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### An Investigation of the Relationship Between Religiosity, Amount of Exposure to Seventh-day Adventist Parochial Education and Other Selected Variables Among Seventh-day Adventist Secondary Students in Sao Paulo, Brazil

Eliseu Nevil Menegusso  
*Andrews University*

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AN INVESTIGATION OF THE RELATIONSHIP BETWEEN RELIGIOSITY,  
AMOUNT OF EXPOSURE TO SEVENTH-DAY ADVENTIST PAROCHIAL  
EDUCATION AND OTHER SELECTED VARIABLES AMONG SEVENTH-  
DAY ADVENTIST SECONDARY STUDENTS IN SAO PAULO - BRAZIL

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SEVENTH-DAY ADVENTIST SECONDARY STUDENTS  
IN SAO PAULO - BRAZIL

A Dissertation  
Presented in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

by  
Eliseu Nevil Menegusso

June 1980

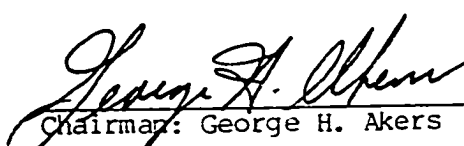
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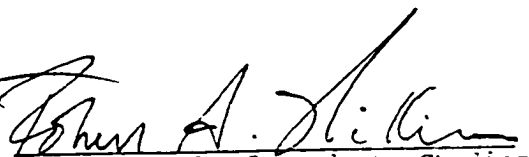
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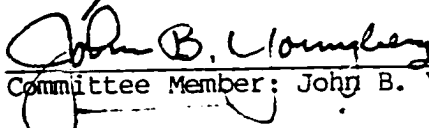
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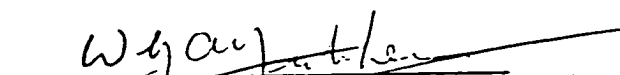
  
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ABSTRACT

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Eliseu Nevil Menegusso

Chairman: George H. Akers

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

Department of Education

Title: AN INVESTIGATION OF THE RELATIONSHIP BETWEEN RELIGIOSITY, AMOUNT OF EXPOSURE TO SEVENTH-DAY ADVENTIST PAROCHIAL EDUCATION AND OTHER SELECTED VARIABLES AMONG SEVENTH-DAY ADVENTIST SECONDARY STUDENTS IN SAO PAULO - BRAZIL

Name of the researcher: Eliseu Nevil Menegusso

Name and degree of faculty adviser: George H. Akers, Ed.D.

Date completed: April 1980

Problem

This study investigated whether the express purpose of Seventh-day Adventist (SDA) education, (the transmission of the SDA religious heritage) is being fulfilled. It was based on the relationship between five dimensions of religiosity (the criterion variables), the amount of exposure to SDA education, and other selected variables such as age, sex, scholastic achievement, home religious practices, religious affiliation and marital status of the subjects' parents (the predictors).

Eleven hypotheses were tested. The first five were concerned with the relationship between each religiosity dimension and the combination of the predictors; the sixth with the relationship between the combination of the dimensions and the combination of predictors; and the last five with the discriminant function of the combination of the dimensions among students (1) currently attending SDA or non-SDA school, (2) exposed to different levels of SDA education, (3)(4) exposed to different amounts of SDA boarding-school education, and (5) exposed to different amounts of SDA education.

#### Method

The population constituted SDA secondary students chosen from 103 churches and two SDA academies in the Corridor Greater Sao Paulo - Campinas. Sub-sample A involved all students from twenty-five randomly selected churches; sub-sample B comprised 282 randomly selected students from the academies. Responses from 481 subjects were analyzed.

Each student responded to a questionnaire containing eighty-eight items measuring five religiosity dimensions (intellectual, ritualistic, ideological, experiential, and consequential) based on Glock's theoretical framework. Twenty-one items measured the predictor variables.

The data were collected in a manner guaranteeing complete anonymity to the respondents. The major statistical methods used for the analysis were (1) product-moment correlation and (2) factor analysis (for verification of

interdependence and dimensionality of the theorized dimensions); (3) multiple-regression analysis, (4) canonical-correlation analysis, and (5) discriminant-function analysis (for testing the hypotheses).

### Results

The five theoretical dimensions were more independent than dependent of each other. Additionally, most of the items intended to measure each dimension loaded on a corresponding factor. Because several items loaded on more than one factor, Factor Scores were used for testing the hypotheses.

The correlation between the combination of the predictors and each of the religiosity dimensions were significant beyond the .05 level.

"Amount of exposure to SDA education" was positively correlated with the intellectual and to a lesser extent with the ideological, but negatively with the consequential dimension.

Three significant canonical correlations between the religiosity dimensions and the independent variables resulted. "Amount of SDA education" was among the primary variables of all canonical functions. Longer exposure indicated higher scores on the intellectual, experiential, and ideological but lower on the ritualistic and consequential.

Attendance to one of the academies indicated tendency for higher scores on the ritualistic, intellectual,

and experiential. Exposure to higher levels of SDA education indicated higher scores on the intellectual. In all, longer exposure to SDA boarding-school education indicated a tendency for higher scores on all religiosity dimensions except the ideological. Among students who had attended at least five years at an SDA school, longer exposure to SDA boarding-school education indicated a tendency for higher scores on the consequential, experiential, and intellectual. Finally, longer exposure to SDA parochial education indicated higher scores on the intellectual and ritualistic, but lower on the consequential dimension.

### Conclusions

The longer students are exposed to parochial education the more they tend to know religious facts and appreciate religious beliefs, but the less they tend to translate it into their devotional life and life-style. Higher scores on the intellectual also tend to be associated with higher levels of parochial education. Longer exposure to boarding-school education is associated with higher scores on most of the dimensions of religiosity. Among school-related variables, exposure to boarding-school education seems to be the best predictor of religiosity in general.



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## PREFACE

My six years of professional experience with Seventh-day Adventist young people in Brazil includes both pastoral work and religious education teaching. This dual exposure has enabled me to share the ideals, concepts, and religious experience with both church members and students.

The religious commitment of many of these young people was a source of inspiration to me. At the same time, indifference and even hostility toward religion revealed by some caused me deep concern.

The fact that a number of those who were rejecting the religious values of their parents were my students intensified my involvement and concern. Acutely aware of the real sacrifice of many parents to send their children to a Christian school, I was beleaguered by unavoidable questions. Was I as a teacher and was the Christian school system, attaining the aims of optimal development of the spiritual life of the students?

From this context, my topic emerged. My study of the influence of a Christian school in the religious experience of young people goes far beyond a level of disinterested research. My strong desire is to implement the ideas and insights gained from this research and thereby to aid young people in their evaluation and commitment to the principles



embodied in Christian education.

A word of acknowledgement is due those who gave me invaluable help and support before and during the pursual of this research. I am especially thankful to the members of my doctoral program committee who were involved since the development of the instrument till the completion of this research report. George Akers, the chairman always willing to say a word of encouragement, helped me in the clarification of concepts regarding the function of Christian education and the importance of integrating religious values in every aspect of the Christian curriculum. John Youngberg provided me with profound insights on the role of parents and family members in the character development of young people. Raoul Dederen enriched my understanding on the function of the community of believers and the doctrines of the church in the religious experience. Wilfred Futcher assisted me so untiringly in the planning of the research design, in the analysis and the interpretation of data.

I must also acknowledge the valuable help received from other faculty members at Andrews University. Robert Williams, dean of the Graduate School, lent his entire support in the pursual of my doctoral studies. A tireless promoter of Christian education, Werner Vyhmeister provided total incentive for the accomplishment of this research. Humberto Rasi, former dean of the Graduate School, encouraged me to pursue the doctoral program in Religious Education. The taste for educational research was enhanced by the

enthusiastic orientation given by Robert. Cruise.

I am also grateful to those in Brazil who supported this study. Nevil Gorski, secretary of education in South American Division, and Roberto Azevedo, secretary of education in South Brazil Union, recommended the study to local leaders. Jose Carlos Ebling dedicated much of his precious time organizing and conducting the gathering of data.

I am grateful to the principal and registrar of each academy and to the local pastors and elders who courteously allowed the collection of data among students under their care. My gratitude is also offered to the 'instructors' and to the students who made this research possible.

The helpful assistance given by the staff members at Andrews University Computer Center was also invaluable. Frank Clark has introduced me to the skill of writing through the computer and Lorena Kingman was always so willing to help me program the data.

The tender care and encouragement received from my dear wife Nilda and the affection from our children Dorley, Paulo, and Claudio will be always remembered.

A special word of gratitude to my parents for leading me in this path and sending me to Christian schools.

Above all, I thank God for granting me the privilege of attending Andrews University and calling me to serve the young people of His church.

## CHAPTER I

### INTRODUCTION

#### Background of the Study

Since 1872, when its first school was officially opened with twelve students in Battle Creek, Michigan (Cadwallader, 1972), the Seventh-day Adventist (SDA) Church has devoted a large part of its financial and human resources to the establishment and development of its own system of education.

#### Objectives of SDA Parochial Education

One of the major reasons for the foundation of an Adventist educational system is given by Ellen G. White (1943), a pioneer leader of the SDA Church.

In planning for the education of their children outside the home, parents should realize that it is no longer safe to send them to the public school, and should endeavor to send them to schools where they will obtain an education based on Scriptural foundation. (p. 205)

Adventists view education as more than the pursual of a certain course of study; it is the "harmonious development of the physical, the mental, and the spiritual powers" (White, 1952, p. 13). They believe that, whereas public schools may provide for the development of the physical and mental powers, only a Scripturally based education will provide for the spiritual.

That Adventists are not the only ones to hold such a view is reflected in what the Lutheran educator Frederick Kramer (1956) said:

The objective of the Lutheran elementary school is to aid the child in developing fully his potentials (a) spiritually, (b) physically, (c) mentally, (d) socially, (e) emotionally, (f) aesthetically. (p. 135)

He also remarked that, whereas the last five are essentially held in common with public education, the first is distinctive of parochial education.

As specifically stated in Philosophy and Objectives of Seventh-day Adventist Education (1952), Adventists established schools "for the express purpose of transmitting to their children their own ideals, beliefs, attitudes, appreciations, habits and customs" (p. 3).

#### Expansion of the SDA World System of Education

These ideals, first pursued by Adventists in North America, were rapidly adopted by church members in other continents. Whereas during the first decade of its existence the system was confined to the United States, as early as 1883 the first church school was established in Europe (Brown, 1972). In fact, before the close of the nineteenth century, SDA education had reached Europe, with schools in Denmark since 1883, in Sweden since 1895, and in Germany since 1899; Australia since 1892; Africa, in Rhodesia since 1896; and South America, in Brazil since 1896, and in Argentina since 1898 (Brown, 1972; Neufeld, SDA Encyclopedia, 1976).

So significant has been the expansion of SDA schools for the internationalization of the church that Cadwallader (1972) says: "Without the school system that grew steadily from that day [June 3, 1872], there might not even be a Seventh-day Adventist worldwide organization today" (p. 4).

In 1978 the SDA system of education included 72 universities and colleges, 643 secondary schools, and 3,708 primary schools, with a total enrollment of 483,047 students (Yost, 115th Annual Statistical Report, 1978).

#### Expansion of SDA Education in Brazil

Of particular significance has been the growth of the SDA parochial educational system in Brazil. It all started in 1896, only one year after the first SDA church in Brazil was organized. A group of dedicated church members in the city of Curitiba, Parana, opened a private school and enrolled 117 students in the first year of operation. One year later the first missionary school operated by the church was established in Gaspar Alto, Santa Catarina; it was later transferred to Taquari, Rio Grande do Sul. Closed in 1910, this missionary school was reopened in 1915 in Santo Amaro, Sao Paulo (Neufeld, SDA Encyclopedia, 1976, p. 189).

Since then the system has grown steadily, but in the last decade particularly the elementary level has undergone unprecedented development, increasing from an enrollment of 18,392 in 1970 to 43,786 in 1978. The largest

growth rate took place within the boundaries of the South Brazil Union, from 9,392 in 1970 to 27,711 in 1978, and more specifically in the state of Sao Paulo where the elementary enrollment had a threefold increase from 3,244 in 1970 to 10,974 in 1978 (Gibson, 108th Annual Statistical Report, 1970 and Yost, 116th Annual Statistical Report, 1978). This recent growth has placed the South American Division in first place among the Divisions, and the South Brazil Union as the world leading Union in SDA elementary student enrollment (Department of Education World Report, 1977).

One of the major factors contributing to this unexpected growth was a law passed in 1971 by the Brazilian federal government (Lei do Ensino 5692/71) which decreed that the existing four-year primary education program would become an eight-year program (Department of Education World Report, 1977; see also Educacao, Maio-Junho, 1979).

Actually the provisions of the law forced smaller, four-year private schools either to disappear or to be permanently ruled by a larger officially recognized eight-year institution. In case an eight-year program was implemented gradually, the supervision would be temporary.

According to the bulletin of information of South Brazil Union (Educacao, Maio-Junho, 1979), the option was either to expand or disappear. Confronted by this critical situation church leaders decided to venture in the direction of a gradual implementation of the new eight-grade elementary schools.

### Studies on SDA Education in Brazil

In order to establish the guidelines and priorities for the gradual implementation of the eight-year schools, South Brazil Union Department of Education decided to conduct some studies focusing particularly on the descriptive-quantitative aspects of SDA education in Brazil. Four of the main studies largely oriented toward educational expansion were done by Roberto C. Azevedo under the titles: Projeto Sao Paulo (1972), Projeto Brasil (1973), Projeto Educacao (1974), and Plano Educacao-81 (1977).

Projeto Sao Paulo delineated a general plan for the development of SDA education in the state of Sao Paulo, whereas Projeto Brasil presented a diagnosis of the situation of Adventist education in the whole country of Brazil and proposed alternatives to be followed for the national expansion of the system. Projeto Educacao defined the educational plans of South Brazil Union for the decade 1975-84, taking into consideration new factors which were already influencing the expanding system. Finally, Plano Educacao-81, based on primary data largely obtained by personal observation, attempted to establish a five-year plan of action for the same Union.

A basic concept undergirding the present planning is that the increase in the size of the educational system, particularly the elementary level, is directly related to the growth of the church -- be it by attracting students

from outside the church (Read, Monterroso, & Johnson, 1969; see also Azevedo, 1963, p. 9; 1977, p. 11) or by preventing the apostasy of young people within the church (Gorski, 1978).

This concept has encouraged the present concern for quantitative growth and has also motivated the adoption of Ellen G. White's (1943) advice that "in all our churches there should be schools" (p. 168) as the basic rule (Azevedo, 1977, p. 5; see also Gorski, 1978, p. 7).

#### Statement of the Problem

However useful and appropriate the existing surveys and quantitative evaluations have been to the actual development of the educational system, the considerable amount of financial and human resources being used and still needed seem to justify or even demand further studies dealing with qualitative aspects of SDA education in Brazil.

This appears to be an uncharted area in Brazil. It was, therefore, the intention of this study to investigate one aspect, namely the religious, which is probably the most significant aspect of SDA education. It attempted to verify the extent to which Adventist educators are fulfilling the purpose of "transmitting to their children their own ideals, beliefs, attitudes, appreciations, habits and customs" (Philosophy and Objectives of Seventh-day Adventist Education, 1952, p. 3) and of developing the spiritual powers (White, 1952, p. 13).



Even though studies of this nature have been conducted in the United States among Catholics (Greeley & Rossi, 1966), Lutherans (Johnstone, 1966), and Seventh-day Adventists (Noble, 1971; Lewis, 1974), the results are sometimes conflicting and might not be readily applicable to a different situation and culture.

#### Purpose of the Study

The central purpose of the study was to identify the relationship between the amount of exposure of secondary students to SDA parochial education and the level of religiosity attained by the students.

Research shows, however, that religiosity is generally not unidimensional but rather a multidimensional phenomenon. Research also indicates that, besides the amount of exposure to parochial education, other variables such as home religious background, age and sex are often related to religiosity (see chapter II). For this reason this study also investigated the degree to which these variables contributed to the prediction of various aspects of religiosity in students.

#### Significance of the Study

The fact that the implementation of the new eight-year program and curriculum are still in progress and open to reconsiderations added significance to this study. It was anticipated that the information obtained by this research would provide objective data for the qualitative

evaluation of the present elementary and secondary SDA schools, and eventually for the planning of new educational strategies focusing on the spiritual outcomes of education.

### Research Questions

The major question to which an answer was sought in this study concerns the relationship between the combination of eight independent variables, namely (a) amount of exposure to SDA education, (b) age, (c) sex, (d) school achievement, (e) home religious practices, (f) fathers' religious affiliation, (g) mothers' religious affiliation, and (h) marital status of parents, and five dimensions of religiosity (intellectual, ritualistic, ideological, experiential and consequential) which constitute the dependent or criterion variables. The dimensions of religiosity were considered both separately and in combination.

Other aspects of SDA education in Brazil were also scrutinized. It was investigated whether a linear function of the dimensions of religiosity discriminated among (1) subjects belonging to different sub-samples, (2) subjects exposed to different levels of SDA education, (3) subjects exposed to different amounts of SDA boarding-school education, (4) subjects who have attended at least five years at SDA schools and who were exposed to different amounts of SDA boarding-school education, and (5) subjects exposed to different amounts of SDA parochial education.

The questions answered were the following:

1. Will there be a significant multiple correlation between any of the dimensions of religiosity and the linear combination of the predictors a, b, c, d, e, f, g, and h?
2. Will there be a significant canonical correlation between the linear combination of the dimensions of religiosity and the predictors a, b, c, d, e, f, g, and h?
3. Will there be a linear combination of the religiosity dimensions which will significantly discriminate among students belonging to different sub-samples, among students exposed to different levels of SDA education, exposed to different amounts of SDA boarding-school education, and exposed to different amounts of SDA parochial education?

#### Definition of Terms

South American Division. The worldwide SDA Church is presently divided into eleven geographic administrative units called divisions. Each division maintains divisional headquarters which represent the worldwide administrative office, the General Conference, in the divisional area. The South American Division consists of all the countries on the South American continent except Colombia, Venezuela, Guyana, Surinam, and French Guyana.

South Brazil Union. Brazil is divided into three administrative units called Unions. South Brazil Union is responsible for the administration of the church in the states of Rio Grande do Sul, Santa Catarina, Parana, Sao Paulo, Goias, Mato Grosso and Mato Grosso do Sul. This Union is divided into several smaller units called conferences. These are responsible for the administration of the churches

within their territory. The boundaries of a conference often coincide with the boundaries of the state in which it is located.

Sao Paulo Conferences (East and West). The state of Sao Paulo has recently been divided into two conferences. East Sao Paulo Conference, with headquarters in the city of Sao Paulo, covers the territory of Greater Sao Paulo (the capital of the state of Sao Paulo and its surroundings) and the eastern part of the state. West Sao Paulo Conference, with headquarters in Campinas, covers the remaining area of the state.

SDA Parochial Education. Adventist parochial education refers to the system of education operated by the SDA Church. It includes elementary, secondary, undergraduate, and graduate levels. In this study it will be delimited to the elementary and secondary levels as they are offered in Brazil. The parochial elementary education is often limited to four grades for schools sponsored by smaller churches, but may also include up to eight years for schools sponsored by larger churches or by the local conference. The secondary level is usually composed of three or, exceptionally, four grades and is offered by schools sponsored by a conference.

SDA Secondary Student. An Adventist secondary student refers to an individual who professes to be a Seventh-day Adventist (baptized or not), and who is currently attending one of the three or four grades of the

secondary level offered either by public or private educational institutions.

Corridor Greater Sao Paulo - Campinas. For the purpose of this study an arbitrary area has been delimited by two parallel lines tangentially connecting two circles, each forty kilometers in diameter, whose centers are two SDA academies: Instituto Adventista de Ensino located in the outskirts of Greater Sao Paulo, and Instituto Adventista de Sao Paulo, located in the neighborhood of the city of Campinas (see maps in appendix 7). This area has been named Corridor Greater Sao Paulo - Campinas.

Instituto Adventista de Ensino. Instituto Adventista de Ensino (referred to as IAE) is the oldest and major operating educational SDA institution in Brazil. Founded in 1915 and located in the outskirts of Greater Sao Paulo, it offers today education from the elementary to the college level.

Instituto Adventista de Sao Paulo. Instituto Adventista de Sao Paulo (referred to as IASP) is today's largest SDA secondary boarding-school in Brazil. Located near the city of Campinas in the interior of the state of Sao Paulo, it offers elementary and secondary education.

Levels of Exposure to SDA Education. The amount of exposure to different levels of SDA education has been subdivided as follows:

1. No Exposure -- for students exposed to only one grade or less of any of the levels as defined below.

2. Primary Level -- for students exposed to a minimum of three of the grades one through four of the elementary school, and one or less than one grade of the middle and/or the secondary levels.

3. Middle Level -- for students exposed to a minimum of three of the grades five through eight of the elementary school, and one or less than one grade of the primary and/or secondary levels.

4. Primary-Middle Levels -- For students exposed to a minimum of three grades of each primary and middle levels, and one or less than one grade of the secondary level.

5. Secondary Level -- for students exposed to a minimum of two of the grades nine through eleven or twelve of the secondary school, and one or less than one grade of the primary and/or the middle levels.

6. Primary-Secondary Levels -- for students exposed to a minimum of three grades of the primary and two grades of the secondary levels, and one or less than one grade of the middle level.

7. Middle-Secondary Levels -- for students exposed to a minimum of three grades of the middle and two grades of the secondary levels, and one or less than one grade of the primary level.

8. All Levels -- for students exposed to a minimum of three grades of each primary and middle levels, and two grades of the secondary level.

Exposure to SDA Boarding Education. The amount of exposure to two different housing statuses (day or boarding) has been classified as follows:

1. No Boarding -- for students who attended one grade or less of the grades five through eleven or twelve offered by SDA boarding education.

2. Some Boarding -- for students who attended more than one but less than four of the grades offered by SDA boarding schools.

3. All Boarding -- for students who attended at least four of the grades offered by SDA boarding schools.

Religiosity. As pointed out by Martin E. Marty (1971), the definition of religion, like the subject matter, is culturally and socially conditioned. Much depends upon who uses the term. It may have a positive or a negative connotation. For this reason educators and students of religious development will have to continue to live with a confusing, ambiguous term like 'religion' because "no clear alternative has presented itself with enough potency to stand a chance of gaining acceptance in the culture" (p. 68).

Despite the difficulty of defining such a subjective and diverse phenomenon, this study follows the framework proposed by Glock (1962) and Stark and Glock (1968) defining religiosity in terms of religious commitment. Religiosity is here defined as the extent to which the individual commits himself, or conforms to the expectations of the church with which he or she is affiliated, in matters of religious belief, religious practices, religious feelings, religious knowledge, and religious life-style (see Stark and Glock, 1968, pp. 14-16).

In this particular case these five core dimensions have been considered according to the general expectations of the SDA Church.

#### Assumptions and Limitations of the Study

The limitations and assumptions of this study may be summarized as follows:

1. As other psychological phenomena, religion is assumed in this study to be accessible to objective investigation and consequent measurement in terms of the subjects' commitment to the professed religious values of his or her religious group and to the extent he or she conforms to these values.

2. It is also assumed that religiosity is a multidimensional phenomenon. This suggests that being religious on one dimension does not necessarily imply being religious on other dimensions.

3. The measurement of the several dimensions of religiosity is limited to the items included in the questionnaire. It is assumed that these items are representative of the dimensions to which they have been assigned, and allow the measurement of both the inward and the outward forms of religion.

4. The analysis of the data is largely limited to correlational information, and correlation between variables does not prove causation. Nevertheless, it is assumed that correlational trends may lead to practical approaches that may prove to be effective in the solution of a particular problem.

5. The variables selected as predictors of religiosity are in no way exhaustive. Their selection was based largely on the existing literature on religiosity.

6. An obvious limitation of a study based on a direct-answer questionnaire is the assumption that the



responses given will truly reflect the situation of each respondent. In order to maximize the possibility of genuine, honest answers, the participants were (1) reminded of the importance of their genuineness for the results of the study and (2) promised that their anonymity would be completely protected.

7. A limitation characteristic of an ex post facto study is that the subjects are not randomly assigned to the different treatments, i.e., to parochial or to public school. Therefore the results are limited by the extent of self selection of those who attended either type of school or both.

8. This research is limited to secondary students who attend the SDA Church at least occasionally and who live in the particular area delimited for this study. Therefore the results should apply only to those who are secondary-school students, who belong to the same age bracket, who are not religion dropouts, and who do attend the SDA Church in the selected area.

#### Delimitations

1. Due to practical considerations, the population of this study has been confined to students attending grades nine, ten, eleven, and sometimes twelve of either SDA parochial schools or non-SDA private or public institutions.

2. The study is delimited to the Corridor Greater Sao Paulo - Campinas.

### Organization of the Study

Chapter I is an introduction to the study including a description of the background of the study, the statement of the problem investigated, and the purpose and significance of the study. Furthermore the questions to be answered are formulated, and the assumptions, the limitations as well as the delimitations of the study are stated.

Chapter II presents a review of the pertinent literature in the field dealing with the problems related to the measurement of religiosity, with some selected variables generally related to religion, with parochial education and religiosity, and with SDA parochial education as related to religiosity.

Chapter III explains the methodology used in the study. It states the type of research conducted, and describes the population under investigation and the sampling procedures used. The chapter also presents the theoretical framework adopted for the study, describes the process of development and testing of the instrument, formulates the null hypotheses to be tested, and finally states the procedures followed in the gathering and analysis of the data.

Chapter IV concentrates on the major question with which the study is concerned. Descriptive findings about the data gathering and the sample are presented; information

about the dimensions of religiosity is provided, and the findings specifically related to the hypotheses are described.

Finally chapter V concludes the report with a summary of the problem, of the methodology, and of the findings. It also presents the major conclusions, implications, and recommendations for further study.

## CHAPTER II

### REVIEW OF LITERATURE

This review of literature will consider the theory and the empirical studies related to important aspects of the psychometry of religion which are relevant to the present investigation. It will cover (1) the complexity of religious measurement, (2) relevant variables related to religiosity, (3) parochial education as related to religiosity, and (4) SDA parochial education in relation to religious development.

#### The Complexity of Religious Measurement

##### Inward or Outward Religiosity

Since this research is grounded on the measurement of religiosity, it becomes necessary to consider the basic problem of religious psychometry, namely, the distinction traditionally made between the more explicit, public, social, overt, manifest, formalized, institutionalized, differentiated type of religion and the more subjective, personal, committed religious orientation (Dittes, 1969, p. 619).

The problem is not new, for since the time of the Old Testament prophets there seems to be a distinction between solemn assemblies and righteousness (Amos 5:21-24),

between sacrifices and steadfast love, between burnt offerings and knowledge of God (Hosea 6:6). Pascal also, as referenced by Brown (1964), summarized the simplest typology of religion saying that there are two foundations: one inward, the other outward (p. 92).

Since the more objective and explicit form of religion is far more accessible and manageable, the social psychologist is strongly tempted to use it as an index for the subjective. However, theory and empirical findings indicate the necessity of great caution.

Most of the studies emphasizing such a distinction deal with the relationship between religion and prejudice. Adorno , Frenkel-Brunswick, Levinson and Sanford (1950) studied this relationship among 2,099 subjects representing diverse populations and found that "people who reject organized religion are less prejudiced than those who accept it" (p. 220), and that "there is a correlation between conventional religious rigidity and an almost complete absence of what might be called personally 'experienced' belief" (p. 730).

Allport (1950) advocated that religious sentiments of prejudiced persons were blindly institutional, exclusionist, and related to self-centered values, whereas among people with reflective and highly differentiated sentiments, race prejudice is rarely found. Later, he elaborated this difference and in terms of religious outlook he coined the expressions "institutionalized" and

"interiorized" (1954, p. 453). These were further revised and called "extrinsic" religion (the self serving, utilitarian, self-protective form of religious outlook) and "intrinsic" religion (life that has interiorized the total creed of faith without reservation) (1960, p. 257; see also 1959, 1963, 1966, and Allport & Ross, 1967).

Clark (1958) differentiated the primary religious behavior, which is an authentic inner experience of the divine combined with whatever efforts the individual may make to harmonize his life with the divine; the secondary religious behavior, resultant of acquired habit and certain assumed obligations, which impinge on, and modify usual everyday behavior; and the tertiary religious behavior, which is simply a matter of religious routine or convention accepted on the authority of someone else (pp. 23-25).

In an attempt to shed more light upon Allport's hypothesis, Jeeves (1957) undertook an investigation designed to assess the concurrent existence of prejudiced attitudes and certain types of religious beliefs. He found a threefold division of religious attitudes instead of two and summarized them as follows: (1) an excessive stress upon the importance of religious institution with a minimizing of the importance of the necessity of interiorization of ethical beliefs and professed doctrinal teachings, (2) an acknowledgement of the importance of the institution with an equal stress upon the importance of the individual's interiorization of the professed beliefs, and (3) a

minimizing of the importance of religious institutions and a maximizing of the importance of the personal aspects of the religious life as manifest in conduct or practice. The results suggest that the first of these religious outlooks is more correlated with prejudice than the second and the third.

In his study conducted in the Detroit area, Lenski (1961) distinguished a conventional from a devotional orientation to religion. He concluded that the doctrinal orthodoxy orientation stressing the intellectual assent to prescribed doctrines contrasts, or even conflicts, with devotionalism which emphasizes the importance of private or personal communion with God. According to Lenski there are not merely two alternative measures of religiosity but "separate and independent orientations, and each has its own peculiar consequences for the behavior of individuals" (p. 24).

Brown (1962) differentiated religious orientation on the basis of institutional acceptance (outward) and individual judgment (inward). Later (1964), using Jeeves' items regarding institutionalization and individualism, he found a correlation between them of only  $-.16$  and considered them independent of each other.

Using a factor analysis, Feagin (1964) studied twenty-one items which were administered to 286 Southern Baptists. He found that whereas Factor II was a clearcut statement of the "utilitarian" function served by religion

(extrinsic orientation), Factor I was defined by purely intrinsic items plus reported frequency of church attendance and private devotion (possibly an "intrinsic-devout" religiosity). This reveals that intrinsic orientation is not necessarily negatively correlated with acceptance of the institution.

Studying a heterogeneous sample and using questionnaire, projective, and interview data, Cline and Richards (1965) found two factors related to religious orientation. The first was heavily loaded with the subject's institutionally related activity, with his/her general attitude toward church and religion, and with judges' ratings as to the degree to which the subject used or exploited religion to his/her own advantage. The second, based primarily on judges' ratings, had positive loadings on variables such as the subject's genuine love, compassion, sympathy for others, the degree to which he/she lived a good moral life, the extent to which he/she lived up to the teachings of his/her religion, and negative loadings on variables relating the subject's self-centeredness, the degree to which he/she used or exploited religion, and, his/her conventional belief in God.

In his study regarding the relationship of church members to church organization, Ashbrook (1966) developed an instrument to measure the members' expressive activities which had no utilitarian intent against the members' instrumental activities which created and maintained the



organization. Ashbrook named these activities moral commitment and calculative involvement, respectively.

The difference between the committed and the consensual styles of religiosity was conceptualized by Allen and Spilka (1967) in their attempt to determine the particular styles of religious belief and behavior which might differentiate between religious persons high in social prejudice and those low in social prejudice. These different styles of religiosity are based on the way the individual formulates, structures, and organizes his/her religious beliefs according to five cognitive components: (1) content (abstract-rational or concrete-literal), (2) clarity (discerning or vague), (3) complexity (differentiated or monopolistic-dichotomous), (4) flexibility (candid-open or restrictive), and (5) importance (relevant or detached-neutralized) (pp. 198-200).

The researchers found that among 497 college students at Colorado State University consensual religiosity is tied with prejudiced attitudes and a typologized, concretistic, restrictive outlook on religion; whereas "Committed Religiosity utilizes an abstract, philosophical perspective, multiplex religious ideas are relatively clear in meaning, and an open and flexible framework of commitment meaningfully relates religion to daily activities" (p. 205). They also reported that the Religious Individualism Scales from Brown (1962) failed to separate the Committed and the Consensual groups (p. 203).

Commenting on this single greatest dilemma in the definition and measurement of religion, Dittes (1969) concludes that theoretical considerations seem quite plausible in the argument that easily accessible objective indices of religion are distinguishable from, and probably not correlated with more subjective personal orientations, and that empirical studies have suggested some support for the distinction. Empirical evidence, however, has failed to provide a unitary, identifiable variable, indicating only a general area in which variables may be discovered. He comments that, whereas among heterogeneous samples institutionally oriented behavior and attitudes appear related to the consensual type of religion, among homogeneous samples scoring high on these variables the highest scores appear to be associated with committed religion.

The literature thus far reviewed seems to indicate that, when investigated in conjunction with prejudice and among subjects belonging to an heterogeneous population who tend to stress excessively the importance of religious institution, the inward and committed form of religion may be unrelated to or sometimes negatively correlated with the outward or institutionalized form of religion. However, when the subjects under investigation belong to an homogeneous religious population and acknowledge the importance of religious institution, both forms of religion seem to be associated.

### Unidimensional or Multidimensional Religiosity

Besides the distinction between the objective and the subjective forms of religion discussed above, another debate related to religious psychometry has to do with the dimensionality of religion.

According to Dittes (1969) 'outside' studies (based on popular definitions of religion and applied to samples from the general population), have had a tendency to produce a general factor of religiosity. On the other hand 'inside' studies (dealing with more sophisticated and extensive definitions of religion and applied to identified religious populations), have usually resulted in several variables of religiosity (see also Ragan & Malony, 1976) and have considered religion as a general area of research within which various hypotheses and variables can be identified (Dittes, 1969).

### Religiosity as Unidimensional

Studies which considered religion as unidimensional have generally limited themselves to the measurement of church membership, religious affiliation, frequency of church attendance, institutional orientation, or assent to orthodox statements.

Leuba (1916) limited his investigation of religion among American students, scientists, historians, sociologists, psychologists, and philosophers to the variables "belief in God" and "personal immortality." He

used these variables because they were regarded by him as the "cardinal tenets of Christianity, and possibly of every possible religion" (p. 174). Hartshorne and May (1928), on the other hand, considered religion in terms of whether or not subjects attended church.

Merton (1940), Harlan (1942), Levinson and Sanford (1944), Allport and Kramer (1946), and Spoerl (1951) focused on religious affiliation as the sole variable in their inquiry regarding possible relationships between religion and prejudices of various kinds. Merton found that, among 679 college students of several universities, Catholics ranked first, Protestants second, Jews third, and non-affiliated fourth in the endorsement of judgment unfavorable to the Negro. Harlan studied four groups of non-Jewish college and university students and found that there is no difference between the mean score of Protestants and Catholics with respect to attitude toward Jews. Levinson and Sanford discovered that, on total anti-Semitism among 77 female students at the University of California, Catholics and non-traditional Protestants scored higher than non-religious subjects and traditional Protestants.

Allport and Kramer submitted 437 college undergraduates to a questionnaire on opinions concerning minority groups and observed that Catholics led the list in anti-Negro bias, followed by Protestants, whereas Jews and persons lacking any religious affiliation were markedly free from prejudice. Finally, Spoerl investigated the effect of

religion on some aspects of prejudice among members of the entering class at American International College and found that, although the average amount of prejudice among Jews, Catholics, and Protestants was almost the same, the three religious groups tended to direct their prejudice toward different ethnic and religious groups.

In order to determine the personality make-up of those who represented the extreme groups of believers and non-believers, Brown and Lowe (1951) considered only the religious belief of college students.

Some more recent studies which have limited religion to one dimension are Victor, Grossman, and Eisenman's (1973), which considered only church membership in order to investigate the possible relationship between extent of drug abuse and religion (p. 82), and Russell and Sandilands' (1973) which focused merely on religious or non-religious affiliation in the study of some correlates of conceptual complexity.

#### Religiosity as Multidimensional

Modern research has increasingly viewed religion as multidimensional for two main reasons: (1) the use of more complex definitions of religion applied to previously identified religious populations and (2) the use of factor analytic procedures (Ragan & Malony, 1976, p. 131).

In his answer to the question "Is psychoanalysis a threat to religion?" Erich Fromm (1950) defined religion according to four different aspects, namely, the

experiential, which refers to religious feelings and devotion; the scientific-magical, which involves explanation of the physical world and practices for coping with it; the ritualistic, which is shared action expressive of common strivings rooted in common values, and the semantic aspect, which refers to the symbolic language that is used to express inner religious experience (pp. 99-111).

Shand (1953) marked the effective starting point of factor analytic studies of religiosity in his investigation about how Protestant ministers defined religion. His study generated four significant factors which he called: (1) "righteous-formalistic fundamentalist," dealing with conversion, Scripture, creeds and rituals; (2) "practical fundamentalist," dealing with behavior, morals, and traits; (3) "belief in brotherhood and truth in Christ"; and (4) "belief in brotherhood and truth without Christ."

Two factors which were called "nearness of God," representing the immanence, accessibility and mercy of God, contrasted with His remoteness and judgment described as "fundamentalism-humanitarianism" were found by Broen (1957).

Discussing the contradictory findings about religious interest in America, Glock (1959) suggested that religiousness as a concept may be thought of as one which is divisible into four dimensions which he called experiential, having to do with feelings; ritualistic, dealing with religious practices; ideological, involving the religious beliefs; and consequential, constituting the 'works'.

Fukuyama (1961) reformulated and elaborated Glock's proposed dimensions considering religion as a phenomenon which can be described in four major dimensions, namely, the cognitive, the cultic, the creedal, and the devotional (p. 155). Applying his four indices of religious orientation to 4,095 members of twelve Congregational Christian churches, Fukuyama found results which lent support for "the desirability of conceiving of religion in a multi- rather than unidimensional way" (p. 161). Later Glock (1962) adopted Fukuyama's cognitive religious orientation and called it the intellectual dimension which deals with religious knowledge (p. 99).

In their study among a hundred Methodist young people Allen and Hites (1961) generated nine factors which they called (1) Religion as Man's Relation to Deity, (2) Traditional Mores of the Church, (3) Skepticism, (4) Striving for Security, (5) Family Religious Life, (6) Security through Religion, (7) Religion and Science, (8) Secular Religion, and (9) Humanism. They advocated that "the presence of these nine factors gives evidence that religious aspects of our culture are multi-dimensional rather than uni-dimensional" (p. 272).

Whitam (1962), in an attempt to account for relationship to prejudice theorized seven bipolar sub-dimensions of religiosity, namely (1) Social Isolation - Social Action, (2) Conventional Morality - Liberal Morality, (3) Ethnocentrism - Ecumenicity, (4) Externalization -

Internalization, (5) Fundamentalism - Modernism, (6) Evangelism - Laissez-fairism, and (7) Utilitarianism - Nonutilitarianism.

Intrigued by the general findings that "it is not the believer but the non believer who is most likely to embody the traditional Christian values of humility and respect for his fellow men," Martin and Nichols (1962) investigated whether the believer highly informed about finer points of doctrine would more likely perceive the inconsistency between his/her behavior and his/her professed beliefs. Applying a religious-belief inventory and a religious information scale together with other personality tests to a group of 163 undergraduates, they found that among the one third of the subjects highest on the religious-information scale there was a significant negative correlation between belief and information; whereas among the one third lowest on religious-information scale there was a significant positive correlation between belief and Bible information (p. 5). This finding lends support to the desirability of at least two dimensions to measure religiosity.

Based on the framework proposed by Glock, Faulkner and DeJong (1966) developed a questionnaire containing all five dimensions, collected data from 362 college students at the Pennsylvania State University, and analyzed them for scalability and reproducibility of each dimension according to Guttman scalogram analysis, and for interrelationship



among the dimensions. They found that all the scales met the Guttman scale criteria and were well above the minimum coefficient of scalability and reproducibility. They also found that the ideological dimension was the most pervasive in importance, while the consequential was the least pervasive. Even though all the correlations were positive and statistically significant, pointing at the interdependent nature of these measures of religious involvement, they remarked that the degrees of relationship differed for the various dimensions thus lending empirical support to the view that religious involvement is characterized by several dimensions.

Clayton (1968) replicated Faulkner and DeJong's study among 373 undergraduate students at Stetson University in Florida and observed that "the contention that Religiosity in 5-D Scale constitutes a viable measuring instrument is supported by the strong coefficient of reproducibility scores of each scale" (p. 83). Later he (Clayton, 1971) tested the data obtained from 718 undergraduate dormitory students at a private university in Florida and found very similar coefficients of reproducibility and scalability as those produced by Faulkner and DeJong. His data, however, failed to support the hypothesis of multidimensionality of religiosity. By means of a Gamma test of association, he found close correlation among four of the dimensions, with the ideological emerging as the predominant underlying

dimension. This raised the question whether religiosity should not be considered as only one dimension.

Investigating the question on whether Glock's proposed dimensions were really empirically distinct from each other Stark and Glock (1968) utilized the data obtained among three thousand randomly selected people from the church-member population of four Northern California counties. These subjects were submitted to a lengthy questionnaire in 1963; and, in 1964, 1,976 persons selected from the national population were interviewed on the most important items of the same questionnaire.

Following the criterion that two indices measure the same thing if more than half of them overlap (minimum correlation of .70) Stark and Glock obtained the product moment correlations among the general dimensions belief (subdivided into Orthodoxy, Particularism, and Ethicalism), practice (subdivided into Ritual Involvement and Devotionalism), experience, and knowledge. They concluded that "the extent of independence found among the postulated dimensions of religious commitment is much more than sufficient to warrant our original analytic distinctions" (p. 181), and that "our initial assumption that religious commitment is a multidimensional phenomenon is verified empirically" (p. 182).

In 1965 King (1967) tested the hypothesis that 'religion' is multidimensional on a sample of 575 Methodists belonging to six congregations in Dallas, Texas, and its

suburbs. He administered to them a questionnaire of 143 items, 120 of which were related to various aspects of religious belief and practice and which were selected to represent eleven hypothetical dimensions, including those of Allport, Glock, and Lenski. Using factor analysis and hierarchical cluster analysis he found nine dimensions which he named (1) Creedal Assent and Personal Commitment, (2) Participation in Congregational Activities, (3) Personal Religious Experience, (4) Personal Ties with the Congregation, (5) Commitment to Intellectual Search Despite of Doubt, (6) Openness to Religious Growth, (7) Dogmatism and Extrinsic Orientation, (8) Financial Behavior and Attitude, and (9) Talking and Reading about Religion.

Later King and Hunt (1969) submitted the same data to tests of homogeneity and reliability and to item scale analysis. As a result, dimension two was divided into two (Church Attendance and Organized Activities), dimension five was dropped, dimension seven was divided into two (Dogmatism and Extrinsic Orientation), and another dimension, Religious Knowledge, was added yielding eleven dimensions altogether.

In 1968 they (King & Hunt, 1972) replicated the study on multidimensionality of the religious variable applying a 132 item questionnaire on members of four Protestant denominations in Dallas-Forth Worth metropolitan area. Of the 118 items subjected to factor analysis, 46 were identical to the ones used in 1965, 17 were modified slightly, 14 were changed in major ways, and 41 were brand

new. The 1,356 returns represented a 44 percent response rate, almost equally divided among the four denominations, Disciples, Lutherans, Presbyterians and United Methodists.

Applying a factor analysis to the data for all cases combined, King and Hunt obtained nineteen factors. The high-loading content was examined and yielded fifteen sets representing an aspect of religious behavior. Subjected to an item-scale analysis, these fifteen sets produced ten scales. Of the eleven scales generated by the study conducted in 1965, all but two were also derived from the 1968 data. The first six were considered as religious indicators very similar to the ones discussed by Glock and Lenski. The ten scales were: (1) Creedal Assent, (2) Devotionalism, (3) Church Attendance, Organizational Activity, and Financial Support, (4) Religious Knowledge, (5) Growth and Striving and Extrinsic Orientation, (6) Salience:Behavior and Salience:Cognition, (7) Tolerance/Prejudice, (8) Intolerance of Ambiguity, (9) Purpose in Life: Positive and Negative, and (10) Proreligious Response Set.

The dimensions of religiosity were also explored by Tapp (1971) among 12,146 members of the Unitarian Universalist Association in the United States and Canada. He divided them into three stratified groups; high-growth churches, ordinary churches, and fellowships. Considering the mean score of each of the eighty churches as an 'individual', he made a factor analysis on them and found

eight dimensions for religiosity among Unitarian Universalists: (1) personal beliefs, styles, and values, (2) social-ethical values, (3) church sociality values and participation, (4) psychological development values, (5) esthetic-reflective worship values, (6) educational function of the church, (7) the church as a source of personal friendship, and (8) intrasectarian affirmations.

#### Critiques on Some Multidimensional Studies

Weigert and Thomas (1969) critiqued Faulkner and DeJong's (1966) empirical analysis of dimensionality of religion on the grounds of face validity. They said that the knowledge, the ritualistic, and the experiential dimensions had some items akin to the semantic category of "believe, opine, view" which reflect the ideological category. They also compared Stark and Glock's (1968) and Faulkner and DeJong's (1966) Catholic and Protestant samples with their own purposive samples from four middle class, Catholic, boy's high schools in different cities and found that the average of the rankings of the interdimensional correlations of Stark and Glock's Catholic and Protestant samples were identical to the average of the rankings of the four schools but very different from Faulkner and DeJong's results. The findings were considered as an evidence that Faulkner and DeJong's results may be more an artifact of the equivocation involved in the similarity of the semantic categories of the items than of defensible results from valid responses.

