 -13 -33 -26 -21 -16 +141 +1 -19 +14 -58	Score Score -72

Test Number	Rokeach Score	Gough-Sanford Score	Tulane L-C Score
120	-11	+18	32
121	- 36	-7	65
122	0	- 31	41
123	-14	+27	37
124	- 55	- 9	53
125	-11	- 6	50
126	+36	+36	36
127	- 56	-18	49
128	- 2l ₄	-1 2	51
129	+3	-18	39
130	+9	+8	38
131	+14	+11	39
132	-1	+15	70
133	- 21	+18	38
134	- 64	- 28	56
135	- 23	+8	50
136	-17	_10	35
137	- 29	- 23	43
138	+3	+42	27
139	- 5	+12	39
140	- 22	+31	42
140	- 3	+6	140

Test Number	Rokeach Score	Gough-Sanford S c ore	Tulane L-C Score
142	7	+18	39
143	+42	+5	29
144	+17	+17	37
145	- 19	-13	58
146	- 28	-1 3	33
147	- 30	- 25	52
148	+18	+5	147
149	- 38	- 6	46
150	+5	- 2	40
151	+22	+17	35
152	-3/1	+13	1111
153	+10	+11	34
154	- 63	- 6	70
155	- 26	+16	47
156	+15	-7	37
157	-11	+214	56
158	-10	-10	55
159	- 58	- 8	717
160	- 28	-11	514
	- 9	+10	38
161	- 58	-13	34
162	- 32	_ 6	39
163	-)-		

Rokeach Score	Gough-Sanford Score	Tulane L-C Score
-12	+7	37
- 27	+11	39
-1 5	-18	51
- 59	- 5	43
+9	+11	49
- 32	0	47
-1 8	-8	38
+23	+5	38
+7	0	45
-419	- 6	37
- 57	0	38
0	+2	37
+74	+39	36
- 8	0	39
-42	-1 6	46
-11	+7	57
- 33	+3	59
	- 38	717
- 5	- 5	49
	+10	47
	-1	45
	+26	49
	-12 -27 -15 -59 +9 -32 -18 +23 +7 -49 -57 0 +74 -8 -42 -11 -33 -34	Score -12 +7 -27 +11 -15 -18 -59 -5 +9 +11 -32 0 -18 -8 +23 +5 +7 0 -49 -6 -57 0 0 +2 +74 +39 -8 0 -142 -16 -11 +7 -33 +3 -34 -38 -5 -10 +10 -54 -1

Test Number	Rokea c h S core	Gough-Sanford Score	Tulane L-C Score
187	+10	+28	36
188	- 7	0	42
189	+13	+25	40
190	-31	-17	42
191	- 50	- 2	51
192	-45	+15	39
193	-1 6	+34	39
194	- 3	+26	39
195	- 23	-1	50
196	- 20	-111	57
197	+21	+27	34
198	-14	+23	41
199	-19	+13	55
200	- 8	+7	34
201	+2	+16	514
202	- 86	- 21	65
203	- 27	- 9	47
204	- 17	+22	25
206	- 21	- 6	47
207	-1,6	- 9	53
	+5	+19	49
209 210	- 26	-1	52

Test Number	Rokeach Score	Gough-Sanford Score	Tulane L-
211	+5	+20	38
212	+8	+21	36
213	+8	+314	41
214	-1/1	+15	37
215	+8	+20	28
216	+18	+25	39
217	+12	+15	45
218	- 53	- 8	53
219	+25	-8	47
220	-3)+	+14	35
222	+9	+34	34
223	+32	+29	36
224	- 39	-1	36
225	- 22	- 7	34
226	-2 8	+6	38
227	+37	+28	39
228	- 39	- 27	31
229	-110	-1	31
230	+21	+26	40
231	- 9	+38	3'
232	+8	+18	<u>†</u>
234	- 25	-17	ļ

Test Number	Rokea c h S core	Gough-Sanford Score	Tulane L-C Score
235	+6	+14	
236	-17	+7	34
237	+14	+17	40
238	+8	+9	39
239	- 8		36
240	0	+11	32
241	- 69	+1	51
242	-12	+2	30
143	+16	+15	52
444	- 5	- 5	55
45	-84	+10	33
₄ 6	+8	+17	45
17		+13	43
.8	+37	+8	27
	- 12	+9	34
9	+7	+20	40
0	0	- 27	53
1	-21	-14	60
2	-31	- 2	60
3	- 28	-1 8	44
	+18	+15	34