A new attempt to scale Glock-Stark dimensions of religiosity was made by Gibbs and Crader (1970) among 211 students at Emory University. Criticizing Faulkner and DeJong's (1966) items on two scales (experiential and consequential) because they did not measure the dimensions as defined by Stark and Glock (1968), they included in their instrument consequential items with no reference to religion, used two experiential items measuring only the perceived contact with the supernatural, and excluded the religious knowledge scale which failed to discriminate. The results nevertheless lent support to Faulkner and DeJong's conclusion that the belief dimension is of pervasive importance even with the use of improved experiential and consequential scales. They also alluded to the fact that three of the six product-moment correlations obtained with Emory data were higher than the criterion of .70 adopted by Stark and Glock (1968), indicating that more than 50 percent of these dimensions are overlapping.

The method used by Stark and Glock (1968) to tackle the problem of religious dimensionality was considered by Nudelman (1971) as empirically inadequate. He used their published correlation matrices and did a factor analysis of the data for Catholics and Protestants separately. The results indicated the existence of two main factors common to both groups, namely, devotion, including orthodoxy, experience, and devotion (private components of religiosity), and participation, including ritualism,

communal involvement, and friendship (church activities and ritualism). He also interviewed 48 Christian Scientist undergraduates regarding nine religious variables somewhat related to Stark and Glock's four major components of religiosity (the consequential was not dealt with) and confirmed through factor analysis the existence of the factors devotion and participation.

Clayton and Gladden (1974) made a factor analysis of the data obtained by replicating Faulkner and DeJong's (1966) scales and using them for questioning 873 students in 1967 (see Clayton, 1968) and 656 students in 1970 at a small, private, liberal-arts university in Florida. They found the predominance of the ideological commitment factor accounting for 78 and 83 percent of the common variance, respectively. A second-order factor analysis confirmed the existence of one general factor, leading to the conclusion that religiosity is not multidimensional but a single dimensional phenomenon composed primarily of ideological commitment with experience and practice being evidence of the strength of and commitment at the belief level.

Although the final solution has not yet been found, an examination of the literature dealing with the issue of religious dimensionality seems to indicate that the safest way to approach the problem is by means of a multidimensional view of religion. Such an approach would make provision for the possibility of different levels of the subject's religiosity in different dimensions, and for

the verification of the degree of interdependence among the various dimensions.

### Variables Related to Religiosity

As one attempts to discover the possible relationship between religiosity and the amount of exposure to SDA education, it is important to take into consideration other intervening variables that may influence the dependent variable of religion. The studies reviewed here will be grouped under each specific variable.

Sex. In his summary of a large number of studies conducted in Great Britain and in the United States, Argyle (1975) points out that there is a greater tendency for females than for males to become church members, to attend church, to pray privately, to maintain orthodox religious beliefs. Females are also more prone to have intense religious experiences and to have a more favorable attitude toward church and religion.

Faulkner and DeJong (1966) found that the correlations between the experiential dimension and the other four dimensions (intellectual, ideological, ritualistic, and consequential) were consistently .42 or higher for females and .42 or lower for males, supporting the popular image that females are more prone to religious experiences. Fukuyama (1961) reports in his study among Congregationalists that "women are indeed more 'religious' on the average than men but only on the cultic, creedal and devotional dimensions. Men, it would appear, are more likely



than women to 'know' their religion but less likely to practice, believe and experience it" (p. 157).

Parental Religiousness. Empirical research has continually supported the theory that the attitude of parents is one of the most important factors in the formation of religious attitudes of an individual. Argyle (1975) presents the evidence of several surveys of students in which subjects have been asked what had been the most important influence on their religious beliefs. Parents, home, and mother were the most frequent answers given (p. 30).

Allport, Gillespie and Young (1948), in their study among undergraduate students at Harvard and Radcliffe, reported the preeminence of parental influence on religion, mainly among men; and Erickson (1964), studying the religious consequences of public and sectarian schooling among Fundamentalists, found three important background influences on a number of aspects of religiousness, namely, parent religiousness, parent-subject congeniality, and church training.

Responses of students from homes where neither parent was a church member indicated particularly low ritualistic and consequential dimension correlations, as reported by Faulkner and DeJong (1966). Responses of students from homes where one parent, usually the mother, was a church member showed particularly high consequential dimension correlations and rather low experiential dimension

relationships. "This was the only subgroup for which the consequential dimension correlations were consistently above average" (p. 251). By average they apparently mean the correlation coefficient obtained when the scores of all subjects were included.

Shaw and Hurley (1969) pointed out that home remains the principal source and shaper of the values of children, as recent studies have made clear. They say:

The school is certainly a necessary adjunct in the process of value formation, providing as it does reinforcement in the form of a structured intellectual rationale for the values held, as well as the practical experience of living these values in a larger community. But the home is at the heart of the process. (p. 22)

In their study of the religious effect of Catholic schools, Greeley and Rossi (1966) indicated that parental religiousness is the intervening variable which most consistently affects the relationship between Catholic education and adult religious behavior. They found that "the religious impact of Catholic education is limited to those who come from highly religious families" (p. 85), and that "without the predisposition created by the religious family, the school was not likely to accomplish very much" (p. 89).

Age. Fichter (1954) divided 8,363 white, urban, Catholic parishioners into ten-year age groups and found that "the youthful category from ten to nineteen years of age exhibits the highest percentage of religious observance. There is a sharp drop in the ages thirty to thirty-nine, and a general upswing in the three remaining age groups"

p. 85). He remarked that the Catholic tends to be very religious during the adolescent and postadolescent stages, but becomes somewhat careless in his twenties. In the following decade of life he reaches an ebb in these religious activities, which improves gradually the remainder of his life but never regaining the record achieved in his youth.

In his review of the level of religious activities and beliefs of teenagers, Argyle (1975) compared studies among adolescents and adults in Britain and in the United States and concluded that "teenagers in both countries have a much higher level of church attendance than the adult population. . . . However, there is a lower level of belief." (p. 64)

In his examination of the relation between aging, church attendance, and affiliation in voluntary associations, Bahr (1970) conducted life history interviews with six hundred American males who belonged to three different socioeconomic strata. He found that church attendance at different ages dropped from between 50 and 70 percent at age fifteen to between 35 and 50 percent at age twenty, decreasing even more to between 20 and 40 percent at age sixty-five. He also reviewed four distinct models of research related with aging and church attendance. These models were called (1) the traditional model, which advocates a sharp decline in religion activity between the ages eighteen and thirty reaching the lowest point at age

thirty-five and then increasing until old age; (2) the stability model, which proposes that aging and church attendance are not related; (3) the family-cycle model, which purports that after marriage church attendance rises, reaches its peak when children go to Sunday School, and declines after children's Sunday School age; and (4) the disengagement model, which is based on the theory that mutual severing of ties occurs between an aging person and others in his society which in turn result in decreasing church attendance following middle age.

#### Parochial Education and Religiosity

The relative impact of parochial education upon religious development has been the object of various studies and the results of these studies are rather divergent.

The question whether religious education is related to moral development was investigated by Hartshorne and May (1928). They found little relationship between religious activity in children, especially attendance at religious education classes, and varied indices of values and moral behavior.

Peter and Alice Rossi (1957) inquired into the factors that pattern the Roman Catholic schools and into their effects upon the church, the individual, and the larger society. Using existing data from previous studies, they found that parochial education does predispose the individual to be more observant of certain types of ritual duties, that parochial schooling is related to both the

individual Catholic's attachment to his religious leaders and to the cohesion of the Catholic group, but has little influence on the individual as to his participation in the larger society.

The religious attitudes of nine hundred Catholic, college seniors that had varying amounts of Catholic schooling were investigated by Flanagan (1957). He found that there is an association between exposure to some Catholic education and to possessing attitudes which conform to Catholic expectations.

McKeena (1961) administered the College of Saint Catherine Religious Attitude Scale to three hundred Catholic, college senior females. He divided them into four groups according to the degree of exposure to Catholic or public education, i.e. (1) all Catholic schooling, (2) Catholic elementary and high school and public college, (3) public elementary and high school and Catholic college, and (4) no Catholic schooling. There were significant differences among the three groups with Catholic schooling, but those with no Catholic education scored noticeably lower than the other three groups at the .01 level of significance. McKeena conceded the possibility that enrollment in a Catholic school may be the result rather than the cause of mature religious attitudes.

Using Piaget's clinical method of telling stories, Boehm (1962) compared 110 children attending Catholic parochial schools with 112 attending public schools

regarding physical aggression, moral values, lying, and authority dependence. The responses rated by four judges yielded the conclusion that Catholic parochial school children, regardless of socio-economic status or IQ, scored higher on the tests at an earlier age than public school children.

Erickson (1964) conducted an exploratory study of the differential effects of five fundamentalist schools on their students when sectarian school students and public school students with comparable family and church backgrounds were compared. From a non-probability sample of 212 subjects attending grades six, seven, and eight (122 from sectarian schools and 90 from public schools), 198 responded. These were divided into four groups: (1) public students who would not have attended a sectarian school if available, (2) public students who probably would have attended a sectarian school if available, (3) students who had attended a fundamentalist school for less than four years, and (4) students who had attended a fundamentalist school for four or more years.

Three variables were controlled: parent religiousness, home congeniality, and church involvement. There were no significant differences in the groups with respect to age, sex, or social position. By means of a four-way analysis of variance, two major findings were revealed: (1) the effects of "Schooling Status" (public versus sectarian) upon "Subject Religiousness" were neither

consistent nor statistically significant, thus lending no support to the view that sectarian education is more conducive to religious development than is public education, and (2) the religiousness score is significantly affected by the interaction among the three control variables, namely, parent religiousness, home congeniality, and church involvement.

During 1963-64 Greeley and Rossi (1966) gathered data from a national sample of Catholic adults and from Catholic adolescents who were currently attending high school. Their study was considered by Erickson (1967) as the most representative data available on consequences of attending a church-related school.

The 2,071 subjects of the adult sample were either interviewed personally by trained personnel or responded to self-administered questionnaires. They were divided into three groups according to the amount of education in Catholic schools, which constituted the independent variable. The "all-Catholic" group was made up of those who had received all their elementary education in Catholic schools and either had not attended secondary schools or had received all their secondary education in Catholic schools. The "some Catholic" group had attended both Catholic and public schools. The "no Catholic" group had neither elementary nor secondary Catholic school exposure. The dependent variables were in the areas of church attendance and reception of the sacraments, attitude toward authority,

religious knowledge, moral orthodoxy, participation in church organizations, doctrinal orthodoxy, and practice of charity.

They found that Catholics who went to Catholic parochial schools did score significantly higher on measures of sacramental behavior, were more likely to grant the Church teaching authority in areas of disagreement such as race, sex, and education, were somewhat more orthodox in doctrinal and ethical matters, were much better informed on doctrinal fine points of their religion, participated more in church activities, but did not show significantly more disposition to help others (p. 72).

The 734 adolescents included in the study were also divided into three groups with respect to the amount of exposure to Catholic education. They were classified as "all Catholic," if currently attending Catholic schools, "some Catholic," if not presently attending a Catholic school but had attended at one time, and "no Catholic," if not attending nor ever had attended Catholic schools. The researchers found that Catholic education makes a considerable difference because those enrolled in Catholic schools scored almost twice as high as those who attended in the past and four times as high as those who never attended Catholic schools in the sacramental index, with even greater differences occurring on the religious knowledge index. They also found that exposure to Catholic schooling was strongly associated with doctrinal orthodoxy and sexual mores



(pp. 184-185).

When parental religiousness was controlled, the researchers found that the associations of religious education with sexual mores, doctrinal orthodoxy, and religious knowledge diminished; and when the partial correlations between the various levels of parental religiousness and the same three variables were computed, an inverse effect of what happened to the adult sample was revealed. Apparently among adolescents parochial education had the greatest impact upon those from the least devout family environment, but such effects did not last in the long run. In the case of adults, those coming from the most religious parental environment received a long run influence from the school which was reinforced at home (pp. 188-189).

Johnstone (1966) obtained his data in 1964-65 from interviews with, and questionnaires administered to, 548 high-school students out of an intended sample of 584 randomly drawn from Lutheran populations in St. Louis and Detroit. His purpose was to determine what difference Lutheran parochial education made in the belief, attitudes, and behavior patterns of the students. He divided them into five groups according to the amount of parochial schooling received: (1) those with 100 percent of parochial education (N=112), (2) those having between 65 and 99 percent (N=109), (3) those who had between 30 and 64 percent (N=66), (4) those having between 1 and 29 percent (N=67), (5) and those who had no parochial education (N=194).

The questionnaire covered four areas: religious behavior, biblical knowledge, Lutheran doctrine, and other religious questions. The hypotheses tested at .01 level of significance led to the conclusion that the young people coming from a solid Lutheran background are hardly ever measurably affected by increasing exposure to parochial education except for direct Biblical knowledge. However, among those coming from "marginal" families there was a significant difference in their level of Biblical knowledge, Lutheran doctrinal understanding, and frequency of participation in congregational life.

An investigation on the effectiveness of two different Catholic instructional environments with respect to the communication of religious knowledge was conducted by Weber (1968). He compared secondary students receiving religious instruction in Catholic high schools with secondary students enrolled in public high schools but receiving regular religious instruction "out-of-school." All 558 subjects included in the study, taken from a previous sample of 721, were either ninth or twelfth graders and had attended eight years of elementary school either in a Catholic or in a public school run by Catholic personnel (public-Catholic school). They responded to the Religion Test for High Schools and were compared at the .05 level of significance according to four dependent variables: total religious knowledge, knowledge of the creed, knowledge of the commandments, and knowledge of the means of grace.

Weber found differences favoring the students receiving religious instruction in Catholic high schools as follows: (1) among ninth graders with all elementary education in Catholic schools no significant difference was found, (2) twelfth graders with Catholic elementary training showed significant differences between the two groups on only the knowledge of the means of grace, (3) ninth graders with public-Catholic elementary training showed a significant difference between the two groups on knowledge of the creed and knowledge of the commandments, and (4) twelfth graders with public-Catholic elementary training showed a significant difference between the two groups on all four dependent variables.

Hautt (1971) tested the null hypotheses that there are no important differences in the religiousness of respondents who have attended member schools of the National Association of Christian Schools for four or more years, more than one but less than four years, and less than one year or not at all. He designed a questionnaire including four dimensions of religiosity: the consequential (non-participation in drinking alcoholic beverages, smoking cigarettes, dancing, and having intimate sexual relations before marriage), the intellectual (identified with belief in doctrine), the ideological (defined as relating secular concepts to God), and the ritualistic (constituted of religious practices); and three more indices measuring (1) interest in a high paying occupation, (2) disapproval of

cheating, attending 'X rated movies,' and looking at magazines such as 'Playboy,' and (3) selected actions related to religious principles. Considering these seven indices he found, by means of regression analysis, that Christian school attendance is correlated at .12 or higher with each index and is the second most important predictor of the index of doctrinal belief which represents the intellectual dimension. However, Christian school attendance is not an important predictor of the indices representing the consequential, ideological and ritualistic dimensions of religiousness.

The cognitive and axiological effects of the differential exposure to Catholic education among high-school students was investigated by Cahill (1971). Approximately six hundred of them, chosen from a non-random sample of seven Catholic high schools, responded half to the cognitive Gaydos Religion Test and half to the Religious Attitude and Practice Survey.

He compared those who had received twelve years of Catholic education with those who had received only four years of Catholic high-school education, controlling the factors of sex, socio-economic status, religious press in the home, and intelligence. The findings revealed that students who attended Catholic schools for twelve years scored significantly higher on the measure of religious knowledge than those who attended only the high school years, but no significant differences were found between the

two groups on any of the five scales of the attitudinal test.

Hooley (1974) tested the differences in values, attitudes, and beliefs towards the Mennonite ideal between Mennonite youth who attended a church-related school and those who did not. He mailed an instrument, containing two hundred items forming twenty scales and clusters, to 197 of the 205 who had been randomly selected to participate in a previous study in 1968. He found that on most of the twenty scales and clusters there were no significant differences between the groups, but there was a trend for respondents who attended a church related school to be more aligned with the Mennonite ideal. Where significant differences were found, the respondents who had attended a church-related school had values, beliefs, or attitudes also more aligned with the Mennonite ideal, and in no instance was the significance found in the opposite direction.

In 1970, Brekke (1975) investigated sixteen hypotheses concerning differences in beliefs, values, attitudes, opinions, and reported behavior between parochial school attendees and non-attendees during grades one through twelve among Lutherans. A stratified sample of 1,573 persons, 1,480 lay people and 93 clergy, ranging in age from fifteen through sixty-five, responded to a questionnaire. The primary independent variables had to do with parochial school attendance, and the dependent variables consisted of 44 single items and an additional 553 items in 64 scales.

Length of parochial schooling was significantly associated with 16 of the 44 items and with 40 of the 64 scales for the total sample, and with 26 scales for the lay people sample only. When controlled by age and family level of education, the length of parochial attendance of the lay sample showed significant association with 20 measures of adult religiousness. The author also reports that

Persistent positive differences associated with parochial attendance included (1) more frequent reporting of personal experiences with God, (2) more consistent belief in the divinity of Jesus, (3) greater clarity concerning the way of salvation, (4) clearly more biblical knowledge, (5) fuller devotional life and witnessing to others about Jesus and his church, (6) balanced conservative doctrine, (7) greater awareness of the presence of the Trinity in one's whole life, (8) highest value given to relationships with God and people, (9) reasonable respect for authority, (10) tendencies to be forgiving and forthright at the same time that there are definite tendencies to reject belief in salvation by good works, and (11) less tendency to be anxious about one's faith as to be swayed by one's peers. (p. 5144-A).

Additionally he stated that parochial attendance is also associated "avoidance of oversimplistic views of social issues merely as power struggles" (Brekke, 1974, pp. 125-126). He also found that parochially educated lay people were more involved in community leadership or personal service to other individuals than were other church members.

#### Seventh-day Adventist Parochial Education as Related to Religiosity

Some studies have been conducted among Seventh-day Adventists concerning the relationship between parochial

education and some aspects of the religiosity of the subjects.

In a survey conducted by the Department of Education and Young Peoples' Missionary Volunteer Department of the General Conference of SDA (1951) among 9,332 children coming from Adventist homes, it was found that, among those between the ages of fifteen to eighteen who had attended Adventist schools, 95 percent were baptized Adventist church members. Of those attending non-Adventist schools, 65 percent were baptized church members, 20 percent were not baptized, and 15 percent had withdrawn from membership. Of those not attending any school, only 50 percent were baptized, 35 percent were not baptized and 15 percent had withdrawn from membership. Among those aged nineteen to twenty-two, and attending Adventist schools, 100 percent were baptized members; of those attending non-Adventist schools, 85 percent were baptized, and of those not attending any school, 60 percent were baptized, 30 percent were not baptized and 10 percent had withdrawn from membership.

Shephard (1955) investigated the effectiveness of the denominational school in Cuba in influencing the students toward behavioral characteristics and religious concepts which are peculiar to SDA school environment, and to determine the persistence of these characteristics and concepts upon the students after they have returned to their home environments. The total population of eighty-six

currently enrolled students and a sample of seventy-three previously enrolled students responded before, during, and after school attendance to a questionnaire covering six areas: health, religious ethics, school program, religious concepts and beliefs, social practices, and recreation. The behavioral changes were tested for significance by a chi-square technique and the only significant changes were in the areas of school program promoting free discussion of personal and other problems and participation in community activities and in the area of religious concepts and beliefs such as infallibility of the Bible and the priesthood of Christ. Shephard also indicated that greater behavior changes are made by older students and by those with longer attendance records.

Data were collected in the 1961 Pacific Union Conference Membership Survey conducted in the states of Arizona, California, Hawaii, Nevada, and Utah, to investigate the effects of parochial education on church membership. Returns were obtained from 35 percent of the active members in the churches surveyed in addition to 30,000 non-members connected with the households of the reporting members. Sargent (1967) used the data and found that church joiners had about four times as much Adventist elementary education as non-joiners and five or six times as much secondary parochial education. From the total population three groups of subjects were drawn from among persons reared in Seventh-day Adventist homes, those with no



SDA parochial education, those with varying amounts of SDA education, and those with twelve or more grades of parochial education. He compared them as to the probability of not joining, joining, or dropping from membership, and concluded that a much higher probability of retaining church membership is associated with parochial education than with public education. However, among those reporting that they joined the church largely because of parochial education, he found the highest percentage of loss. His tentative conclusion is that an environment which makes church joining very easy also reduces the amount of personal commitment required of the individual.

Noble (1971) conducted a study among 553 twelfth graders in nine SDA secondary schools in Northwest America in order to determine what SDA seniors "know about doctrines of the SDA Church, what they believe concerning these doctrines, to what extent they perceive that their life style is affected by these beliefs, and how they feel about the SDA education system" (p. 188). The basic independent variable was years of attendance at SDA schools. Using Pearson product-moment correlations he found that years of attendance was positively related to doctrinal knowledge ( $r=.125$ ) and doctrinal acceptance ( $r=.098$ ), both significant due to the population size, but "insufficiently high to admit of prediction possibilities" (p. 192).

Lewis (1974) reported a study among 247 SDA adult members of eight Adventist churches located within fifty

miles of Boston. His independent variable was the percentage of parochial formal education experienced by the participants, and the dependent variables were five components of the Christian life, namely, Bible knowledge, doctrinal orthodoxy, self image of religious maturity, moral orthodoxy, and religious behavior. Controlling for age, sex, amount of formal education, level of parochial education, parental religiousness, and religiousness of the spouse, he attempted to determine whether there were any significant differences between those with all (from 78 to 100 percent), some (from 24 to 77 percent), and no (from 0 to 23 percent) exposure to parochial education. His conclusion relative to the amount of parochial school attendance is that "Adventist adults with no parochial education are not measurably different in religiousness from those with some, or all parochial education, nor are those with some parochial education measurably different from those with all parochial education" (pp. iv).

Dudley (1977) investigated the relationships that might exist between the dependent variable, alienation from religion, and twenty-one other selected variables of which six were demographic items. He used a sample of four hundred subjects randomly selected from the population of students enrolled in twenty randomly selected SDA secondary schools in the United States. They provided the data for the study responding to the Youth Perceptual Inventory, an instrument especially designed for the study. By means of

multiple-regression analysis and a stepwise-regression program, he found that: (1) of all the correlations between the criterion variable and the twenty-one predictors, the five highest had to do with school experiences, and home experiences did not rank higher than six and seven on the list; and (2) among the seven variables adding significantly to the prediction of religious alienation there were three school-influence scales, namely, sincerity of teachers, personal interest of teachers, and relationship with teachers.

### Summary

This chapter began with a review on the literature dealing with the problem of measurement of religiosity insofar as the distinction between the 'inward' and the 'outward' forms of religiosity are concerned. The literature indicated that, when religiosity is investigated in conjunction with prejudice and among subjects belonging to a heterogeneous population, the 'inward' and committed form of religiosity may be unrelated or sometimes negatively correlated with the 'outward' or institutionalized form of religiosity. When the subjects under investigation belong to a homogeneous population, however, both forms tend to be positively related.

This chapter also considered the literature covering the question about the problem of dimensionality of religiosity. The general trend of modern research is to consider religiosity as a multidimensional phenomenon, as

opposed to the view that religiosity is a unidimensional variable. Apparently the safest way to approach the problem is by means of a multidimensional view, which makes provision both for the possibility of different levels in different dimensions, and for the verification of the amount of interdependence among the dimensions. That the issue is still much alive, is indicated by articles criticizing some of the most widely known multidimensional studies.

Some studies revealed that variables such as sex, age, and parental religiousness are often related to religiosity.

Central to this study is the consideration of the literature dealing with the relationship between religiosity and exposure to parochial education. Some studies reviewed indicate that in some cases there is a positive correlation between exposure to parochial education and some aspects of religion, mainly with the cognitive aspect religion. Other studies revealed that amount of parochial education is not positively associated with the subjects' religiosity or merely plays the role of a reinforcer of what is fostered at home.

The last section of this chapter included empirical studies conducted among Seventh-day Adventists.

## CHAPTER III

### METHODOLOGY

The description of the methodology followed in this study will include the type of research being conducted, the choice of the population and the sampling procedures used, the theoretical framework adopted, the development of the instrument, and the statement of the null hypotheses. This chapter will also consider the procedures used in the gathering and analysis of data.

#### Type of Research

This was an ex post facto study (Isaac & Michael, 1977), sometimes called "aexperimental" (Guba, 1965) or "causal-comparative" (Van Dalen, 1973). It was characterized by the fact that the data were collected after all events of interest had already occurred and that the independent variables eventually related to the occurrence of the dependent cannot be manipulated as in an experimental design.

Within the category of an ex post facto study, this investigation was a correlational one. It sought to determine (1) the relationship existing among five dimensions of religiosity (intellectual, ritualistic, ideological, experiential, and consequential), (2) the

relationship between each of the dimensions of religiosity and the linear combination of several selected independent variables, and (3) the relationship between the linear combination of the five religious dimensions and the linear combination of the independent variables. The study also sought to determine whether the religiosity dimensions discriminated among students belonging to different sub-samples, among students exposed to different levels of SDA education, among students exposed to different amounts of SDA boarding-school education, and among students with different lengths of exposure to SDA parochial education.

#### Population and Sample

The population under investigation included all SDA secondary students enrolled in grades 9, 10, 11, or 12 who were attending any SDA church or any of the two SDA secondary schools located in the Corridor Greater Sao Paulo-Campinas (see appendix 7).

The reason for the selection of this particular area was based on three main considerations: (1) the area contains the two largest SDA secondary schools in Brazil, (2) the highest density of SDA population in the country is found in this region, and (3) the SDA population in this area represents various regions of the country and diverse socio-economic strata.

### Sampling Procedures

Two sampling procedures were adopted for the selection of the subjects in order to secure the best possible representativeness of the population together with the highest possible level of response. The students taken from the churches and generally attending non-SDA schools (referred to in this study as Sample A) were selected by means of a cluster randomization, whereas the students presently enrolled in one of the two SDA secondary schools included in this study (referred to in this study as Sample B) were randomized individually.

Sample A was drawn from the population of SDA secondary students attending one of the 103 SDA organized churches in the area. The churches were first categorized according to the size of their congregations as follows: (1) small, if membership was below 100, (2) medium-small, if membership was between 100 and 249, (3) medium, for a membership between 250 and 499, (4) medium-large, for a membership between 500 and 999, and (5) large, for a membership of 1,000 or more. By means of a table of random numbers, the churches were then selected randomly until all the categories were proportionately represented, and all the secondary students belonging to these churches were the participants of sample A.

The reasons for a stratified cluster randomization instead of an individual randomization were (1) the problem of obtaining a list of secondary students from all churches

involved, (2) the extreme difficulty of reaching and following up the subjects by mail, and (3) the necessity of supervision during the administration of the questionnaire.

Sample B was randomly drawn from a complete list sent by both SDA educational institutions (Instituto Adventista de Ensino and Instituto Adventista de Sao Paulo) containing the names of 1,033 SDA secondary students enrolled in grades 9, 10, 11, or 12 during the first semester of 1979. They were selected in strata according to (1) the relative size of the school, (2) the sex ratio among the student body, and (3) the housing status (day or boarding) ratio.

#### Sample Size

The minimum sample size is a function of the parameters chosen for the study and may be computed by means of a power analysis (see Welkowitz, Ewen & Cohen, 1971, pp. 187-99). The four major parameters involved in a power analysis are: (1) the significance criterion ( $\alpha$ ), (2) the sample size (N), (3) the population effect ( $\gamma$  or  $\delta$ ), and (4) the power ( $1-\beta$ ).

For this study the significance criterion  $\alpha$  was set at .05, which means that the probability of rejecting a true null hypothesis was five in a hundred. In a correlational study, the population effect size is determined by the correlation coefficient. For this study it was set at .20. The power desired was .90, which means that the probability of rejecting a false null hypothesis was 90



percent, and the probability of retaining a false null hypothesis (known as Type II error) was only ten percent.

Using the formula for power analysis (Welkowitz et al., 1971, p. 195), the minimum sample size needed for a power of .90, level of significance of .05, and effect size of .20 equals 274. Nunnally (1967), in his turn suggests that, for multivariate procedures, "If there are as many as 10 variables from which the best several are selected, it will be wise to employ 500 or more persons in the study" (p. 164).

Since this study divided the population into two sub-populations from which samples A and B were drawn, it was decided to include 274 subjects from each sub-population, totalling 548 subjects. In this case for a power of .90 the minimum necessary correlation coefficient is .15.

Based on an estimate of the average ratio of secondary students ranging from 3.53 to 6.40 per hundred members (Azevedo, 1977, p. 71), it was predicted that twenty-five churches, randomly selected in strata according to size of congregation and representing a total membership of 7,800, would yield the expected 274 subjects for sample A (see appendix 3 for a list of selected churches).

The total number of subjects selected for sample B was 282 subdivided as follows: 165 from Instituto Adventista de Ensino (IAE) (68 males, 97 females, 68 boarding and 97 day students) and 117 from Instituto Adventista de Sao Paulo

(IASP) (57 males, 60 females, 78 boarding and 39 day students).

### Theoretical Framework

Judging from the Review of Literature, the measurement of religiosity faces two basic problems: (1) the existing dilemma regarding the distinction between the objective or the expressed form of religion, and the more inward or subjective form, and (2) the ongoing debate around the unidimensionality versus multidimensionality of religion.

Discussing both problems, Dittes (1969) suggests that, when homogeneous samples (composed of subjects belonging to the same religious denomination or to similar segments of the religious community) have been measured for religiosity, the results supported a positive correlation between the objective and subjective forms of religion (p. 627) and multidimensionality of religion (pp. 609-618). On the other hand, when the sample under investigation is heterogeneous (taken from the population at large) the objective and subjective forms seemed to be unrelated or even negatively correlated (see Lenski, 1961) and religiosity appeared to be unidimensional.

Considering that the sample to be measured in this study belongs to an homogeneous population within the SDA denomination, it was decided to ground this inquiry on the multidimensional view of religion as first proposed by Charles Glock (1962) and later by Stark and Glock (1968).

This theoretical approach is considered by Dittes to be the most elaborate argument for the multidimensionality of religion, and its categories may be applied both to the objective and subjective forms of religion (1969, pp. 607 and 619).

Glock defined religiosity in terms of five dimensions. For the purpose of the instrumentation of this study these dimensions were briefly defined as follows: (1) the experiential, which represents the religious feelings, perceptions, and sensations which are experienced by the individual insofar as he or she achieves a sense of contact with the supernatural, (2) the ritualistic, which depicts what a person does or thinks about the public or private practices or rituals of religion, (3) the ideological, which deals with the religious beliefs held by the individual, (4) the intellectual, which covers the area of knowledge of the basic tenets of faith or the sacred scriptures, and (5) the consequential, different in kind from the first four, which refers to the attitudinal and behavioral secular effects of the other dimensions in the person's day-to-day life (compare with Glock, 1962, pp. 98-108)

Even though the above dimensions attempt to measure distinct aspects of religion, they are not altogether independent of each other, and according to Faulkner and DeJong (1966) "there is no way to predict in advance the nature of the interrelationships among the various scales" (p. 247).

Glock himself concedes that .

Until there is research which measures religiosity in all of its manifestations, the question of interrelatedness of the five dimensions cannot be wholly explored. It is scarcely plausible that the various manifestations of religiosity are entirely independent of each other. (1962, pp. 99-100)

But he adds that "several recent studies strongly suggest that being religious on one dimension does not necessarily imply religiosity on other dimensions" (p. 100).

For this reason it was found appropriate to ground this investigation on the assumption of multidimensionality of religion among the students under investigation, considering, however, the possibility of a certain degree of interdependence among the dimensions.

#### Instrumentation

Once the decision was made to follow Glock's theoretical framework, several instruments based on a similar theory were reviewed. None, however, appeared to be suitable for this particular investigation for the following reasons: (1) the nonexistence of items dealing with specific aspects of SDA beliefs and practices in most of the instruments, particularly those designed to measure religiosity among the general population or among subjects belonging to other specific religious groups, (2) the size of the instrument which should not be too long due to mailing expenses and the time available for the completion of the questionnaire by the subjects, (3) the age level of subjects which was delimited to ages fifteen through early

twenties, (4) the instrument format which should be designed for use among subjects not too familiar with complex forms of questionnaires, and (5) the cultural distinctions which inevitably exist in another country.

All the reasons above considered together led to the conclusion that an instrument especially suitable for the study should be developed.

#### Development and Validation of the Instrument

The items which composed the original instrument were generated, adopted, or adapted on the basis of (1) a thorough study of the theoretical framework as presented by Glock (1962) and Stark and Glock (1968), (2) a careful consideration of the fundamental beliefs and standards of Christian living of the SDA Church (see Seventh-day Adventist Church Manual, 1976, pp. 33-39 and 216-234), (3) a close examination of several existing questionnaires measuring religiosity such as Glock and Stark's (1966), Johnstone's (1966), Strommen and Gupta's (1969), Noble's (1971), Lewis' (1974), Dudley's (1977), and (4) the researcher's own experience as a religion teacher among secondary students in Brazil.

Originally written in English, the items were first submitted to the scrutiny of four Brazilian graduate students enrolled at Andrews University who had previously attended SDA schools in Brazil and had different types of experience in the leadership of the church in that country. They gave valuable suggestions as to the relevance of the

items and the possible reactions they might arouse among Brazilian secondary students.

The same items were further submitted to the judgment of four Andrews University professors, two of whom specialize in Religious Education, one in Educational Measurement, and one in Systematic Theology. Their suggestions were valuable in the determination of representativeness of the topics covered by the items and the appropriateness and adequacy of the content of the instrument in relation to the age span of the target population.

The revised items were then translated into Portuguese with the help of the same four graduate students referred to above in order to ensure the appropriateness of language. Later, during the pilot test, ten Andrews University secondary students who had previously attended school in Brazil responded to the translated items and were requested to give their opinion regarding the clarity of language and content of the items.

The 118 original items were distributed among the five dimensions of religiosity as follows: (1) twenty-nine items related to religious knowledge reflecting basic facts about the Bible, about the history of the SDA Church and the religious world, and some aspects of SDA interpretation of the Bible; (2) fifteen items related to religious practices, such as private devotional life, attendance at and attitude toward public religious services, and financial

participation in church programs; (3) fourteen items related to religious experience reflecting awareness of the supernatural world, trust in divine power, and feelings toward religion and fellowmen; (4) thirty-one items based on fundamental beliefs of the SDA Church; and (5) twenty-nine items related to both attitudes and behavior concerning selected SDA standards of Christian living.

A multiple choice technique was adopted to measure all the items belonging to the intellectual dimension, whereas the ritualistic items were conceived to be measured in a continuous scale according to the frequency of performance of certain religious practices or of individual reaction to selected religious ceremonies and the amount of financial contribution to the church. A Likert-type five-point scale, ranging from strongly disagree to strongly agree, was adopted for the measurement of the remaining dimensions.

Also included in the instrument was a demographic section requesting information such as age, sex, church-membership status, scholastic achievement, marital status of parents, parental religious affiliation, and the amount of exposure to education in various types of schools. Questions related to subjects' opinion about the relative influence of home, church, school, and society in general upon the respondents' religious life, and questions regarding the frequency certain religious practices are performed at home were also included in this section.

### Pilot Test and Reliability of the Instrument

The reliability was measured by means of a pilot test conducted among thirty SDA secondary students, ten of whom were attending Andrews Academy but had had most of their former education in Brazil, and twenty who were attending either a SDA or a public school in Sao Paulo, Brazil. The researcher was responsible for the pilot test among those attending Andrews Academy, and the chairman of the Religious Education department at Instituto Adventista de Ensino was responsible for the pilot test in Brazil. Of the thirty questionnaires, twenty-eight were used to measure the reliability of the ritualistic and twenty-nine for the remaining dimensions.

The internal consistency of each dimension was calculated by means of two types of item analysis, a binary-item analysis (Futcher and Plue, 1977) for the intellectual sub-test, and a weighted-response item analysis (Futcher and Plue, 1977) for scales measuring along the remaining four dimensions. The binary-item analysis yielded the biserial and point-biserial correlation coefficients between each item and the total score on the sub-test, the level of difficulty of each item, and the reliability coefficient of the whole scale according to Kuder and Richardson's formula (KR-20). For the intellectual sub-test KR-20 was equal to .78. Weighted-responses item analyses yielded the point-multiserial correlation coefficient between each item and



the total score on the scale to which it belonged, and the reliability coefficient alpha for each scale. The alpha coefficients were as follows: ritualistic = .80, experiential = .72, ideological = .67, and consequential = .82. All the coefficients have been rounded to two decimal places.

The indices above provided valuable information for the revision of the instrument and the improvement of the items because they indicated which items were too difficult, too easy, non-discriminatory, imprecise, or ambiguous. Except for validity reasons, items whose point-biserial or point-multiserial correlation was below .30 were deleted.

The revision process affected each dimension as follows:

1. Intellectual dimension
  - 17 items untouched
  - 2 items slightly reworded
  - 10 items deleted
2. Ritualistic dimension
  - 8 items untouched
  - 7 items slightly reworded
3. Ideological dimension
  - 9 items untouched
  - 9 items slightly reworded
  - 3 items substantially re-phrased
  - 10 items deleted
4. Experiential dimension
  - 8 items untouched
  - 4 items slightly reworded
  - 1 item substantially re-phrased
  - 1 item reversed
5. Consequential dimension
  - 6 items untouched
  - 8 slightly reworded
  - 5 substantially re-phrased
  - 10 items deleted

A second item analysis was run after the deletion of the thirty items and yielded  $KR-20=.90$  for the intellectual, coefficient alpha of .61 for the ideological,

and .81 for the consequential. No items were deleted from the ritualistic or experiential dimensions.

The final instrument is presented both in English and in Portuguese in appendix 1 and contains nineteen items in the intellectual dimension (items 1 through 19), sixteen in the ritualistic (20 through 35), twenty in the ideological, fourteen in the experiential, and nineteen in the consequential (interspersed among items 36 through 90).

### Hypotheses of the Study

This study first tested the hypotheses of relationship between the combination of independent, or predictor, variables and five dependent, or criterion, variables taken separately or in combination.

The predictor variables were (a) the amount of exposure to SDA parochial education computed in years, (b) age, (c) sex, (d) scholastic achievement, and family variables such as (e) home religious practices, (f) religious affiliation of father, (g) of mother, (h) of both parents, and (i) parents' marital status. The criterion variables were the five dimensions of religiosity, i.e., the intellectual, the ritualistic, the ideological, the experiential, and the consequential.

The study also investigated whether any linear function of the five dimensions of religiosity discriminated among (1) students belonging to different sub-samples (Sample A = non-SDA schools, Sample B1 = IAE, and Sample B2 = IASP), (2) students who were exposed to different levels

of SDA education, (3) students who were exposed to no, some, or all SDA boarding-school education, (4) students who attended at least five years at an SDA school and were exposed to no, some, or all SDA boarding-school education, and (5) students exposed to different amounts of SDA parochial education. (For all of the above see chapter I, definition of terms)

The null hypotheses tested in this study are the following:

1. There will be no significant multiple correlation between the intellectual dimension of religiosity and a linear combination of the predictors a, b, c, d, e, f, g, h, and i.
2. There will be no significant multiple correlation between the ritualistic dimension of religiosity and a linear combination of the predictors a, b, c, d, e, f, g, h, and i.
3. There will be no significant multiple correlation between the ideological dimension of religiosity and a linear combination of the predictors a, b, c, d, e, f, g, h, and i.
4. There will be no significant multiple correlation between the experiential dimension of religiosity and a linear combination of the predictors a, b, c, d, e, f, g, h, and i.
5. There will be no significant multiple correlation between the consequential dimension of religiosity and a linear combination of the predictors a, b, c, d, e, f, g, h, and i.
6. There will be no significant canonical correlation between a linear combination of the five religiosity dimensions and a linear combination of the predictors a, b, c, d, e, f, g, h, and i.
7. There will be no linear function of the five dimensions of religiosity which significantly discriminates among students currently attending either non-SDA schools, IAE, or IASP.

8. There will be no linear function of the five dimensions of religiosity which significantly discriminates among students exposed to different levels of SDA education classified as no exposure, primary level, middle level, primary-middle levels, secondary level, primary-secondary levels, middle-secondary levels, and all levels of exposure.
9. There will be no linear function of the five dimensions of religiosity which significantly discriminates among students who were exposed to no, some, or all SDA boarding-school education.
10. There will be no linear function of the five dimensions of religiosity which significantly discriminates among students who have attended at least five years at an SDA school and were exposed to no, some, or all SDA boarding-school education.
11. There will be no linear function of the five dimensions of religiosity which significantly discriminates among students non-exposed, exposed to from one to four years, from five to eight year, or from nine to twelve years of SDA parochial education.

### Procedures

#### Preliminary Steps

The research proposal was submitted to two educational leaders connected with South American Division and South Brazil Union of the SDA Church and a letter of recommendation was obtained. This letter was enclosed in the correspondence with the principals and registrars of each academy and with the pastors or local elders of the churches involved in the study (see appendix 2).

A complete list of organized churches located in the Corridor Greater Sao Paulo - Campinas and two lists of SDA secondary students attending each of the two SDA

academies in the same area were requested and obtained from East Sao Paulo Conference and both academies, respectively. Of the 103 churches, twenty-five were randomly selected, and of the 1,033 SDA academy students, 282 were individually selected by random method.

Meanwhile a team of college students was organized under the direction of the chairman of the Department of Religious Education at Instituto Adventista de Esnino, for the purpose of coordinating the correspondence and collecting the data. They received instructions regarding the content of the questionnaire and how to help respondents and were given a written authorization to administer the instrument. (See appendix 4 for more details about the instruction).

A letter requesting cooperation and establishing the approximate date for the administration of the questionnaire was sent to the principals and to the pastors or elders responsible for the selected churches. The letter sent to the pastors and elders contained a short form to be completed and returned in a pre-stamped envelope (see appendix 2).

#### Data Gathering

The revised instrument was sent in August 1979 by certified mail and was administered to the subjects during the month of September. The students enrolled in the academies responded during a class period, whereas those in the churches responded on a Saturday morning during the

service hour.

Each instructor was requested to complete a form regarding the receptivity of the students and church leaders and the time spent to respond to the questionnaire.

#### Data Processing Analysis

This study used two different sets of statistical tools, one for the verification of the reliability of the instrument and of the dimensionality of religion, the other for the the testing of the hypotheses.

For the verification of the internal consistency of the instrument binary- and weighted-response-item analyses were used. For the verification of the dimensionality of religiosity it was used (1) Pearson product-moment correlation in order to verify the amount of interdependence among the dimensions, and (2) factor analysis in order to verify the extent to which the theoretically based dimensions corresponded to five rotated factors.

For the testing of the hypotheses three major statistical tools were used: (1) hypotheses 1 through 5 were tested by means of multiple regression analysis; (2) hypothesis 6 was tested by means of canonical-correlation analysis; and hypotheses 7 through 11 were tested by means of discriminant-function analysis.

#### Summary

Chapter III has presented the research design, the sampling procedures, and the theoretical framework adopted

for the investigation of religiosity as related to some selected variables. The construction and validation of an appropriate instrument has been discussed, and the hypotheses have been stated in the null form. Finally, the procedures for the data gathering and the analysis of the data have been explained.

## CHAPTER IV

### FINDINGS

The first three chapters have presented the rationale upon which this study is based and the methodology followed for the research. This chapter presents the findings of the investigation.

#### Information about the Gathering of Data

As stated in chapter III, a letter requesting cooperation was sent to the academy principals and to the pastors or elders of the local churches. Both principals responded promptly, lending their entire support. Of the local pastors or elders who were requested to complete a short form and return it in a pre-stamped envelope, only two formally replied. The silence of the others was interpreted as implicit consent, and the instrument was administered as planned.

The instructors were requested to provide information regarding the receptivity of the students and of the church leaders. Their responses indicated that both students and local leaders lent their support and were willing to cooperate. The only exceptions involved three churches: one where the students were somewhat reticent for fear of becoming involved; another where three students



refused to participate and the local elder reacted negatively fearing that the dismissal of the students might disrupt the service (but he changed his mind when the local pastor arrived); and the third where the elder was unwilling to dismiss the students because the invited preacher belonged to another church.

The time spent by the students to respond to the questionnaire ranged from fifteen to eighty minutes.

#### Information about the Sample

The population selected for the study consisted of all SDA secondary students currently attending one of the 103 churches or currently enrolled in one of the two SDA academies located in the Corridor Greater Sao Paulo - Campinas. From this population a sample of all students attending twenty-five randomly selected churches and 282 randomly selected students enrolled in the academies was chosen.

From the twenty-five churches selected, 273 students (generally attending non-SDA schools) responded to the questionnaire, and 240 were included in the data analysis, a usability level of 87.9 percent. Of the 282 students chosen among those attending the academies, 265 responded and 241 were used in the analysis, representing a net response level of 93.7 percent and a usability level of 85.5 percent.

The whole sample totaled 481 secondary students (hereafter referred to as Total Sample) and was composed of 240 students generally attending non-SDA schools (hereafter

referred to as Sample A) and of 241 students currently enrolled in one of the two SDA academies (hereafter referred to as Sample B). Of the academy students 144 were studying at Instituto Adventista de Ensino (IAE -- hereafter referred to as Sample B1), and 97 at Instituto Adventista de Sao Paulo (IASP -- hereafter referred to as Sample B2).

Table 1 presents the frequency and the percentage in the total sample and the sub-samples according to sex, age, and church-membership status. Inspection of the table reveals that females outnumber males in samples A and B1, but males almost equaled females in sample B2. The greatest difference is found among non-SDA school students.

The age distribution reveals that 30 percent of all students were twenty years of age or older, the largest proportion being among non-SDA school students (33.6 percent) and the smallest among IASP students (23.7 percent). Such a high ratio was unexpected among secondary students. In all groups, baptized students outnumbered the non-baptized by more than nine to one, showing a very high ratio of baptized members among the secondary student population in the area.

The distribution of the school achievement scores is presented in table 2. These scores are approximately related to grades used in the United States as follows: grades 5.5 or less are equivalent to grade D or below, grades 5.6 to 6.5 are equivalent to C-, grades 6.6 to 7.5 are equivalent to C, grades 7.6 to 8.5 are equivalent to C+ to B, grades 8.6 to 9.5 are equivalent to B+ to A-, and grades 9.6 or above

TABLE 1  
DESCRIPTION OF THE SAMPLE AND SUB-SAMPLES ACCORDING TO  
SEX, AGE, AND CHURCH STATUS

Sample	Total	Sex		Age					Church-Status	
		Male	Female	15or<	16	17	18	19	20or>	Bapt. Non-bapt.
N										
Total Sample	481 (100.0)	205 (42.6)	276 (57.4)	51 (10.6)	86 (17.9)	87 (16.0)	60 (12.5)	52 (10.8)	145 (29.9)	456 (94.8) 25 (5.2)
Sample A (Non-SDA Sch. Students)	240 (100.0)	96 (40.0)	144 (60.0)	21 (8.8)	36 (15.0)	43 (17.8)	30 (12.5)	29 (12.0)	81 (33.6)	225 (93.7) 15 (6.3)
Sample B (SDA School Students)	241 (100.0)	109 (45.2)	132 (54.8)	30 (12.5)	50 (21.0)	44 (18.3)	30 (12.5)	23 (9.6)	64 (26.6)	231 (95.9) 10 (4.1)
Sample B1 (IAE Stud.)	144 (100.0)	61 (42.4)	83 (57.6)	12 (8.3)	31 (21.5)	26 (18.1)	18 (12.5)	16 (11.1)	41 (28.5)	136 (94.4) 8 (5.6)
Sample B2 (IASP Stud.)	97 (100.0)	48 (49.7)	49 (50.5)	18 (18.6)	19 (19.6)	18 (18.6)	12 (12.4)	7 (7.2)	23 (23.7)	95 (97.9) 2 (2.1)

Note: parentheses indicate percentage.

TABLE 2  
STUDENTS' SCHOLASTIC ACHIEVEMENT

Sample	Grades					
	5.5 or less	5.6 to 6.5	6.6 to 7.5	7.6 to 8.5	8.6 to 9.5	9.6 or more
Total Sample (N=481)	43 (8.9)	84 (17.5)	138 (28.7)	145 (30.2)	57 (11.9)	14 (2.9)
Sample A (N=240)	17 (7.1)	32 (13.3)	67 (27.9)	74 (30.8)	39 (16.3)	11 (4.6)
Sample B (N=241)	26 (10.8)	52 (21.6)	71 (29.5)	71 (29.5)	18 (7.5)	3 (1.2)
Sample B1 (N=144)	25 (17.4)	38 (26.4)	43 (29.9)	32 (22.2)	5 (3.5)	1 (.7)
Sample B2 (N=97)	1 (1.0)	14 (14.4)	28 (28.9)	39 (40.2)	13 (13.4)	2 (2.1)

Note: parentheses indicate percentage.

are equivalent to A. The results reveal that 59 percent of the subjects are situated within the grade range of 5.6 to 8.5 (equivalent to C and B). With the exception of Sample B1, where there was a clustering of subjects below grade 5.5 (43.8 percent) and a small group (4.3 percent) above grade 8.5, the sub-samples presented a rather symmetrical distribution.

The respondents were requested to rank in order four main agencies, home, church, school, and society in general, with respect to the degree of their influence in the formation of their spiritual lives. The findings, presented in table 3, indicate that home is consistently considered as

TABLE 3

RELATIVE INFLUENCE OF FOUR AGENCIES UPON THE  
STUDENTS' SPIRITUAL LIFE

Agency	Sample	Most infl.	Second most infl.	Third most infl.	Least infl.
Home	Total Sample	53.6	24.3	12.2	9.7
	Sample A	50.4	27.1	14.2	7.9
	Sample B	57.2	21.9	10.0	10.8
	Sample B1	56.9	18.8	8.3	16.0
	Sample B2	57.7	26.8	12.4	3.1
Church	Total Sample	31.3	49.7	14.9	3.5
	Sample A	37.1	46.3	12.9	2.9
	Sample B	25.7	53.1	17.4	3.7
	Sample B1	25.7	55.6	13.2	5.6
	Sample B2	25.8	49.5	23.7	1.0
School	Total Sample	11.1	18.8	49.7	20.0
	Sample A	7.5	18.3	44.6	28.8
	Sample B	14.1	19.1	55.2	11.2
	Sample B1	11.8	16.0	59.0	13.2
	Sample B2	17.5	23.7	49.5	9.3
Society	Total Sample	5.4	8.0	13.2	72.8
	Sample A	6.7	7.5	16.7	67.9
	Sample B	4.2	8.3	9.1	78.4
	Sample B1	5.6	9.0	10.4	75.0
	Sample B2	2.1	7.2	7.2	83.5

Note: numbers indicate percentage.

the most influential by more than 50 percent of the students in any group, church and school are considered second and third, respectively, by approximately half of the subjects, whereas society is considered as the least influential by more than two thirds of them. It should be noted that whereas only 11.2 percent of the academy students considered school to be the least influential, as much as 28.8 percent of the non-SDA school students were of that opinion.

Regarding the religious affiliation of the students' parents, table 4 shows that there are consistently more SDA mothers than there are fathers, except for sample B2, where the percentage is the same. This seems to indicate that in the population under consideration mothers are generally more prone to adopt and adhere to the Adventist faith and to influence their children to maintain the same religion.

TABLE 4  
RELIGION OF STUDENTS' PARENTS

Samples	Parent	R e l i g i o n				
		SDA	Cathol.	Ev/Prot.	Spirit.	other
Total Sample (N=481)	Father	64.95	16.29	1.44	2.06	15.05
	Mother	35.57	8.66	1.24	.41	3.92
Sample A (N=240)	Father	53.75	20.42	2.92	1.67	21.25
	Mother	83.33	8.75	2.50	.42	5.00
Sample B (N=241)	Father	76.76	11.20		2.07	9.96
	Mother	39.63	7.05		.41	2.90
Sample B1 (N=144)	Father	68.75	14.58		2.78	13.89
	Mother	39.58	7.64			2.78
Sample B2 (N=97)	Father	98.78	6.12		1.02	4.08
	Mother	98.78	7.14		1.02	3.06

Note: numbers indicate percentage.

It is interesting to note that the larger proportion of students attending IASP (sample B2) come from homes where both parents are SDA since the percentage for

both mothers and fathers is the same. This proportion decreases for students attending IAE (sample B1) and is still smaller for those attending non-SDA schools (sample A).

The distribution of years of exposure to SDA education according to the different sub-samples is presented in table 5.

The findings show that 49 percent of the students of sample A have never attended an SDA school. All other categories, except eleven and twelve years of exposure, are represented by at least seven students. On the other hand, among the students of sample B, one has reported, probably by mistake, that he never attended an SDA school. None reported having attended twelve years, and all other categories are represented by at least 4.2 percent of the subjects. Notice that students attending IASP tend to proportionally outnumber IAE students in the categories between three and nine years of exposure, but the reverse is true in the remaining extreme categories.

The students were requested to report the frequency of performance of five religious practices in their homes. The minimum possible score for the five practices would be five (1 = never), and the maximum would be thirty (6 = always). Table 6 presents five intervals within which the reported frequencies fell, again dividing the subjects into three sub-samples.

TABLE 5  
AMOUNT OF EXPOSURE TO SDA EDUCATION

Number of Years of Exposure to SDA Education													
Sample	0	1	2	3	4	5	6	7	8	9	10	11	12
Total Sample (N=481)	118 (24.6)	43 (9.0)	36 (7.5)	35 (7.3)	26 (5.4)	25 (5.2)	29 (5.9)	23 (4.8)	31 (6.5)	58 (11.9)	43 (9.0)	12 (2.5)	2 (.4)
Sample A (N=240)	117 (48.8)	14 (5.8)	10 (4.7)	12 (5.0)	15 (6.3)	8 (3.3)	8 (3.3)	7 (2.9)	8 (3.3)	17 (7.1)	20 (8.3)	2 (.8)	2 (.8)
Sample B (N=241)	1 (.4)	29 (12.0)	26 (10.8)	23 (9.5)	11 (4.6)	17 (7.1)	21 (8.7)	16 (6.6)	23 (9.5)	41 (17.0)	23 (9.5)	10 (4.2)	0
Sample B1 (N=144)	1 (.7)	23 (16.0)	18 (12.5)	12 (8.3)	5 (3.5)	10 (6.9)	10 (6.9)	5 (3.5)	12 (8.3)	24 (16.7)	16 (11.1)	8 (5.6)	0
Sample B2 (N=97)	0	6 (5.2)	8 (8.3)	11 (11.3)	6 (6.2)	7 (7.2)	11 (11.3)	11 (11.3)	11 (11.3)	17 (17.5)	7 (7.2)	2 (2.1)	0

Note: parentheses indicate percentage



TABLE 6

RESPONSE SCORES ON HOME RELIGIOUS PRACTICES  
AMONG SDA SECONDARY STUDENTS

Sample	Score Intervals				
	5-10	11-15	16-20	21-25	26-30
Total Sample	34 (7.1)	55 (11.4)	106 (22.0)	133 (27.0)	153 (31.8)
Sample A	19 (7.9)	38 (15.8)	76 (31.7)	63 (26.3)	44 (18.3)
Sample B	15 (5.2)	17 (7.1)	30 (12.4)	70 (29.0)	109 (45.2)
Sample B1	12 (8.3)	13 (9.0)	20 (13.9)	40 (27.8)	59 (41.0)
Sample B2	3 (3.1)	4 (4.1)	10 (10.3)	30 (31.0)	50 (51.5)

Note: parentheses indicate percentage.

The data presented in table 6 indicates that, in general, students tended to report high frequency of performance of religious practices in their homes. Students from the selected churches tended to report average frequencies, whereas students from IAE, and more so from IASP, tended to report the highest possible frequencies of performance.

Information about the Dimensions

The dependent variable in this study is the religiosity of SDA secondary students. Religiosity, as revealed in the review of literature, is scarcely unidimensional. One person may score high in one aspect of religion, such as knowledge, and at the same time low in

another aspect, such as religious practices.

For this reason it was assumed that religion is multidimensional, and the five-dimensional theoretical framework presented by Glock (1962) and Stark and Glock (1968) was adopted in the development of the instrument used for the measurement of religiosity in this research. The five dimensions are (1) the intellectual, (2) the ritualistic, (3) the ideological, (4) the experiential, and (5) the consequential.

Scoring of the dimensions. In order to correctly interpret the scores of each dimension, it is necessary to know how they have been computed for the statistical analyses.

The intellectual dimension, composed of nineteen multiple-choice items, was computed as a dichotomous scale. The right answers were given a weight of one and the wrong answers a weight of zero. The ritualistic dimension, composed of sixteen items with responses ranging from one to six, was computed as a continuum. The first five items (items 20 through 24) were computed as they are in the questionnaire, score one standing for the lowest frequency and score six for the highest frequency of performance of a religious practice. The remaining eleven items (items 25 through 35) were computed as a continuum from one to five because response one of items 25 and 26 and response six of items 27 through 35 were given value zero and were not included in the analysis.

The remaining dimensions (ideological, experiential, and consequential) were computed as a continuum according to a Likert five-point scale, with weight one representing the most negative response and weight five representing the most positive response. That is, for a positive statement, the response "strongly agree" received the score five; for a negative statement the response "strongly disagree" received this maximum score.

In all the dimensions, therefore, the highest scores are considered to be closer to the expectations of the SDA Church regarding the given dimension.

Properties of the scales. One important aspect about the scales is the distribution of scores. This provides an overview of the scales as to whether the students' scores are symmetrically distributed or not in each of the scales.

Table 7 presents the possible range and the actual range of scores, as well as the medians, the means, and the standard deviations for each scale.

The maximum possible range for the intellectual scale would be from one to nineteen. The actual range covered almost all the possible range indicating that at least one student failed all the questions but one and at least one student answered all of them right.

For the ritualistic scale the maximum possible range would be from sixteen to eighty-five (five items with five alternatives and eleven items with five alternatives). The

TABLE 7

MEANS AND DISPERSIONS OF SCORES  
ON THE RELIGIOSITY DIMENSIONS

Dimension	No. of Items	Range of Scores Possible	Actual	Median	Mean	Stand. Deviat.
Intellectual	19	0-19	1-19	11.3	10.5	3.6
Ritualistic	16	16-85	26-82	63.2	62.1	10.9
Ideological	20	20-100	62-99	86.1	85.5	6.3
Experiential	14	14-70	38-70	62.2	61.7	5.6
Consequential	19	19-95	40-95	78.1	76.6	11.2

actual range of scores indicates that at least one student chose around two or less for most of the answers while another consistently chose five or more.

For the remaining scales the students' scores could range from the number of items in the scale to a number five times the number of items in the scale. The maximum possible range for the ideological would then be from twenty to one hundred, for the experiential, from fourteen to seventy, and for the consequential, from nineteen to ninety-five. The score ranges show that in these three dimensions the students' responses tended towards the positive end of the scale responses, three or above for the ideological and experiential and two or above for the consequential.

The medians and the means reported in table 7 help to identify approximately where the majority of scores were located within the actual range of scores. The fact that both the median and the mean are very close to the mid-point

of the actual range of the intellectual dimension indicates that the dispersion of the scores in the intellectual scale is rather symmetrical.

On the other hand, the medians and the means for the remaining dimensions fall in the positive side of the actual range of scores, and the medians are consistently higher than the means. One may conclude that the majority of the students' scores are closer to the positive end of the scale, which indicates that they are responding positively to the expectations of the SDA Church.

As in the pilot test, the reliability for the intellectual dimension was computed by means of a binary item-analysis (Futcher & Plue, 1977). For the remaining four dimensions a weighted item-analysis (Futcher & Plue, 1977) was performed. Scale reliability was estimated by KR-20 coefficient for the binary scale, and alpha coefficient for the other scales, measures of internal consistency.

Table 8 presents the reliability coefficients of each dimension as they were computed on the data gathered (1) in the pilot test before the revision of the instrument, (2) after the instrument was revised, and (3) on the data gathered among the 481 secondary students with the final instrument. All numbers have been rounded to two decimal places.

The coefficient for the intellectual dimension decreased in the final instrument, whereas for the remaining dimensions the coefficients increased as compared to those

TABLE 8  
RELIABILITY OF THE RELIGIOSITY DIMENSIONS

Dimension	Reliability Coefficient		
	Pilot Test	Revised	Final
Intellectual (KR-20)	.78	.80	.72
Ritualistic (alpha)	.80	.80	.82
Ideological (alpha)	.67	.61	.62
Experiential (alpha)	.72	.72	.78
Consequential (alpha)	.82	.81	.84

of the revised instrument. The largest increase was evidenced in the experiential dimension.

#### Interdependence among the Dimensions

The distinctiveness of each dimension is well explained theoretically, but this study also sought support to the assumption of multidimensionality by verifying how independent the dimensions were from each other.

#### Product-moment Correlation among the Dimensions

The degree of interdependence among the five dimensions of religiosity was computed by finding the Pearson product-moment correlation coefficients among them. The percentage of variance shared by any two dimensions is determined by squaring the correlation coefficient. Table 9 presents the correlation coefficients between the dimensions and the percentage of variance shared by each pair.

TABLE 9

## INTERDEPENDENCE AMONG THE RELIGIOSITY DIMENSIONS

Dimension	Correlation Coefficients				
	1	2	3	4	5
1. Intellectual	1.00	.25 (6.0)	.44 (19.0)	.29 (8.2)	.40 (16.0)
2. Ritualistic	.25	1.00	.35 (12.0)	.53 (27.6)	.54 (27.9)
3. Ideological	.44	.35	1.00	.53 (28.5)	.55 (30.1)
4. Experiential	.29	.53	.53	1.00	.63 (40.0)
5. Consequential	.40	.54	.55	.63	1.00

Note: parentheses indicate percentage of shared variance.

The smallest interdependence found was between the intellectual and the ritualistic dimensions, with only 6 percent overlap and a correlation coefficient of .25. The largest percentage of shared variance was between the experiential and the consequential dimensions, with a correlation coefficient of .63 and 40 percent overlap. If one adopts the criterion suggested by Stark and Glock (1963) according to which two indices measure the same thing when more than half of the two overlap, it may be said that the dimensions are indeed more measures of different things than they are measures of the same thing. They are sufficiently independent of each other to justify their existence as distinct dimensions.

### Factor Analysis

Factor analysis is another way of studying the multidimensionality of the theoretical framework of religiosity.

Since in the initial development of the instrument, in North America it was not feasible to obtain a sufficient sample of Brazilian subjects to undertake a factor analytic study of the dimensionality of the instrument, it was decided that a "post facto" analysis would at least indicate to what extent the theoretical framework would correspond to distinct factors.

Factor analysis provides a way of reducing a large number of variables to a smaller number of underlying entities called factors. These factors are derived from the intercorrelations among the items, and the extent to which an item is related to one factor is indicated by the magnitude of the loading of that item on the factor.

An 88 X 88 intercorrelation matrix among all items was first obtained (see appendix 5) using the scores of the 481 individuals on the eighty-eight items constituting the five dimensions of religiosity. A factor analysis was then performed on the intercorrelation matrix, followed by a Varimax rotation using the Prinmax program (Fletcher & Plue, 1978).

In accordance with the theoretical framework the analysis was performed with the rotation of five factors. The factor loadings yielded by the rotation of five factors are



also presented in appendix 6.

These factors account for 14.7 , 4.5, 3.6, 2.7, and 2.5 percent of the total variance, in all 28.0 percent of the total variance of the eighty-eight items. A close examination of the loadings yielded the data presented in table 10. The figures represent the total number of items constituting a dimension of religiosity loading on one of the factors.

TABLE 10  
CORRESPONDENCE BETWEEN RELIGIOSITY ITEMS  
- FIVE DIMENSIONS AND FIVE ROTATED FACTORS -

Dimension	Total Items	I	F II	A III	C IV	T V	O VI	R VII	S VIII
Intellectual	19	1	18		0		0		0
Ritualistic	16	13	0		0		3		0
Ideological	20	0	2		13		4		1
Experiential	14	1	0		5		8		0
Consequential	19	0	0		3		2		14

The data presented on table 10 reveal that:

1. Regarding the intellectual dimension, eighteen of the nineteen items (95 percent) belonging to the dimension load on Factor II. One item (item 14) had small loadings on three factors, .19443 on Factor I, -.15081 on Factor IV, and -.11299 on Factor II.

Surely the intellectual dimension is very independent from the others, and Factor II may be clearly labelled the Intellectual Factor.

2. Concerning the ritualistic dimension, thirteen of the sixteen items (81 percent) constituting this dimension load on Factor I. The remaining three items load on Factor IV (item 20 with highest loading .45407 and second loading .25491 on Factor I; item 22 with highest loading .35071 and second loading .30656 on Factor I; and item 26 with highest loading .19011 and second loading .18237 on Factor I).

The ritualistic dimension is also independent from the remaining ones, since the three items loading on a different factor have their second highest loading not much lower than the highest, on Factor I. Clearly Factor I is the Ritualistic Factor.

3. Regarding the ideological dimension, thirteen of the twenty items (65 percent) constituting the dimension load on Factor III. Two of them load on Factor II (item 36 with highest loading  $-.39915$ , second loading  $-.23663$  on Factor IV and third loading .18035 on Factor III; and item 39 with highest loading  $-.40785$ , second loading .14593 on Factor V, third loading  $-.13109$  on Factor IV, and fourth loading .06321 on Factor III). Four items load on Factor IV (item 62 with highest loading .33493 and second loading  $-.23345$  on Factor III; item 55 with highest loading .14966, second loading  $-.13102$  on Factor II, third loading .10940 on Factor I, fourth loading .10646 on Factor V, and fifth loading  $-.08722$  on Factor III; item 69 with highest loading .35092 and second loading  $-.30582$  on Factor III; item 71 with highest loading .14651, second loading  $-.12374$  on Factor II, and third

loading  $-.11952$  on Factor III). Item number 46 loads on Factor V with the highest loading  $.11884$  and all other loadings lower than  $.07000$ .

The ideological dimension is not as clearly defined by the factor loadings as the previous two. The large majority of its items, however, load on Factor III. In fact this Factor contains thirteen of the twenty "ideological" items, five "experiential", and three "consequential." The highest loadings on the factor come in the main from the ideological items. Factor III may be designated the Ideological Factor.

4. Concerning the experiential dimension, eight of the fourteen items (57 percent) composing the dimension load on Factor IV. Item number 59 loads on Factor I with highest loading  $.36053$ , second loading  $.28268$  on Factor III, and third loading  $.27207$  on Factor IV. Five items load on Factor III (item 37 with highest loading  $-.48325$ , second loading  $.21799$  on Factor I, and third loading  $.17005$  on Factor IV; item 44 with highest loading  $-.39482$  and second loading  $.34880$  on Factor IV; item 48 with highest loading  $-.52088$  and the remaining loadings below  $.07000$ ; item 54 with highest loading  $-.35097$  and second loading  $.21950$  on Factor IV; and item 54 with highest loading  $-.33890$ , second loading  $-.25726$  on Factor II, and third loading  $.16287$  on Factor IV).

The experiential dimension is the least defined one, even though the majority of its items load on Factor IV. This factor contains eight of the fourteen "experiential" items,

three "ritualistic", four "ideological", and two "consequential." This finding confirms Glock's (1962) contention that "the experiential dimension of religion is inextricably bound up with the other dimensions" (p. 105).

Nevertheless Factor IV may be designated the Experiential Factor because the majority of the fourteen "experiential" items load on this factor, making it sufficiently distinct from the remaining four.

5. Regarding the consequential dimension, fourteen of the nineteen items (74 percent) constituting the scale load on Factor V. Three items load on Factor III (item 38 with highest loading  $-.42314$  and second loading  $.21012$  on Factor V; item 53 with highest loading  $-.35687$  and second loading  $.25807$  on Factor V; and item 59 with highest loading  $-.39656$  and second loading  $.27370$  on Factor V). Two items load on Factor IV (item 60 with highest loading  $.43222$  and second loading  $.22622$  on Factor V; and item 78 with highest loading  $.49934$ , second loading  $-.19903$  on Factor III, and third loading  $.14167$  on Factor V).

The consequential dimension is clearly represented by Factor V. This factor contains fourteen of the nineteen "consequential" items, and only one item from another dimension (the ideological). Clearly Factor V is the Consequential Factor.

The above considerations lend support to the multidimensional view of religiosity, despite the fact that the factors do not correspond exactly with the dimensions. In

case religiosity was measured as a unidimensional phenomenon, important information would be lost, and the results would be distorted.

Considering, however, that several items load on more than one scale, and do not have their highest loading on their intended dimension, it is wiser for all further analysis to use Factor Scores rather than scores on the five theoretical dimensions.

Factor Scores are produced by the factor analysis program as a function of the score of a student on an item and the item's loading on each factor. Each of the 88 items thus contributes, to a greater or smaller extent, to a student's score on each of the five factors. The factor scores are also listed in appendix 6.

#### Correlation among Variables

This chapter has so far presented some descriptive information regarding the population as well as important characteristics of the dimensions of religiosity. The central purpose of the study, however, was to investigate the relationship between the five religious dimensions and seven selected predictor variables.

One way of approaching the question of relationship is by computing the correlation coefficient between any two variables without taking into account the relationship that either of the two may have with the other variables. This correlation coefficient is also called zero-order correlation.

Table 11 shows the Pearson product-moment correlation matrix for all the variables. The top five rows present the correlation coefficients between the criterion variables (dimensions of religiosity) and the seventeen predictors. The remaining rows present the intercorrelation between any two predictors. It should be noticed that "fathers' religious affiliation" variable was subdivided into four dummy variables, that "mothers' religious affiliation" was also subdivided into four dummy variables, and that "parents' marital status" variable was subdivided into three dummy variables. All coefficients have been rounded to two decimal places.

#### Correlation between the Predictors and the Dimensions

The top five rows of table 11 are examined first to determine the significance and the strength of the relationship between the predictors and each of the five dimensions of religiosity.

The level of significance selected for this study was .05. It indicates how likely the correlations observed in the sample of 481 secondary students reflect chance correlations in the population of all SDA secondary students in the Corridor Greater Sao Paulo - Campinas.

It is helpful to know the strength of these relationships because no matter how significant the correlation may be, in some cases it is so weak that the variables have little practical value as predictors of the various dimensions of religiosity.

TABLE 11  
INTER-CORRELATION MATRIX FOR THE EIGHTEEN VARIABLES

VARIABLE	1	2	3	4	5	6a	6b	6c	6d	7a	7b	7c	7d	8	9a	9b	9c
<b>Criterion Variables</b>																	
A--Intellectual Dimension	.23	-.01	-.22	.10	.17	-.01	.01	.00	.01	.01	.00	-.05	.12	.00	-.01	-.01	-.01
B--Ritualistic Dimension	.04	.03	.16	.02	.37	.17	-.06	-.02	-.07	.12	-.09	-.04	-.11	.17	.12	-.10	-.04
C--Ideological Dimension	.09	-.12	.08	.05	.04	.06	-.02	-.10	.02	.17	-.07	-.05	-.08	.11	.12	-.06	-.10
D--Experiential Dimension	-.07	.18	-.10	.15	.14	.02	.07	.07	-.02	-.11	.10	.06	.06	-.01	.01	-.06	.07
E--Consequential Dimension	-.11	.07	.19	.12	.08	-.02	.01	-.07	.09	-.03	.09	-.02	-.13	.00	-.03	-.03	.03
<b>Predictor Variables</b>																	
1--Amount of SDA Education	1.00	-.29	-.06	-.10	.29	.38	-.29	-.12	-.06	.27	-.21	-.13	-.01	.40	.20	-.14	-.10
2--Age		1.00	-.01	.05	-.07	-.16	.13	.14	.04	-.24	.19	.13	-.01	-.19	-.20	.03	.22
3--Sex			1.00	.10	-.02	.00	.00	-.07	.06	.03	.02	-.09	-.01	.00	.00	.03	-.03
4--Scholastic Achievement				1.00	-.04	.07	-.10	-.03	-.02	.01	-.05	-.05	.01	.06	-.06	.09	-.03
5--Home Religious Practices					1.00	.38	-.24	-.06	-.15	.26	-.25	-.08	.02	.40	.16	-.15	-.06
6--Father's Religious Affiliation						1.00	-.60	-.17	-.19	.31	-.30	-.15	.05	.92	.40	-.32	-.17
a. Father SDA							1.00	-.05	-.06	-.33	.44	.05	-.03	-.55	-.16	.12	.08
b. Father Catholic								1.00	-.02	-.21	-.04	.61	-.01	-.15	-.06	.01	.08
c. Father Protestant									1.00	-.02	-.21	-.04	.61	-.01	-.15	-.06	.01
d. Father Spiritualist										1.00	-.08	.13	-.02	-.01	-.17	-.11	.10
7--Mother's Religious Affiliation										1.00	-.74	-.28	-.16	.50	.32	-.19	-.19
a. Mother SDA											1.00	-.03	-.02	-.37	-.18	.07	.14
b. Mother Catholic												1.00	-.01	-.14	-.03	-.04	.09
c. Mother Protestant													1.00	-.08	-.12	.18	-.02
d. Mother Spiritualist														1.00	.45	-.37	-.19
8--Father and Mother SDA															1.00	-.67	-.61
9--Parents' Marital Status																1.00	-.11
a. Living Together																	1.00
b. Separated or Divorced																	
c. One Deceased																	

r > or equal .09, significant at .05 level

r > or equal .12, significant at .01 level

r > or equal .15, significant at .001 level

The strength of relationship, or, in other words, the amount of variance of religiosity explained by any independent variable, may be determined by squaring the coefficient of correlation between the predictor and the dimension of religiosity under consideration.

Tables 12, 13, 14, 15, and 16 present in decreasing order the correlation between the predictors and the dimensions of religiosity, along with the amount of variance explained by each predictor. The correlation coefficients have been rounded to two decimal places.

TABLE 12  
ORDERED CORRELATIONS BETWEEN THE INTELLECTUAL DIMENSION  
AND THE INDEPENDENT VARIABLES

Variable	Coefficient of Correlation	Percent of Variance Explained
Amount of SDA Education . . .	.23 ***	5.3 %
Sex . . . . .	-.22 ***	4.8 %
Home Religious Practices . . .	.17 ***	2.9 %
Mother Spiritualist . . . . .	.12 **	1.4 %
Scholastic Achievement . . . . .	.10 *	1.0 %
Mother Protestant . . . . .	-.05	0.2 %
Age . . . . .	-.01	0.0 %
Father SDA . . . . .	-.01	0.0 %
Father Protestant . . . . .	.01	0.0 %
Father Spiritualist . . . . .	.01	0.0 %
Mother SDA . . . . .	.01	0.0 %
Parents Living Together . . .	-.01	0.0 %
Parents Separated or Divorced.	-.01	0.0 %
One Parent Deceased . . . . .	-.01	0.0 %
Father Protestant . . . . .	.00	0.0 %
Mother Catholic . . . . .	.00	0.0 %
Father & Mother SDA . . . . .	.00	0.0 %
*** significant at .001 level		
** significant at .01 level		
* significant at .05 level		



Table 13

ORDERED CORRELATIONS BETWEEN THE RITUALISTIC DIMENSION  
AND THE INDEPENDENT VARIABLES

Variable	Coefficient of Correlation	Percent of Variance Explained
Home Religious Practices . . . .	.37 ***	13.7 %
Father SDA . . . . .	.17 ***	2.9 %
Father and Mother SDA . . . .	.17 ***	2.9 %
Sex . . . . .	.16 **	2.6 %
Mother SDA . . . . .	.12 **	1.4 %
Parents Living Together . . . .	.12 **	1.4 %
Mother Spiritualist . . . . .	-.11 *	1.2 %
Parents Separated or Divorced.	-.10 *	1.0 %
Mother Catholic . . . . .	-.09 *	0.8 %
Father Spiritualist . . . . .	-.07	0.5 %
Father Catholic . . . . .	-.06	0.3 %
Amount of SDA Education . . . .	.04	0.2 %
Mother Protestant . . . . .	-.04	0.2 %
One Parent Deceased . . . . .	-.04	0.2 %
Age . . . . .	.03	0.1 %
Scholastic Achievement . . . . .	.02	0.0 %
Father Catholic . . . . .	-.02	0.0 %
*** Significant at .001 level		
** Significant at .01 level		
* Significant at .05 level		

Table 14

ORDERED CORRELATIONS BETWEEN THE IDEOLOGICAL DIMENSION  
AND THE INDEPENDENT VARIABLES

Variable	Coefficient of Correlation	Percent of Variance Explained
Mother SDA . . . . .	.17 ***	2.9 %
Age . . . . .	-.12 **	1.4 %
Parents Living Together . . . .	.12 **	1.4 %
Father & Mother SDA . . . . .	.11 *	1.2 %
Father Protestant . . . . .	-.10 *	1.0 %
One Parent Deceased . . . . .	-.10 *	1.0 %
Amount of SDA Education . . . .	.09 *	0.8 %
Sex . . . . .	.08	0.6 %
Mother Spiritualist . . . . .	-.08	0.6 %
Mother Catholic . . . . .	-.07	0.5 %
Father SDA . . . . .	.06	0.4 %
Parents Separated or Divorced.	-.06	0.4 %
Scholastic Achievement . . . . .	.05	0.3 %
Mother Catholic . . . . .	-.05	0.3 %
Home Religious Practices . . . .	.04	0.2 %
Father Catholic . . . . .	-.02	0.0 %
Father Spiritualist . . . . .	.02	0.0 %
*** Significant at .001 level		
** Significant at .01 level		
* Significant at .05 level		

Table 15

ORDERED CORRELATIONS BETWEEN THE EXPERIENTIAL DIMENSION  
AND THE INDEPENDENT VARIABLES

Variable	Coefficient of Correlation	Percent of Variance Explained
Age . . . . .	.18 ***	3.2 %
Scholastic Achievement . . . . .	.15 ***	2.3 %
Home Religious Practices . . . . .	.14 **	2.0 %
Mother SDA . . . . .	-.11 *	1.3 %
Sex . . . . .	-.10 *	1.0 %
Mother Catholic . . . . .	.10 *	1.0 %
Amount of SDA Education . . . . .	-.07	0.5 %
Father Catholic . . . . .	.07	0.5 %
Father Protestant . . . . .	.07	0.5 %
One Parent Deceased . . . . .	.07	0.5 %
Mother Protestant . . . . .	.06	0.4 %
Mother Spiritualist . . . . .	.06	0.4 %
Parents Separated or Divorced. . . . .	-.06	0.4 %
Father SDA . . . . .	.02	0.0 %
Father Spiritualist . . . . .	-.02	0.0 %
Father & Mother SDA . . . . .	-.01	0.0 %
Parents Living Together . . . . .	.01	0.0 %
*** Significant at .001 level		
** Significant at .01 level		
* Significant at .05 level		

Table 16

ORDERED CORRELATIONS BETWEEN THE CONSEQUENTIAL DIMENSION  
AND THE INDEPENDENT VARIABLES

Variable	Coefficient of Correlation	Percent of Variance Explained
Sex . . . . .	.19 ***	3.6 %
Mother Spiritualist . . . . .	.13 **	1.7 %
Scholastic Achievement . . . . .	.12 **	1.4 %
Amount of SDA Education . . . . .	-.11 *	1.2 %
Father Spiritualist . . . . .	.09 *	0.8 %
Mother Catholic . . . . .	.09 *	0.8 %
Home Religious Practices . . . . .	.08	0.6 %
Age . . . . .	.07	0.5 %
Father Protestant . . . . .	-.07	0.5 %
Mother SDA . . . . .	-.03	0.1 %
Parents Living Together . . . . .	-.03	0.1 %
Parents Separated or Divorced. . . . .	-.03	0.1 %
One Parent Deceased . . . . .	.03	0.1 %
Father SDA . . . . .	-.02	0.0 %
Mother Protestant . . . . .	-.02	0.0 %
Father Catholic . . . . .	.01	0.0 %
Father and Mother SDA . . . . .	.00	0.0 %
*** Significant at .001 level		
** Significant at .01 level		
* Significant at .05 level		

Considering the predictors in the order they have been listed in table 11, and examining the data presented in tables 12 to 16, it is observed that:

1. The amount of exposure to SDA education is significantly correlated beyond the .05 level with the intellectual, the ideological, and the consequential dimensions. The correlation with the consequential dimension is negative. The amount of variance of the intellectual dimension explained by this predictor is 5.3 percent.

2. Age is significantly correlated beyond the .05 level with the experiential and the ideological dimensions. The amount of variance explained by this predictor in both cases is below 4 percent.

3. Sex is significantly correlated with the intellectual, the ritualistic, the ideological, and the consequential dimensions beyond the .05 level. The negative correlations with the intellectual and ideological dimensions indicate that males tend to score higher than females in the cognitive and credal aspects of religion, whereas the positive correlations with the ritualistic and consequential dimensions indicate the reverse trend as far as the latter dimensions are concerned. Only the amount of variance of the intellectual dimension explained by this predictor is above 4 percent.

4. Scholastic achievement is significantly correlated beyond the .05 level with the intellectual, the experiential, and the consequential dimensions of

religiosity. In no instance, however, is the variance explained by this predictor above 4 percent.

5. Home religious practices are significantly correlated with the intellectual, the ritualistic, and the consequential dimensions of religiosity. Only the amount of variance of the ritualistic dimension explained by this predictor is above 4 percent (13.6 percent).

6. Concerning the religion of father, the father being or not being an SDA significantly correlates with the ritualistic dimensions beyond the .05 level, but this variable explains only 2.9 percent of the variance of the criterion variable. The father being Evangelical/Protestant or not significantly correlates with the ideological dimension at the .05 level, but explains only 1.0 percent of the latter's variance. The negative correlation here indicates a tendency for the children whose fathers are Evangelical/Protestant to score lower in the ideological dimension. The father being Spiritualist or not significantly correlates with the consequential dimension at the .05 level, explaining only 0.8 of the criterion's variance. Students whose fathers are Spiritualists tend to score higher on the consequential dimension.

7. In regard to the mother's religious affiliation, the mother being an SDA or otherwise significantly correlates with the ritualistic, the ideological, and the experiential dimensions of religiosity at the .05 level. In no instance is the amount of variance explained above 4 percent. The mother

being Catholic or not significantly correlates with the ritualistic, the experiential, and the consequential dimensions at the .05 level. The negative correlation with the ritualistic dimension means that students whose mothers are Catholic tend to score lower in that dimension. The opposite is true for the other two dimensions. Notice, however, that the variance explained by the predictor is always below 4 percent. The mother being Spiritualist or not significantly correlates with the intellectual, the ritualistic, and the consequential dimensions at the .05 level. It is positively correlated with the intellectual dimension only, and in no instance is the amount of variance explained above 4 percent. The positive correlation here indicates the tendency of those whose mothers are Spiritualists to score higher on the intellectual dimension. The opposite is true for the other two dimensions.

8. Both parents being SDA or not significantly correlates with the ritualistic and the ideological dimensions at the .05 level. Both correlations are positive, indicating that students whose parents are SDA do tend to score higher on both dimensions. The variance explained by the predictor, however, is below 4 percent in both cases.

9. Concerning parental marital status, the variable "parents living together" significantly correlates positively with the ritualistic and ideological dimensions at the .05 level, explaining only 1.4 percent of both criterion variables. In this case students whose parents are living

together tend to score higher on both dimensions. The variable "parents separated or divorced" significantly correlates with the ritualistic dimension, but the correlation is negative and explains only 1.0 percent of the latter's variance. The inverse relationship indicates that students whose parents are separated or divorced tend to score lower on the ritualistic dimension. The variable "one parent deceased" is negatively correlated with the ideological dimension.

#### Correlation between Predictors

The findings stated above are based on the zero-order correlation coefficients between the dimensions of religiosity and the predictor variables. These coefficients describe only the influence that each independent variable would have on a given dimension of religiosity if there were no other variables.

Inspection of the lower section of table 11, however, reveals that a considerable number of predictors are significantly correlated among themselves beyond the .05 level. This means that the independent variables are, to a greater or lesser degree, influencing each other at the same time that they influence the dependent variable.

It is readily seen that the predictor "amount of SDA education" significantly correlates with sex, home religious practices, with the variables "father SDA", "mother SDA", and even more with "father and mother SDA". This means that amount of exposure to SDA education is influenced to a large

extent by home-related variables. If one of the religious dimensions is significantly influenced by any of these predictors, at least a small portion of the influence will be due to both.

The correlation between the amount of exposure to A SDA education and home religious practices ( $r = .29$ ), for instance, indicates that the amount of variance shared by these variables (or their overlap) is 8.4 percent. If one remembers that the first explained 5.3 percent of the variance of the intellectual dimension, and that the latter explained 2.9 percent of the variance of the same dimension, how much of the variance of the intellectual dimension would be accounted for by these two overlapping variables taken together or by all predictors taken together? What would be the unique influence of each predictor after the influence of the other independent variables has been portioned out?

The answer to these questions is provided by a statistical tool known as multiple regression analysis.

#### Correlation between a Combination of Predictors and Each of the Religiosity Dimensions

One of the functions of multiple regression is to predict a score for each respondent on the dependent variable based on a combination of his or her scores on the independent variables.

The scores on each independent variable is multiplied by an appropriate weight (also called regression weight or partial-regression coefficient), and the linear

combination of the resulting products is added to a constant called the intercept, yielding the predicted score. Since the weights are determined by the principle of least squares, the squared errors of prediction are minimized.

Once a predicted score of each subject has been obtained, a Pearson product-moment correlation coefficient between these predicted scores and the actual scores received by the subjects is calculated. This resulting statistic is a measure of agreement between the predicted and the observed scores and is called the coefficient of multiple correlation.

When the coefficient of multiple correlation is squared, the proportion of variance of the criterion variable accounted for by the combination of the independent variables is obtained. This proportion is called the coefficient of determination.

The partial regression coefficients (or regression weights) referred to above also indicate the relative influence of the different predictors in the prediction of the criterion variable, when entered in the order specified by the equation.

Each weight indicates the change in the dependent variable (in this case the unit of measurement is standard deviation) with a change of one unit of the independent variable with which it is associated, when the remaining independent variables in the regression are held constant. The significance of the partial-regression coefficient may be computed by a t test, and answers the question whether the



regression weights are significantly different from zero. When significant, a t value points out the fact that the regression coefficient is truly different from zero in the population, and that the variable with which the weights are associated contributes significantly to the regression of the dependent variable on an independent variable, after taking the effect of the other independent variables into account.

Another coefficient yielded by the multiple-regression program is the partial-correlation coefficient. Each partial correlation coefficient indicates the relationship between the dependent variable and any particular independent one, once the influence of all other variables is removed from both variables of the correlation. In this study, these coefficients will answer the question regarding the unique influence that each independent variable has on each religiosity dimension.

Further information provided by the multiple-regression program is the proportion of cumulative variance. It is obtained by squaring the semi-partial correlation coefficient and indicates the contribution to the variance of the dependent variable that each independent variable adds after the variance contributed by the variables already entered into the equation have been considered.

The summation of all the squared, semi-partial correlation coefficients equals, within rounding error, the coefficient of determination.

### Testing of Hypotheses 1 through 5

The formulation of hypotheses 1 through 5 was done in terms of multiple regression analysis so that the variance shared by the predictors would be accounted for in the prediction of the various religious dimensions.

Therefore five multiple-regression analyses were performed, one for each criterion variable.

Table 17 lists the coefficients of multiple correlation between the five dimensions of religiosity and the seventeen predictors selected for this study, along with the coefficient of determination between the same variables. All numbers have been rounded to two decimal places.

TABLE 17

COEFFICIENTS OF MULTIPLE CORRELATION BETWEEN THE  
FIVE DIMENSIONS OF RELIGIOSITY AND THE PREDICTOR VARIABLES

Dimensions	Coefficient of Multiple Correlation	Coefficient of Determination
Intellectual	.41 **	.17
Ritualistic	.45 **	.20
Ideological	.26 *	.07
Experiential	.35 **	.12
Consequential	.34 **	.12

\*\* significant at the .01 level

\* significant at the .05 level

All multiple-correlation coefficients are statistically significant beyond the .05 level, indicating that the

relation between each dimension of religiosity and the linear combination of the predictors could have occurred by chance with a probability less than .05.

### Testing of Hypothesis 1

Hypothesis 1. There will be no significant multiple correlation between the intellectual dimension of religiosity and a linear combination of the predictors.

The multiple-correlation coefficient. The multiple-correlation coefficient between the linear combination of the predictors and the intellectual dimension is .41, and the variance of the criterion variable explained by the predictors is 17 percent. An analysis of variance for the multiple-linear regression yielded an F value of 5.65. With 17 and 463 degrees of freedom, this F value is significant beyond the .01 level. It is safe, therefore, to state that the combination of the predictors selected in this study is significantly correlated with the intellectual facet of religion among SDA secondary students in the Corridor Greater Sao Paulo - Campinas.

The regression coefficient and t tests. The regression coefficients in this case indicate the change in the intellectual dimension standard scores with a change of one unit in the independent variable with which the coefficients are associated when the other independent variables are held constant.

Table 18 presents the regression coefficients associated with the predictors along with the computed  $t$  value. All numbers have been rounded to two decimal places.

Table 18

REGRESSION COEFFICIENTS ASSOCIATED WITH THE VARIABLES  
PREDICTING THE INTELLECTUAL DIMENSION

Variable	Regression Coefficient	Computed $t$ Value
Amount of SDA Education . . .	.07	5.50 *
Age . . . . .	.02	.80
Sex . . . . .	-.43	-5.04 *
Scholastic Achievement . . . .	.11	2.97 *
Home Religious Practices . . .	.02	2.98 *
Father SDA . . . . .	-.43	-1.36
Father Catholic . . . . .	.05	.28
Father Protestant . . . . .	.46	1.00
Father Spiritualist . . . . .	.16	.48
Mother SDA . . . . .	-.07	-.23
Mother Catholic . . . . .	.09	.28
Mother Protestant . . . . .	-.85	-1.57
Mother Spiritualist . . . . .	.02	2.85 *
Father & Mother SDA . . . . .	.17	.54
Parents Living Together . . .	-.41	-1.00
Parents Separated or Divorced	-.43	-1.03
One Parent Deceased . . . . .	-.38	-.90

\* significant at the .01 level

Five of the  $t$  values presented in the second column of table 18 are significant beyond the .01 level. They indicate that the corresponding variable contributes significantly to the regression once the influence of the other independent variables have been taken into account.

In this case the amount of SDA education, sex, scholastic achievement, home religious practices, and the variable "mother Spiritualist" are making a significant contribution to the the regression equation. The tendency is

for higher scores on the intellectual dimension to be made by boys (1 = boys; 2 = girls) from homes with better religious practices, attending Adventist schools longer, achieving better academically, and whose mothers are Spiritualists. Notice, however, that only .05 percent of the population have Spiritualist mothers.

Partial - correlation coefficient and cumulative variance. The partial-correlation coefficient in this particular case indicates the relationship between the intellectual dimension of religiosity and the corresponding predictor variable once the influence of all other variables is removed from both the dependent variable and the independent variable under consideration. The proportion of the cumulative variance indicates the contribution to the variance of the intellectual dimension that each independent variable adds after the variance contributed by the variables already entered in the equation have been considered.

Table 19 presents both the partial correlation coefficient and the proportion of variance explained. The coefficients have been rounded to two decimal places.

The partial-correlation coefficients reveal that, from the standpoint of the unique influence of each independent variable upon the intellectual dimension, the amount of SDA education, sex, scholastic achievement, and home religious practices are, in decreasing order, the most influencing predictors.

TABLE 19

PARTIAL CORRELATION COEFFICIENTS AND PROPORTION OF VARIANCE  
EXPLAINED IN THE PREDICTION OF THE INTELLECTUAL DIMENSION

Variable	Partial Correlation Coefficient	Proportion of Variance
Amount of SDA Education . . .	.25	5.6 %
Age . . . . .	.04	0.3 %
Sex . . . . .	-.23	4.2 %
Scholastic Achievement . . . .	-.14	1.9 %
Home Religious Practices . . .	.14	0.9 %
Father SDA . . . . .	-.06	1.7 %
Father Catholic . . . . .	.01	0.0 %
Father Protestant . . . . .	.05	0.0 %
Father Spiritualist . . . . .	.02	0.0 %
Mother SDA . . . . .	-.01	0.1 %
Mother Catholic . . . . .	.01	0.0 %
Mother Protestant . . . . .	-.07	0.6 %
Mother Spiritualist . . . . .	.13	1.3 %
Father & Mother SDA . . . . .	.02	0.0 %
Parents Living Together . . .	-.05	0.0 %
Parents Separated or Divorced	-.05	0.0 %
One Parent Deceased . . . . .	-.04	0.1 %

\* significant at the .05 level.

The proportion of cumulative variance indicates that amount of SDA education, sex, scholastic achievement, and the variable "father SDA" add more than 1.5 percent to the variance of the intellectual scale scores after the variance contributed by the independent variables which preceded each one in the equation was taken into account.

Parental variables and the prediction of the intellectual dimension. The influence of each variable describing the religious affiliation and the marital status of the students' parents is generally low, according to the data related to hypothesis 1. It would be helpful, therefore, to know whether these variables taken as a group

do add significantly to the variance of the intellectual dimension scores.

The questions to be answered are: (1) Does the knowledge of the religious affiliation and marital status of the students' parents add significantly to the variance of the intellectual dimension scores? (2) Does the knowledge of parental religious affiliation alone add significantly to the variance of the intellectual dimension scores? (3) Does the knowledge of marital status of parents add significantly to the variance of the intellectual dimension scores?

One way of approaching these questions is by means of multiple-regression analysis. Each question is answered by an analysis performed with the deletion of the independent variables under scrutiny. The coefficient of determination yielded by each analysis is then compared with the coefficient of determination yielded by the regression of all predictors. The difference between them indicates the percentage added to the explanation of the variance of the criterion variable of the hypothesis. The significance of this difference may be tested by means of an F ratio (Kerlinger & Pedhazur, 1973, p. 71).

Table 20 presents the multiple-correlation coefficients and the coefficients of determination obtained by the multiple-regression analysis including all predictors and excluding (1) all twelve parental variables, (2) nine parental religious-affiliation variables, and (3) three parental marital-status variables. The table also presents

the difference between the coefficients of determination (added variance explained) and the tests of significance of the difference. Most numbers have been rounded to three decimal places.

TABLE 20

SIGNIFICANCE OF PARENTAL VARIABLES TO THE  
PREDICTION OF THE INTELLECTUAL DIMENSION

Predictors Deleted	Multiple Correlation Coefficient	Coefficient of Determinat.	Added Variance Explained	d.f.	F ratio
None	.415	.172			
All parental variables	.360	.130	.042	12/465	1.98 *
Parental religious affiliation	.371	.138	.034	9/465	2.11 *
Parental marital status	.412	.170	.002	3/465	.37

\* significant at .05 level

Two of the "F ratios" presented in table 20 are significant at the .05 level. Therefore, it may be said, after the contribution of all other predictors is taken into account, that:

1. Knowledge of both parental religious affiliation and marital status does add significantly (4.2 percent) to the variance of the intellectual dimension scores.

2. Knowledge of parental religious affiliation does add significantly (3.4 percent) to the variance of the



intellectual dimension scores.

3. Knowledge of parental parental marital status does not add significantly to the variance of the intellectual dimension scores.

Amount of SDA education and the prediction of the intellectual dimension. The central concern of this investigation is the relationship between exposure to SDA education and five religious dimensions.

Since this particular predictor is significantly related to the intellectual dimension when entered first in the multiple-regression equation, it would be helpful to know whether exposure to SDA education would add significantly to the variance of this criterion variable if entered last into the equation.

A multiple-regression analysis performed with the deletion of this predictor yielded a multiple-regression coefficient .343 and a coefficient of determination .117. A comparison between the latter and the coefficient of determination obtained by the regression of all predictors indicates that 5.4 percent was added to the variance of the intellectual dimension scores.

The test of significance yielded an F ratio 30.37. With 1 and 465 degrees of freedom it is significant beyond .001 level. The amount of exposure to SDA education, therefore, adds significantly to the variance of the scores on the intellectual dimension even after the contribution of all other predictors has been taken into account.

## Testing of Hypothesis 2

Hypothesis 2. There will be no significant multiple correlation between the ritualistic dimension of religiosity and a linear combination of the predictors.

The multiple correlation coefficient. The multiple-correlation coefficient between the linear combination of the predictors and the ritualistic dimension is .45, and the variance of the criterion variable explained by the predictors is 20 percent. An analysis of variance for the multiple-linear regression yielded an F value of 6.75. With 17 and 463 degrees of freedom, this F value is significant beyond the .01 level. It is safe, therefore, to state that the combination of the predictors selected in this study is significantly correlated with the ritualistic aspect of religion among SDA secondary students in the Corridor Greater Sao Paulo - Campinas.

The regression coefficient and t tests. The regression coefficients in this case indicate the change in the ritualistic-dimension standard scores with a change of one unit in the independent variable with which the coefficient is associated when the other independent variables are held constant.

Table 21 presents the regression coefficients associated with the predictors along with the computed t values. All numbers have been rounded to two decimal places.

TABLE 21

REGRESSION COEFFICIENTS ASSOCIATED WITH THE VARIABLES  
PREDICTING THE RITUALISTIC DIMENSION

Variable	Regression Coefficient	Computed <u>t</u> Value
Amount of SDA Education . . .	-.02	-1.33
Age . . . . .	.03	1.26
Sex . . . . .	.33	3.92 *
Scholastic Achievement . . . .	-.02	-0.60
Home Religious Practices . . .	.06	8.15 *
Father SDA . . . . .	.48	1.54
Father Catholic . . . . .	.21	1.32
Father Protestant . . . . .	.18	.38
Father Spiritualist . . . . .	.04	.13
Mother SDA . . . . .	.15	.53
Mother Catholic . . . . .	-.03	-.09
Mother Protestant . . . . .	.00	.00
Mother Spiritualist . . . . .	-1.91	-2.73 *
Father & Mother SDA . . . . .	-.36	-1.14
Parents Living Together . . .	.32	.79
Parents Separated or Divorced	.19	.46
One Parent Deceased . . . . .	.20	.49

\* significant at the .01 level

Three of the t values presented in the second column of table 21 are significant beyond the .01 level. They indicate that the corresponding variable contributes significantly to the regression once the influence of the other independent variables have been taken into account.

In this case, sex, home religious practices, and the variable "mother Spiritualist" are making a significant contribution to the regression. The tendency is for higher scores on the ritualistic dimension to be made by girls from homes with better religious practices and whose mothers are not Spiritualists.

Partial - correlation coefficient and cumulative variance. The partial-correlation coefficient in this particular case indicates the relationship between the ritualistic dimension of religiosity and the corresponding predictor variable once the influence of all other variables is removed from both variables under consideration. The proportion of the cumulative variance indicates the contribution to the variance of the ritualistic dimension that each independent variable adds after the variance contributed by the variables already entered in the equation have been considered. Table 22 presents both coefficients. The coefficients have been rounded to two decimal places.

Table 22

PARTIAL CORRELATION COEFFICIENTS AND PROPORTION OF VARIANCE  
EXPLAINED IN THE PREDICTION OF THE RITUALISTIC DIMENSION

Variable	Partial Correlation Coefficient	Proportion of Variance
Amount of SDA Education . . . .	-.06	0.1 %
Age . . . . .	.06	0.2 %
Sex . . . . .	.18	2.8 %
Scholastic Achievement . . . .	-.03	0.0 %
Home Religious Practices . . . .	.35	14.2 %
Father SDA . . . . .	.07	0.2 %
Father Catholic . . . . .	.06	0.3 %
Father Protestant . . . . .	.02	0.0 %
Father Spiritualist . . . . .	.01	0.0 %
Mother SDA . . . . .	.02	0.2 %
Mother Catholic . . . . .	.00	0.0 %
Mother Protestant . . . . .	.00	0.0 %
Mother Spiritualist . . . . .	-.13	1.2 %
Father & Mother SDA . . . . .	-.05	0.3 %
Parents Living Together . . . .	.03	0.2 %
Parents Separated or Divorced . . . .	.02	0.0 %
One Parent Deceased . . . . .	.02	0.0 %

The partial correlation coefficients reveal that, from the standpoint of the unique influence of each independent variable upon the ritualistic dimension, home religious practices, sex, and the variable "mother Spiritualist" are in decreasing order the most influencing predictors.

The proportion of cumulative variance also indicates that home religious practices and sex add more than 1.5 percent to the variance of the ritualistic dimension scores after the variance contributed by the independent variables which preceded each one in the equation was taken into account.

Parental variables and the prediction of the ritualistic dimension. The influence of some of the variables describing the religious affiliation and the marital status of the students' parents is significant when considered in isolation from the others. It would be of interest, however, to know the amount and the significance of the contributed addition of the parental-related variables considered together to the variance of the ritualistic dimension scores.

The questions to be answered are: (1) Does the knowledge of the religious affiliation and marital status of the students' parents add significantly to the variance of the ritualistic dimension scores? (2) Does the knowledge of parental religious affiliation alone add significantly to the variance of the ritualistic dimension scores? (3) Does the knowledge of marital status of parents add significantly to

the variance of the ritualistic dimension scores? These questions were again approached by means of multiple-regression analysis.

Table 23 presents the multiple correlation coefficients and the coefficients of determination obtained by the multiple-regression analysis, including all predictors and excluding (1) all twelve parental variables, (2) nine parental religious-affiliation variables, and (3) three parental marital-status variables. The table also presents the difference between the coefficients of determination (added variance explained) and the tests of significance of the difference. Most numbers have been rounded to three decimal places.

TABLE 23

SIGNIFICANCE OF PARENTAL VARIABLES TO THE  
PREDICTION OF THE RITUALISTIC DIMENSION

Predictors Deleted	Multiple Correlation Coefficient	Coefficient of Determinat.	Added Variance Explained	d.f.	F ratio
None	.446	.199			
All parental variables	.417	.174	.025	12/465	1.19
Parental religious affiliation	.426	.182	.017	9/465	1.10
Parental marital status	.443	.196	.003	3/465	.48

None of the "F ratios" presented in table 23 is significant at the .05 level. Therefore, it may be said that no matter the magnitude of relationship between some of the parent-related variables and the ritualistic dimension, after the contribution of all predictors is taken into account

1. Knowledge of both parental religious affiliation and marital status does not add significantly to the variance of the ritualistic dimension scores.

2. Knowledge of parental religious affiliation does not add significantly to the variance of the ritualistic dimension scores.

3. Knowledge of parental parental marital status does not add significantly to the variance of the ritualistic dimension scores.

### Testing of Hypothesis 3

Hypothesis 3. There will be no significant multiple correlation between the ideological dimension of religiosity and a linear combination of the predictors.

The multiple-correlation coefficient. The multiple-correlation coefficient between the linear combination of the predictors and the ideological dimension is .26, and the variance of the criterion variable explained by the predictors is 6.5 percent. An analysis of variance for the multiple linear regression yielded an F value of 1.89. With 17 and 463 degrees of freedom, this F value is significant beyond the .05 level. It is safe, therefore, to state that the combination of the predictors selected in this study is

significantly correlated with the ideological aspect of religion among SDA secondary students in the Corridor Greater Sao Paulo - Campinas.

The regression coefficient and t tests. The regression coefficients in this case indicate the change in the ideological-dimension standard scores with a change of one unit in the independent variable with which the coefficient is associated when the other independent variables are held constant. Table 24 presents the regression coefficients associated with the predictors along with the computed t values. All numbers have been rounded to two decimal places.

TABLE 24  
REGRESSION COEFFICIENTS ASSOCIATED WITH THE VARIABLES  
PREDICTING THE IDEOLOGICAL DIMENSION

Variable	Regression Coefficient	Computed <u>t</u> Value
Amount of SDA Education . . .	.01	.81
Age . . . . .	-.04	-1.43
Sex . . . . .	.13	1.44
Scholastic Achievement . . . .	.04	1.05
Home Religious Practices . . .	.00	- .03
Father SDA . . . . .	-.07	- .20
Father Catholic . . . . .	.05	.28
Father Protestant . . . . .	-.72	-1.45
Father Spiritualist . . . . .	.21	.58
Mother SDA . . . . .	.62	2.00 *
Mother Catholic . . . . .	.40	1.24
Mother Protestant . . . . .	.83	1.44
Mother Spiritualist . . . . .	-.55	- .72
Father & Mother SDA . . . . .	.09	.27
Parents Living Together . . .	-.20	- .46
Parents Separated or Divorced	-.22	- .50
One Parent Deceased . . . . .	-.39	- .88

\* significant at the .05 level



One of the  $t$  values presented in the second column of table 24 is significant at the .05 level. It indicates that the corresponding variable contributes significantly to the regression once the influence of the other independent variables have been taken into account.

In this case, only the variable "mother SDA" is making a significant contribution to the regression. The tendency is for higher scores on the ideological dimension to be made by students whose mothers are SDA.

Partial - correlation coefficient and cumulative variance. The partial correlation coefficient in this particular case indicates the relationship between the ideological dimension of religiosity and the corresponding predictor variable, once the influence of all other variables is removed from both the dependent variable and the independent variable under consideration. The proportion of the cumulative variance indicates the contribution to the variance of the ideological dimension that each independent variable adds after the variance contributed by the variables already entered in the equation have been considered.

Table 25 presents both the partial-correlation coefficient and the proportion of variance explained. The coefficients have been rounded to two decimal places.

The partial correlation coefficients reveal that, from the standpoint of the unique influence of each independent variable upon the ideological dimension, none of them stands out among the others as an influencing predictor.

Table 25

PARTIAL CORRELATION COEFFICIENTS AND PROPORTION OF VARIANCE  
EXPLAINED IN THE PREDICTION OF THE IDEOLOGICAL DIMENSION

Variable	Partial Correlation Coefficient	Proportion of Variance
Amount of SDA Education . . .	.04	0.8 %
Age . . . . .	-.07	1.0 %
Sex . . . . .	.07	0.6 %
Scholastic Achievement . . . .	.05	0.3 %
Home Religious Practices . . .	.00	0.0 %
Father SDA . . . . .	-.01	0.0 %
Father Catholic . . . . .	.01	0.0 %
Father Protestant . . . . .	-.07	0.5 %
Father Spiritualist . . . . .	.03	0.1 %
Mother SDA . . . . .	.09	1.7 %
Mother Catholic . . . . .	.06	0.3 %
Mother Protestant . . . . .	.07	0.5 %
Mother Spiritualist . . . . .	-.03	0.1 %
Father & Mother SDA . . . . .	.01	0.0 %
Parents Living Together . . .	-.02	0.1 %
Parents Separated or Divorced	-.02	0.1 %
One Parent Deceased . . . . .	-.04	0.2 %

The proportion of cumulative variance indicates that the variable "mother SDA" is the only one that adds more than 1.5 percent to the variance of the ideological scale scores after the variance contributed by the independent variables which preceded it in the equation was taken into account.

Parental variables and the prediction of the ideological dimension. Except for the variable "mother SDA", the influence of each variable describing the religious affiliation and the marital status of the students' parents is non-significant according to the data considered above. It would be helpful, therefore, to know whether these variables taken as a group do add significantly to the variance of the

ideological dimension scores.

The questions to be answered are: (1) Does the knowledge of the religious affiliation and marital status of the students' parents add significantly to the variance of the ideological dimension scores? (2) Does the knowledge of parental religious affiliation alone add significantly to the variance of the ideological dimension scores? (3) Does the knowledge of marital status of parents add significantly to the variance of the ideological dimension scores?

These questions were again approached by means of multiple regression analysis.

Table 26 presents the multiple correlation coefficients and the coefficients of determination obtained by the multiple regression analysis including all predictors and excluding (1) all twelve parental variables, (2) nine parental religious-affiliation variables, and (3) three parental marital-status variables. The table also presents the difference between the coefficients of determination (added variance explained) and the tests of significance of the difference. Most numbers have been rounded to three decimal places.

None of the "F ratios" presented in table 26 is significant at the .05 level. Therefore, it may be said that:

1. Knowledge of both parental religious affiliation and marital status does not add significantly to the variance of the ideological dimension scores.

TABLE 26

SIGNIFICANCE OF PARENTAL VARIABLES TO THE  
PREDICTION OF THE IDEOLOGICAL DIMENSION

Predictors Deleted	Multiple Correlation Coefficient	Coefficient of Determinat.	Added Variance Explained	d.f.	F ratio
None	.255	.065			
All parental variables	.167	.028	.037	12/465	1.53
Parental religious affiliation	.189	.036	.029	9/465	1.63
Parental marital status	.248	.062	.003	3/465	.58

2. Knowledge of parental religious affiliation does not add significantly to the variance of the ideological dimension scores.

3. Knowledge of parental marital status does not add significantly to the variance of the ideological dimension scores.

## Testing of Hypothesis 4

Hypothesis 4. There will be no significant multiple correlation between the experiential dimension of religiosity and a linear combination of the predictors.

The multiple-correlation coefficient. The multiple-correlation coefficient between the linear combination of the predictors and the experiential dimension is .35, and the

variance of the criterion variable explained by the predictors is 12 percent. An analysis of variance for the multiple-linear regression yielded an F value of 3.76. With 17 and 463 degrees of freedom, this F value is significant beyond the .01 level. It is safe, therefore, to state that the combination of the predictors selected in this study is significantly correlated with the experiential aspect of religiosity among SDA secondary students in the Corridor Greater Sao Paulo - Campinas.

The regression coefficient and t tests. The regression coefficients in this case indicate the change in the experiential dimension standard scores with a change of one unit in the independent variable with which the coefficient is associated when the other independent variables are held constant.

Table 27 presents the regression coefficients associated with the predictors along with the computed t value. All numbers have been rounded to two decimal places.

Four of the t values presented in the second column of table 27 are significant beyond .01 level. They indicate that the corresponding variable contributes significantly to the regression once the influence of the other independent variables has been taken into account.

In this case, age, sex, scholastic achievement and home religious practices make significant contribution to the regression. The tendency is for higher scores on the

TABLE 27

REGRESSION COEFFICIENTS ASSOCIATED WITH THE VARIABLES  
PREDICTING THE EXPERIENTIAL DIMENSION

Variable	Regression Coefficient	Computed t Value
Amount of SDA Education . . .	-.01	-1.12
Age . . . . .	.08	3.12 *
Sex . . . . .	-.22	-2.43 *
Scholastic Achievement . . . .	.11	2.91 *
Home Religious Practices . . .	.03	3.80 *
Father SDA . . . . .	.34	1.03
Father Catholic . . . . .	.25	1.45
Father Protestant . . . . .	.51	1.07
Father Spiritualist . . . . .	.23	.67
Mother SDA . . . . .	-.09	-.29
Mother Catholic . . . . .	.22	.72
Mother Protestant . . . . .	-.10	-.18
Mother Spiritualist . . . . .	.78	1.07
Father & Mother SDA . . . . .	-.20	-.61
Parents Living Together . . .	.68	1.64
Parents Separated or Divorced	.53	1.23
One Parent Deceased . . . . .	.71	1.66

\* significant at the .01 level

experiential dimension to be made by older male students, achieving better academically, and coming from homes where religious practices are performed more frequently.

Partial - correlation coefficient and cumulative variance. The partial-correlation coefficient in this particular case indicates the relationship between the experiential dimension of religiosity and the corresponding predictor variable, once the influence of all other variables is removed from both the dependent variable and the independent variable under consideration. The proportion of the cumulative variance indicates the contribution to the variance of the experiential dimension that each independent

variable adds after the variance contributed by the variables already entered in the equation has been considered.

Table 28 presents both the partial-correlation coefficient and the proportion of variance explained. The coefficients have been rounded to two decimal places.

TABLE 28

PARTIAL-CORRELATION COEFFICIENTS AND PROPORTION OF VARIANCE EXPLAINED IN THE PREDICTION OF THE EXPERIENTIAL DIMENSION

Variable	Partial Correlation Coefficient	Proportion of Variance
Amount of SDA Education . . .	-.05	0.5 %
Age . . . . .	.14	2.9 %
Sex . . . . .	-.11	0.9 %
Scholastic Achievement . . . .	.13	2.4 %
Home Religious Practices . . .	.17	2.6 %
Father SDA . . . . .	.05	0.0 %
Father Catholic . . . . .	.07	0.7 %
Father Protestant . . . . .	.05	0.3 %
Father Spiritualist . . . . .	.03	0.1 %
Mother SDA . . . . .	-.01	0.6 %
Mother Catholic . . . . .	.03	0.1 %
Mother Protestant . . . . .	-.01	0.0 %
Mother Spiritualist . . . . .	.05	0.3 %
Father & Mother SDA . . . . .	-.03	0.1 %
Parents Living Together . . .	.08	0.1 %
Parents Separated or Divorced	.06	0.1 %
One Parent Deceased . . . . .	.08	0.5 %

The partial correlation coefficients reveal that, from the standpoint of the unique influence of each independent variable upon the experiential dimension, home religious practices, age, scholastic achievement, and sex are, in decreasing order the most influencing predictors.

The proportion of cumulative variance, however, indicates that only age, scholastic achievement, and home

religious practices add more than 1.5 percent to the variance of the experiential scale scores after the variance contributed by the independent variables which preceded each one in the equation was taken into account.

Parental variables and the prediction of the experiential dimension. Also, in the case of the experiential dimension, the influence of each variable describing the religious affiliation and the marital status of the students' parents is generally low according to the data considered above. It would be helpful, therefore, to know whether these predictor variables considered together do add significantly to the variance of the experiential dimension scores.

The questions to be answered are: (1) Does the knowledge of the religious affiliation and marital status of the students' parents add significantly to the variance of the experiential dimension scores? (2) Does the knowledge of parental religious affiliation alone add significantly to the variance of the experiential dimension scores? (3) Does the knowledge of marital status of parents add significantly to the variance of the experiential dimension scores?

Again, multiple regression analysis was used to answer these questions.

Table 29 presents the multiple correlation coefficients and the coefficients of determination obtained by the multiple regression analysis including all predictors and excluding (1) all twelve parental variables, (2) nine parental religious-affiliation variables, and (3) three



parental marital-status variables. The table also presents the difference between the coefficients of determination (added variance explained) and the tests of significance of the difference. Most numbers have been rounded to three decimal places.

TABLE 29

SIGNIFICANCE OF PARENTAL VARIABLES TO THE  
PREDICTION OF THE EXPERIENTIAL DIMENSION

Predictors Deleted	Multiple Correlation Coefficient	Coefficient of Determinat.	Added Variance Explained	d.f.	F ratio
None	.348	.121			
All parental variables	.305	.093	.028	12/465	1.26
Parental religious affiliation	.314	.099	.022	9/465	1.34
Parental marital status	.339	.115	.006	3/465	1.19

None of the "F ratios" presented in table 29 is significant at the .05 level. Therefore it may be said that:

1. Knowledge of both parental religious affiliation and marital status does not add significantly to the variance of the experiential dimension scores.

2. Knowledge of parental religious affiliation does not add significantly to the variance of the experiential dimension scores.

3. Knowledge of parental marital status does not add significantly to the variance of the experiential dimension scores.

#### Testing of Hypothesis 5

Hypothesis 5. There will be no significant multiple correlation between the consequential dimension of religiosity and a linear combination of the predictors.

The multiple-correlation coefficient. The multiple-correlation coefficient between the linear combination of the predictors and the consequential dimension is .34, and the variance of the criterion variable explained by the predictors is 12 percent. An analysis of variance for the multiple-linear regression yielded an F value of 3.55. With 17 and 463 degrees of freedom, this F value is significant beyond the .01 level. It is safe, therefore, to state that the combination of the predictors selected in this study is significantly correlated with the consequential dimension of religion among SDA secondary students in the Corridor Greater Sao Paulo - Campinas.

The regression coefficient and t tests. The regression coefficients in this case indicate the change in the consequential dimension standard scores with a change of one unit in the independent variable with which the coefficient is associated when the other independent variables are held constant.

Table 30 presents the regression coefficients associated with the predictors along with the computed t

values. All numbers have been rounded to two decimal places.

TABLE 30

REGRESSION COEFFICIENTS ASSOCIATED WITH THE VARIABLES  
PREDICTING THE CONSEQUENTIAL DIMENSION

Variable	Regression Coefficient	Computed $t$ Value
Amount of SDA Education . . .	-.03	-2.29 *
Age . . . . .	.01	.47
Sex . . . . .	.35	2.94 **
Scholastic Achievement . . . .	.07	1.77
Home Religious Practices . . .	.02	2.69 **
Father SDA . . . . .	-.11	-.33
Father Catholic . . . . .	-.18	-1.08
Father Protestant . . . . .	-.94	-1.97 *
Father Spiritualist . . . . .	.44	1.29
Mother SDA . . . . .	.07	.24
Mother Catholic . . . . .	.41	1.32
Mother Protestant . . . . .	.63	1.12
Mother Spiritualist . . . . .	.02	-2.57 *
Father & Mother SDA . . . . .	.10	.31
Parents Living Together . . .	-.76	-1.82
Parents Separated or Divorced	-.73	-1.70
One Parent Deceased . . . . .	-.69	-1.59
** significant at the .01 level		
* significant at the .05 level		

Two of the  $t$  values presented in the second column of table 30 are significant beyond the .01 level, and three at the .05 level. They indicate that the corresponding variable contributes significantly to the regression once the influence of the other independent variables have been taken into account.

In this case, the amount of SDA education, sex, home religious practices, and the variables "father Protestant" and "mother Spiritualist" make a significant contribution to the regression. The tendency is for higher scores on the

consequential dimension to be made by girls, who have less exposure to SDA education, come from homes where religious practices are held more frequently, whose fathers are not Protestants, and whose mothers are not Spiritualists.

Partial - correlation coefficient and cumulative variance. The partial-correlation coefficient in this particular case indicates the relationship between the consequential dimension of religiosity and the corresponding predictor variable, once the influence of all other variables is removed from both the dependent variable and the independent variable under consideration. The proportion of the cumulative variance indicates the contribution to the variance of the consequential dimension that each independent variable adds after the variance contributed by the variables already entered in the equation have been considered.

Table 31 presents both the partial correlation coefficient and the proportion of variance explained. The coefficients have been rounded to two decimal places.

The partial correlation coefficients reveal that, from the standpoint of the unique influence of each independent variable upon the consequential dimension, sex, home religious practices, the variable "mother Spiritualist," and amount of SDA education are in decreasing order the most influencing predictors.

The proportion of cumulative variance indicates that only sex and the variable "mother Spiritualist" add more than 1.5 percent to the variance of the consequential scale

TABLE 31

PARTIAL-CORRELATION COEFFICIENTS AND PROPORTION OF VARIANCE EXPLAINED IN THE PREDICTION OF THE CONSEQUENTIAL DIMENSION

Variable	Partial Correlation Coefficient	Proportion of Variance
Amount of SDA Education . . .	-.10	1.2 %
Age . . . . .	.02	0.1 %
Sex . . . . .	.18	3.6 %
Scholastic Achievement . . . .	.08	0.7 %
Home Religious Practices . . .	.12	1.2 %
Father SDA . . . . .	-.02	0.0 %
Father Catholic . . . . .	-.05	0.0 %
Father Protestant . . . . .	-.09	0.7 %
Father Spiritualist . . . . .	.06	0.6 %
Mother SDA . . . . .	.01	0.1 %
Mother Protestant . . . . .	.05	0.4 %
Mother Spiritualist . . . . .	-.12	1.5 %
Father & Mother SDA . . . . .	.01	0.1 %
Parents Living Together . . .	-.08	0.1 %
Parents Separated or Divorced	-.08	0.1 %
One Parent Deceased . . . . .	-.07	0.5 %

after the variance contributed by the independent variables which preceded each one in the equation was taken into account.

Parental variables and the prediction of the consequential dimension. The influence of two variables describing the religious affiliation and the marital status of the students' parents is significant according to the data considered above. It would be helpful, however, to know whether these variables taken as a group do add significantly to the variance of the consequential dimension scores.

The questions to be answered are: (1) Does the knowledge of the religious affiliation and marital status of

the students' parents add significantly to the variance of the consequential dimension scores? (2) Does the knowledge of parental religious affiliation alone add significantly to the variance of the consequential dimension scores? (3) Does the knowledge of marital status of parents add significantly to the variance of the consequential dimension scores?

Once again multiple correlation analysis provides an answer to these questions. Table 32 presents the multiple-correlation coefficients and the coefficients of determination obtained by the several multiple-regression analyses.

The first analysis included all predictors, whereas the other analyses excluded (1) all twelve parental variables, (2) all nine parental religious-affiliation variables, and (3) three parental marital-status variables. The table also presents the difference between the coefficients of determination (added variance explained) and the tests of significance of the difference. Most numbers have been rounded to three decimal places.

Two of the "F ratios" presented in table 32 are significant at the .05 level. Therefore it may be said that:

1. Knowledge of both parental religious affiliation and marital status does add significantly (4.7 percent) to the variance of the consequential dimension scores.

2. knowledge of parental religious affiliation does add significantly (3.6 percent) to the variance of the consequential dimension scores.

TABLE 32

SIGNIFICANCE OF PARENTAL VARIABLES TO THE  
PREDICTION OF THE CONSEQUENTIAL DIMENSION

Predictors Deleted	Multiple Correlation Coefficient	Coefficient of Determinat.	Added Variance Explained	d.f.	F ratio
None	.340	.115			
All parental variables	.261	.068	.047	12/465	2.06 *
Parental religious affiliation	.280	.079	.036	9/465	2.14 *
Parental marital status	.330	.109	.006	3/465	1.15
* significant at the .05 level					

3. Knowledge of parental marital status does not add significantly to the variance of the consequential dimension scores.

Amount of SDA education and the prediction of the consequential dimension. Since the central question under investigation is the amount of exposure to SDA education as related to the various dimensions of religiosity, and this predictor contributes significantly to the variance of the consequential dimension when entered first in the equation, it would be helpful to know whether any significant addition would occur if this predictor were entered last.

A multiple-regression analysis performed with the deletion of this predictor yielded a multiple-regression coefficient .340 and a coefficient of determination .115. A comparison between the latter and the coefficient of determination obtained by the regression of all predictors indicates that 5.4 percent was added to the variance of the consequential dimension scores.

The test of significance yielded an F ratio 30.37. With 1 and 465 degrees of freedom, it is significant beyond the .001 level. It may be said, therefore, that the amount of exposure to SDA education adds significantly to the variance of the scores on the consequential dimension, even after the contribution of the remaining predictors have been taken into account.

#### Correlation between a Combination of Predictors and a Combination of the Religiosity Dimensions

Both theory and empirical findings lend support to the multidimensionality of religion, and thus far each dimension has been considered separately. One may ask, however, whether the combination of the various dimensions of religion is significantly related to the combination of the predictors.

This can be accomplished by means of canonical-correlation analysis. The basic idea of this analysis is that, through the least square analysis, two linear composites are formed (one for the independent and one for the dependent variables) and correlated. This correlation



coefficient is called canonical-correlation coefficient. The square of this coefficient is an estimate of the variance shared by the two composites.

In canonical-correlation analysis there can be more than one set of equations. The method actually extracts the first and largest source of variance, yielding the canonical-correlation coefficient which is an index of the relation between the two composites based on this largest source of variance. Then the next greatest source of variance, left in the data after the first source is extracted and independent from the first source, is analyzed, and the second canonical correlation coefficient is found which is smaller than the first and indicates the relation between the two sets of variables due to this second source of variance. This continues for as many sets of equations as there are variables in the smaller set, here five.

#### Testing of the Hypothesis 6

Hypothesis 6. There will be no significant canonical correlation between a linear combination of the five religiosity dimensions and a linear combination of the predictors.

Table 33 presents the canonical-correlation coefficient for each set of equations, the proportion of variance shared by the two composites, and the significance tests for the five functions. All numbers have been rounded to three decimal places.

TABLE 33

CANONICAL CORRELATION BETWEEN THE FIVE RELIGIOSITY  
DIMENSIONS AND THE PREDICTORS

Function	Canonical Correlation Coefficient	Proportion of Variance Shared	Approx. Chi-square	d.f.	Probab. Values
1	.518 *	.268	352.703	85	<.001
2	.471 *	.222	206.126	64	<.001
3	.316 *	.100	88.744	45	<.001
4	.244	.060	39.434	28	.074
5	.150	.023	10.701	13	.636

\* significant at the .001 level

The data in table 33 indicate that there are three canonical correlations significant at the .05 level, in fact significant beyond the .001 level. The null hypothesis is, therefore, rejected.

These findings indicate that religiosity, as composed by the combination of five dimensions, is significantly related to the predictors selected for this study, and that the proportion of variance shared by the three sets of equations significantly related are 26.8 percent for the first, 22.2 percent for the second, and 10.0 percent for the third significant function.

Canonical-correlation analysis also yields the weights associated with each of the variables constituting the pair of equations for each function.

Table 34 presents the first function weights associated with the criterion (left-hand) variables and with the predictor (right-hand) variables. All numbers have been rounded to three decimal places.

TABLE 34

FIRST CANONICAL FUNCTION WEIGHTS ASSOCIATED WITH THE  
CRITERION AND PREDICTOR VARIABLES

Criterion	Weight	Predictor	Weight
Intellectual	-.198	Amount of SDA Education	-1.231
Ritualistic	.797	Age	.240
Ideological	.157	Sex	.242
Experiential	.215	Scholastic Achievement	.070
Consequential	.504	Home Religious Practices	4.723
		Father SDA	.209
		Father Catholic	.033
		Father Protestant	-.019
		Father Spiritualist	.011
		Mother SDA	.056
		Mother Catholic	.039
		Mother Protestant	.014
		Mother Spiritualist	-.022
		Father & Mother SDA	-.137
		Parents Living Together	.020
		Parents Separat. or Div.	-.011
		One Parent Deceased	-.003

The weights presented in table 34 reveal that the ritualistic and the consequential are the primary religious dimensions composing the criterion set, and that home religious practices and the amount of SDA education are the primary independent variables involved in the predictors set of the first significant function. This canonical function indicates that those students whose homes show greater frequency of home religious practices and have had less SDA education tend to score higher in the ritualistic and

consequential dimensions.

Table 35 presents the second function weights associated with the criterion variables and with the predictor variables. All numbers have been rounded to three decimal places.

TABLE 35

SECOND CANONICAL FUNCTION WEIGHTS ASSOCIATED WITH THE  
CRITERION AND PREDICTOR VARIABLES

Criterion	Weight	Predictor	Weight
Intellectual	.779	Amount of SDA Education	1.464
Ritualistic	.189	Age	.476
Ideological	-.138	Sex	-.253
Experiential	.551	Scholastic Achievement	.381
Consequential	-.184	Home Religious Practices	3.550
		Father SDA	-.015
		Father Catholic	.068
		Father Protestant	.029
		Father Spiritualist	.006
		Mother SDA	-.042
		Mother Catholic	.008
		Mother Protestant	-.025
		Mother Spiritualist	.018
		Father & Mother SDA	-.040
		Parents Living Together	.104
		Parents Separat. or Div.	.033
		One Parent Deceased	.058

The weights presented in table 35 reveal that the intellectual and the experiential are the primary religiosity dimensions composing the criterion set, and that home religious practices and the amount of SDA education are the primary independent variables involved in the predictors set of the second significant function.

The second canonical function indicates that the students with greater frequency of religious practices at

home and longer exposure to SDA education do tend to score higher on the intellectual and the experiential dimensions.

Table 36 presents the third function weights associated with the criterion variables and with the predictor variables. All numbers have been rounded to three decimal places.

TABLE 36

THIRD CANONICAL FUNCTION WEIGHTS ASSOCIATED WITH THE  
CRITERION AND PREDICTOR VARIABLES

Criterion	Weight	Predictor	Weight
Intellectual	.460	Amount of SDA Education	2.156
Ritualistic	.195	Age	-.587
Ideological	.636	Sex	.038
Experiential	-.583	Scholastic Achievement	.013
Consequential	-.076	Home Religious Practices	.404
		Father SDA	-.241
		Father Catholic	-.015
		Father Protestant	-.020
		Father Spiritualist	.003
		Mother SDA	.162
		Mother Catholic	.029
		Mother Protestant	.006
		Mother Spiritualist	-.001
		Father & Mother SDA	.134
		Parents Living Together	-.313
		Parents Separat. or Div.	-.171
		One Parent Deceased	-.200

The weights presented in table 36 reveal that the ideological, the experiential and the intellectual are the primary religiosity dimensions of the criterion set and that the amount of exposure to SDA education is the most contributing variable of the predictors set of the third function.

The third canonical function indicates that students who had longer exposure to SDA education do tend to score higher on the ideological and the intellectual dimensions, but lower on the experiential.

#### Linear Functions of the Religiosity Dimensions and Discrimination among Groups

Another question that this study asks is whether any linear function of the five dimensions of religiosity significantly discriminates among the subjects (1) attending different schools, (2) exposed to different levels of SDA education, (3) and (4) exposed to different amounts of SDA boarding-school education, and (5) exposed to different amounts of SDA parochial education.

Discriminant function analysis is a way of answering this multiple question. This analysis yields a discriminant function which is a combination of the religious dimensions as related to a classification variable that represents group membership. This discriminant function maximally discriminates between the groups. The number of discriminant functions yielded will be the smaller of the number of variables and one less than the number of groups.

#### Testing of Hypothesis 7

Hypothesis 7. There will be no linear function of the five dimensions of religiosity which significantly discriminates among students currently attending either non-SDA schools, IAE, or IASP.

Only the first discriminant function was significant, yielding an approximate chi-square of 73.42 with 10 degrees of freedom a  $p = .0001$ . The null hypothesis is therefore rejected.

Table 37 presents this function, giving the standard weights of the five religiosity variables and the group means on the functions. All numbers have been rounded to three decimal places.

TABLE 37

FUNCTION OF THE RELIGIOSITY DIMENSIONS WHICH DISCRIMINATES  
AMONG STUDENTS ATTENDING DIFFERENT SCHOOLS

Dimension	Standard Weights of Function 1	Discriminant Function on Means		
		Group	N	Mean
Intellectual	10.239	Sample A	240	-.204
Ritualistic	15.897	Sample B1	144	-.157
Ideological	.873	Sample B2	97	.737
Experiential	7.450			
Consequential	.127			

Three religiosity dimensions have the major weights on this function. They are, in decreasing order, the ritualistic, the intellectual, and the experiential, and all point in a positive direction. It means that higher scores in each of the three dimensions tend to be associated with higher means on the functions.

Figure 1 places the three school group means on the function. The arrows indicate increasing scores on the

labelled variables.



therefore rejected.

Table 38 presents this function, giving the standard weights of the five religiosity variables, and the group means on the function. All numbers have been rounded to three decimal places.

TABLE 38

FUNCTION OF THE RELIGIOSITY DIMENSIONS WHICH DISCRIMINATES  
AMONG STUDENTS EXPOSED TO DIFFERENT LEVELS  
OF SDA EDUCATION

Dimension	Standard Weights of Function 1	Discriminant Functions on Means		
		Group	N	Mean
Intellectual	19.462	1. No exposure	195	-.380
Ritualistic	- 3.801	2. Primary	15	.128
Ideological	5.996	3. Middle	30	.122
Experiential	- 1.618	4. Primary-middle	67	-.008
Consequential	- 1.342	5. Secondary	58	.355
		6. Primary-second.	14	.187
		7. Middle-second.	43	.476
		8. All levels	59	.423

There was one religiosity dimension which most significantly discriminated among the groups, namely, the intellectual, which has positive weight.

Figure 2 places the means of the eight groups exposed to different levels of SDA education on the function. The arrow pointing to the right indicates increasing scores on the labelled variable.

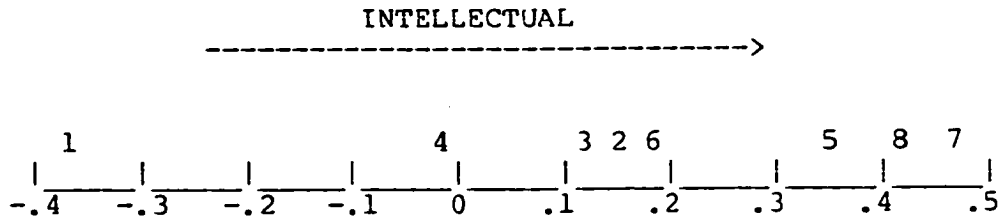


fig. 2. Discrimination among groups exposed to different levels of SDA education.

This figure indicates that there is a tendency for those with full exposure or who are exposed to higher levels of SDA education to have higher scores on the intellectual dimension than those exposed to lower levels or having no exposure to SDA education.

#### Testing of Hypothesis 9

Hypothesis 9. There will be no linear function of the five dimensions of religiosity which significantly discriminates among students who were exposed to no, some, or all SDA boarding-school education.

Also, in this case, only the first discriminant function was significant, yielding a chi-square of 41.15 with 10 degrees of freedom and  $p < .0001$ . The null hypothesis is therefore rejected.

Table 39 presents this function, giving the standard weights of the religiosity variables and the group means on the function. All numbers have been rounded to three decimal places.

TABLE 39

FUNCTION OF THE RELIGIOSITY DIMENSIONS WHICH DISCRIMINATES  
AMONG STUDENTS EXPOSED TO DIFFERENT AMOUNTS  
OF SDA BOARDING-SCHOOL EDUCATION

Dimension	Standard Weights of Function 1	Discriminant Function on Means		
		Group	N	Mean
Intellectual	16.554	1. No-exposure	377	-.144
Ritualistic	9.316	2. Some-exposure	67	.492
Ideological	- 1.973	3. All-exposure	37	.563
Experiential	7.483			
Consequential	6.615			

Four religiosity dimensions have the major weights on this function -- first the intellectual, second the ritualistic, third the experiential, and fourth the consequential; all of them with positive weights.

Figure 3 places the means of the groups exposed to different amounts of SDA boarding-school education on the function. Again, the arrows pointing to the right indicate increasing scores on the labelled variables.

This figure indicates that those students with some or all exposure tend to score higher on the intellectual and to a lesser degree on the ritualistic, the experiential, and the consequential dimensions, than those not exposed to SDA boarding-school education.

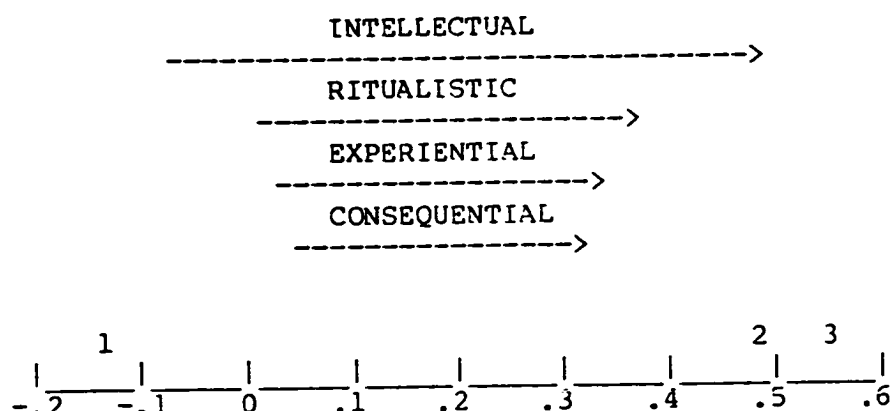


Fig. 3. Discrimination among groups exposed to different amounts of SDA boarding-school education.

#### Testing of Hypothesis 10

Hypothesis 10. There will be no linear function of the five dimensions of religiosity which significantly discriminates between selected students who attended at least five years at an SDA school, but where exposed to either no, some, or all SDA boarding-school education.

Again only the first discriminant function was significant, yielding a chi-square of 18.91 with 10 degrees of freedom and  $p = .0414$ . The null hypothesis is therefore rejected.

Table 40 presents this function, giving the standard weights of the religiosity variables and the group means on the function. All numbers have been rounded to three decimal places.

TABLE 40

FUNCTION OF THE RELIGIOSITY DIMENSIONS WHICH DISCRIMINATES  
AMONG SELECTED STUDENTS EXPOSED TO DIFFERENT AMOUNTS  
OF SDA BOARDING-SCHOOL EDUCATION

Dimension	Standard Weights of Function 1	Discriminant Function on Means		
		Group	N	Mean
Intellectual	4.537	1. No-exposure	158	-.223
Ritualistic	.547	2. Some-exposure	33	.034
Ideological	- .014	3. All-exposure	32	.271
Experiential	5.012			
Consequential	7.508			

Three religiosity dimensions have the major weights on this function -- first the consequential, second the experiential, and third the intellectual; all of them with positive weights.

Figure 4 places the means of the groups exposed to different amounts of SDA boarding-school education on the function. Again, the arrows pointing to the right indicate increasing scores on the labelled variables.

This figure indicates that among students who have attended at least five years at an SDA school, those fully exposed to SDA boarding-school education tend to score higher on the consequential, the experiential, and the intellectual dimensions of religiosity than those partially exposed, and those partially exposed tend to score higher on the same dimensions than those not exposed to SDA boarding-school education.

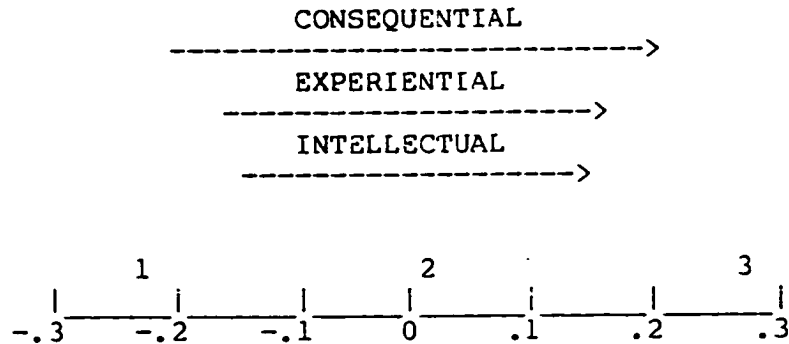


Fig. 4. Discrimination among groups of selected students exposed to different amounts of SDA boarding-school education.

#### Testing of Hypothesis 11

Hypothesis 11. There will be no linear function of the five dimensions of religiosity which significantly discriminates among students not exposed, exposed from one to four years, exposed from five to eight years, or exposed from nine to twelve years to SDA parochial education.

Only the first discriminant function was significant, yielding an approximate chi-square of 55.45 with 10 degrees of freedom and a  $p < .0001$ . The null hypothesis is therefore rejected.

Table 41 presents this function, giving the standard weights of the five religiosity variables and the group means on the functions. All numbers have been rounded to three decimal places.

TABLE 41

FUNCTION OF THE RELIGIOSITY DIMENSIONS WHICH DISCRIMINATES  
AMONG STUDENTS EXPOSED TO DIFFERENT AMOUNTS  
OF SDA EDUCATION

Dimension	Standard Weights of Function 1	Discriminant Function on Means		
		Group	N	Mean
Intellectual	18.346	1. None	118	-.469
Ritualistic	7.286	2. One-four	140	-.022
Ideological	3.815	3. Five-eight	108	.280
Experiential	-3.211	4. Nine-twelve	115	.246
Consequential	-6.328			

Three religiosity dimensions have major weights on this function -- first, the intellectual with a positive weight, then in a moderate second and third place are the ritualistic with a positive weight and the consequential with a negative weight.

Figure 5 places the means of the groups exposed to different amounts of SDA education on the function. Again the arrows pointing to the right indicate increasing scores on the labelled variables, and the arrow pointing to the left indicates decreasing scores on the labelled variable.

This figure indicates that those students exposed to five or more years of SDA education do tend to score higher on the intellectual and the experiential dimensions and lower on the consequential dimension than those exposed to from one to four years, and that the latter tend to score similarly (higher on the intellectual and experiential and lower on

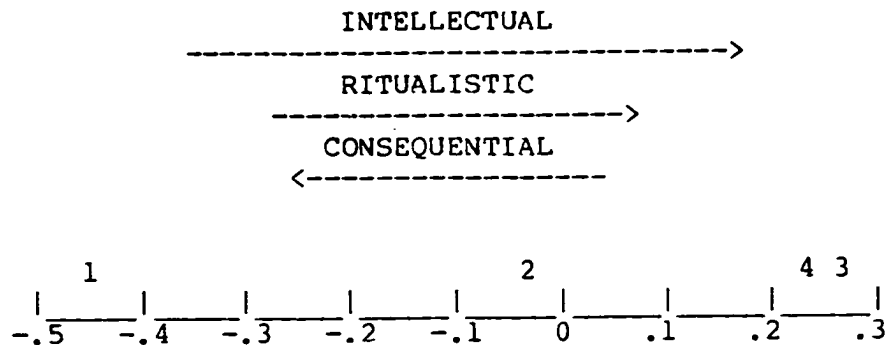


Fig. 5. Discrimination among groups exposed to different amounts of SDA education.

the consequential) when compared with those not exposed to SDA education.

#### Summary

Chapter IV first presented information about the gathering of data and about the population under investigation. Then information about the theoretical framework adopted by this study was presented, followed by considerations on the degree of interdependence among the dimensions of religiosity and the degree to which these dimensions correspond to five factors orthogonally rotated.

The first five hypotheses formulated for this study were tested by means of multiple-regression analysis; hypothesis 6 was tested by means of canonical analysis; and hypotheses 7 through 11 were tested by means of discriminant function analysis. All null hypotheses have been rejected beyond the .05 level.



## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary of the Problem

The main concern of this paper was to consider the relationship between Seventh-day Adventist (SDA) education and religiosity among SDA secondary students.

This investigation focused on the amount of exposure to SDA parochial education as it relates to five dimensions of religiosity as conceived by Glock. The five dimensions are: the intellectual, the ritualistic, the ideological, the experiential, and the consequential.

The review of literature revealed that religiosity is often related to other variables such as age, sex, and home religious background. It was decided, therefore, that the joint influence of other variables should be investigated along with the influence of the amount of exposure to SDA education on religiosity. The specific variables selected were age, sex, scholastic achievement, home religious practices, religious affiliation of students' parents, and parental marital status.

These theoretical considerations led to the formulation of eleven research hypotheses, divided as follows:

The first five hypotheses were concerned with the relationship between each dimension of religiosity and the combination of the selected independent variables.

The sixth hypothesis was concerned with the relationship between the combination of the religiosity dimensions and the combination of the independent variables.

The last five hypotheses, also concerned with religiosity among secondary students, had to do with the discriminant function of the combination of the five dimensions of religiosity among (1) secondary students belonging to three sub-samples under investigation, (2) secondary students exposed to different levels of SDA parochial education, (3) secondary students exposed to different amounts of SDA boarding-school education, (4) secondary students who attended an SDA school for at least five years and were exposed to different amounts of SDA boarding-school education, and (5) students exposed to different amounts of SDA parochial education.

#### Summary of the Methodology

The population under investigation is all SDA secondary students living in a specified area called Corridor Greater Sao Paulo - Campinas, in the state of Sao Paulo, Brazil.

A representative sample was selected from among SDA secondary students attending SDA churches and academies located in the area. By a stratified-cluster random method, twenty-five churches were selected to proportionally

represent the 103 churches located in the area, and all the secondary students attending the selected churches constituted the church sub-sample (referred to as sample A). By a stratified-individual random method, 282 secondary students attending two academies located in the area (Instituto Adventista de Ensino - IAE, and Instituto Adventista de Sao Paulo - IASP) were selected to represent the 1,033 SDA secondary students enrolled in both schools. They constituted the two academy sub-samples (referred to as sample B1 and sample B2, respectively).

Sample A was composed of 273 respondents, of which 240 were included in the analysis; samples B1 and B2 were composed by 282 subjects, of which 265 responded and 241 were included in the analysis. Therefore, responses from 481 secondary students (approximately 86 percent of all selected students) are the basis for the analysis.

To collect the needed data, an appropriate instrument consisting of 109 items was designed and validated. The first 88 items were related to the five dimensions of religiosity and divided as follows: (1) nineteen multiple-choice items (items 1 to 19) covering the intellectual aspect of religion, (2) sixteen frequency-scale items (items 20 to 35) measuring the ritualistic dimension of religion, and (3) fifty-three Likert-type attitude-scale items (items 38 to 88) measuring the ideological (twenty items), the experiential (fourteen items), and the consequential (nineteen items) dimensions of religiosity.

Among the remaining twenty-one items, twelve were demographic requesting information such as age, sex, church membership status, scholastic achievement, religious affiliation of parents, marital status of parents, and the amount of exposure to education in various types of schools. Nine items requested the subjects' opinion on the relative influence of some agencies (home, church, school, and society) on his/her religious life and information on the frequency with which some religious practices are performed at their homes.

Responses were made by writing the number of the selected answer in a corresponding 'box' located at the right margin of each item and printed on a graduated-response sheet.

The data were collected during the month of September 1979. Under the direction and supervision of the chairman of the Religious Education department of Instituto Adventista de Ensino, a team of college students was responsible for the collection of data among the students attending the selected churches. The collection of data among the academy students was done by the supervisor and faculty members of both academies. Since complete anonymity was guaranteed the students in their responses, they were requested to seal their response sheets in envelopes, and the envelopes were mailed by the supervisor to the United States.

The analysis of data was done at Andrews University Computer Center. The analyses included: (1) binary- and

weighted-response item analyses, product-moment correlation, and factor analysis which were used respectively for the verification of the reliability, interdependence, and dimensionality of the religiosity sub-tests, and (2) multiple-regression analysis, canonical-correlation analysis, and discriminant-function analysis, which were used for the testing of the hypotheses.

### Summary of the Findings

The latter section of the questionnaire yielded interesting information regarding the total sample and the sub-samples under investigation. The findings may be summarized as follows:

1. Females outnumber males among SDA secondary students in the Corridor Greater Sao Paulo - Campinas, except among students from IASP, where there is a rather equal distribution.

2. An unexpected proportion of students twenty years of age or older was found among secondary students. It should be mentioned that, unfortunately, the questionnaire item did not make provision for more detailed information above the age of twenty, and this may have some bearing on the interpretation of data related to age.

3. A very high proportion (beyond 93 percent) of the secondary students in this area are baptized members of the SDA Church.

4. The scholastic-achievement scores were rather symmetrically distributed for sub-samples A and B2, with a

larger proportion clustering around grades 6.6 and 8.5 (equivalent to C and B in usual U.S. letter-grade system). For sample B1, scores were generally lower, clustering around 5.6 and 7.5 (U.S. equivalent of C- and C).

5. Regarding the relative influence of four agencies upon the students' spiritual life, home was considered by the majority as the most influential, followed by church and school as the second and third most influential, respectively. Proportionally, twice as many students attending one of the two SDA academies as compared with the students attending non-SDA schools reported school as the most influential agency. The proportion is even higher among students attending IASP.

6. Regarding the religious affiliation of the students' parents, it was found that SDA mothers consistently outnumber SDA fathers, except for sample B2 where they are equally distributed. Catholic fathers usually outnumber Catholic mothers in sub-samples A and B1, but the opposite is true for sub-sample B2. Evangelical/Protestant and Spiritualist parents are almost non-existent in the population.

7. The categories from zero to twelve years of exposure to SDA education were each represented by at least one student in the total sample. Almost one fourth of the students, which is almost half of those currently attending non-SDA schools, have never been exposed to SDA education. Among the categories indicating one to twelve years of

exposure, the proportion of students attending one of the two academies is consistently higher than those attending non-SDA schools, except for the category "four years of exposure." Apparently this category coincides with the breaking point between the primary level offered by the typical school sponsored by a local church and the middle level generally confined to the academies.

Among students from samples B1 and B2 the highest proportion is found in category "nine years of exposure," which may coincide with the first grade offered by the secondary school, and indicates a larger proportion of students who have also attended primary and middle levels of SDA education.

8. The frequency of performance of home religious practices was generally high. Almost one third of all students reported "always" or "almost always" having the five selected religious practices at their homes, and as many as half of those attending IASP reported "always" or "almost always" having the same religious practices at their homes. The majority of students attending an SDA-school tended to report higher frequencies of performance of religious activities in the homes, whereas students attending non-SDA schools tended to report average frequencies of such activities.

Concerning the five instruments of religiosity, it was found that the dispersion of scores for the intellectual instrument was rather symmetrical. For the remaining four

instruments the scores tended to cluster on the positive side of the scale.

The degree of interdependence among the theoretical dimensions of religiosity was between 6 and 40 percent, the lowest being between the intellectual and the ritualistic dimensions, and the highest between the experiential and the consequential dimensions. Even the most interrelated dimensions were more independent than they were dependent on each other.

The degree of agreement between the items of the five instruments developed to measure in the five theoretical dimensions and the items with maximum loading on each of the five factors obtained by the five-factor rotation of the eighty-eight religiosity items was between 57 and 95 percent. This suggests that the five theoretical dimensions are, to a greater or lesser extent, empirically justifiable in the population.

The data obtained by testing the first five hypotheses reveal that when the selected predictors are considered in combination they contributed significantly to the prediction of all five dimensions of religiosity beyond the .05 level.

The contribution of the predictors was also analyzed according to four main statistical viewpoints, namely, zero-order correlation, test of significance of the regression coefficient, partial correlation coefficient, and proportion of cumulative variance. For the purpose of this



summary, the only predictors considered are: (1) those whose zero-order correlation coefficients were .09 or above; (2) those whose regression coefficients contributed significantly to the regression equation beyond the .05 level ( $t = 1.96$ ); (3) those whose partial-correlation coefficients were .10 or above; or (4) those whose proportions of cumulative variance were 1.5 or above.

The influence and contribution of the selected predictors to the variance of the religiosity factor scores may be summarized as follows:

1. The amount of exposure to SDA education, the focal point of this investigation, contributed beyond the levels specified above to the variance of the intellectual dimension according to all four statistical viewpoints. This same predictor was inversely related to the experiential dimension scores according to three statistical viewpoints, since the proportion of cumulative variance was below 1.5 percent. This variable was also significantly related to the ideological dimension, but only when considered in isolation. Additionally, the amount of exposure to SDA education added significantly to the variance of both the intellectual and the consequential dimensions after the contribution of all other predictors had been taken into account.

2. Age was negatively correlated with the ideological dimension, and positively correlated with the experiential dimension. But only in relation to the

experiential dimension did age contribute to the regression equation and add more than 1.5 percent to the variance of the criterion variable.

3. Sex was a pervasive variable, negatively related to the intellectual and experiential dimensions (males scored higher), and positively related to the ritualistic and consequential dimensions of religiosity (females scored higher). It surpassed all the levels specified above according to all four statistical viewpoints.

4. Scholastic achievement was positively related to the intellectual, the experiential, and the consequential dimensions, but only in reference to the first two dimensions did it surpass all levels established above.

5. "Home religious practices" was also a pervasive predictor, positively correlated with the intellectual, the ritualistic, and the experiential dimensions and surpassing the statistical levels in all statistical viewpoints analyzed. Additionally, this same predictor contributed significantly to the regression equation and had a partial-correlation coefficient higher than .10 in relation to the consequential dimension.

6. Among the variables indicating fathers' religious affiliation, the predictor "father SDA" was positively related to the ritualistic dimension; the predictor "father Evangelical/Protestant" was negatively correlated with the ideological dimension and contributed significantly to the regression equation for the prediction of the consequential

dimension. The predictor "father Spiritualist" correlated positively with the consequential dimension.

7. The variables indicating the religious affiliation of mothers indicated that "mother SDA" correlated positively with the ritualistic and ideological dimensions, and negatively with the experiential dimension. Only in relation to the ideological dimension does this variable reach the levels established above, except the partial-correlation coefficient. "Mother Catholic" is related negatively to the ritualistic and positively related to the experiential and the consequential dimensions, but the influence of this predictor stops at the zero-order correlation. "Mother Spiritualist" correlated positively with the intellectual, and negatively with the ritualistic and consequential dimensions. It contributed to the regression equation for the prediction of the three dimensions, but the level of .10 established for the partial correlation coefficient was reached only in relation to the intellectual and the consequential dimensions. It also added 1.5 percent to the variance of the consequential dimension.

8. The variable "father and mother SDA" was related positively only to the ritualistic and ideological dimensions and did not reach the minimum statistical levels besides zero-order correlation coefficient.

9. The predictors describing marital status of parents reached only the zero-order correlation coefficient minimum level of significance. The variable "parents living

together" related positively to the ritualistic and ideological dimensions; the variable "parents separated or divorced" correlated negatively with the ritualistic dimension, and the variable "one parent deceased" correlated negatively with the ideological dimension.

10. Regarding the added contribution by different combinations of parent-related variables to the variance of each of the dimensions, after the variance of all other variable was taken into account, it was found that: (1) parental religious affiliation and marital status, when considered together, do add significantly to the variance of the ritualistic and ideological dimensions; and (2) when parental religious affiliation variables are considered together, they also add significantly to the variance of the same dimensions.

Three significant canonical functions were obtained by testing the sixth hypothesis. The data from the first significant function revealed that students coming from homes where religious practices are performed more often but exposed to a lesser extent to SDA parochial education tend to score higher on the ritualistic and the consequential dimensions. The second function revealed that students from homes where religious practices are performed more frequently and with a longer exposure to SDA education do tend to score higher on the intellectual and the experiential dimensions. The third function indicated that those with greater amount of SDA education tend to score higher on the ideological and

intellectual dimensions, but lower on the experiential dimension.

The data obtained by testing the last five hypotheses reveal that:

1. Students attending IASP (sample B2) tended to have higher scores on the ritualistic, the intellectual, and the experiential dimensions than the other two groups.

2. Students exposed to all levels or to higher levels of SDA education tended to score higher on the intellectual dimension.

3. Students with some or full exposure to SDA boarding-school education tended to score higher on the intellectual and the ritualistic, and to a lesser extent on the experiential and the consequential dimensions.

4. Among students who attended at least five years at an SDA school, those who were exposed to longer periods of SDA boarding-school education tended to score higher on the consequential, the experiential, and the intellectual dimensions.

5. Students exposed from "five to eight", and from "nine to twelve" years of SDA education tended to score higher on the intellectual and the ritualistic dimensions, but lower on the consequential dimension of religiosity.

### Conclusions

There are three main sources of information upon which these conclusions are based.

First the dispersion of scores obtained by the students on each dimension of religiosity suggests that:

1. The majority of students demonstrate an average knowledge about facts related to the Bible, their own religion, and other religions. It also indicates that a small proportion knows little and still another small proportion knows much about these facts on religion.

2. Students (a) perform more frequently than not their private religious devotions, attend religious services, react positively to religious ceremonies, and tend to contribute to religious causes (ritualistic dimension); (b) demonstrate a rather positive attitude toward religious beliefs (ideological dimension); (c) tend to report an awareness of the supernatural and rather positive religious feelings (experiential dimension); and (d) tend to show a general tendency to live a religiously oriented life-style (consequential dimension).

It may be concluded that SDA secondary students tend to respond more positively than negatively to the expectations of the SDA Church on these four dimension. This should be taken into consideration together with the remaining conclusions.

Second, the information obtained by the verification of the interdependence among the theoretical dimensions and of the degree of correspondence between these dimensions and five rotated factors, suggests that:

1. The religiosity dimensions are more independent than they are dependent on each other. Even the highest overlap among them indicates that while they are measuring to some extent a common phenomenon, they are still more a measure of a different thing. This lends support to the multidimensional view of religiosity and confirms the appropriateness of the five-dimensional approach.

2. The degree of correspondence between the dimensions and the five factors obtained by the rotation of items justifies labelling these factors by the original names given to the theoretical dimensions. In fact, three factors (Factors I, II, and V) are composed almost completely of items belonging to three dimensions (ritualistic, intellectual, and consequential, respectively), and the remaining two factors (Factors III and IV) have at least the majority of the highest loading items coming from a distinct dimension (ideological and experiential, respectively).

Third, the correlational trends obtained by testing the hypotheses suggest that:

1. The variables which have been selected as probable predictors of religiosity do significantly predict each of the five dimensions. The highest predicting power is found in relation to the ritualistic dimension, and the lowest in relation to the ideological dimension. It may be concluded that the general theories advanced in the literature on religiosity, which was the basis for the selection of most of the predictors, are supported.

2. Among all the independent variables, the most influential one in the prediction of the intellectual dimension is "amount of exposure to SDA education." It may be safely said that students exposed longer to SDA parochial education do tend to know more about religious facts, according to several statistical tests of the data.

The intellectual dimension is also significantly influenced by sex and home religious practices. Apparently, among the predictors examined, the combination of variables best correlated with religious knowledge is a male student, who comes from a home where religious practices are performed regularly, and is above all exposed longer to SDA parochial education.

3. The prediction of the ritualistic dimension is focused on home-related variables. This dimension is influenced above all by frequency of home religious practices. Since the ritualistic dimension is characterized by personal or communal worship (as contrasted with home worship) this suggests that family worship is not considered by the students as a substitute for private devotions or attendance at church services.

Other home-related predictors of the ritualistic dimension are religious affiliation and marital status of parents. The influence of these two predictors is detected only when considered in isolation, apparently due to the significant relationship they have with home religious practices, which was entered first into the equation.



Another predictor of the ritualistic dimension is sex. The direction of relationship indicates that females attend church more regularly, have their personal devotions more frequently, and tend to be more frequently inspired by religious ceremonies.

From these considerations it may be concluded that, among SDA secondary students, probably the most desirable combination of variables to predict a positive score on the ritualistic dimension is a female, who comes from a home where parents live together, where both are Adventists, and where religious practices are performed regularly.

4. The power of the selected independent variables for the prediction of the ideological dimension is the lowest found in this study. Nevertheless, the most influential predictors are, in decreasing order, "mother SDA," followed by the variables "age" and "parents living together," "father and mother SDA," and to some extent the amount of SDA education. These findings may lead to the conclusion that home is still the best predictor of religious beliefs, besides age and the amount of education in a religious school. The best combination of predictors seems to be a younger student, whose parents are living together, whose mother is SDA, and who is exposed longer to SDA education.

5. The experiential dimension of religiosity is largely influenced in decreasing order by age, scholastic achievement, and home religious practices. It may be concluded that older students, achieving better academically,

and coming from homes where religious practices are performed more regularly do tend to experience more positive religious feelings.

6. The consequential dimension is mostly influenced by sex, the amount of exposure to SDA education, and to some extent by scholastic achievement. The direction of the relationships indicates that females who have a lesser amount of exposure to SDA education but who do well academically tend to show a more positive attitude toward a religiously oriented life-style.

Among these predictors of religious life-style, the most controllable one has to do with the amount of exposure to parochial education. In this case its influence tends to be in the negative direction.

7. When both the dimensions of religiosity and the predictors are considered in combination the variable "home religious practices" is positively related to most of the dimensions, and "amount of exposure to SDA education" is positively associated largely with the intellectual and to a certain extent with the ideological dimension, but negatively related to the ritualistic and the consequential. Together with home religious practices "amount of SDA education" is positively associated with the experiential dimension, but when on its own the correlation is negative.

The pervasive influence of home religious practices is, therefore, confirmed and the two-directional influence of the amount of exposure to SDA education stated previously is

supported.

8. When the dimensions of religiosity are considered in combination and students attending IAE, IASP, and non-SDA schools are compared, the best predictor of the ritualistic, the intellectual, and the experiential dimensions seems to be attendance at an SDA school with IASP characteristics.

It is possible that students who choose to attend such a school do already tend to score higher on these dimensions. Nevertheless, the very pronounced difference between IAE and IASP students (who chose to attend an SDA school) suggests a possible environmental influence in this kind of school, even though only attendance and not amount of exposure in such a school is being considered.

9. Considering all five religiosity dimensions in combination -- when students exposed to different levels or combinations of levels of exposure to SDA education are compared -- exposure to all levels or to higher levels of SDA education tends to predict better knowledge of religious facts. The conclusion is that those who have been exposed to all levels (primary, middle, and secondary), those who have been exposed to both middle and secondary, and those exposed only to the secondary level are more knowledgeable about religious facts than students non-exposed or exposed to lower levels.

This finding suggests that the aspect of religion best predicted by exposure to SDA education, the intellectual, is more influenced by later rather than earlier

stages of education.

10. Exposure to SDA boarding-school education contributes positively to the prediction of almost all the dimensions of religiosity when they are considered in combination. Students exposed to some or the full amount of SDA boarding-school education tend to score higher not only on the intellectual dimension above all, but also on the ritualistic, the experiential, and the consequential dimensions.

Considering that boarding-school education covers only the middle level onward, exposure to higher levels of SDA education may be the strong "hidden" predictor of the intellectual aspect of religion. With the other three dimensions, however, exposure to boarding-school education appears to account for their prediction.

Since the groups exposed to SDA boarding-school education (these groups are pronouncedly smaller) are very likely composed of selected and self-selected students when compared to the rest, this conclusion should be considered partial and tentative.

11. When the dimensions of religiosity are considered in combination and when students who have attended at least five years at an SDA school are compared according to the amount of exposure to SDA boarding-school education (no, some, or all exposure), all exposure to boarding school seems to be the best predictor of positive levels on the consequential, the experiential, and the intellectual

dimensions. Some exposure to boarding education is better than no exposure, but not as good as all exposure.

This finding strengthens the previous conclusion that exposure to SDA boarding-school education does tend to influence the consequential, the experiential, and the intellectual dimensions positively. It also reveals that the consequential dimension is the one most influenced, followed by the experiential, and lastly by the intellectual.

12. The combination of dimensions also indicates that students exposed to SDA education from five to twelve years tend to score considerably higher on the intellectual dimension and to a lesser extent on the ritualistic dimension. They tend at the same time to score lower on the consequential dimension when compared with students exposed to less than five years of SDA education.

This finding confirms two conclusions advanced previously -- that exposure to SDA education is more likely to influence students positively on the cognitive aspect of religion and negatively on life-style. It also brings to light another dimension (the ritualistic), which was not detected by other analyses, as being related to the amount of exposure to SDA education. Probably exposure to boarding schools, which is limited to later levels of SDA education, is accounting for most of the prediction of the ritualistic dimension.

### Implications

The conclusions advanced by this study suggest some implications in relation to Seventh-day Adventist education in the Corridor Greater Sao Paulo - Campinas. They may be summarized as follows:

1. Exposure to SDA education is positively related above all to the cognitive aspect of religion, as detected by items measuring largely lower levels of the cognitive domain, and to some extent to the belief aspect of the affective domain. It is, however, negatively associated with the ritualistic and the consequential. Possibly Seventh-day Adventist schools are fostering an education which tends to develop knowledge of religion and assent to religious beliefs at the expense of the affective domain such as the characterization of religious knowledge and belief into religious devotions and life-style.

2. Boarding school for the student, seems to be the most positive experience offered by the SDA system of education in the geographical area under investigation. Apparently its influence goes beyond the cognitive domain, and reaches to a large extent the affective, as characterized by (a) translation of religious convictions into a life-style, (b) positive attitude toward religious activities, and (c) positive religious feelings.

3. Home appears to be the most pervasive positive predictor of religiosity. Since homes, where both parents are

Adventists and where religious practices are performed regularly, are significantly related to the amount of exposure to SDA education, there is a possibility that parochial schooling is just a reinforcer of such a home on matters of religious knowledge and, perhaps, a negative contributor to what is fostered at home on matters of religious life-style.

#### Recommendations for Further Study

In the light of these conclusions and their implications regarding the SDA system of education, further studies on the subject seem to be indicated:

1. It would be appropriate to extend the research to SDA students below and above the secondary level. Similar research might reveal religious profiles different from those found in this study. Comparison of profiles at different ages could enrich knowledge in this important area. Obviously the instrument should be adapted to the different age groups.

2. A similar research among SDA secondary students living in other regions of the country would be enlightening. It might provide a broader understanding of the pattern of SDA parochial education in Brazil and its effects on the religiosity of students.

3. A valuable contribution could be made by selecting and measuring other variables to correlate with each of the five dimensions of religiosity established in this study. Since the ones selected accounted for only 10 to 24 percent of the variance of the religiosity dimensions, it

would be useful to identify other factors that will reduce the amount of unexplained variance.

4. The problem of the dimensionality of religion is a complex one. The instrument used in this study presents evidence that religiosity is a multidimensional phenomenon, with some dimensions more clearly defined than others. It would be very appropriate to refine the instrument by adding and deleting items, and to identify and measure these dimensions more clearly.

5. An important aspect worthy of further research would be a closer study of the relationship between home religious variables and the amount of parochial education. Such a study might suggest answers as to whether parochial education really makes a difference in the area of religion or simply plays the role of reinforcer of what is fostered at home.

6. Of major importance seems to be an investigation of the possible reasons why exposure to parochial education tends to be limited to the cognitive aspect of religion. Such a research could provide useful data for the revision of religious education curricula and instructional methodology.

7. A promising field of inquiry seems also to be a comparison between SDA day and boarding schools in Brazil, in order to determine whether the correlational trends detected in this study are extended to other regions of the country.

Hopefully this study will be only the first in a series. Some factors influencing religiosity have been



brought to light, and certainly other important factors might be yet detected. Further studies might encourage Seventh-day Adventist educators to make decisions based on empirical research and, in turn, lead the SDA system of education in Brazil to higher levels of attainment of its central goal: transmitting to the younger generation the ideals, the beliefs, the attitudes, the appreciations, the habits, and the customs cherished by the Adventist community.

### Summary

Chapter V presented a summary of the problem, the methodology, and the findings regarding the relationship between five dimensions of religiosity and the amount of exposure to SDA education among other variables. Major conclusions and implications have been advanced, and further research on the subject has been recommended.

## APPENDIX 1

### INSTRUMENTATION

1. English Version
2. Portuguese Version

## A STUDY ABOUT EDUCATION AND RELIGIOUS DEVELOPMENT

Dear Secondary Student:

You have been chosen to participate in a very important educational research. The information provided by you will contribute to the study on the relationship between education and religious development.

It is important that you answer each item of this questionnaire exactly the way you think, without being influenced by the way others may think. Your anonymity will be protected in this way: (1) you will not have to write your name anywhere on this questionnaire and (2) the "answer sheet" will be returned in a sealed envelope.

### How to fill in this questionnaire:

- A. READ each item carefully.
- B. CHOOSE the one answer that is the closest to the answer you would give.
- C. WRITE the number of the selected answer in the box at the right margin of the answer sheet. Be sure you write your answer in the box whose number corresponds with the item you are answering.

### Examples:

- |   |                             |                            |         |
|---|-----------------------------|----------------------------|---------|
| 1. "For God so loved the world<br>that He gave His only son"<br>is found in | 1. Psalm 23<br>2. Exodus 20 | 3. John 3<br>4. Matthew 24 | 1.[ 3 ] |
| 2. I think the church should become more involved in welfare<br>services    |                             |                            | 2.[ ? ] |
- 1 = strongly disagree  
2 = disagree  
3 = undecided or neutral  
4 = agree  
5 = strongly agree

Note: For example number 2 there is no correct or incorrect answer. What matters is your opinion.

- D. RESPOND to all the items without leaving any blanks. Please write legibly.

IMPORTANT! If you have any question seek guidance from the instructor. Please do not talk to anyone else as you respond to the questionnaire.

THANK YOU!

TURN TO THE NEXT PAGE ----->

For every item choose the best answer and write its number in the box at the right margin.

1. "Let not your heart be troubled: ye believe in God, believe also in me" is found in	1. Matthew 2. Mark	3. Luke *4. John	1. [
2. "Behold I see the heavens opened and the Son of man standing on the right hand of God" was spoken by	1. Jacob 2. Paul	*3. Stephen 4. John	2. [
3. The report of the development of the early Christian church is found in	1. Matthew *2. Acts	3. Romans 4. Hebrews	3. [
4. In Nebuchadnezzar's dream of the statue, the kingdom of Greece was represented by	1. silver 2. gold	*3. brass 4. iron	4. [
5. Which of the following was created on the third day of the creation week?	*1. trees 2. light	3. birds 4. fishes	5. [
6. The word 'ecumenism' when applied to religion means	1. church finances *2. union of churches	3. religious initiation 4. communist threat to religion	6. [
7. What event originated the 'Passover' festival?	1. Jesus' death 2. dedication of Solomon's Temple	3. Jesus' baptism *4. Israel's exodus from Egypt	7. [
8. The founder of Islamism was	1. Ishmael *2. Mohammed	3. Zoroaster 4. Confucius	8. [
9. Which of the pioneers of the Seventh-day Adventist Church was a ship captain?	1. Hiram Euson 2. Uriah Smith	3. James White *4. Joseph Bates	9. [
10. Which of the following prophetic symbols represents the Roman Empire?	1. head of gold 2. belly of brass	3. breast of silver *4. legs of iron	10. [
11. The 'millenium' (1000 years) described in Revelation will take place	1. before Christ's second coming *2. while the earth remains desolate	3. after Satan is destroyed 4. in the earth made new	11. [
12. Which of the following religious denominations uses the title "Latter-day Saints"?	1. Assembly of God 2. Jehovah Witnesses	*3. Mormons 4. Christian Congregation	12. [
13. "Intreat me not to leave thee . . . Thy people shall be my people, and thy God my God" was spoken by	*1. Ruth 2. Esther	3. Hannah 4. Hanneh	13. [
14. The 1260-year prophecy ended in	1. 34 AD 2. 476 AD	*3. 1793 AD 4. 1644 AD	14. [
15. The "Three Angels' Messages" are found in	1. Matthew 24 2. John 17	3. 2 Thess. 4 *4. Revelation 14	15. [
16. Which of the following books belongs to the Pentateuch?	1. Psalms 2. Job	*3. Exodus 4. Isaiah	16. [
17. Who will take part in the second resurrection?	1. all humanity 2. all righteous	*3. all wicked 4. some of the righteous	17. [
18. This same Jesus . . . shall come in like manner as ye have seen Him go into heaven" was spoken by	*1. Angels 2. John	3. Peter 4. Paul	18. [
19. "Lovest thou me? . . . Feed my lambs" was spoken to	1. James *2. Peter	3. John 4. Andrew	19. [

TURN TO THE NEXT PAGE ----->

\* indicates the correct answer

For each item below choose the answer which most closely describes you personally and write its number in the box at the right margin.

20. During the past <u>six months</u> I have prayed privately (as distinct from group prayer) on an average of	1. never 2. once in a while 3. once a week	4. 2 or 3 times a week 5. once a day 6. 2 or more times a day	20.1	J
21. During the past <u>six months</u> I have studied the Bible privately on an average of	1. never 2. once in a while 3. once a week	4. 2 or 3 times a week 5. once a day 6. 2 or more times a day	21.1	J
22. During the past <u>six months</u> I have privately read the writings of Ellen White on an average of	1. never 2. once in a while 3. up to 1 hour a week	4. 1 to 2 hours a week 5. 2 to 3 hours a week 6. more than 3 hours a week	22.1	J
23. During the <u>past year</u> I've attended Sabbath School on an average of (if boarding student report what you do during vacation)	1. never 2. seldom 3. every other month	4. 1 or 2 times a month 5. almost every Sabbath 6. every Sabbath	23.1	J
24. During the <u>past year</u> I've attended Sabbath church services on an average of (if boarding student report what you do during vacation)	1. never 2. seldom 3. every other month	4. 1 or 2 times a month 5. almost every Sabbath 6. every Sabbath	24.1	J
25. During the past <u>two years</u> I have participated in the Lord's Supper offered in my church	1. never (not baptized) 2. never (didn't want) 3. seldom	4. half of the time 5. almost every time 6. every time	25.1	J
26. Of all income I have had <u>last year</u> (wages, grants, etc.) I have contributed to the church on an average of	1. I have no income 2. nothing 3. less than 1%	4. between 1% and 5% 5. between 5% and 10% 6. 10% or more	26.1	J

For items 27 through 35 choose one of the following answers for each item and write the number in the box at the right margin.

- |                  |                      |
|------------------|----------------------|
| 1 = never        | 4 = almost always    |
| 2 = seldom       | 5 = always           |
| 3 = rather often | 6 = I never attended |

How often has each of the following religious practices or ceremonies inspired your spiritual life?

27. Religious wedding ceremonies . . . . .	27.1	J
28. Baptismal ceremonies . . . . .	28.1	J
29. Funeral ceremonies . . . . .	29.1	J
30. The Lord's Supper (including foot washing) . . . . .	30.1	J
31. Worship services (sermon, hymns, music, prayers, etc.) . . . . .	31.1	J
32. Sabbath School lesson study (at the church) . . . . .	32.1	J
33. Youth meetings . . . . .	33.1	J
34. Prayer meetings . . . . .	34.1	J
35. Week of Prayer . . . . .	35.1	J

TURN TO THE NEXT PAGE ----->

From item 36 on choose one of the following answers:

- 1 = I strongly disagree
- 2 = disagree
- 3 = undecided or neutral
- 4 = agree
- 5 = strongly agree

For each item write the number of the answer you choose in the box at the right margin.

- I 36. The best way to be accepted by God is through the keeping of the Ten Commandments. 30.[ ]
- E 37. I feel that today's world events point to the soon coming of Christ. 37.[ ]
- C 38. The use of alcoholic beverages is incompatible with Christian principles. 38.[ ]
- I 39. When a person is born his/her inclinations are neither good nor evil. 39.[ ]
- I 40. The true day of rest established by God is the seventh-day Sabbath. 40.[ ]
- E 41. I generally feel that the angels of God are around me protecting and watching over me. 41.[ ]
- I 42. Jesus will come back to earth again to take the saved with Him to heaven. 42.[ ]
- C 43. "Rock" music should not be listened to by Christian young people. 43.[ ]
- E 44. I sense that the Holy Spirit talks to me through my conscience. 44.[ ]
- C 45. To me the most attractive part of sports and athletics is competition. 45.[ ]
- I 46. Science is able to prove or disprove the basic principles of religion. 46.[ ]
- I 47. I believe that the Bible is God's word addressed to people of all times. 47.[ ]
- E 48. I feel that the devil is continually seeking to lead us into temptation. 48.[ ]
- I 49. I believe that the church is an instrument of God for the salvation of mankind. 49.[ ]
- C 50. If two persons really love each other, I don't think it is wrong for them to engage in sexual intercourse before they get married. 50.[ ]
- E 51. I usually feel that my prayers are heard by God. 51.[ ]
- C 52. If a teacher is unfair I don't think it is wrong to cheat in an exam. 52.[ ]
- C 53. There is no harmony between cigarette smoking and the practice of true religion. 53.[ ]
- E 54. I usually feel deep sympathy for those who are suffering. 54.[ ]
- I 55. I think it is wrong to do any type of business on Sabbath. 55.[ ]
- E 56. My religion gives me a sense of joy and happiness. 56.[ ]
- C 57. Masturbation may be an acceptable means to meet a physiological need. 57.[ ]
- I 58. Those who die in Christ go to heaven immediately after death. 58.[ ]
- C 59. The use of drugs (LSD, marijuana, etc.) is totally contrary to my life style. 59.[ ]
- C 60. In case of an emergency I think it would be acceptable to tell a lie. 60.[ ]
- E 61. I usually feel that God does not love me after I have committed a sin. 61.[ ]
- I 62. Physical health and spiritual development are intimately related. 62.[ ]
- C 63. I think it is wrong to date someone who does not belong to my church. 63.[ ]

- I = Intellectual
- E = Experiential
- C = Consequential
- \* = Reversed item

TURN TO THE NEXT PAGE ----->

(continued)

- 1 = strongly disagree  
2 = disagree  
3 = undecided or neutral  
4 = agree  
5 = strongly agree

- E 64. In my daily decisions I have a feeling that somehow I am involved in the conflict between good and evil, in the struggle between Christ and Satan. 64.1 J
- I 65. I believe that the church has the obligation of restoring the erring member by means of discipline (censorship or disfellowship). 65.1 J
- I 66. The Ten Commandments are an unchangeable moral code valid for all mankind of all generations. 66.1 J
- E 67. I feel that I am continually in the presence of God. 67.1 J
- C 68. I see no problem in attending "X rated" movies. 68.1 J
- I 69. My material goods in reality belong to God. I only hold them in trust for Him. 69.1 J
- I 70. Most of the messages of the Old Testament prophets were applicable only to the people of Israel in the past. 70.1 J
- I 71. I believe that God created the world in six literal days. 71.1 J
- E 72. I feel that keeping the Sabbath has been a real blessing to me. 72.1 J
- I 73. I believe that the Bible predictions that God would speak through the gift of prophecy in the last days were fulfilled in Ellen G. White. 73.1 J
- C 74. I think that dancing is not right even at parties among friends. 74.1 J
- C 75. Provided I set a good example, I don't need to tell others about my faith. 75.1 J
- I 76. I believe that Jesus is now in the heavenly sanctuary making intercession before God on behalf of those who accepted Him as Savior. 76.1 J
- C 77. I think that both those who are dating and those who are engaged to each other should leave more intimate physical contact until after marriage. 77.1 J
- C 78. Children should respect and honor their parents even when the parents' ideas may seem old-fashioned. 78.1 J
- E 79. I feel that I am saved in Christ. 79.1 J
- C 80. Standards of Christian life related to modesty in dress are not important to me. 80.1 J
- E 81. I feel that my religion gives me a sense of security in facing the problems of life. 81.1 J
- I 82. The SDA church is God's true last-day church with a special mission of preparing people for the second coming of Christ. 82.1 J
- C 83. I think it is wrong to bet, even in the 'sports lottery'. 83.1 J
- C 84. When among friends, I see no problem in telling 'dirty' jokes. 84.1 J
- I 85. I believe that God is willing to forgive even the greatest of sinners. 85.1 J
- I 86. Belief in Christ is absolutely necessary for my salvation. 86.1 J
- C 87. I think that no Christian young person should look at pornographic literature. 87.1 J
- E 88. I feel that I am engaged in a great mission in this world. 88.1 J

I = Intellectual  
E = Experiential  
C = Consequential  
\* = Reversed item

TURN TO THE NEXT PAGE ----->

A N S W E R S H E E T

**DO NOT WRITE YOUR NAME ON THIS SHEET!** Nobody should know who responded to this questionnaire.

Only a few more items! Choose one of the answers provided and write its number in the box at the right margin.

89. Next December 31 I will be  
 1. 15 years old or less  
 2. 16 years old  
 3. 17 years old  
 4. 18 years old  
 5. 19 years old  
 6. 20 years old or more

90. My sex is  
 1. male  
 2. female

91. My church-membership status in the SDA Church is  
 1. a baptized member  
 2. a non-baptized member  
 3. not a member

92. During the last semester what was your grade point average?  
 1. 5.5 or below (D or below)  
 2. between 5.6 and 6.5 (C-)  
 3. between 6.6 and 7.5 (C)  
 4. between 7.6 and 8.5 (C+ or B)  
 5. between 8.6 and 9.5 (B+ or A-)  
 6. above 9.5 (A)

93. In your estimation which of the following agencies most influenced your spiritual life?  
 (rank them in order of importance)

- 1 = the most influential  
 2 = the second most influential  
 3 = the third most influential  
 4 = the least influential

93. Family (parents, siblings, relatives, etc.)

94. Church (pastor, members, MV society, Pathfinders, friends, etc.)

95. School (teachers, classmates, religion classes, friends, etc.)

96. Society (neighbors, friends, clubs, etc.)

97. What is the marital status of your parents?  
 1. living together  
 2. divorced or separated  
 3. one is deceased  
 4. both are deceased

98. What is the religion of your parents?  
 1. Seventh-day Adventist  
 2. Catholic Father ...  
 3. Protestant or Evangelical  
 4. Spiritualist Mother ...  
 5. Other: (which?)

CHECK IF ALL THE BOXES ON THIS SIDE OF THE ANSWER SHEET HAVE BEEN FILLED.

NOW ANSWER THE ITEMS ON THE OTHER SIDE ----->

89.1	64.1	20.1	1.1
89.2	65.1	21.1	2.1
89.3	66.1	22.1	3.1
89.4	67.1	23.1	4.1
89.5	68.1	24.1	5.1
89.6	69.1	25.1	6.1
90.1	70.1	26.1	7.1
90.2	71.1	27.1	8.1
90.3	72.1	28.1	9.1
90.4	73.1	29.1	10.1
90.5	74.1	30.1	11.1
90.6	75.1	31.1	12.1
91.1	76.1	32.1	13.1
91.2	77.1	33.1	14.1
91.3	78.1	34.1	15.1
91.4	79.1	35.1	16.1
91.5	80.1	36.1	17.1
91.6	81.1	37.1	18.1
92.1	82.1	38.1	19.1
92.2	83.1	39.1	
92.3	84.1	40.1	
92.4	85.1	41.1	
92.5	86.1	42.1	
92.6	87.1	43.1	
93.1	88.1	44.1	
93.2	89.1	45.1	
93.3	90.1	46.1	
93.4	91.1	47.1	
93.5	92.1	48.1	
93.6	93.1	49.1	
94.1	94.1	50.1	
94.2	95.1	51.1	
94.3	96.1	52.1	
94.4	97.1	53.1	
94.5	98.1	54.1	
94.6	99.1	55.1	
95.1	100.1	56.1	
95.2		57.1	
95.3		58.1	
95.4		59.1	
95.5		60.1	
95.6		61.1	
96.1		62.1	
96.2		63.1	
96.3		64.1	
96.4		65.1	
96.5		66.1	
96.6		67.1	
97.1		68.1	
97.2		69.1	
97.3		70.1	
97.4		71.1	
97.5		72.1	
97.6		73.1	
98.1		74.1	
98.2		75.1	
98.3		76.1	
98.4		77.1	
98.5		78.1	
98.6		79.1	
99.1		80.1	
99.2		81.1	
99.3		82.1	
99.4		83.1	
99.5		84.1	
99.6		85.1	
100.1		86.1	
100.2		87.1	
100.3		88.1	
100.4		89.1	
100.5		90.1	
100.6		91.1	
100.7		92.1	
100.8		93.1	
100.9		94.1	
100.10		95.1	
100.11		96.1	
100.12		97.1	
100.13		98.1	
100.14		99.1	
100.15		100.1	



How often do you have the following religious practices at your home?

1 = never                      4 = very frequently  
2 = seldom                    5 = almost always  
3 = rather frequently      6 = always

100. Daily morning worship . . . . . 100.[ ]  
101. Daily evening worship . . . . . 101.[ ]  
102. Friday sundown worship . . . . . 102.[ ]  
103. Sabbath sundown worship . . . . . 103.[ ]  
104. Prayer before meals . . . . . 104.[ ]

105. Including the present year, how many grades have you  
109. attended in each of the following schools?

Draw a circle around the grades you have attended in each type of school, and write the total of the grades in the box at the right margin of each row.

		primary level								secondary							
		/	1	2	3	4	5	6	7	8	\	9	10	11	12		
Non-SDA Schools	/Public															105.[ ]	
	Private															106.[ ]	
	\Intensive															107.[ ]	
SDA Schools	/Day School															108.[ ]	
	Boarding															109.[ ]	

ATTENTION PLEASE!

Before you turn in the "Answer Sheet" to the instructor, CHECK if all boxes (from 1 through 109) are filled. This is very important.

DETACH the "Answer Sheet" from the questionnaire, INSERT it in the envelope provided by the instructor, and SEAL it.

THANK YOU FOR YOUR COOPERATION!

## ESTUDO SOBRE O DESENVOLVIMENTO RELIGIOSO E A EDUCAÇÃO

Prezado estudante secundário:

Você foi escolhido para participar de uma pesquisa educacional muito importante. As informações fornecidas por você contribuirão para o estudo do relacionamento entre a educação e o desenvolvimento religioso.

É importante que você responda a cada item deste questionário exatamente da maneira como você pensa, sem se deixar influenciar pelo que outros pensam. Para tanto seu anonimato será protegido da seguinte forma: (1) você não deverá colocar seu nome neste questionário, e (2) a "folha de respostas" será devolvida dentro de um envelope colado.

### Como responder ao questionário:

- A. LEIA com atenção a cada item
- B. ESCOLHA uma das respostas fornecidas que seja a mais próxima à resposta que você daria
- C. ESCREVA o número da resposta escolhida no quadro localizado numa das colunas da "folha de respostas". O quadro se encontra imediatamente à direita de cada item e contém o mesmo número do item.

### Exemplos:

- |  |                             |                           |  |
|--|-----------------------------|---------------------------|--|
| 1. "Deus amou o mundo de tal maneira que deu Seu Filho unigênito..."<br>se encontra em ... | 1. Salmos 23<br>2. Êxodo 20 | 3. João 3<br>4. Mateus 24 | 1. <span style="border: 1px solid black; padding: 2px;">3</span>   |
| 2. Acho que a igreja deveria envolver-se mais na obra de assistência social                |                             |                           | 2. <span style="border: 1px solid black; padding: 2px;"> </span> ? |
- 1 = discordo totalmente (se está fortemente em desacordo)  
2 = discordo (se discorda mas não fortemente)  
3 = indeciso ou neutro (se prefere não tomar posição)  
4 = concordo (se concorda mas não fortemente)  
5 = concordo totalmente (se está fortemente de acordo)

Observação: Note que no exemplo número 2 não há resposta certa ou errada. O importante é a sua opinião.

- D. RESPONDA a todos os itens sem deixar nenhum em branco, escrevendo o número de cada resposta bem legível.

IMPORTANTE: Se tiver alguma dúvida peça orientação ao instrutor, mas não converse com ninguém enquanto responde ao questionário.

OBRIGADO!

VIRE PARA A PÁGINA SEGUINTE →

Escolha a resposta que você achar melhor e escreva o respectivo número no quadro localizado à direita de cada item

1. "Não se turbe o vosso coração; credes em Deus, crede também em mim" é encontrado em . . .	1. Mateus 2. Marcos	3. Lucas 4. João	1. <input type="checkbox"/>
2. "Eis que vejo os céus abertos e o Filho do homem em pé à destra de Deus" foi proferido por . . .	1. Jacó 2. Paulo	3. Estevão 4. João	2. <input type="checkbox"/>
3. O relato do desenvolvimento da igreja cristã primitiva se encontra em . . .	1. Mateus 2. Atos	3. Romanos 4. Hebreus	3. <input type="checkbox"/>
4. Na estátua do sonho de Nabucodonozor a Grécia era representada por . . .	1. prata 2. ouro	3. bronze 4. ferro	4. <input type="checkbox"/>
5. O que foi criado no terceiro dia da semana da criação?	1. árvores 2. luminares	3. pássaros 4. peixes	5. <input type="checkbox"/>
6. O termo "ecumenismo" quando aplicado à religião significa . . .	1. finanças da igreja 2. união das igrejas	3. iniciação religiosa 4. ameaça comunista à religião	6. <input type="checkbox"/>
7. Que acontecimento deu origem à festa da "Páscoa"?	1. a morte de Jesus 2. a dedicação do Templo de Salomão	3. o batismo de Jesus 4. a saída de Israel do Egito	7. <input type="checkbox"/>
8. O fundador do Islamismo foi . . .	1. Ismael 2. Maomé	3. Zoroastro 4. Confúcio	8. <input type="checkbox"/>
9. Qual dos pioneiros da igreja Adventista era capitão de navio?	1. Hirão Edison 2. Urias Smith	3. Tiago White 4. José Bates	9. <input type="checkbox"/>
10. Um dos seguintes símbolos proféticos representa o império Romano	1. cabeça de ouro 2. ventre de bronze	3. peito de prata 4. pernas de ferro	10. <input type="checkbox"/>
11. O "milênio" (1000 anos) descrito em Apocalipse terá lugar . . .	1. antes da segunda vinda de Cristo 2. enquanto a terra estiver desolada	3. depois que Satanás tiver sido destruído 4. na terra restaurada	11. <input type="checkbox"/>
12. Qual das seguintes denominações religiosas usa o título "Santos dos Últimos Dias"?	1. Assembléia de Deus 2. Testemunhas de Jeová	3. Mórmons 4. Congregação Cristã	12. <input type="checkbox"/>
13. "Não me indes para que te deixe... o teu povo é o meu povo, o teu Deus é o meu Deus" foi proferido por . . .	1. Rute 2. Ester	3. Noemi 4. Ana	13. <input type="checkbox"/>
14. O fim do período profético dos 1260 anos ocorreu em . . .	1. 34 AD 2. 476 AD	3. 1798 AD 4. 1844 AD	14. <input type="checkbox"/>
15. As "Três Mensagens Angélicas" se encontram em	1. Mateus 24 2. João 17	3. 2 Tess. 4 4. Apocalipse 14	15. <input type="checkbox"/>
16. Qual dos seguintes livros pertence ao Pentateuco?	1. Salmos 2. Jó	3. Êxodo 4. Isaías	16. <input type="checkbox"/>
17. Quem participará da "segunda ressurreição"?	1. toda humanidade 2. todos os justos	3. todos os ímpios 4. parte dos justos	17. <input type="checkbox"/>
18. "Esse Jesus... virá do modo como O vistes subir" foi proferido por . . .	1. Anjos 2. João	3. Pedro 4. Paulo	18. <input type="checkbox"/>
19. "Tu me amas?... Pastoreia as minhas ovelhas" foi o que Jesus disse a . . .	1. Tiago 2. Pedro	3. João 4. André	19. <input type="checkbox"/>

VIRE PARA A PÁGINA SEGUINTE

Escolha a resposta que melhor representa sua situação pessoal e escreva o respectivo número no quadro localizado à direita de cada item

- |  |   |   |                              |
|--|---|---|------------------------------|
| 20. Durante os últimos <u>seis meses</u> orei a sós (em particular) aproximadamente . . .  | 1. nunca<br>2. de vez em quando<br>3. 1 vez por semana                    | 4. 2 ou 3 vezes p/ semana<br>5. 1 vez por dia<br>6. 2 ou mais vezes p/ dia              | 20. <input type="checkbox"/> |
| 21. Durante os últimos <u>seis meses</u> eu li a Bíblia em particular aproximadamente . . .  | 1. nunca<br>2. de vez em quando<br>3. 1 vez por semana                    | 4. 2 ou 3 vezes p/ semana<br>5. 1 vez por dia<br>6. 2 ou mais vezes p/ dia              | 21. <input type="checkbox"/> |
| 22. Durante os últimos <u>seis meses</u> eu li em particular os escritos de Ellen White aproximadamente                                    | 1. nunca<br>2. de vez em quando<br>3. até 1 hora p/ semana                | 4. de 1 a 2 horas p/semana<br>5. de 2 a 3 horas p/semana<br>6. mais de 3 horas p/semana | 22. <input type="checkbox"/> |
| 23. Durante o <u>último ano</u> assisti à Escola Sabatina aproximadamente (se for interno(a) relate a frequência média durante as férias)  | 1. nunca<br>2. raramente<br>3. 1 vez em dois meses                        | 4. 1 ou 2 vezes por mes<br>5. quase todos os sábados<br>6. todos os sábados             | 23. <input type="checkbox"/> |
| 24. Durante o <u>último ano</u> assisti ao Culto Divino aproximadamente... (se for interno(a) relate a frequência média durante as férias) | 1. nunca<br>2. raramente<br>3. 1 vez em dois meses                        | 4. 1 ou 2 vezes por mes<br>5. quase todos os sábados<br>6. todos os sábados             | 24. <input type="checkbox"/> |
| 25. Durante os <u>últimos dois anos</u> eu participei das Santas Ceias realizadas em minha igreja ...                                      | 1. nunca (por não desejar)<br>2. nunca (não sou batizado)<br>3. raramente | 4. metade das vezes<br>5. quase todas as vezes<br>6. todas as vezes                     | 25. <input type="checkbox"/> |
| 26. De todo o dinheiro que recebi no <u>ano passado</u> (salário, bolsa, mesada, etc.) contribui para a igreja com aproximadamente ...     | 1. nada<br>2. não tenho rendas<br>3. menos de 1%                          | 4. entre 1% e 5%<br>5. entre 5% e 10%<br>6. 10% ou mais                                 | 26. <input type="checkbox"/> |

Para os itens 27 a 35 escolha uma das seguintes respostas e escreva o respectivo número no quadro à direita de cada item

- |                          |                                 |
|--------------------------|---------------------------------|
| 1 = nunca                | 4 = quase sempre                |
| 2 = raramente            | 5 = sempre                      |
| 3 = com certa frequência | 6 = nunca assisti ou participei |

Com que frequência têm as seguintes práticas ou cerimônias religiosas inspirado sua vida espiritual?

- |   |                              |
|---|------------------------------|
| 27. Cerimônias religiosas de casamento . . . . .                    | 27. <input type="checkbox"/> |
| 28. Cerimônias de batismo . . . . .                                 | 28. <input type="checkbox"/> |
| 29. Cerimônias fúnebres . . . . .                                   | 29. <input type="checkbox"/> |
| 30. Cerimônias de Santa Ceia (Ceia do Senhor e Lava Pés) . . . . .  | 30. <input type="checkbox"/> |
| 31. Cultos Divinos (Sermão, música, hinos, orações, etc.) . . . . . | 31. <input type="checkbox"/> |
| 32. Estudo das Lições da Escola Sabatina na Igreja . . . . .        | 32. <input type="checkbox"/> |
| 33. Reuniões de Jovens (liga M.V) . . . . .                         | 33. <input type="checkbox"/> |
| 34. Cultos de Oração . . . . .                                      | 34. <input type="checkbox"/> |
| 35. Semanas de Oração . . . . .                                     | 35. <input type="checkbox"/> |

VIRE PARA A PRÓXIMA PÁGINA

A partir do item 36 escolha uma das seguintes respostas:

- 1 = discordo totalmente
- 2 = discordo
- 3 = indeciso ou neutro
- 4 = concordo
- 5 = concordo totalmente

Escreva o número da resposta escolhida no quadro localizado à direita de cada item

- |  |                              |
|--|------------------------------|
| 36. A melhor maneira de ser aceito por Deus é guardar os Dez Mandamentos                             | 36. <input type="checkbox"/> |
| 37. Sinto que os eventos do mundo atual indicam a breve volta de Jesus                               | 37. <input type="checkbox"/> |
| 38. O uso de bebidas alcoólicas é incompatível com os princípios cristãos                            | 38. <input type="checkbox"/> |
| 39. Quando a pessoa nasce, suas inclinações não são nem para o bem nem para o mal                    | 39. <input type="checkbox"/> |
| 40. O verdadeiro dia de repouso estabelecido por Deus é o Sábado (o sétimo dia)                      | 40. <input type="checkbox"/> |
| 41. Geralmente sinto que os anjos de Deus estão ao meu redor me protegendo e guardando               | 41. <input type="checkbox"/> |
| 42. Jesus virá novamente à terra para levar os salvos com Ele para o céu                             | 42. <input type="checkbox"/> |
| 43. Música tipo "rock" não deveria ser ouvida por jovens cristãos                                    | 43. <input type="checkbox"/> |
| 44. Sinto que o Espírito Santo fala a mim através de minha consciência                               | 44. <input type="checkbox"/> |
| 45. Para mim a parte mais atraente dos esportes e atletismo é a competição                           | 45. <input type="checkbox"/> |
| 46. A ciência é capaz de provar ou refutar os princípios básicos da religião                         | 46. <input type="checkbox"/> |
| 47. Creio que a Bíblia é a Palavra de Deus dirigida aos homens de todas as épocas                    | 47. <input type="checkbox"/> |
| 48. Sinto que o Diabo está continuamente procurando fazer a gente cair em tentação                   | 48. <input type="checkbox"/> |
| 49. Creio que a igreja é um instrumento de Deus para a salvação da humanidade                        | 49. <input type="checkbox"/> |
| 50. Se duas pessoas realmente se amam não acho ser errado manterem relação sexual antes do casamento | 50. <input type="checkbox"/> |
| 51. Geralmente sinto que minhas orações são ouvidas por Deus   | 51. <input type="checkbox"/> |
| 52. Quando o professor é injusto não acho ser errado colar numa prova                                | 52. <input type="checkbox"/> |
| 53. Não existe harmonia entre o fumar e a prática da verdadeira religião                             | 53. <input type="checkbox"/> |
| 54. Geralmente sinto profunda compaixão por aqueles que estão sofrendo                               | 54. <input type="checkbox"/> |
| 55. Acho ser errado fazer qualquer tipo de negócios no dia de Sábado                                 | 55. <input type="checkbox"/> |
| 56. Minha religião me dá um sentimento de alegria e felicidade                                       | 56. <input type="checkbox"/> |
| 57. A masturbação pode ser aceitável como um meio de satisfazer a uma necessidade fisiológica        | 57. <input type="checkbox"/> |
| 58. Os que morrem em Cristo vão para o céu imediatamente após a morte                                | 58. <input type="checkbox"/> |
| 59. O uso de drogas (LSD, maconha, etc.) é totalmente contrário ao meu estilo de vida                | 59. <input type="checkbox"/> |
| 60. Em caso de emergência acho que uma mentira seria aceitável                                       | 60. <input type="checkbox"/> |
| 61. Geralmente sinto que Deus não me ama depois de ter cometido algum pecado                         | 61. <input type="checkbox"/> |
| 62. Saúde física e desenvolvimento espiritual estão intimamente relacionados                         | 62. <input type="checkbox"/> |
| 63. Acho ser errado namorar com alguém que não pertence à minha religião                             | 63. <input type="checkbox"/> |

VIRE PARA A PÁGINA SEGUINTE →

(continuação)

- 1 = discordo totalmente
- 2 = discordo
- 3 = indeciso ou neutro
- 4 = concordo
- 5 = concordo totalmente

- |  |                              |
|--|------------------------------|
| 64. Em minhas decisões diárias sinto que de alguma forma estou envolvido no conflito entre o bem e o mal, na luta entre Cristo e Satanás | 64. <input type="checkbox"/> |
| 65. Creio ser o dever da igreja disciplinar (censurar ou excluir) o membro faltoso com o objetivo de restaurá-lo                         | 65. <input type="checkbox"/> |
| 66. Os Dez Mandamentos são preceitos morais imutáveis válidos para toda a humanidade em todas as épocas                                  | 66. <input type="checkbox"/> |
| 67. Sinto que estou continuamente na presença de Deus  | 67. <input type="checkbox"/> |
| 68. Não vejo problema em assistir a filmes proibidos para menores  | 68. <input type="checkbox"/> |
| 69. Meus bens materiais em realidade pertencem a Deus. Sou apenas administrador deles  | 69. <input type="checkbox"/> |
| 70. A maioria das mensagens dos profetas do Velho Testamento se aplicavam somente para o povo de Israel no passado                       | 70. <input type="checkbox"/> |
| 71. Creio que Deus criou o mundo em seis dias literais   | 71. <input type="checkbox"/> |
| 72. Sinto que a guarda do Sábado tem sido uma bênção para mim  | 72. <input type="checkbox"/> |
| 73. Creio que as profecias bíblicas de que Deus iria falar através do dom de profecia nos últimos dias se cumpriram em Ellen G. White    | 73. <input type="checkbox"/> |
| 74. Acho que não está certo dançar, nem mesmo em festinhas entre amigos  | 74. <input type="checkbox"/> |
| 75. Desde que eu dê um bom exemplo não preciso falar aos outros a respeito de minha fé   | 75. <input type="checkbox"/> |
| 76. Creio que Jesus está presentemente no Santuário celestial intercedendo diante de Deus em favor dos que O aceitaram como Salvador     | 76. <input type="checkbox"/> |
| 77. Acho que tanto namorados quanto noivos deveriam deixar os contatos mais íntimos para depois do casamento                             | 77. <input type="checkbox"/> |
| 78. Os filhos deveriam respeitar e honrar a seus pais mesmo quando suas idéias lhes pareçam antiquadas                                   | 78. <input type="checkbox"/> |
| 79. Sinto que estou salvo em Cristo  | 79. <input type="checkbox"/> |
| 80. As normas cristãs relativas à modéstia no vestuário não são importantes para mim   | 80. <input type="checkbox"/> |
| 81. Sinto que minha religião me dá segurança ao enfrentar os problemas da vida   | 81. <input type="checkbox"/> |
| 82. A igreja adventista é a verdadeira igreja de Deus nos últimos dias com a missão especial de preparar o mundo para a volta de Jesus   | 82. <input type="checkbox"/> |
| 83. Acho ser errado fazer apostas, mesmo na loteria esportiva  | 83. <input type="checkbox"/> |
| 84. Quando entre amigos não vejo mal em contar piadas "sujas"  | 84. <input type="checkbox"/> |
| 85. Creio que Deus está pronto a perdoar ao maior dos pecadores  | 85. <input type="checkbox"/> |
| 86. Crer em Jesus é absolutamente necessário para minha salvação   | 86. <input type="checkbox"/> |
| 87. Acho que nenhum jovem cristão deveria olhar revistas pornográficas   | 87. <input type="checkbox"/> |
| 88. Sinto que estou participando de uma grande missão neste mundo  | 88. <input type="checkbox"/> |

VIRE PARA A PÁGINA SEGUINTE →

**NÃO ESCREVA SEU NOME NESTA FOLHA!** Ninguém deverá saber quem respondeu a este questionário.

Somente mais alguns itens. Escolha uma das respostas e escreva o respectivo número no quadro à direita de cada item

89. Qual será sua idade no próximo 31 de dezembro?	1. 15 anos ou menos 2. 16 anos 3. 17 anos 4. 18 anos 5. 19 anos 6. 20 anos ou mais	89. <input type="checkbox"/>	64. <input type="checkbox"/> 65. <input type="checkbox"/> 66. <input type="checkbox"/> 67. <input type="checkbox"/> 68. <input type="checkbox"/> 69. <input type="checkbox"/> 70. <input type="checkbox"/> 71. <input type="checkbox"/> 72. <input type="checkbox"/> 73. <input type="checkbox"/> 74. <input type="checkbox"/> 75. <input type="checkbox"/> 76. <input type="checkbox"/> 77. <input type="checkbox"/> 78. <input type="checkbox"/> 79. <input type="checkbox"/> 80. <input type="checkbox"/> 81. <input type="checkbox"/> 82. <input type="checkbox"/> 83. <input type="checkbox"/> 84. <input type="checkbox"/> 85. <input type="checkbox"/> 86. <input type="checkbox"/> 87. <input type="checkbox"/> 88. <input type="checkbox"/>	36. <input type="checkbox"/> 37. <input type="checkbox"/> 38. <input type="checkbox"/> 39. <input type="checkbox"/> 40. <input type="checkbox"/> 41. <input type="checkbox"/> 42. <input type="checkbox"/> 43. <input type="checkbox"/> 44. <input type="checkbox"/> 45. <input type="checkbox"/> 46. <input type="checkbox"/> 47. <input type="checkbox"/> 48. <input type="checkbox"/> 49. <input type="checkbox"/> 50. <input type="checkbox"/> 51. <input type="checkbox"/> 52. <input type="checkbox"/> 53. <input type="checkbox"/> 54. <input type="checkbox"/> 55. <input type="checkbox"/> 56. <input type="checkbox"/> 57. <input type="checkbox"/> 58. <input type="checkbox"/> 59. <input type="checkbox"/> 60. <input type="checkbox"/> 61. <input type="checkbox"/> 62. <input type="checkbox"/> 63. <input type="checkbox"/>	20. <input type="checkbox"/> 21. <input type="checkbox"/> 22. <input type="checkbox"/> 23. <input type="checkbox"/> 24. <input type="checkbox"/> 25. <input type="checkbox"/> 26. <input type="checkbox"/> 27. <input type="checkbox"/> 28. <input type="checkbox"/> 29. <input type="checkbox"/> 30. <input type="checkbox"/> 31. <input type="checkbox"/> 32. <input type="checkbox"/> 33. <input type="checkbox"/> 34. <input type="checkbox"/> 35. <input type="checkbox"/>	1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> 5. <input type="checkbox"/> 6. <input type="checkbox"/> 7. <input type="checkbox"/> 8. <input type="checkbox"/> 9. <input type="checkbox"/> 10. <input type="checkbox"/> 11. <input type="checkbox"/> 12. <input type="checkbox"/> 13. <input type="checkbox"/> 14. <input type="checkbox"/> 15. <input type="checkbox"/> 16. <input type="checkbox"/> 17. <input type="checkbox"/> 18. <input type="checkbox"/> 19. <input type="checkbox"/>
90. De que sexo você é?	1. masculino 2. feminino	90. <input type="checkbox"/>				
91. Qual a sua situação como membro da igreja adventista?	1. sou membro batizado 2. sou membro não batizado 3. não sou membro	91. <input type="checkbox"/>				
92. Durante o último semestre qual foi a sua média geral?	1. 5,5 ou menos 2. entre 5,5 e 6,5 3. entre 6,5 e 7,5 4. entre 7,5 e 8,5 5. entre 8,5 e 9,5 6. acima de 9,5	92. <input type="checkbox"/>				
Em sua opinião qual das seguintes instituições influenciou mais sua vida espiritual? (coloque em ordem decrescente)						
1 = a que mais influenciou 2 = a 2a. mais influente 3 = a 3a. mais influente 4 = a que menos influenciou						
93. Família (pais, irmãos, parentes, etc.)		93. <input type="checkbox"/>				
94. Igreja (pastor, membros, sociedade MV, desbravadores, etc.)		94. <input type="checkbox"/>				
95. Escola (professores, colegas, aulas de religião, etc.)		95. <input type="checkbox"/>				
96. Sociedade (vizinhos, amigos, clubes, etc.)		96. <input type="checkbox"/>				
97. Qual a situação marital de seus pais (ou tutores)?	1. são divorciados ou separados 2. são ambos falecidos 3. um é falecido 4. estão vivendo juntos	97. <input type="checkbox"/>				
98. Qual é a religião de seus pais?	1. Adventista do 7º Dia 2. Católico(a) 3. Protestante, Evangélico(a) 4. Espírita 5. Outra: (qual?)	98. <input type="checkbox"/>				
	Pai ... Mãe ...	99. <input type="checkbox"/>				
VERIFIQUE SE TODOS OS QUADROS DESTES LADOS DA "FOLHA DE RESPOSTAS" FORAM PREENCHIDOS.						
AGORA RESPONDA AOS ÍTEMS NO OUTRO LADO DA FOLHA						

Com que freqüência são realizadas as seguintes práticas religiosas em sua casa?

- |                          |                             |
|--------------------------|-----------------------------|
| 1 = nunca                | 4 = com bastante freqüência |
| 2 = raramente            | 5 = quase sempre            |
| 3 = com certa freqüência | 6 = sempre                  |

100. Culto matutino diário . . . . .	100.	<input type="checkbox"/>
101. Culto vespertino diário . . . . .	101.	<input type="checkbox"/>
102. Culto de Por de Sol (na 6a. feira) . . . . .	102.	<input type="checkbox"/>
103. Culto de Por de Sol (no Sábado) . . . . .	103.	<input type="checkbox"/>
104. Oração antes das refeições . . . . .	104.	<input type="checkbox"/>

105. Incluindo o ano em curso, quantos anos você estudou em cada uma das seguintes escolas?

Faça um círculo em torno das séries freqüentadas em cada tipo de escola, e escreva o total das séries no quadro que corresponde a cada escola

		nível fundamental								secundário				TOTAL	
<u>Escolas não adventistas</u>	<u>Pública</u>	1a.	2a.	3a.	4a.	5a.	6a.	7a.	8a.	1a.	2a.	3a.	4a.	105.	<input type="checkbox"/>
	<u>Particular</u>	1a.	2a.	3a.	4a.	5a.	6a.	7a.	8a.	1a.	2a.	3a.	4a.	106.	<input type="checkbox"/>
	<u>Supletivo (Madureza)</u>	1a.	2a.	3a.	4a.	5a.	6a.	7a.	8a.	1a.	2a.	3a.	4a.	107.	<input type="checkbox"/>
<u>Escolas adventistas</u>	<u>Externato</u>	1a.	2a.	3a.	4a.	5a.	6a.	7a.	8a.	1a.	2a.	3a.	4a.	108.	<input type="checkbox"/>
	<u>Internato</u>	1a.	2a.	3a.	4a.	5a.	6a.	7a.	8a.	1a.	2a.	3a.	4a.	109.	<input type="checkbox"/>

ATENÇÃO!

Antes de entregar a "Folha de Respostas" ao instrutor, VERIFIQUE se todos os quadros (de 1 a 111) foram devidamente preenchidos. Isto é muito importante!

DESTAQUE a "Folha de Respostas" do restante do questionário, COLIQUE-a dentro do envelope fornecido pelo instrutor, e COLE o envelope.

MUITO OBRIGADO POR SUA COLABORACAO!



## APPENDIX 2

### CORRESPONDENCE

1. Cover letters
2. Letter sent to academy principals
3. Letter sent to church pastors and elders
4. Response letters from academy principals
5. Letter sent to academy registrars

Andrews University Bernien Springs, Michigan 49104 (616) 471-7771

25 de maio de 1979

Prezado pastor

Desejo encarecer a relevância da pesquisa que o professor Eliseu Menegusso está realizando aqui na Universidade de Andrews.

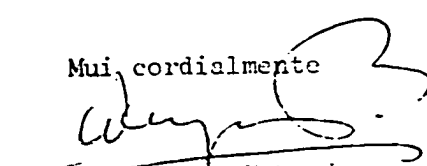
Esta pesquisa, relacionada com o sistema educacional adventista no Brasil, tem por objetivo analisar a contribuição da educação adventista para o desenvolvimento religioso do estudante.

Trabalhos desse gênero têm sido efetuados aqui nos Estados Unidos, mas os benefícios se limitam quase que exclusivamente as escolas afiliadas a denominações religiosas nesse país. Infelizmente os resultados não podem ser generalizados para realidades diferentes em outras nações. Por esta razão, cada país deveria encorajar seus próprios pesquisadores a realizar estudos dessa natureza.

No caso do Brasil o momento parece oportuno. Além de possuir um sistema educacional adventista em pleno desenvolvimento, o Brasil já desponta entre os primeiros do mundo. Pesquisas como essa poderão contribuir para melhores serviços educacionais à juventude adventista brasileira.

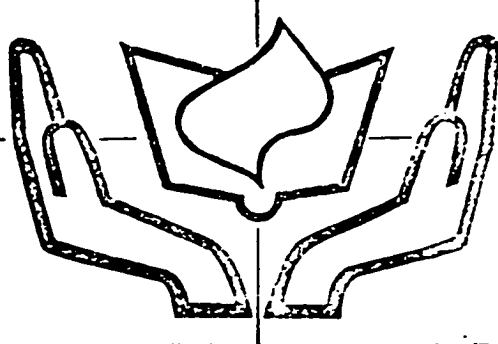
Aproveito portanto o ensejo para recomendar este estudo ao irmão e aos jovens que dele participarão. Desejo também que Deus continue abençoando ricamente o seu ministério.

Mui cordialmente



Dr. Werner Vyhmeister

Departamento de Missões



201  
DEPARTAMENTO DE  
**EDUCAÇÃO**  
DA UNIÃO SUL-BRASILEIRA

CAIXA POSTAL 2898 — FONE 70-3217 — 01000 - S. PAULO, CAPITAL — ENDEREÇO TELEGRÁFICO: UNISUL

São Paulo, 5 de junho de 1979.

Prezado Colaborador

Saudações em Cristo.

O Professor Eliseu Menegusso, Professor do Curso Teológico, estudando na Andrews University está empenhado em coletar in formações acerca dos alunos do II Grau. O objetivo principal do seu trabalho é analisar diversos aspectos da Educação nes te nível a fim de oferecer cada vez melhores serviços a nos sos jovens.

Por favor colabore ao máximo com a pessoa encarregada desta pesquisa.

Solicitamos a sua pronta cooperação em conseguir as informações necessárias.

Mui Cordialmente

  
Prof. Roberto Cesar de Azevedo  
Diretor Depto. Educação da U.S.B.

**O mais importante é educar**

Andrews University, 27 de maio de 1979

Letter sent to academy principals

Prezado pastor

O objetivo desta é apresentar ao senhor a pesquisa que estou realizando nesta fase final de meu programa de estudos aqui na Universidade de Andrews, e ao mesmo tempo solicitar de sua parte o apoio necessário para a realização da mesma.

Trata-se de um estudo que abrangerá a área do eixo São Paulo-Campinas, e envolverá os estudantes de II Grau adventistas. O interesse central da pesquisa será investigar o relacionamento existente entre a quantidade de anos que o aluno esteve sob a influência da educação adventista e o desenvolvimento religioso dele. O estudo será fundamentado num questionário contendo cinco dimensões da experiência religiosa especialmente idealizado para estudantes secundários adventistas.

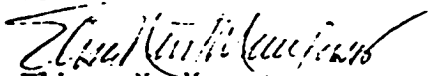
Para que o estudo seja representativo será necessário incluir estudantes que frequentam escolas não adventistas bem como uma porcentagem dos que estão atualmente frequentando o IASP e o IAE. A amostra dos alunos das duas instituições adventistas deverá ser de aproximadamente 250, ou seja uns 125 por escola.

Sendo que o questionário deverá ser respondido simultaneamente por todos os alunos a serem escolhidos, e que o tempo calculado para responder a todos os itens é de aproximadamente 40 a 50 minutos, acho que ele poderá ser administrado durante um período de Assembléia Geral num recinto a parte. Quanto a supervisão, estará a cargo de um professor a ser designado pelo Dr. José Carlos Ebling, coordenador geral da coleta de dados para esta pesquisa.

Conforme o acima exposto, dependo grandemente de seu apoio nos seguintes pontos: 1. autorizar a administração do questionário em sua instituição, e 2. encorajar os alunos escolhidos a participar, assegurando-lhes que o questionário sera de caráter anônimo.

Esperando poder contar com sua colaboração nesse sentido, expresso desde já meu agradecimento e me coloco a inteira disposição caso necessite de maiores informações.

Fraternalmente em Cristo



Eliseu N. Meneguesso

P.S. A data planejada para administração do questionário é fins de agosto ou início de setembro. Para tanto necessito resposta urgente. Grato.

Andrews University, 25 de maio de 1979

## Letter sent to local pastors and elders

Prezado companheiro na obra do Senhor

Tenho o prazer de comunicar que a igreja sob sua liderança foi uma vez escolhida para participar de uma pesquisa educacional que está em andamento aqui na Universidade de Andrews. Trata-se de um estudo que abrangerá a área do eixo São Paulo-Campinas, e envolverá todos os estudantes adventistas do II Grau de cada igreja selecionada.

O interesse principal da pesquisa será de verificar o relacionamento existente entre o frequenter ou não as escolas adventistas, e o desenvolvimento religioso do aluno. O estudo permitirá a verificação de pontos positivos e quiza de pontos a melhorar em nossas escolas.

Para que o trabalho alcance seus objetivos, necessito contar com sua valiosa colaboração nos seguintes aspectos:

1. fornecer dados quanto ao número de estudantes de II Grau que atualmente frequentam sua igreja, sejam eles batizados ou não. Caso não possua os dados ainda, provavelmente os próprios estudantes secundários poderão fornecê-los no próximo sábado, incluindo também os que porventura tiverem faltado a igreja.

2. fazer planos para que num dos sábados no fim de agosto ou início de setembro (ainda a combinar) os estudantes de II Grau possam responder a um questionário especialmente idealizado para eles. Para tanto será necessário encarecer que compareçam no determinado sábado, pois um instrutor especialmente treinado no IAE deverá vir à sua igreja para administrar o questionário num recinto a parte. Tudo deverá durar de 40 à 50 minutos.

A fim de levar avante os planos e providenciar o número suficiente de questionários para sua igreja, necessito receber de sua parte, com urgência, o formulário abaixo devidamente preenchido. Desde já agradeço sua valiosa colaboração e me coloco a inteira disposição caso necessite maiores informações.

Que Deus o abençoe profusamente, desejo

Sinceramente

Eliseu Nevil Menegusso  
Professor de Educação Religiosa

P.S. O coordenador no Brasil é o Dr. José Carlos Ebling (professor de Educação Religiosa do I.A.E.)

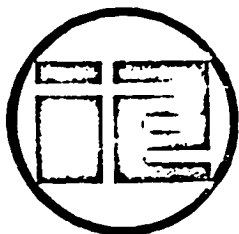
.....  
Destaque este canhoto e o coloque no envelope anexo para remessa pelo Correio. Grato.

A Igreja Adventista \_\_\_\_\_ concorda  
em participar da pesquisa sobre educação e desenvolvimento religioso.  
O número de estudantes de II Grau que frequentam atualmente a igreja é \_\_\_\_\_.

Data: \_\_\_\_/\_\_\_\_/\_\_\_\_

Assinado: \_\_\_\_\_

Nome do pastor: \_\_\_\_\_



19 de junho de 1979.

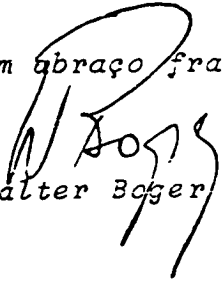
Pr.  
Eliseu N. Menegusso  
C 67 Maplewood apt  
Berrien Springs -  
Mi 49103 - USA

Prezado companheiro;

Em mãos sua circular e também a do Dr. Werner tratando dos tes  
tes a serem aplicados aqui em nossa escola e região.

Já falei com Dr. José Carlos, e ele está disposto a apoiá-lo.  
Estamos confiantes que tudo marcha regularmente na conclusão  
do seu doutorado.

Um abraço fraternal.

  
Walter Boger

WB/mll  
Endereço Postal: Caixa Postal, 7258 - 01000 São Paulo

Localidade: Estrada de Itapocerica, km 23 — Santo Amaro — São Paulo — Telefone: PBX 247-4011



*Hortolândia, 19 de junho de 1979.*

*Pastor Eliseu Menegusso  
C 67 Maplewood  
Berrien Springs - Mi 49103*

*Prezado Amigo:*

*Recebi sua carta e nos colocamos às suas ordens para a pesquisa que você está fazendo. Aguardamos suas orientações.*

*Com estima cristã.*

*INSTITUTO ADVENTISTA SÃO PAULO*  
*TÉRCIO SARLI*  
*Director*

**INSTITUTO ADVENTISTA SÃO PAULO**  
CAIXA POSTAL 572 • FONES: 41-1766 e 41-9761  
13100 CAMPINAS • SP

Andrews University, 3 de maio de 1979

Letter sent to academy registrars

Prezado companheiro na obra do Senhor

Provavelmente o irmão ainda se recorda dos dados que me enviou no ano passado sobre os alunos dos cursos fundamental e secundário dessa instituição. Quero agradecer a pronta resposta recebida e ao mesmo tempo comunicar que aqueles dados foram importantes para a formulação de uma pesquisa no campo educacional que pretendo concluir ainda este ano.

Essa pesquisa tem por objetivo verificar até que ponto a frequência às nossas instituições de ensino e escolas primárias se relaciona com o desenvolvimento espiritual de nossos alunos. Em outras palavras, pretendo verificar se na média, os alunos que frequentaram por mais tempo nossas escolas também apresentam um nível espiritual proporcional ao tempo de educação cristã que receberam.

O estudo abrangerá a área do eixo São Paulo-Campinas, e incluirá os alunos de II Grau que frequentam nossas igrejas, e os que estão presentemente matriculados no IAE e IASP.

Por esta razão necessito mais uma vez um grande favor de sua parte. Solicito que me envie o mais breve possível uma lista de todos os estudantes de II Grau que são adventistas. Além dos nomes necessito três breves informações: 1. série; 2. interno ou externo; e 3. sexo.

Possivelmente seja mais simples enviar uma cópia Xerox das listas de chamada de cada série do II Grau, eliminando os que não são adventistas e indicando I=interno ou E=externo, M=masculino ou F=feminino à direita dos nomes.

Com a certeza de que poderá contar novamente com sua pronta colaboração, quero desde já externar meu agradecimento, e ao mesmo tempo desejar que Deus continue abençoando a essa instituição, e de modo especial o seu trabalho.

Fraternalmente em Cristo

Eliseu H. Menegusso  
C 67 Maplewood  
Berrien Springs - MI 49103 USA



## APPENDIX 3

### LIST OF SELECTED CHURCHES

# LIST OF SELECTED CHURCHES

Church	Total Membership	Category
1. Capao Redondo	1,892	Large
2. Moema	582	Medium-large
3. Campo Limpo	544	Medium-large
4. Freguesia do O	250	Medium
5. Carapicuíba	263	Medium
6. Hortolândia	350	Medium
7. Vila Pirituba	307	Medium
8. São Miguel Paulista	466	Medium
9. Vila Matilde	351	Medium
10. Jundiaí	300	Medium
11. Vila Maria	281	Medium
12. Vila Carrao	284	Medium
13. Jardim Lilah	233	Medium-small
14. Cotia-Portão	128	Medium-small
15. Mooca	133	Medium-small
16. Vila Curuca	166	Medium-small
17. Sapopemba	187	Medium-small
18. Santa Cecília	106	Medium-small
19. Vila Brasilândia	185	Medium-small
20. Jardim Maringá	184	Medium-small
21. Lausane Paulista	69	Small
22. Jardim São Luiz	62	Small
23. Bosque da Saúde	85	Small
24. Franco da Rocha	94	Small
25. Jardim Iguatemi	97	Small

## APPENDIX 4

### INFORMATION ABOUT DATA GATHERING

1. Guidelines
2. Authorization form
3. Report form

## General Guidelines for the Gathering of Data

### A. Preliminaries

Each "instructor" should:

1. Become acquainted with the objective of the research, which will be explained by the supervisor.
2. Be acquainted with the 'content' of the instrument and the 'way' the questionnaire is to be completed.
3. Obtain a written authorization signed by the researcher and the supervisor.
4. As much as possible, contact the local pastor or elder of the church(es) to which he has been assigned, and establish the most convenient date for the application of the instrument.

Those assigned to an academy should contact the principal make arrangements regarding the most suitable period to apply the instrument.

5. Prepare in advance the room where the students will be gathered to respond to the questionnaire.

### B. Administration of the Questionnaire

The questionnaire on "Education and Religious Development" is a self-administered instrument. This should prevent any need for further explanation regarding the content of, or the way of repoding to the questionnaire. Should this need arise, the instructor is expected to help.

The following guidelines are very important on this respect:

1. Explain briefly to the students the objective of the research, emphasizing the fact that their individual participation is very important, and that nobody will the name of any respondent.
2. Distribute the questionnaire forms requesting that noone should start until everuybody is ready to respond.
3. Read aloud the instructions found in the first page of the questionnaire. Make every point clear and give opportunity for questions.

4. Remind them that nobody should talk during the response session. If anyone needs help, he/she is to give a hand signal and wait for the instructor.
5. Indicate the time when all should start.
6. Mark down the starting time, the time the first and the last respondent turn in the response sheet.
7. IMPORTANT! Before the respondent seals his/her answer sheet in the envelope provided by the instructor, ask him to check carefully if all the 'boxes' on both sides of the answer sheet have been filled.

A U T O R I Z A Ç Ã O

\_\_\_\_\_ ESTÁ DEVIDAMENTE QUALIFICADO  
E AUTORIZADO A EXERCER A FUNÇÃO DE "INSTRUTOR" PARA A COLETA DE DADOS  
DA PESQUISA "EDUCAÇÃO E DESENVOLVIMENTO RELIGIOSO". TODO APOIO A ELE  
CONCEDIDO SERÁ APRECIADO.

ANDREWS UNIVERSITY, AGOSTO DE 1979

\_\_\_\_\_  
Pesquisador: Eliseu Nevil Menegusso

\_\_\_\_\_  
Coordenador: Dr. Jose Carlos Ebling

F I C H A D E C O N T R O L E

Pesquisa: Educação e Desenvolvimento Religioso. Coleta de dados.

1. Nome da Igreja: \_\_\_\_\_
2. Número de participantes: \_\_\_\_\_.
3. De modo geral você encontrou boa vontade por parte: (assinale com um X)
  - dos estudantes?      ( ) sim/ ( ) não. Se não por que? \_\_\_\_\_
  - do pastor ou anciao? ( ) sim/ ( ) não. Se não por que? \_\_\_\_\_
4. Se algum estudante se negou a participar, quantos? \_\_\_\_\_
5. A que horas: a. o grupo iniciou a responder? \_\_\_\_\_ horas e \_\_\_\_\_ minutos.  
                   b. o primeiro entregou?                    \_\_\_\_\_ horas e \_\_\_\_\_ minutos.  
                   c. o último entregou?                        \_\_\_\_\_ horas e \_\_\_\_\_ minutos.
6. Data: \_\_\_\_/\_\_\_\_/1979
7. Nome do instrutor: \_\_\_\_\_.

APPENDIX 5

88 X 88 INTERCORRELATION MATRIX BETWEEN  
88 RELIGIOSITY ITEMS

## CORRELATION MATRIX

ROW	1	2	3	4	5	6	7	8	9	10
1	1.0000	-.1936	-.1256	-.0216	-.0796	-.0869	-.0962	-.0114	-.1911	-.0910
2	-.1936	1.0000	-.2139	-.0146	-.1316	-.1655	-.2146	-.0663	-.0985	-.2988
3	-.1256	-.2139	1.0000	-.1647	-.0607	-.2075	-.2506	-.0137	-.1125	-.1976
4	-.0216	-.0146	-.1647	1.0000	-.0516	-.0267	-.0731	-.0550	-.0442	-.1460
5	-.0796	-.1316	-.0607	-.0516	1.0000	-.0621	-.1537	-.0279	-.0794	-.1023
6	-.0869	-.1655	-.2075	-.0267	-.0621	1.0000	-.2011	-.0404	-.2208	-.2769
7	-.0962	-.2146	-.2506	-.0731	-.1537	-.2011	1.0000	-.3462	-.1124	-.2346
8	-.0114	-.0663	-.0137	-.0550	-.0279	-.0404	-.3462	1.0000	-.0257	-.0546
9	-.1911	-.0985	-.1125	-.0442	-.0794	-.2208	-.1124	-.0257	1.0000	-.1210
10	-.0910	-.2988	-.1976	-.1460	-.1023	-.2769	-.2346	-.0546	-.1210	1.0000
11	-.0841	-.2301	-.2068	-.0465	-.1260	-.2076	-.1792	-.0054	-.1470	-.1955
12	-.0206	-.1226	-.1606	-.0893	-.0264	-.1033	-.1591	-.0201	-.1121	-.0449
13	-.0630	-.1173	-.1660	-.0300	-.1735	-.1716	-.2250	-.0018	-.1186	-.2020
14	-.0765	-.0493	-.0627	-.0737	-.0549	-.0074	-.0051	-.0066	-.0644	-.0757
15	-.0700	-.0939	-.0664	-.0247	-.0985	-.2662	-.1764	-.0953	-.0792	-.1366
16	-.0513	-.1733	-.1326	-.0102	-.1049	-.2156	-.2272	-.1250	-.1405	-.2212
17	-.0646	-.2092	-.1551	-.0726	-.1529	-.1946	-.1845	-.0374	-.2012	-.2140
18	-.1255	-.1977	-.0953	-.0631	-.1966	-.1730	-.2342	-.0458	-.0476	-.2620
19	-.0996	-.2674	-.1777	-.0765	-.0613	-.1664	-.0525	-.0525	-.0531	-.1945
20	-.0754	-.0670	-.0277	-.0725	-.0666	-.0060	-.0111	-.0233	-.0194	-.0914
21	-.1115	-.1230	-.0631	-.0321	-.0646	-.1046	-.0112	-.0198	-.0774	-.0164
22	-.0389	-.2629	-.1414	-.0660	-.0099	-.1072	-.1472	-.0115	-.1566	-.0937
23	-.1552	-.0536	-.1043	-.1124	-.0920	-.0442	-.0725	-.0352	-.0950	-.0812
24	-.1954	-.0577	-.1247	-.0913	-.0702	-.0477	-.0517	-.1042	-.1040	-.0752
25	-.0537	-.0225	-.1106	-.1184	-.0320	-.0715	-.0533	-.0605	-.0636	-.0434
26	-.0147	-.0351	-.0465	-.0025	-.0067	-.0476	-.0149	-.0236	-.0126	-.0315
27	-.0605	-.0593	-.0416	-.0035	-.0178	-.0342	-.0444	-.0548	-.0710	-.0271
28	-.1414	-.1440	-.0758	-.0476	-.0591	-.0574	-.0103	-.0602	-.1460	-.0644
29	-.0094	-.0263	-.0462	-.0004	-.0756	-.0804	-.0072	-.0474	-.1412	-.0390
30	-.1425	-.0896	-.0966	-.0373	-.1314	-.0274	-.0968	-.0139	-.0657	-.0514
31	-.0421	-.0397	-.0127	-.0327	-.0310	-.0731	-.0401	-.0656	-.0299	-.1306
32	-.1222	-.0436	-.0364	-.0266	-.0405	-.0273	-.0293	-.0533	-.0437	-.0391
33	-.0039	-.0016	-.0314	-.1249	-.0036	-.0453	-.0435	-.1007	-.0370	-.0036
34	-.0952	-.0664	-.0724	-.1140	-.0606	-.0905	-.0195	-.0293	-.1041	-.0316
35	-.1495	-.1457	-.0855	-.0773	-.1679	-.1203	-.0392	-.0774	-.1560	-.1024
36	-.0286	-.0550	-.1988	-.1316	-.0144	-.1398	-.1677	-.0351	-.0624	-.1371
37	-.1042	-.1571	-.1411	-.0193	-.0676	-.1670	-.1417	-.0725	-.0739	-.1337
38	-.0161	-.0331	-.0102	-.0303	-.1675	-.0641	-.0405	-.0675	-.0561	-.1740
39	-.0134	-.0703	-.1123	-.0103	-.0199	-.0672	-.1035	-.0421	-.0437	-.0522
40	-.0310	-.0237	-.0526	-.0165	-.0145	-.0056	-.0020	-.0265	-.0061	-.0062
41	-.0106	-.0689	-.1213	-.0240	-.0367	-.0361	-.1662	-.0401	-.0172	-.0704
42	-.0979	-.0364	-.0621	-.0919	-.0564	-.1225	-.0316	-.0274	-.0491	-.0045
43	-.0635	-.0315	-.0505	-.0255	-.0343	-.0042	-.0774	-.0078	-.0445	-.0344
44	-.0576	-.0959	-.1436	-.0673	-.0457	-.1801	-.1901	-.0116	-.0893	-.1291
45	-.0413	-.0406	-.0128	-.0329	-.0361	-.0424	-.1044	-.0007	-.0567	-.0446
46	-.1362	-.0718	-.1131	-.0459	-.0362	-.0947	-.0432	-.0432	-.1002	-.0677
47	-.0958	-.1332	-.1177	-.0442	-.0687	-.1054	-.1192	-.0598	-.0031	-.1470
48	-.0604	-.0657	-.1276	-.0013	-.0359	-.1237	-.1411	-.0044	-.0377	-.1137
49	-.0361	-.1127	-.0710	-.0620	-.0329	-.0475	-.0966	-.0532	-.0496	-.1094
50	-.0567	-.0902	-.0525	-.0675	-.0047	-.0742	-.1179	-.0100	-.0823	-.0991
51	-.0462	-.0642	-.1369	-.0625	-.0625	-.0549	-.1024	-.0161	-.0606	-.0645
52	-.1126	-.1590	-.0053	-.0316	-.0243	-.1310	-.0425	-.0956	-.0751	-.1297
53	-.0472	-.0219	-.0703	-.0314	-.0196	-.0026	-.0417	-.0809	-.0199	-.0122
54	-.0999	-.1140	-.0359	-.0347	-.0688	-.1114	-.0425	-.0324	-.0455	-.0817
55	-.0426	-.0628	-.0465	-.1171	-.0506	-.0067	-.0719	-.0278	-.0345	-.0501
56	-.0610	-.0420	-.0341	-.0514	-.0034	-.0232	-.0676	-.0300	-.0575	-.0634
57	-.0013	-.0185	-.0044	-.1102	-.0102	-.0643	-.0265	-.0139	-.0164	-.0234
58	-.0672	-.0344	-.0751	-.1302	-.0563	-.1347	-.0672	-.0371	-.0083	-.0442
59	-.0214	-.0446	-.0339	-.0226	-.0453	-.0003	-.0784	-.0298	-.0452	-.0644
60	-.0508	-.0704	-.0195	-.0250	-.0893	-.0155	-.0107	-.0209	-.0470	-.0119
61	-.0253	-.0406	-.0065	-.0331	-.0666	-.0632	-.0278	-.0027	-.1021	-.0131
62	-.0371	-.0361	-.0726	-.0605	-.0276	-.0404	-.0047	-.0012	-.0194	-.0025
63	-.0607	-.1456	-.0655	-.0374	-.0265	-.0711	-.1107	-.0136	-.1173	-.0641
64	-.0473	-.0091	-.0446	-.0022	-.1674	-.1040	-.2164	-.0103	-.0733	-.1204
65	-.0064	-.1223	-.1167	-.0339	-.0112	-.0248	-.0514	-.0145	-.0849	-.0004
66	-.0555	-.0552	-.1025	-.0576	-.0111	-.0612	-.0601	-.0128	-.0417	-.0672
67	-.0734	-.1489	-.1067	-.0702	-.0981	-.0465	-.0924	-.0855	-.0401	-.1704
68	-.0056	-.0816	-.0493	-.0415	-.0296	-.0942	-.1100	-.0456	-.0675	-.0010
69	-.1113	-.0704	-.1356	-.0685	-.0357	-.0565	-.0403	-.0213	-.0772	-.0119
70	-.0060	-.0545	-.1379	-.0243	-.0273	-.0665	-.0747	-.0840	-.0041	-.0677
71	-.1796	-.0472	-.1325	-.0514	-.0059	-.0577	-.0349	-.0349	-.0744	-.0145
72	-.0640	-.0374	-.0858	-.0256	-.1008	-.0101	-.0443	-.0206	-.0401	-.0241
73	-.0796	-.1114	-.0466	-.0529	-.0415	-.0403	-.0672	-.0234	-.0314	-.1070
74	-.0714	-.2279	-.1940	-.1297	-.0887	-.1104	-.1321	-.0395	-.0443	-.1363
75	-.0313	-.0652	-.0416	-.0085	-.0249	-.1723	-.1366	-.0703	-.0840	-.1747
76	-.0435	-.1120	-.1582	-.0269	-.0742	-.1026	-.1182	-.0157	-.1474	-.1270
77	-.0829	-.0117	-.0196	-.0133	-.0257	-.1071	-.0149	-.0296	-.0441	-.0347
78	-.0736	-.1927	-.0600	-.0665	-.1134	-.0989	-.1144	-.0304	-.1209	-.1234
79	-.1841	-.1514	-.1790	-.1116	-.1073	-.0673	-.1142	-.0425	-.1121	-.0715
80	-.1106	-.1304	-.1203	-.0077	-.0651	-.0877	-.1124	-.0706	-.0721	-.0570
81	-.0267	-.0998	-.0441	-.0472	-.0823	-.0584	-.0592	-.0730	-.0803	-.0803
82	-.0726	-.1335	-.0815	-.1261	-.0470	-.0637	-.0218	-.0410	-.0034	-.1238
83	-.0619	-.1403	-.0429	-.0224	-.0002	-.0194	-.0550	-.0269	-.0014	-.0145
84	-.0527	-.0726	-.0500	-.0178	-.0536	-.0759	-.0470	-.0113	-.0442	-.0030
85	-.1230	-.1411	-.0743	-.0165	-.0574	-.1731	-.1094	-.0010	-.1329	-.0614
86	-.1056	-.1296	-.0707	-.0613	-.0666	-.1236	-.1134	-.0477	-.0495	-.1216
87	-.0666	-.1046	-.1085	-.0615	-.0992	-.0577	-.1065	-.0447	-.0441	-.0142
88	-.0973	-.0255	-.1256	-.0386	-.0241	-.0521	-.1145	-.0066	-.1044	-.0614



row	11	12	13	14	15	16	17	18	19	20
1	.0041	.0700	.0030	.0705	.0700	.0513	.0040	.1255	.0990	.0754
2	.2301	.1220	.1173	.0483	.0710	.1733	.2002	.1977	.2074	.0070
3	.2000	.1000	.1000	.0027	.0000	.1320	.0053	.1777	.0053	-.0277
4	.0040	.0000	.0300	.0737	-.0247	.0302	.0720	.0031	.0705	.0725
5	.1220	.0200	.1735	.0340	.0385	.1040	.1520	.1900	.0413	-.0000
6	.1070	.1033	.1710	.0074	.2002	.2150	.1040	.1730	.1000	.0000
7	.1702	.1501	.2200	.0051	.1744	.2270	.1045	.2302	.1901	-.0111
8	.0050	.0701	.0010	.0050	.0053	.1250	.0374	.0450	.0520	.0233
9	.1070	.1121	.1100	.0000	.3702	.1405	.2912	.0450	.0501	.0150
10	.1955	.0440	.2020	.0757	.1300	.2212	.2140	.2400	.1545	-.0510
11	1.0000	.1123	.1072	.0500	.1523	.1551	.2050	.2355	.1033	-.0100
12	.1123	1.0000	.0700	-.0342	.1233	.1005	.0072	.1451	.0050	-.0295
13	.1072	.0700	1.0000	.1102	.0320	.1300	.2032	.2011	.1540	.0352
14	.0500	-.0342	.1102	1.0000	-.0221	.0005	.0200	-.0020	.0150	-.0200
15	.1523	.1233	.0320	-.0221	1.0000	.2100	.1540	.2503	.1201	.1003
16	.1551	.1005	.1300	.0005	.2100	1.0000	.0000	.2001	.2170	.0002
17	.2050	.0072	.2032	.0200	.1540	.0000	1.0000	.2270	.1000	.0300
18	.2355	.1033	.2011	-.0020	.2001	.2001	.2270	1.0000	.1953	.0147
19	.1033	.0050	.1540	.0150	.1201	.2170	.1001	.1953	1.0000	.0353
20	-.0144	-.0295	.0352	-.0200	.1003	-.0002	.0300	.0147	.0353	1.0000
21	-.0071	.0130	.0050	.0300	.0702	.0250	.1001	.0242	.1120	.0070
22	.0014	.1203	.1100	.0100	.1050	.1330	.0541	.0000	.1950	.2201
23	.1452	.0547	.0010	.0051	.0300	.0002	.0002	.1017	.0753	.1305
24	.0003	.0000	.0000	.0001	.1022	.0000	.0000	.1017	.0000	.1300
25	.0001	.0000	.0000	.0000	.1300	.0000	.1000	.2141	.0000	.2000
26	.0050	.0012	-.0270	-.0000	-.0100	.0350	.0250	.1203	.1203	.1203
27	-.0005	.0200	.0110	.1072	.0100	.0101	.0435	.0023	.1301	.1020
28	.1123	.0070	.0515	.0070	.1010	.1070	.0900	.1100	.1025	.1737
29	.0770	.0201	.0700	.0340	.1053	.0000	.1300	.0700	.0400	.0437
30	.0000	.1171	.1107	.0070	.1043	.1300	.1353	.2051	.1430	.1273
31	-.2330	.0172	-.0350	.0550	-.0020	-.0020	-.0330	-.0000	.0510	.2540
32	-.0210	.0047	.0135	.0010	.0503	-.0024	.0101	.0033	.0705	.2593
33	-.0547	-.0240	-.0170	.1030	-.0010	-.0000	-.0290	-.0110	.0553	.1905
34	.0025	.0535	.0000	.0000	.0000	.0000	.0000	.0000	.1000	.2700
35	.0022	.1230	.1200	.0010	.1770	.1300	.0730	.1490	.1577	.1751
36	.2153	.0007	.0070	.1500	-.0207	.0000	.0307	.0700	.0900	-.0040
37	.1300	.1245	.1300	.0110	.0700	.1115	.1521	.1102	.0001	.0000
38	.0520	.0000	.1730	.0100	.0700	.1270	.0012	.0012	.0007	-.0015
39	-.0050	.0131	.1440	-.0000	.0340	.0722	.1100	.1370	.1052	.0000
40	-.0000	.0700	-.0101	-.0030	-.0130	-.0340	.0717	.0050	.0000	.0137
41	.0540	.0553	.0110	.0200	.1000	.1125	.1503	.1710	.0920	.0510
42	.0000	.0023	.0007	.0000	.0100	-.0010	.1310	.1422	.0350	.1775
43	.0122	.0555	.0071	-.0000	.0743	.1240	.1077	.0073	.1750	.0560
44	.1530	.1120	.1577	-.0033	.2100	.1132	.1050	.1500	.0700	-.0100
45	.1291	.0770	.0000	-.0031	.0000	.1002	.1012	.1051	.1020	.1400
46	.0007	.0127	.0050	.0170	.0010	-.0150	.0050	.0040	.0040	.1500
47	.0007	.1000	.0000	-.0171	.1207	.1000	.1000	.2137	.1490	.0010
48	.1370	.1005	.0077	.0250	.0021	.0001	.1101	.2245	.1002	.1400
49	.1171	.0130	.0000	-.0010	.1173	.0010	.1010	.1000	.1025	.1150
50	-.0000	.1002	.0110	-.0257	.0005	.0210	.1000	.1377	.1013	.0040
51	.1850	.0001	.0000	-.0000	.1220	.0735	.1530	.0010	.0020	.1200
52	.1293	.0000	.1301	-.0012	.1007	.0000	.1050	.1500	.1017	.1792
53	.0135	.0237	.0010	.0100	.0302	-.0340	.0000	.1111	.0500	.1573
54	.0000	.0010	.0700	.0270	.1001	.1070	.1307	.1413	.0051	.0092
55	.0020	.0300	.0300	-.1001	.1577	.0000	.0050	.0072	-.0000	.0100
56	.0000	.0300	.1020	.0330	.1002	.0737	.0050	.0000	.0000	.1140
57	.0000	.0100	.0011	-.1103	.0502	.0051	.1102	.0030	.1250	.2470
58	.1057	.0002	.0550	-.0240	.1503	.1000	.1051	.0005	.1433	.1270
59	.0000	.0111	.1100	-.0370	.0513	.0000	.0000	.1230	.1051	-.0122
60	-.0141	.0007	.0392	.0000	.0727	.0300	.1200	.0001	.0000	.2044
61	.1325	.0000	.1217	-.0077	.1245	.0000	.0000	.0773	-.0107	.1170
62	-.0177	.1121	.0000	-.0051	.0010	-.0270	.0050	.0075	.1570	.3010
63	.1101	.0700	.0170	-.0071	.1277	.0772	.1211	.0732	.1401	.1920
64	.1042	.0030	.1007	-.0000	.0002	.1223	.1571	.1020	.1007	.0000
65	.0700	.0710	.0000	-.0292	.0000	.0000	.0750	.1132	.1400	.2123
66	.0030	.0005	.0707	.0100	.0010	-.0051	.0702	.0002	.1400	.2740
67	.0053	.1100	.0000	-.0345	.1522	.1140	.1272	.1042	.1007	.2000
68	.0351	.0707	.0000	.0202	.1753	.0201	.1013	.0773	.1730	.2232
69	.1070	.0020	.1301	.0010	.0720	.0000	.0000	.1107	.1140	.2730
70	.0020	.0001	.1110	-.1071	.0031	.0750	.1370	.0730	.0007	-.0107
71	.0750	.1540	.0707	.0070	.1200	.0000	.1772	.1101	.1005	.2340
72	.0010	.1072	.0050	-.0033	.0207	.0150	.0000	.0510	.1050	.0747
73	.1007	.0000	.1200	.0000	.0550	.0537	.0000	.2002	.2002	.1502
74	.1103	.1120	.1130	.0730	.0707	.0050	.1005	.1717	.2540	.2190
75	.0005	.0042	.0051	-.0010	.0022	.1051	.1023	.1320	.1320	.0120
76	.1200	.1571	.1401	.0000	.0501	.0523	.1030	.1451	.1501	.0020
77	.0043	.0100	.0000	-.0025	.0740	.0703	.1113	.0070	-.0270	.0230
78	.0000	.0077	.0530	.0032	.0070	.0000	.1000	.1000	.1000	.1000
79	.1700	.1270	.1530	-.0342	.1001	.0707	.1771	.1550	.1527	.1707
80	.1150	.0020	.1202	.0305	.1230	.0010	.0707	.1103	.2000	.1050
81	.0077	.0037	.0735	-.0300	.0730	.0171	.2012	.1513	.0000	.1507
82	.1027	.1230	.0007	.0701	.0550	.0052	.0022	.1000	.1002	.1002
83	.0500	.0070	.0100	-.0001	.0013	.0000	.1170	.1333	.1001	.1001
84	.0102	.1277	.0000	-.0520	.1350	.0735	.0013	.0020	.1721	.1002
85	.1000	.1550	.0000	.0302	.0005	.1011	.1005	.1500	.1122	.0510
86	.0000	.0010	.0340	.0071	.1405	.0231	.1350	.1540	.1033	.1070
87	.0040	.1157	.1353	-.0520	.0500	.0053	.1123	.1001	.1503	.1073
88	.1005	.0000	.0741	.0500	.0550	.0000	.1427	.1440	.2110	.0000

	21	22	23	24	25	26	27	28	29	30
01	.1315	.0349	.1552	.1454	.0537	.0167	.0605	.1414	-.0044	.1425
2	.1230	.2629	.0546	.0577	-.0225	.0151	.0503	.1440	.0283	.0646
3	.0631	.1414	.1043	.1247	.1047	.0465	.0416	.0758	-.0067	.0646
4	.0321	.0640	.1124	.0913	.1105	.0625	-.0085	.0476	-.0008	.0371
5	.0644	.0099	.0420	.0702	.1184	-.0067	.0478	.0581	.0756	.1314
6	.1090	.1072	.0442	.3407	.0320	.0478	-.0567	.0574	.0708	.0274
7	.0112	.1472	.0725	.0517	.0715	.0164	-.0444	.1013	-.0092	.0948
8	-.0394	.0113	-.0352	-.1042	.0533	-.0238	-.0548	-.0602	.0474	.0134
9	.0774	.1564	.0456	.1049	.0605	-.0126	.0710	.1680	.1212	.0857
10	.0164	.0527	.0812	.0752	.0434	.0335	.0271	.0444	.0340	.0514
11	-.0071	.0614	.1452	.0403	.0491	.0658	-.0005	.1123	.0779	.0679
12	.0136	.1203	.0547	.0690	.0464	.0612	.0206	.0479	.0201	.1171
13	.0959	.1169	.0410	.0590	.0441	-.0279	.0118	.0515	.0764	.1107
14	.0345	.0168	.0851	.0461	.0508	-.0584	.1072	.0972	.0340	.0476
15	.0742	.1059	.0364	.1022	.1308	-.0104	.0367	.2413	.1053	.1643
16	.0254	.1339	.0402	.0088	.0411	.0358	.0191	.1074	.0800	.1360
17	.1001	.0541	.0371	.1017	.1068	.0250	.0435	.0960	.1389	.1353
18	.0242	.0649	.1614	.1844	.2141	.0351	.0423	.1106	.0784	.2851
19	.1120	.1959	.0753	.0657	.0687	.1233	.1361	.1625	.0406	.1436
20	.4074	.2201	.1365	.1304	.2044	.1203	.1629	.1737	.0437	.1273
21	1.0000	.3526	.2246	.2278	.2467	.0953	.1601	.2708	.1012	.2367
22	.3526	1.0000	.1723	.1587	.1510	.1311	.1591	.2779	.0784	.2148
23	.2468	.1723	1.0000	.7641	.3530	.1809	.1939	.2552	.1164	.3522
24	.2274	.1587	.7641	1.0000	.1888	.1822	.1282	.3067	.1261	.3712
25	.2467	.1009	.3530	.1888	1.0000	1.235	.2265	.3612	.1417	.6773
26	.0953	.1311	.1022	.1262	.1235	1.0000	.1239	.1163	.0454	.1704
27	.1801	.1591	.1939	.1833	.2285	.1163	.4314	1.0000	.2421	.3025
28	.4788	.2779	.2552	.3087	.3612	.1239	.4314	1.0000	.2639	.5440
29	.1012	.0784	.1164	.1261	.1417	.0854	.2921	.2839	1.0000	.2195
30	.2367	.2148	.3522	.3712	.6773	.1704	.3025	.5460	.2195	1.0000
31	.2775	.1362	.3175	.2465	.1990	.0911	.3745	.3131	.0233	.2949
32	.3492	.2284	.3890	.2939	.2558	.1475	.2815	.2488	.0568	.2781
33	.2158	.1953	.2540	.2291	.1739	.0846	.3183	.2623	.0124	.2153
34	.3311	.3594	.2452	.1960	.1496	.1496	.3415	.3987	.2017	.2812
35	.2523	.3049	.2100	.2330	.3338	.0697	.2653	.4149	.1862	.3549
36	-.0195	.0235	.0644	.0545	.0512	-.1160	-.0460	-.0417	.0014	.0014
37	.1163	.1395	.1312	.1000	.0695	.1223	-.0632	.0225	.0246	.0545
38	-.0112	.0509	.0511	.0352	.0849	.0228	.0672	.0129	.1578	.1578
39	-.0209	.0723	.1054	.1267	.0458	.0115	-.0110	.0685	.0149	.0949
40	.0346	-.0040	.0176	-.0625	-.0649	.0645	.0161	-.0100	.0561	.0691
41	.0406	.0949	.0764	.1104	.1084	.0511	.1530	.1018	.1390	.1609
42	.1103	.0563	.2582	.2047	.1156	.0307	.0868	.1356	.0473	.1106
43	.1165	.0252	.2856	.1945	.1553	.0005	.1484	.1972	.1493	.2441
44	.0466	.3590	.1315	.1614	.0601	-.0072	.0333	.0550	.1102	.1186
45	.0640	.1778	.1446	.1230	.1310	.1359	-.0044	.0500	.0391	.1125
46	.1258	.1560	.1110	.0888	.0714	.0217	.3437	.1205	.3970	.0563
47	.0618	.1684	.1436	.0777	.0398	.0714	.0144	.0382	.0686	.1839
48	.1201	.1415	.1136	.0799	.2144	.0586	.0902	.0917	.0603	.1807
49	.0550	.1924	.1246	.1348	.1353	.1225	.0482	.0607	.0742	.1153
50	.0933	.0949	.1071	.1000	.0402	.0445	.0394	.0394	-.0023	.0568
51	.1175	.1296	.1904	.2431	.1119	.0546	.1154	.1452	.1165	.2011
52	.0778	.0875	.2046	.1708	.1393	.0497	.1216	-.0130	-.0130	.2132
53	.2344	.1067	.3285	.3107	.1844	.0405	.1640	.2221	.0915	.2132
54	.0268	.0481	.1578	.2016	.1371	-.0440	.0710	.3608	.0497	.1292
55	.0488	-.0005	.0274	.3002	.0135	-.0356	.0191	.0087	.3381	-.0241
56	.1553	.1481	.2538	.2257	.2134	-.0046	.1318	.1965	.1251	.2246
57	.1545	.1922	.0538	.0324	.1030	.0888	.1496	.1921	.1101	.2049
58	.0481	.0757	.2405	.1404	.1599	.1197	.1194	.1672	.1105	.1934
59	-.0262	-.0210	.1163	.0414	.0500	.0104	-.0067	.0335	.0314	.0934
60	.1728	.1952	.1062	.0980	.2004	.1074	.1541	.1979	.0770	.1171
61	.0591	.0317	.0627	.0337	.0396	.0463	.1126	.0848	.1211	.0770
62	.2574	.2204	.2007	.1978	.2195	.1056	.2289	.3145	.1141	.1078
63	.1560	.1136	.0484	.0359	.0777	.0732	.0187	.0537	.0292	.0439
64	.0139	.1074	.1614	.1183	.1944	.0931	.0543	.0347	.1087	.0640
65	.1714	.1824	.1548	.0943	.1898	.0555	.1702	.2117	.0844	.1751
66	.2613	.1947	.2700	.2788	.2559	.1203	.2195	.3062	.1919	.2993
67	.2124	.1963	.2041	.1485	.1167	.1283	.1213	.2194	.1295	.1899
68	.1855	.2045	.1986	.1305	.1627	.0391	.4319	.2362	.1020	.2308
69	.2287	.1940	.3457	.3111	.3078	.0794	.2442	.2414	.1092	.2745
70	.0419	.0940	.0973	.1555	.0843	.1254	.1000	.0773	.0773	.0933
71	.2538	.2516	.3855	.2929	.2179	.0685	.2440	.2822	.1510	.2470
72	.1412	.1402	.0676	.0074	.0724	.0190	.0654	.1165	.0743	.0893
73	.1983	.2065	.2846	.3008	.2714	.0513	.1285	.2371	.0941	.2749
74	.2012	.2774	.1598	.1746	.1962	.1497	.1578	.2371	.0941	.2186
75	.0801	.0257	.1310	.0785	.0402	.0810	-.0131	.0016	.0444	.0372
76	.1725	.1445	.2028	.1947	.1398	.0443	.1876	.1245	.1805	.1805
77	.0673	-.0244	.1063	.0714	.0788	-.0737	.0253	.0190	.0420	.0104
78	.2367	.2343	.0767	.0657	.0973	.1849	.1480	.2733	.0777	.1348
79	.2614	.2403	.3511	.3196	.2675	.0947	.1753	.2430	.1704	.3194
80	.2810	.2758	.2354	.3179	.1461	.1842	.1759	.2546	.0640	.1710
81	.1003	.1593	.2965	.2926	.2112	.0302	.1656	.1833	.1388	.1908
82	.0991	.0946	.1217	.0811	.0839	.1412	.1214	.0749	.0865	.0865
83	.2648	.2378	.2885	.2305	.2333	.0546	.2239	.0787	.2284	.2284
84	.1901	.1770	.1704	.1084	.1510	.0925	.1260	.1375	.0640	.2273
85	.1931	.0877	.0909	.0857	.0867	.0742	.1343	.1147	.1136	.1775
86	.2148	.1649	.3186	.2994	.2231	.0451	.2121	.1878	.1928	.1960
87	.2423	.2340	.1368	.1971	.1635	.0366	.1829	.1639	.0483	.1979
88	.1716	.1475	.2922	.2254	.1776	.0212	.1666	.2794	.1748	.2979

#00	31	32	33	34	35	36	37	38	39	40
1	-.0421	-.1232	-.0039	-.0952	-.1495	-.0200	-.1092	-.0131	-.0134	-.0210
2	-.0397	-.0416	-.0018	-.0864	-.1457	-.0550	-.1571	-.0331	-.0703	-.0237
3	-.0127	-.0368	-.0514	-.0724	-.0855	-.1411	-.1002	-.1111	-.1123	-.0520
4	-.0227	-.0266	-.1249	-.1100	-.0773	-.1316	-.0193	-.0073	-.0103	-.0185
5	-.0310	-.0405	-.0636	-.0100	-.1679	-.0144	-.0676	-.1675	-.0189	-.0145
6	-.0731	-.0273	-.0453	-.0175	-.1203	-.1390	-.1670	-.0841	-.0672	-.0056
7	-.0801	-.0293	-.0435	-.0195	-.0392	-.1677	-.1417	-.0405	-.1095	-.0020
8	-.0690	-.0533	-.1009	-.0283	-.0774	-.0351	-.0525	-.0875	-.0421	-.0765
9	-.0298	-.0457	-.0370	-.1063	-.1500	-.0454	-.0719	-.0563	-.0537	-.0061
10	-.1006	-.0361	-.0036	-.0316	-.1024	-.1373	-.1337	-.0340	-.0252	-.0062
11	-.0339	-.0210	-.0547	-.0625	-.0722	-.2153	-.1389	-.0526	-.0055	-.0440
12	-.0372	-.0647	-.0266	-.0535	-.1239	-.0997	-.1245	-.0809	-.0131	-.0708
13	-.0359	-.0135	-.0174	-.0855	-.1209	-.0879	-.1360	-.1739	-.1449	-.0161
14	-.0559	-.0610	-.1030	-.0607	-.0414	-.1569	-.0118	-.0190	-.0452	-.0010
15	-.0324	-.0593	-.0610	-.0808	-.1770	-.0297	-.0799	-.0783	-.0940	-.0156
16	-.0200	-.0224	-.0410	-.0529	-.1389	-.0860	-.1115	-.1278	-.0722	-.0348
17	-.0339	-.0191	-.0499	-.0630	-.0736	-.0147	-.1521	-.0223	-.1100	-.0337
18	-.0069	-.0033	-.0119	-.0222	-.1198	-.0570	-.1102	-.0912	-.1378	-.0054
19	-.0510	-.0704	-.0553	-.1465	-.1577	-.0904	-.0841	-.0407	-.1052	-.0466
20	-.2546	-.2593	-.1965	-.2760	-.1751	-.0649	-.0404	-.0015	-.0600	-.0137
21	-.2775	-.3492	-.2158	-.3311	-.2523	-.0195	-.1163	-.0112	-.0209	-.0396
22	-.1362	-.2764	-.1958	-.3594	-.3049	-.0230	-.1398	-.0509	-.0723	-.0090
23	-.3175	-.3690	-.2540	-.2452	-.2100	-.0644	-.1312	-.0911	-.1054	-.0176
24	-.2965	-.2939	-.2291	-.1960	-.2330	-.0563	-.1000	-.0352	-.1267	-.0625
25	-.1290	-.2550	-.1739	-.2609	-.3338	-.0512	-.0635	-.0649	-.0458	-.0549
26	-.0911	-.1475	-.0810	-.1496	-.0697	-.0263	-.1220	-.0824	-.0115	-.0695
27	-.3365	-.2815	-.3183	-.2610	-.2653	-.1160	-.0632	-.0224	-.0110	-.0161
28	-.3131	-.2489	-.2643	-.1997	-.4149	-.0960	-.0225	-.0672	-.0685	-.0100
29	-.0233	-.0568	-.0144	-.2017	-.1802	-.0417	-.0296	-.0129	-.0340	-.0561
30	-.2949	-.2781	-.2153	-.2832	-.3559	-.0018	-.0595	-.1578	-.0499	-.0693
31	-.0000	-.5254	-.4991	-.3639	-.2583	-.1213	-.0768	-.0046	-.0359	-.0147
32	-.5250	-.0000	-.4435	-.3847	-.2801	-.0906	-.0041	-.1250	-.0365	-.0179
33	-.4931	-.4435	-.1000	-.3792	-.2619	-.0692	-.0747	-.0673	-.0463	-.0418
34	-.3639	-.3847	-.3792	-.1000	-.5443	-.0283	-.0722	-.1013	-.0538	-.0074
35	-.2546	-.2593	-.2641	-.2619	-.0000	-.0433	-.0624	-.1215	-.0916	-.0383
36	-.1213	-.0506	-.0642	-.0283	-.0489	-.1000	-.2706	-.0731	-.1249	-.0811
37	-.0768	-.0041	-.0767	-.0624	-.0624	-.2706	-.1000	-.0305	-.0145	-.0197
38	-.0044	-.1250	-.0672	-.1013	-.1215	-.0731	-.0305	-.1000	-.2702	-.0140
39	-.0359	-.0365	-.0530	-.0516	-.1249	-.0731	-.0305	-.1000	-.2702	-.0000
40	-.0197	-.0179	-.0418	-.0074	-.0383	-.1011	-.0197	-.0140	-.0054	-.0000
41	-.0627	-.0512	-.0271	-.1078	-.1491	-.3444	-.0255	-.2022	-.1768	-.0140
42	-.1193	-.1367	-.0759	-.1153	-.1692	-.0357	-.0012	-.1025	-.1429	-.0263
43	-.1683	-.2614	-.1108	-.1521	-.1120	-.0579	-.0407	-.1091	-.1131	-.0391
44	-.0349	-.0164	-.0347	-.1261	-.0726	-.0884	-.1305	-.1252	-.3334	-.0187
45	-.0410	-.0830	-.0305	-.1525	-.2410	-.0706	-.0457	-.0702	-.0492	-.0201
46	-.0509	-.0753	-.0695	-.1183	-.1308	-.0164	-.0202	-.1265	-.1305	-.0032
47	-.0737	-.1108	-.3076	-.0325	-.1059	-.0386	-.0307	-.1067	-.1646	-.0091
48	-.0229	-.1085	-.0454	-.1351	-.1038	-.0096	-.0067	-.0732	-.0285	-.0944
49	-.0961	-.0418	-.0774	-.0940	-.0940	-.1149	-.0732	-.0285	-.0944	-.0944
50	-.0567	-.0545	-.0248	-.0349	-.0371	-.0328	-.0259	-.0259	-.0387	-.0065
51	-.1264	-.1140	-.1447	-.1447	-.1447	-.0298	-.0298	-.1933	-.1876	-.0040
52	-.1526	-.1736	-.0788	-.1462	-.1751	-.0170	-.0398	-.1830	-.2133	-.0073
53	-.1714	-.2031	-.1664	-.1684	-.1106	-.0816	-.0010	-.1528	-.2082	-.0797
54	-.0719	-.0967	-.0459	-.0865	-.1118	-.0744	-.0596	-.1492	-.1936	-.0336
55	-.0649	-.0619	-.0624	-.0169	-.0264	-.0344	-.0170	-.0184	-.0581	-.0445
56	-.1600	-.2331	-.1766	-.1236	-.1212	-.1353	-.1353	-.2049	-.3753	-.0016
57	-.1495	-.1790	-.0887	-.1234	-.1107	-.1107	-.0947	-.1072	-.2349	-.0014
58	-.0422	-.1562	-.1204	-.1575	-.1405	-.0414	-.0074	-.1920	-.2189	-.0461
59	-.0368	-.0667	-.0031	-.0148	-.0865	-.0620	-.0304	-.1932	-.1883	-.0520
60	-.2073	-.2746	-.1407	-.1916	-.1661	-.1156	-.0415	-.0944	-.1362	-.0581
61	-.0613	-.0343	-.0428	-.1172	-.0803	-.0857	-.0694	-.0777	-.1363	-.0264
62	-.2605	-.3003	-.2178	-.2918	-.2573	-.1846	-.0253	-.1353	-.2510	-.0140
63	-.0347	-.1445	-.0190	-.0499	-.0496	-.1070	-.0221	-.0549	-.0647	-.0231
64	-.0591	-.1168	-.0471	-.3559	-.1504	-.0621	-.1286	-.1094	-.0601	-.0588
65	-.1311	-.2135	-.1298	-.1730	-.1114	-.0727	-.0412	-.0914	-.1299	-.0189
66	-.2420	-.3029	-.2277	-.2996	-.2777	-.0927	-.0243	-.1758	-.1542	-.0353
67	-.1691	-.2580	-.1168	-.2490	-.1812	-.0404	-.0529	-.0973	-.1637	-.0673
68	-.1475	-.3009	-.1071	-.2356	-.2248	-.0441	-.0457	-.1261	-.1334	-.0658
69	-.2615	-.2651	-.2146	-.1059	-.2619	-.0212	-.0161	-.0865	-.1750	-.0116
70	-.0095	-.0611	-.0250	-.0450	-.0124	-.0019	-.0467	-.0673	-.1818	-.0758
71	-.2272	-.3132	-.1846	-.2559	-.3031	-.0495	-.0101	-.0461	-.0170	-.0170
72	-.0128	-.0693	-.0526	-.0819	-.0650	-.1086	-.1434	-.0340	-.0355	-.1919
73	-.0753	-.1796	-.1192	-.1822	-.2094	-.0549	-.0897	-.1143	-.1129	-.0363
74	-.1106	-.2158	-.1468	-.3402	-.3076	-.0961	-.0939	-.1348	-.0530	-.0062
75	-.0281	-.0779	-.0652	-.0012	-.0479	-.0952	-.1312	-.0862	-.0901	-.0663
76	-.1681	-.2032	-.0869	-.2274	-.2186	-.0723	-.1158	-.0983	-.0945	-.0557
77	-.0536	-.1172	-.1102	-.0069	-.0148	-.0404	-.0447	-.1137	-.0440	-.0443
78	-.2064	-.2490	-.1721	-.2344	-.2822	-.0210	-.0333	-.0371	-.0706	-.0129
79	-.1685	-.2942	-.1649	-.2476	-.2445	-.0336	-.0594	-.1100	-.0530	-.0234
80	-.1444	-.2870	-.1553	-.2958	-.1914	-.0274	-.0411	-.0496	-.0374	-.0250
81	-.1024	-.2125	-.0949	-.1850	-.1183	-.0156	-.0416	-.0452	-.0767	-.0460
82	-.1213	-.1369	-.1013	-.1090	-.0375	-.0673	-.0959	-.0884	-.1109	-.0437
83	-.2234	-.2562	-.1870	-.2158	-.2061	-.0497	-.0543	-.0618	-.1146	-.0805
84	-.2113	-.2471	-.1212	-.1079	-.1701	-.0917	-.0433	-.1168	-.1972	-.0123
85	-.0467	-.1371	-.1000	-.1349	-.1003	-.0405	-.0347	-.1102	-.0726	-.0460
86	-.1230	-.2138	-.1048	-.2533	-.2193	-.0144	-.0347	-.0285	-.1030	-.0013
87	-.1832	-.2584	-.0476	-.1963	-.1860	-.0002	-.0894	-.0818	-.0596	-.0583
88	-.1629	-.2336	-.1786	-.2454	-.2412	-.0173	-.0514	-.1146	-.1184	-.0145

40	41	42	43	44	45	46	47	48	49	50
1	.0106	.0979	.0635	.0576	.0413	.1362	.0958	.0604	-.0061	.0597
2	.0649	.0384	.0213	.0989	.0406	.0738	.1332	.0857	.1107	.0902
3	.1213	.0621	.0565	.1436	.0128	.1131	.1177	.1278	.0710	.0525
4	-.0290	.0919	.0235	.0673	.0329	.0459	.0442	-.0013	.0620	.0675
5	.0367	.0564	.0343	.0957	.0361	.0362	.0687	.0759	.0329	-.0047
6	.0366	-.0223	.0092	.1801	.0424	.0447	.1054	.1237	.0475	.0747
7	.1662	-.0016	.0776	.1403	.1046	.0781	.1192	.1611	.0966	.1175
8	-.0041	-.0294	.0078	-.0116	.0009	.0412	-.0598	.0044	.0532	-.0100
9	.0172	.0491	.3485	.0493	.0567	.1202	.0033	.0377	.2495	.3329
10	.0708	-.0045	.0399	.1283	.0446	.0677	.1470	.1137	.1094	.0881
11	.0544	.0469	.0122	.1330	.1291	.0667	.0467	.1379	.1171	-.0004
12	.0553	.0823	.0555	.1126	.0776	.0127	.1800	.1405	.0134	.1602
13	.1014	.0687	.0671	.1577	.0968	.0956	.0468	.0877	.0443	.0114
14	.0204	.0506	-.0608	-.0233	-.0631	.0178	-.0171	.0250	-.0016	-.0257
15	.1566	.0196	.3743	.2184	.0687	.0412	.1267	.0921	.1173	.0905
16	.1125	-.0036	.1240	.1132	.1082	-.0150	.1004	.0949	.0818	.0214
17	.1563	.1319	.1077	.1854	.1312	.0450	.1800	.1191	.1018	.1484
18	.1718	.1422	.0673	.1506	.1051	.0645	.2137	.2245	.1066	.1377
19	.0946	.0358	.1752	.0794	.1628	.1496	.1002	.1002	.1025	.1013
20	.0516	.1775	.0569	-.0168	.1468	.1500	.0614	.1408	.1154	.2540
21	.0908	.1103	.1365	.0466	.0650	.1236	.0114	.1201	.0550	.0933
22	.0949	.0565	.0252	.0590	.1774	.1560	.0794	.1415	.0624	.0569
23	.0763	.2552	.2856	.1315	.1446	.1110	.1426	.1136	.1246	.1071
24	.1184	.2047	.1945	.1618	.1230	.0888	.0777	.0799	.1348	.1060
25	.1084	.1156	.1553	.0491	.1310	.0714	.0398	.2144	.1089	.0262
26	.0511	.0307	.0005	-.0072	.1359	.0217	.0714	.0566	.1275	.0445
27	.1530	.0868	.1484	.0333	-.0044	.0437	.0148	.0902	.0482	.0485
28	.1818	.1354	.1972	.0550	.0500	.1205	.0362	.0917	.0807	.0399
29	.1394	.0473	.1493	.1102	.0391	.0870	.0266	.0603	.0742	-.0023
30	.1809	.1106	.2441	.1166	.1128	.0563	.1438	.1807	.1153	.3588
31	.0627	.1193	.1683	-.0390	.0410	.0509	.0737	.0229	.0961	.0597
32	.0512	.1387	.2614	-.0364	.0536	.0753	.1108	.1085	.0418	.0595
33	.0271	.0759	.1106	-.0067	.0105	.0695	-.0076	.0454	.0774	.0246
34	.1678	.1153	.1521	.1281	.1525	.1163	.0325	.1051	.0943	.0346
35	.1491	.1692	.1143	.0726	.2410	.1308	.1038	.1038	.0860	.0711
36	-.0449	-.0357	-.0579	.0889	-.0706	.0164	-.0566	-.0006	.1149	-.0328
37	.0455	-.0012	.0437	.1305	.0857	.0202	.0107	.3067	.0732	.0259
38	.2022	.1825	.1891	.1252	.0762	.0632	.1595	.1595	.0265	.0546
39	.1768	.1429	.1131	.3334	.3962	.0592	.1305	.1886	.0984	.0387
40	-.0140	.0263	.0391	.0167	-.0201	.0154	-.0032	-.0091	.0992	-.0065
41	1.0000	.1865	.2061	.1784	.1021	.1213	.1416	.1597	.1712	.0217
42	.1865	1.0000	.1768	.1318	.1578	.1449	.1507	.1507	.0554	.1192
43	.2061	.1768	1.0000	.1252	.1375	.0653	.1445	.1731	.1044	.1015
44	.1704	.1314	.1252	1.0000	.3340	.0604	.1534	.1504	.1610	.0500
45	.1021	.1578	.1175	.0440	1.0000	.1350	.2123	.1903	.1644	.1794
46	.1213	.1740	.0653	.0604	.1350	1.0000	.1820	.1062	.1401	.0528
47	.1416	.1449	.1445	.1538	.1233	.1825	1.0000	.1831	.0992	.1931
48	.1547	.1507	.1731	.1504	.1403	.1362	.1631	1.0000	.1314	.0786
49	.1712	.0554	.1044	.1610	.1644	.1401	.0992	.1314	1.0000	.0566
50	.0217	.1132	.1015	.0500	.1794	.0628	.1931	.3796	.0526	1.0000
51	.1917	.2574	.1422	.1080	.1479	.2955	.2200	.1691	.1838	.1003
52	.1501	.1511	.2469	.2545	.2705	.0862	.2236	.2236	.1940	.1449
53	.2607	.3011	.3455	.1651	.1297	.1625	.2139	.1711	.1579	.1155
54	.1451	.1517	.2033	.2025	.1352	.0580	.1647	.2317	.1415	.0833
55	.2501	.0059	.3069	.3667	-.0062	.0244	.0375	.1153	.1312	-.0279
56	.1365	.2039	.2455	.1515	.1092	.1346	.1570	.2115	.1207	.0194
57	.1144	.1546	.1665	.0308	.2148	.0549	.1834	.2253	.1453	.1433
58	.1954	.1435	.1488	.1570	.2579	.0957	.1997	.2106	.1926	.0874
59	.2516	.1244	.3014	.1644	.1639	.0252	.1741	.1521	.1068	.0445
60	.0715	.1773	.1403	-.0049	.1642	.0885	.1399	.1540	.1292	.0686
61	.1246	.2100	.2320	.1404	.1792	.0761	.0996	.2704	.1179	.0424
62	.1612	.2781	.3385	.1416	.2360	.1227	.1741	.2720	.0994	.1013
63	.0722	.1331	.1612	.1275	.0534	.0855	.1610	.1902	.1441	.0274
64	.1363	.1201	.1247	.1710	.2951	.0679	.2039	.2737	.1477	.0837
65	.0081	.1430	.1209	-.0206	.1767	.0684	.1756	.2630	.0937	.0671
66	.1772	.3245	.3520	.0938	.1898	.1444	.1562	.2527	.1537	.1219
67	.0139	.1741	.1251	.0639	.1968	.0445	.0763	.2390	.1119	.0527
68	.1195	.1843	.3418	.0786	.2281	.0976	.2070	.2241	.1204	.1507
69	.1531	.2267	.2752	.1234	.2235	.1364	.1644	.2217	.2129	.1056
70	.2335	.1045	.2501	.1147	.0905	.0112	.0612	.1234	.1419	.0041
71	.1859	.2924	.3719	.1436	.2767	.1858	.1969	.2481	.0977	.1119
72	-.0499	.0373	.0272	.0741	.0184	-.0163	-.0116	.0844	.0477	.0076
73	.1376	.2134	.3280	.2467	.1855	.1253	.1216	.1944	.1804	.0497
74	.0664	.1174	.1504	.1018	.2312	.1259	.1377	.1492	.2044	.1049
75	.1375	.0640	.2836	.2106	.1510	.0114	.1470	.1470	.1037	-.0053
76	.1950	.1571	.1723	.2379	.1459	.0539	.0572	.1615	.2791	.0933
77	.1019	.1509	.3158	.0892	.0284	.0090	.0810	.1304	-.0072	.0393
78	.0647	.0677	.1424	.0579	.1391	.0750	.1327	.2421	.0901	.0614
79	.1584	.2467	.2782	.1065	.1795	.2351	.1802	.1627	.0948	.0344
80	.0674	.1453	.1765	.0896	.1996	.1442	.0432	.1414	.1491	.0920
81	.1110	.1769	.3437	.1108	.1928	.0734	.1447	.2066	.0484	.1142
82	.0475	.1467	.0745	.2002	.0340	.0701	.0930	.1569	.1740	.0765
83	.0893	.2037	.2967	.1252	.1751	.1295	.0940	.2152	.0942	.0971
84	.1712	.1440	.1997	.0417	.1392	.1150	.1714	.2249	.1267	.0375
85	.0950	.1279	.1693	.1651	.1124	.1710	.1710	.2608	.1468	.0482
86	.1545	.2056	.4066	.1572	.1753	.1279	.0615	.2135	.1679	.0726
87	.0927	.0400	.1710	.0643	.1164	.1005	.0910	.2759	.0243	.0140
88	.2087	.2014	.4175	.1856	.1356	.0771	.0946	.2574	.1020	.0772

row	51	52	53	54	55	56	57	58	59	60
1	-.0462	.1128	.0472	.0099	-.0426	.0610	-.0013	-.0677	.0714	.0508
2	.0842	.1540	.0219	.1340	.0028	.0320	-.0185	.0344	.0046	.0204
3	.1369	.0053	.0703	-.0059	.1465	.0361	.0099	.0751	-.0339	-.0145
4	.0605	.0216	.0314	-.0347	.1173	-.0514	.0102	.1302	-.0276	.0270
5	.0425	.0243	-.0196	.0486	.0306	-.0004	-.0102	.0563	.0453	.0091
6	.0599	.1390	.0026	.1114	-.0067	.0232	.0643	.1397	-.0003	-.0155
7	-.0028	.0948	.0417	.0826	.0719	.0626	-.0265	.0825	.0768	-.0107
8	.0161	.0956	-.0409	-.0327	-.0278	-.0300	.0139	.0371	-.0749	.0209
9	.0606	.0753	.0188	.0435	.0145	.0575	.0364	.0083	-.0452	.0639
10	.0465	.1297	.0322	.1017	.0501	.0634	-.0234	.0842	.0845	.0119
11	.1658	.1293	.0135	.0666	.0424	.0580	.0504	.1657	.0809	-.0181
12	.0941	.0886	.0237	.0410	.0169	.0389	.0194	.0842	.0131	.0067
13	.0443	.1041	.0410	.0790	.0364	.1624	.0511	.0554	.1100	.0392
14	-.0448	-.0412	.0144	.0276	-.0061	.0334	-.1163	-.0246	-.0376	.0006
15	.1229	.1607	.0362	.1091	.0577	.1002	.0592	.1503	.0513	.0727
16	.0735	.0658	-.0349	.1079	.0404	.0737	.0451	.1099	.0688	.0769
17	.1539	.1050	.0999	.1387	.0545	.0532	.1192	.1651	.0946	.1266
18	.0910	.1406	.1111	.1413	.0672	.0909	.0836	.0805	.1239	.0601
19	.0828	.1817	.0588	.0851	-.0484	.0969	.1259	.1433	.1051	.0690
20	.1208	.1792	.1573	.0692	.0165	.1169	.1276	.1270	-.0122	.2644
21	.1175	.0778	.0044	.0268	.0348	.1553	.1545	.0481	-.0262	.1728
22	.1296	.0675	.1087	.0683	-.0005	.1481	.1922	.0857	-.0210	.1952
23	.1964	.2094	.3265	-.1578	.0274	.4538	.0536	.2005	.1143	.1062
24	.2231	.1708	.3107	.2016	.0002	.2257	.0324	.1444	.0918	.0880
25	.1119	.1393	.1397	.1371	.3135	.2134	.1636	.1599	.0500	.2004
26	.0596	.0967	.0445	-.0490	-.0356	-.0846	.0886	.1167	.0109	.1074
27	.1354	.0946	.1040	.0730	.3391	.1312	.1406	.1196	-.0067	.1651
28	.1452	.1218	.2221	.0608	.3087	.1965	.1421	.1672	.0335	.1978
29	.1368	-.0130	.0915	.0897	.0381	.1251	.1101	.1105	.0315	.0770
30	.2311	.1553	.2132	.1292	-.0241	.2246	.2049	.1935	.0936	.1972
31	.1262	.1526	.1714	.0719	-.0699	.1600	.1495	.0922	.0366	.2073
32	.1409	.1796	.2033	.0997	-.0638	.2331	.1790	.1582	.0667	.2246
33	.1190	.0786	.1404	.0459	-.0624	.1766	.0887	.1209	.0031	.1907
34	.1497	.1462	.1682	.0605	.0169	.1238	.1234	.1575	.0348	.1916
35	.1404	.1711	.1108	.1114	.0264	.1212	.1162	.1605	.0665	.1861
36	-.0298	.0170	-.0016	-.0744	.0344	-.1350	-.1156	-.0419	-.0620	-.1156
37	.0936	.0398	.0010	.0596	.0170	-.0079	-.0947	-.0074	-.0109	-.0415
38	.1933	.1522	.1429	.1692	.0388	.2069	.1072	.1932	.2949	.2949
39	.1476	.2133	.2082	.2917	.0581	.3753	.2349	.2160	.1693	.1362
40	.0940	.3073	.0747	.0336	.0845	.0016	-.0014	-.0570	.0561	.0561
41	.1332	.1501	.2607	.1451	.2031	.1865	.1348	.1854	.2518	.0715
42	.2074	.1511	.3031	.1517	.3059	.2036	.1596	.1435	.1244	.1773
43	.1422	.2269	.3455	.2033	.0009	.2855	.1665	.1886	.3014	.1403
44	.1620	.2545	.1651	.2025	.0697	.1515	.0308	.1570	.1644	-.0049
45	.1479	.2705	.1247	.1352	-.0062	.1092	.2148	.2579	.1439	.1442
46	.2055	.0862	.1625	.0580	.0444	.1386	.0549	.0957	.0896	.0896
47	.2263	.2890	.2139	.1647	.0075	.1570	.1634	.1997	.1741	.1370
48	.1641	.2236	.1713	.2317	.1153	.2115	.2253	.2306	.1521	.1540
49	.1836	.1960	.1579	.1415	.1312	.1407	.1453	.1926	.1068	.1292
50	.1003	.1459	.1155	.0833	-.0278	.0384	.1433	.0876	.0456	.0065
51	1.0070	.2112	.3039	.1620	.3643	.2414	.1417	.2391	.1179	.0656
52	.2112	1.0000	.2929	.2908	.0512	.1745	.2277	.2424	.1473	.1438
53	.3039	.2929	1.0000	.2260	.3425	.3804	.1632	.2231	.2054	.1630
54	.1620	.2905	.2260	1.0000	.3744	.2845	.1114	.1425	.2520	.1300
55	.0543	.0812	.0825	.0744	1.0000	-.0172	-.0134	.0587	.0722	-.0162
56	.2414	.1745	.3804	.2885	-.0172	1.0000	.2190	.2274	.2202	.1840
57	.1417	.2277	.1412	.1114	-.0134	.2190	1.0000	.3116	.1373	.4029
58	.2391	.2424	.2231	.1525	.0567	.2274	.3116	1.0000	.2140	.2312
59	.1179	.1823	.2054	.2500	.0722	.2202	.1073	.2140	1.0000	.0337
60	.0656	.1434	.1630	.1300	-.0162	.1880	.4029	.2312	.0337	1.0000
61	.1256	.2044	.1234	.1277	.0425	.1375	.1579	.2041	.1640	.1541
62	.2459	.2364	.3681	.2166	.0252	.2401	.3452	.1074	.1707	.2524
63	.1311	.0964	.1096	.2134	.0013	.1308	.1574	.1450	.0734	.1731
64	.1191	.2532	.1160	.1554	.1393	.1752	.1311	.2315	.2545	.1042
65	.1564	.1197	.0638	.0902	.0336	.1644	.3707	.2040	.0457	.2576
66	.2492	.2123	.3524	.1785	.0391	.2770	.3405	.2941	.1477	.3046
67	.1902	.1772	.1405	.1814	-.0070	.0965	.2049	.1445	.0710	.2243
68	.2067	.2002	.4152	.1635	.0391	.2405	.2508	.2545	.0985	.3453
69	.2678	.2031	.2836	.1667	.0530	.2998	.3227	.2241	.1209	.3086
70	.2277	.0546	.2341	.1643	.1701	.2506	.0884	.1941	.1173	.0921
71	.2516	.2447	.3057	.1897	-.0656	.3251	.2817	.2762	.1715	.2344
72	-.0147	.0661	.0551	-.0703	.0291	.0170	.0702	.0177	-.0555	.0174
73	.1459	.2176	.3316	.1902	.0199	.2707	.1813	.1475	.1772	.1473
74	.0807	.1813	.2155	.1776	-.0091	.1464	.0947	.1934	.0945	.2677
75	.1221	.1649	.1430	.1603	.1236	.1047	.0879	.0747	.1482	.0518
76	.1470	.1781	.2329	.1514	.0726	.1673	.1790	.1417	.0947	.1559
77	.1590	.0843	.1794	.1712	.0817	.1445	.0612	.1214	.1457	.0740
78	.0813	.1203	.1442	.1092	-.0162	.1600	.1775	.1617	.3082	.1976
79	.2484	.1977	.2427	.1010	-.0693	.1927	.1895	.1975	.0434	.1467
80	.1465	.2540	.1977	.1124	-.0730	.1453	.1725	.2058	-.0036	.1308
81	.1923	.2997	.2336	.1652	-.0190	.1437	.2010	.1617	.1276	.0977
82	.0614	.1463	.0718	.1169	-.0119	.1287	.0617	.1745	.0947	.0947
83	.1688	.2635	.3209	.1324	-.0248	.3375	.1901	.1474	.1555	.1401
84	.0826	.2161	.2576	.1242	.0030	.2545	.3367	.2201	.1474	.2833
85	.1207	.2380	.1638	.1306	-.0161	.0781	.2029	.1183	.0914	.1210
86	.1439	.2319	.2665	.2560	.0267	.2705	.1757	.2127	.1271	.1218
87	.0697	.1405	.1787	.1090	-.0058	.1427	.1644	.1251	.0380	.1529
88	.2075	.2191	.2455	.1857	.0542	.2722	.1748	.2227	.1411	.1508

60	61	62	63	64	65	66	67	68	69	70
1	.0253	.0371	.0607	.0473	.0404	.0496	.0734	.0054	.11.3	.0060
2	.0408	.0461	.1456	.0091	.1223	.0844	.1469	.0816	.0706	.0545
3	-.0465	.0726	.0655	.0446	.1167	.1005	.1067	.0443	.1756	.1379
4	-.0331	.0695	.0374	-.0022	.0338	.0876	.0702	.0415	.0495	.0299
5	.0866	.0276	.0265	.1674	.0112	-.0111	.0461	.0266	.0157	-.0293
6	.0632	.0404	.0711	.1060	.0248	.0632	.0865	.0992	.0545	.0665
7	-.0278	.0040	.1107	.2184	.0514	.0603	.0494	.1100	.0403	.0767
8	-.0027	-.0012	.3136	.0133	-.0145	-.0126	.0455	-.0450	-.0213	-.0840
9	.1621	.0350	.1173	.0333	.0849	.0417	.0601	.0075	.0472	.0081
10	.0133	-.0925	.0681	.1204	.0305	-.0072	.1006	.0019	.0319	.0577
11	.1325	-.0177	.1161	.1442	.0748	.0634	.0953	.0351	.1076	.0326
12	.0584	.1121	.0780	.0836	.0714	.0865	.1196	.0797	.0829	.0601
13	.1217	.0406	.0178	.1697	.0060	.0767	.0446	.0446	.1391	.1118
14	-.0077	-.0451	-.0073	-.0443	.0104	.0104	-.0345	.0262	.0631	-.1071
15	.1245	.0810	.1477	.0662	.0694	.0610	.1522	.1753	.0779	.0031
16	.0064	-.0775	.0770	.1245	.0467	-.0453	.1144	.0281	.0924	.0750
17	.0640	.0545	.1211	.1571	.0759	.0742	.1272	.1013	.0469	.1370
18	.0773	.0675	.0732	.1132	.1629	.0462	.1042	.0773	.1347	.0734
19	-.0107	.1579	.1461	.1047	.1480	.1406	.1607	.1730	.1148	.0887
20	.1179	.3014	.1929	.0609	.2123	.2742	.2000	.2237	.2214	-.0107
21	.0511	.2574	.1560	.0139	.1714	.2613	.2124	.1855	.2287	.0419
22	.0317	.2704	.1136	.1074	.1828	.1947	.1963	.2045	.1940	.0590
23	.0627	.2007	.0468	.1619	.1548	.2900	.2091	.1966	.3257	.0973
24	.0337	.1978	.0359	.1183	.0943	.2788	.1865	.1305	.3111	.1555
25	.0396	.2195	.0777	.1044	.1868	.2554	.1167	.1627	.3078	.0843
26	.0463	.1056	.0732	.0631	.0555	.1233	.1285	.0391	.0794	.1254
27	.1126	.2289	.0187	.0463	.1702	.2145	.1213	.1314	.2462	.1000
28	.0848	.3185	.0547	.0347	.2117	.3062	.2144	.2362	.2414	.0773
29	.1211	.1183	.0289	.1087	.0665	.1819	.1295	.1020	.1064	.0773
30	.0770	.3676	.3435	.0440	.1753	.2943	.1698	.2308	.2945	.0933
31	.3613	.2605	.3347	.0591	.1011	.2440	.1691	.1975	.2715	-.0045
32	.0343	.3003	.1448	.1168	.2135	.3026	.2568	.3006	.2641	.3831
33	.0426	.2176	.0140	.0471	.1298	.2277	.1168	.1071	.2146	.0250
34	.1372	.2814	.1499	.0559	.1730	.2966	.2490	.2356	.3050	.3450
35	.0603	.2573	.0446	.1504	.1612	.2712	.1812	.2448	.2619	.0124
36	-.0657	-.1604	.1070	.0621	-.0727	-.0927	.0404	-.0341	-.0212	.0014
37	-.0464	-.0259	-.0421	.1260	-.0412	.0243	.0529	-.0457	.0161	.0457
38	.0777	.1351	.0596	.1044	.0714	.75d	.0173	.1261	.0865	.0673
39	.1363	.2516	.3642	.0601	.1233	.1542	.1639	.1334	.1650	.1816
40	.0264	.0340	-.3231	.3568	-.0159	.0353	.0473	.0658	.0316	.0854
41	.1246	.1612	.0743	.1363	.0451	.1976	.0130	.1195	.1531	.2335
42	.2160	.2783	.1331	.1201	.1430	.3245	.1341	.1443	.2267	.1045
43	.2160	.1345	.1612	.1397	.1209	.3543	.1251	.3410	.2752	.2581
44	.1408	.1416	.1275	.1710	-.3226	.3339	.0639	.0786	.1234	.1147
45	.1762	.2360	.0334	.2851	.1767	.1896	.1866	.2281	.2235	.0405
46	.0761	.1227	.0855	.0679	.1244	.0684	.0485	.0974	.1364	.0112
47	.0446	.1761	.1610	.2308	.1256	.1562	.0763	.2070	.1648	.0612
48	.2704	.2729	.1302	.2937	.2630	.2527	.2390	.2241	.2217	.1236
49	.1178	.0994	.1661	.1572	.0632	.1537	.1119	.1204	.2146	.1418
50	.0424	.1013	.0274	.0637	.0473	.1214	.0527	.1507	.1056	.0061
51	.1256	.2459	.1311	.1141	.1564	.2992	.1902	.2067	.2674	.2277
52	.2040	.2364	.2532	.2157	.1157	.1193	.1772	.2002	.2031	.3556
53	.1234	.3081	.1096	.1160	.0448	.3524	.1435	.4152	.2836	.2181
54	.1277	.2166	.2134	.1554	.0302	.1785	.1814	.1635	.1667	.1703
55	.0425	.0252	.0013	.1373	.0336	.0391	-.0070	.0391	.0530	.2506
56	.1475	.2901	.1308	.1752	.1648	.2770	.0945	.2405	.2996	.2506
57	.1579	.3452	.1528	.1311	.3707	.3400	.2044	.2508	.3227	.0484
58	.2361	.1994	.1653	.2315	.2040	.2441	.1845	.2545	.2281	.1941
59	.1640	.1207	.0734	.2045	.0457	.1577	.0210	.0966	.1209	.1623
60	.1543	.3515	.1491	.1042	.2576	.3046	.2263	.3653	.3086	.0921
61	1.0000	.1924	.0691	.2307	.1473	.1612	.1664	.1907	.1784	.1380
62	.1424	1.0000	.2185	.3779	.2632	.5505	.2511	.4274	.3521	.1136
63	.0641	.2155	1.0000	.0914	.1471	.1932	.2270	.1715	.1351	.1024
64	.2307	.0779	.0414	1.0000	.1507	.1739	.0994	.1456	.1646	.2064
65	.1473	.2032	.1871	.1507	1.0000	.2973	.3521	.2110	.3648	.0831
66	.1612	.5505	.1422	.1703	.2473	1.0000	.2311	.4311	.3856	.1970
67	.1064	.2511	.2270	.0939	.3521	.4311	1.0000	.2971	.3092	.0621
68	.1927	.4279	.1715	.1458	.2116	.4311	.2971	1.0000	.2592	.1686
69	.1786	.3321	.1351	.1646	.3646	.3656	.3092	.2592	1.0000	.1351
70	.1380	.1136	.1025	.2044	.0431	.1970	.0671	.1686	.1351	1.0000
71	.1642	.4246	.2021	.1356	.1460	.3919	.2506	.3008	.3515	.2310
72	.0611	.1001	.0405	.2632	.0549	.0834	.0453	.1187	.0461	.0161
73	.2065	.3162	.1271	.0894	.1510	.2426	.1723	.2265	.2433	.1712
74	.0500	.2661	.2617	.2105	.0940	.3007	.2364	.2467	.2097	.1041
75	.1633	.0430	.0613	.1557	.3446	.0713	.0629	.1026	.1448	.2050
76	.1040	.2097	.1646	.1496	.1337	.1871	.1816	.1761	.2986	.1175
77	.1641	.0453	.1621	.1257	.0654	.1605	.1127	.1495	.1769	.2506
78	.0945	.2570	.2236	.1226	.1626	.2238	.2219	.2103	.1644	.0533
79	.1200	.2756	.1065	.1727	.2197	.3077	.2140	.2300	.3742	.1544
80	.0883	.3032	.1538	.1437	.3266	.3266	.2478	.2384	.2566	.0572
81	.1721	.2594	.1318	.1601	.1473	.2792	.1401	.2239	.2907	.1926
82	.1353	.1726	.1045	.1026	.0583	.1234	.1161	.1586	.1209	-.0063
83	.2112	.3746	.0704	.0457	.2150	.3115	.2415	.2585	.2753	.1573
84	.1760	.3105	.2058	.1626	.2226	.3017	.2239	.2325	.2092	.1150
85	.2102	.1814	.1144	.1433	.1146	.1955	.1607	.1085	.1961	.1056
86	.1457	.2923	.1536	.1387	.1387	.3426	.2306	.2474	.3271	.2144
87	.0843	.2743	.1405	.1517	.1216	.2562	.1883	.1456	.2114	.0744
88	.2119	.3246	.1495	.1663	.1664	.3497	.1506	.2350	.3398	.2308

row	71	72	73	74	75	76	77	78	79	80
1	.1794	.0690	.0794	.0714	.0313	.0435	.0829	.0736	.1841	.1106
2	.0872	.0374	.1114	.2279	.0652	.1120	.0117	.1927	.1514	.1304
3	.1325	.0458	.0946	.1940	.0410	.1502	.0196	.0000	.1799	.1203
4	.0514	.0256	.0529	.1267	-.0085	.0269	.0133	.0005	.1116	-.0077
5	-.0059	.1004	.0415	.0467	.0249	.0742	-.0257	.1134	.1073	.0651
6	.0577	.0101	.0403	.1104	.1123	.1026	.1071	.0940	.0673	.0877
7	.0850	.0563	.0872	.1321	.1306	.1162	.0389	.1196	.1142	.1128
8	-.0409	-.0206	.0214	.0305	.0703	-.0157	-.0246	-.0304	-.0425	-.0206
9	.0553	.0401	.0336	.0643	.0854	.1478	.0583	.1209	.1123	.0721
10	.0145	.0283	.1070	.1363	.1287	.1279	.0387	.1236	.0715	.0520
11	.0756	.0816	.1667	.1105	.0885	.1250	.0433	.0408	.1746	.1154
12	.1540	.1072	.0664	.1120	.0342	.1571	.0160	.0977	.1274	.0624
13	.0707	.0952	.1400	.1130	.0951	.1461	.0429	.0539	.1539	.1292
14	.0275	-.0033	.0643	.0730	-.0416	.0450	-.0025	.0432	-.0342	.0305
15	.1260	.0267	.0550	.0767	.0222	.0541	.0740	.0679	.1443	.1250
16	.0500	.0150	.0537	.0850	.1851	.0528	.0793	.0957	.0707	.0410
17	.1772	.0593	.0949	.1385	.1646	.1636	.1113	.1495	.1771	.0747
18	.1161	.0514	.1709	.1717	.1023	.1451	.0474	.1683	.1554	.1163
19	.1995	.1096	.2062	.2540	.1329	.1504	-.0270	.1918	.1577	.2444
20	.2340	.0747	.1542	.2199	-.0128	.0823	.0235	.1846	.1757	.1855
21	.2538	.1412	.1943	.2012	.3801	.1703	.0673	.2367	.2614	.2910
22	.2516	.1402	.2065	.2774	.0257	.1645	-.0244	.2343	.2693	.2759
23	.3055	.0476	.2886	.1598	.1310	.2026	.1083	.0787	.3511	.2354
24	.2629	.0074	.3008	.1746	.0788	.1942	.0778	.0657	.3146	.2129
25	.2179	.0724	.2716	.1962	.0402	.1394	.0780	.0973	.2675	.1841
26	.0645	.0199	.0513	.1497	.0010	.0443	-.0737	.1049	.0947	.1042
27	.2460	.0654	.1285	.1578	-.0131	.2493	.0253	.1860	.1753	.1759
28	.2822	.1165	.2161	.2371	.1656	.1851	.0740	.2733	.2430	.2546
29	.1510	.0743	.3916	.0941	.0444	.1245	.0620	.0977	.1204	.0640
30	.2470	.0893	.2759	.2186	.0372	.1805	.0304	.1948	.3196	.1710
31	.2272	-.0128	.0753	.1106	-.0241	.1861	.0536	.2084	.1845	.1644
32	.3132	.0643	.1796	.2156	.0779	.2032	.1172	.2490	.2942	.2830
33	.1846	-.0528	.1192	.1404	.0652	.0864	.1102	.1721	.1649	.1553
34	.2559	.0814	.1822	.3402	.0012	.2274	.0044	.2344	.2478	.2958
35	.3031	.0640	.2094	.3076	.0678	.2154	.0144	.2822	.2945	.1914
36	-.0445	.1096	.0549	.0961	.0452	.0723	-.0404	.0210	.0134	-.0274
37	.0301	.1434	.0847	.0939	.1312	.1158	-.0447	.0333	.0556	.0911
38	.0841	-.0140	.1143	.1346	.0862	.0963	.1337	.0771	.1100	.0496
39	.2036	-.0355	.1129	.0530	.0301	.3945	.0940	.0706	.0530	.0374
40	.0170	.1919	.0363	.0062	.0663	.0557	.0493	.0129	.0234	-.0250
41	.1659	-.0499	.1376	.0664	.1375	.1980	.1819	.0647	.1584	.0674
42	.2924	.0373	.2134	.1174	.3680	.1571	.1509	.0077	.2467	.1453
43	.3719	.0272	.3280	.1508	.2536	.1723	.3158	.1424	.2782	.1765
44	.1436	.0741	.2487	.1018	.2108	.2379	.0992	.0579	.1365	.0895
45	.2767	.0366	.1855	.2312	.1810	.1454	.0284	.1391	.1795	.1955
46	.1458	-.0163	.1253	.1259	.0118	.0539	.0090	.0750	.2351	.1442
47	.1909	-.0116	.1416	.1377	.1364	.0572	.0830	.1327	.1902	.0932
48	.2461	.0844	.1945	.2522	.1433	.2515	.1304	.2421	.1827	.2115
49	.0873	.0477	.1806	.2046	.1037	.2291	-.0272	.0993	.0498	.1643
50	.1114	.0076	.0897	.1059	-.0053	.0933	.0343	.0614	.0388	.0920
51	.2516	-.3147	.1459	.0807	.1221	.1540	.1590	.0813	.2484	.1465
52	.2447	.0661	.2176	.1813	.1649	.1761	.0881	.1203	.1573	.2540
53	.3057	.0551	.3316	.2155	.1930	.2329	.1794	.1242	.2427	.1947
54	.1497	-.0703	.1102	.1776	.1603	.1514	.1712	.1092	.1010	.1124
55	-.0056	.0291	.0138	-.0091	.1236	.0726	.0817	-.0162	-.0493	-.0730
56	.3251	.0170	.2707	.1464	.1069	.1873	.1445	.1000	.1927	.1953
57	.2817	.0402	.1819	.3067	.0899	.1750	.0612	.1775	.1455	.1725
58	.2762	.0177	.1875	.1434	.0747	.1517	.2715	.1817	.1948	.2058
59	.1514	-.0545	.1772	.0945	.1882	.0957	.1557	.0882	.0458	-.0036
60	.2386	.0174	.1873	.2477	.0518	.1559	.0749	.1926	.1647	.1309
61	.1842	.0811	.2085	.3500	.1533	.1040	.1641	.0945	.1200	.0863
62	.4246	.1001	.3162	.2661	.0430	.2047	.0953	.2520	.2758	.3032
63	.2021	.0903	.1271	.2417	.3513	.1649	.1621	.2236	.1005	.1538
64	.1350	.0632	.0999	.2105	.1557	.1449	.1257	.1276	.1172	.0914
65	.1860	.0594	.1510	.0840	.0496	.1937	.0654	.1628	.2147	.1437
66	.3439	.0834	.2440	.3097	.0713	.1871	.1605	.2238	.3077	.3255
67	.2508	.0653	.1728	.2364	.0829	.1816	.1127	.2219	.2140	.2476
68	.3008	.1167	.2265	.2467	.1026	.1761	.1445	.2103	.2300	.2384
69	.3515	.0481	.2433	.2097	.1448	.2886	.1769	.1484	.3742	.2598
70	.2330	.0161	.1712	.1041	.1175	.2506	.0533	.1544	.0572	.0572
71	1.0000	.1665	.4009	.1735	.1050	.2670	.1807	.2825	.4954	.4447
72	.1665	1.0000	.1022	.1237	-.0143	.1921	-.0560	.1152	.1914	.1329
73	.4009	.1022	1.0000	.3060	.2148	.3405	.1917	.1478	.3539	.3532
74	.3735	.1237	.3060	1.0000	.3530	.2753	.0659	.3445	.3759	.3124
75	.1570	-.0183	.2148	.0536	1.0000	.1724	.2948	.0747	.1292	.0669
76	.2670	.1921	.3408	.2750	.2750	1.0000	.0425	.2532	.1094	.2650
77	.1807	-.0560	.1917	.0659	.2948	.3425	1.0000	.0085	.0440	.0222
78	.2825	.1152	.1878	.3485	.0757	.2532	.0085	1.0000	.2153	.2437
79	.4497	.1914	.3594	.3324	.1292	.3044	.0440	.2353	1.0000	.4016
80	.4513	.0943	.3092	.2253	.1453	.2487	.2149	.1760	.3929	.2637
81	.1742	.1633	.1765	.1693	.1814	.0491	.0182	.2209	.1987	.1947
82	.4412	.1159	.0734	.2860	.1390	.3716	.1751	.2274	.3774	.3796
83	.3236	-.0120	.1864	.2318	.0915	.0915	.0473	.2766	.2811	.2524
84	.2449	.0767	.2545	.1501	.1173	.1756	.1774	.1470	.2497	.1791
85	.4324	.0817	.3832	.2820	.2140	.3175	.2411	.2033	.3968	.3411
86	.3702	.1033	.2471	.3183	.1130	.2146	.0010	.3228	.2478	.3544
87	.4818	.0845	.3415	.2814	.2002	.2752	.2745	.2078	.3334	.3554

999	91	92	93	94	95	96	97	99
1	.0267	.0726	.0619	.0527	.1230	.1056	.0604	.0973
2	.0998	.1335	.1403	.0726	.1511	.1296	.1066	.0255
3	.0681	.0815	.0429	.0500	.0743	.0707	.1095	.1255
4	.0872	.1261	.0224	.0138	.0165	.0613	.0615	.0386
5	.0278	.0470	.0002	.0536	.0574	.0660	.0992	.0291
6	.0623	.0597	.0188	.0759	.1731	.1236	.0577	.0521
7	.0564	.0219	.0350	.0920	.1059	.1135	.1065	.1145
8	.0592	.0610	.0269	.0113	.0913	.0477	.0437	.0360
9	.0230	.0039	.0018	.0562	.1329	.0595	.0443	.1049
10	.0403	.1238	.0145	.0030	.0614	.1219	.0192	.0514
11	.0377	.1627	.0588	.0102	.1488	.0232	.0435	.1005
12	.0837	.1239	.0476	.1277	.1556	.0414	.1157	.0300
13	.0735	.0257	.0198	.0996	.0399	.0349	.1353	.0741
14	.0304	.0701	.0061	.0525	.0362	.0571	.0524	.0554
15	.0734	.0554	.0113	.1356	.0695	.1495	.0588	.0556
16	.0171	.0452	.0086	.0735	.1411	.0231	.0453	.0739
17	.2012	.0922	.1178	.0913	.1095	.1356	.1123	.1427
18	.1513	.1064	.1333	.0629	.1508	.1549	.1491	.1448
19	.0960	.1492	.1691	.1721	.1122	.1333	.1363	.2116
20	.1567	.1346	.1553	.1862	.0514	.1750	.1973	.0985
21	.1003	.0991	.2658	.1904	.1731	.2145	.2423	.1716
22	.1593	.0266	.2378	.1770	.0877	.1699	.2340	.1475
23	.2965	.1217	.2985	.1206	.0999	.3166	.1369	.2922
24	.2726	.0831	.2305	.1006	.0657	.2994	.1071	.2254
25	.2112	.0232	.2333	.1510	.0667	.2231	.1535	.1775
26	.0362	.0999	.0566	.0325	.0742	.0451	.0366	.0212
27	.1658	.1412	.2239	.1260	.1343	.2121	.1025	.1666
28	.1833	.1218	.2293	.1375	.1147	.1879	.1639	.2294
29	.1388	.0759	.0967	.0640	.1136	.1523	.0493	.1768
30	.1308	.0855	.2284	.2273	.1775	.1960	.1979	.2070
31	.1324	.1213	.2134	.2113	.0947	.1233	.1432	.1629
32	.2125	.1369	.2562	.2471	.1371	.2139	.2554	.2339
33	.0939	.1315	.1370	.1212	.1300	.1344	.0975	.1786
34	.1450	.1090	.2158	.1079	.1349	.2533	.1963	.2454
35	.1383	.0375	.2261	.1701	.1303	.2193	.1660	.2412
36	.0336	.0673	.0447	.0917	.0405	.3144	.0002	.0173
37	.0436	.0959	.0540	.0433	.0116	.0347	.0594	.0514
38	.0852	.0888	.0618	.1388	.1302	.0295	.0515	.1146
39	.0767	.1109	.1146	.1372	.0726	.1030	.0599	.1184
40	.0460	.0437	.0605	.0123	.0430	.0013	.0563	.0145
41	.1110	.0475	.0493	.1712	.0950	.1545	.0927	.2097
42	.1759	.1462	.2037	.1440	.1279	.2356	.0990	.2014
43	.0337	.0745	.2347	.1997	.1593	.0066	.1710	.4175
44	.1108	.2092	.1252	.0417	.1651	.1572	.0643	.1756
45	.1328	.0390	.1751	.1392	.1418	.1753	.1164	.1356
46	.0728	.0901	.1485	.1150	.1124	.1279	.1395	.0771
47	.1643	.0930	.0340	.1714	.1710	.0615	.0919	.0944
48	.2066	.1569	.2152	.2259	.2608	.2135	.2759	.2579
49	.0484	.1240	.0982	.1267	.1468	.1675	.0363	.1022
50	.1182	.0295	.0371	.0375	.0982	.0726	.0149	.0772
51	.1923	.0514	.1588	.0626	.1257	.1430	.0677	.2075
52	.2297	.1463	.2935	.2161	.2359	.2319	.1405	.2191
53	.2338	.0714	.3209	.2576	.1038	.2645	.1787	.2955
54	.1652	.1159	.1524	.1242	.1308	.2565	.1090	.1957
55	.0130	.0119	.0288	.0030	.0161	.0267	.0005	.0542
56	.1837	.1247	.2375	.2545	.0791	.2705	.1459	.2722
57	.2010	.0637	.1901	.0387	.2029	.1752	.1694	.1746
58	.1837	.1755	.1974	.2201	.1143	.2122	.1251	.2227
59	.1976	.0807	.1555	.1474	.0836	.1223	.0380	.1611
60	.0977	.0945	.1461	.2633	.1210	.1216	.1529	.1509
61	.1721	.1353	.2112	.1760	.2162	.1957	.0843	.2119
62	.2996	.1720	.0749	.0105	.1914	.2923	.2743	.0296
63	.1316	.1045	.0796	.2058	.1144	.1556	.1205	.1493
64	.1601	.1026	.0657	.1625	.1433	.1367	.1517	.1963
65	.1473	.0593	.2150	.2220	.1140	.1367	.1216	.1644
66	.2792	.1234	.0115	.0617	.1955	.0026	.2562	.0447
67	.1901	.1191	.2915	.2239	.1637	.2304	.1563	.1506
68	.2239	.1569	.2565	.2325	.1045	.2474	.1866	.2350
69	.2907	.1299	.2753	.2682	.1761	.3271	.2114	.1399
70	.1926	.0063	.1523	.1350	.1056	.2165	.0744	.2309
71	.4513	.1792	.4412	.3234	.2449	.4324	.3792	.4619
72	.0343	.1633	.1149	.0120	.0767	.0817	.1033	.0895
73	.3032	.1795	.4754	.1664	.2545	.3632	.2471	.3915
74	.2253	.1699	.2660	.2316	.1561	.2320	.3153	.2614
75	.1353	.0491	.1390	.0612	.1173	.2140	.1130	.2082
76	.2467	.1814	.0716	.0915	.1756	.0175	.2199	.2752
77	.2149	.0182	.1751	.0473	.1774	.2411	.0810	.2745
78	.1760	.2279	.2274	.2766	.1670	.4033	.3229	.2079
79	.3929	.1947	.0774	.2911	.2697	.3964	.2779	.3374
80	.2937	.1947	.3754	.2524	.1791	.3411	.3949	.1554
81	1.0000	.1544	.3670	.1702	.2681	.4336	.2609	.3914
82	.1548	1.0000	.1562	.1150	.1842	.0407	.1677	.0927
83	.3670	.1562	1.0000	.2726	.2090	.3494	.2746	.1969
84	.1702	.1150	.2726	1.0000	.1676	.1572	.2617	.2236
85	.2681	.1842	.2040	.1476	1.0000	.2447	.1798	.2079
86	.4336	.0907	.3946	.1572	.2447	1.0000	.2197	.3296
87	.2619	.1677	.2746	.2637	.1788	.2197	1.0000	.3297
88	.3614	.0927	.3949	.2236	.2076	.3249	.3207	1.0000



APPENDIX 6

FACTOR LOADINGS AND FACTOR SCORES

ON 88 RELIGIOSITY ITEMS

QUESTIONNAIRE ITEM NO.	VARIABLE	FACTORS 1	FACTORS 2	FACTORS 3	FACTORS 4	FACTORS 5
1	1	.14594	-.22977	.63240	-.02350	.15865
2	2	.00346	-.47724	.04760	.14470	.11513
3	3	.06636	-.43391	-.06243	-.01246	.14937
4	4	.11825	-.17854	.04436	.00043	.07406
5	5	.13497	-.31274	-.04059	.02085	-.06500
6	6	-.02247	-.44350	-.06059	.09157	.00232
7	7	-.37072	-.51793	-.11394	.03341	.07134
8	8	-.07291	-.17235	.02774	.08527	-.00755
9	9	.14812	-.32314	-.01925	.03342	-.00631
10	10	.00945	-.52001	-.09121	-.06600	.02389
11	11	.01262	-.44399	-.11246	-.02601	.09506
12	12	.00228	-.29914	-.02776	.12194	.09160
13	13	.04101	-.38579	-.16592	.04342	.00842
14	14	.19443	-.11299	.08592	-.15081	.04244
15	15	.04000	-.34375	-.16939	.14668	-.06900
16	16	.01625	-.45982	-.14307	.06679	-.10449
17	17	.01266	-.40763	-.20060	.05671	.10402
18	18	.10546	-.44518	-.23809	.02582	.03007
19	19	.03420	-.36273	-.00008	.25360	.19205
20	20	.25491	.05420	.05367	.45407	.12970
21	21	.39971	-.07042	.12033	.27979	.25143
22	22	.30050	-.25735	.12868	.35071	.15652
23	23	.57137	-.09259	-.25476	-.16123	.33643
24	24	.60079	-.09576	-.26196	-.20517	.26693
25	25	.59266	-.12678	-.16535	.03531	.06435
26	26	.18237	-.09063	.03025	.19011	-.01645
27	27	.53003	.01403	-.03902	.14327	.06860
28	28	.64557	-.11922	-.03298	.16846	.07494
29	29	.27543	-.11549	-.15066	.03750	.01213
30	30	.64492	-.19752	-.20162	.10998	.02304
31	31	.58710	.23100	-.00600	.20629	.08335
32	32	.53527	.10645	-.03072	.26241	.23594
33	33	.54922	.16244	.00160	.14965	.06727
34	34	.57660	-.11164	.04084	.28007	.12154
35	35	.54152	-.23823	-.03904	.25252	.02780
36	36	-.04048	-.39915	.18035	-.23663	.17152
37	37	.04090	-.40765	.06321	-.13139	.14593
38	38	.06440	-.10366	-.37589	.17435	-.11279
39	39	.00305	-.05271	.46785	.21278	-.08144
40	40	-.04056	-.02615	.01532	.02402	.11854
41	41	.12698	-.13093	-.45434	.06464	-.01165
42	42	.14392	.01990	.30927	.14134	.22716
43	43	.13783	.06359	.44956	.04332	.44444
44	44	-.01420	-.37641	.37905	-.04024	.11267
45	45	.01243	-.14699	.23345	.33493	.12425
46	46	.10940	-.13102	.08722	.14466	.10660
47	47	-.01082	-.19303	.22632	.25242	.01880
48	48	-.01665	-.18156	.30582	.35092	.18211
49	49	.06490	-.20140	-.21453	.13445	.07725
50	50	.02570	-.12374	-.11952	.14651	.05569
51	51	.20143	-.08655	-.41564	.11756	.04404
52	52	.05601	-.16555	.36324	.24327	.14075
53	53	.23347	.10284	.44896	.13531	.31964
54	54	.04266	-.09373	-.46890	.10910	.10439
55	55	-.01586	-.10350	.24244	-.06318	-.37454
56	56	.21790	.04502	-.40325	.17005	.15643
57	57	.07132	.06413	-.24491	.54035	.04703
58	58	.10539	-.10035	.39842	.34860	.05514
59	59	-.03576	-.02400	-.52088	.03278	-.06289
60	60	.19643	.05925	-.13740	.53863	.02344
61	61	-.02767	-.03257	.35397	.21790	.11915
62	62	.26713	.12243	-.26138	.51580	.27965
63	63	-.06671	-.15105	.09452	.34853	.19402
64	64	.01156	-.25720	.33890	.15167	.06307
65	65	.10663	-.04757	.13593	.45764	.04561
66	66	.31886	.07522	.26339	.46871	.30002
67	67	.17024	-.18633	-.06205	.40457	.18521
68	68	.17236	.02376	-.26079	.43711	.22112
69	69	.36053	-.04270	-.28268	.27207	.27546
70	70	.00738	-.03464	-.42614	-.01512	.21012
71	71	.22399	-.03500	-.21053	.32061	.56565
72	72	.01209	-.17749	.14259	.11244	.28153
73	73	.17904	-.11839	-.24517	.08699	.35720
74	74	.19416	-.27928	.02622	.34266	.35739
75	75	.08756	-.18066	-.35667	-.06675	.26407
76	76	.17410	-.23034	-.12499	.13206	.39618
77	77	-.02658	.05641	.39656	-.06439	.27470
78	78	.16695	.21021	.35548	.43226	.22522
79	79	.30024	-.19643	-.09729	.18680	.51490
80	80	.19244	-.13515	.04524	.31167	.51216
81	81	.13362	-.04791	-.26275	.07970	.55106
82	82	.04551	-.19562	-.03106	.19420	.21763
83	83	.20297	.01610	-.15467	.22831	.57678
84	84	.09645	-.01331	.14404	.49394	.14167
85	85	.02210	-.19609	-.17029	.20192	.28220
86	86	.18885	-.09520	-.25080	.06667	.60449
87	87	.10078	-.12323	.03101	.32984	.42353
88	88	.16383	-.03092	-.29035	.09909	.57541

## FACTOR SCORES

I.O.					
1	-1.3629	.3747	-.7872	-1.3956	.4094
2	.0327	-.3959	-.4480	1.1399	.6769
3	-.1417	-.4652	.5942	-.2355	1.3856
4	-1.7800	.1883	.5004	-1.0363	-.4403
5	-1.2868	.2064	.2386	-.9814	-3.5434
6	.5835	-1.9656	.4529	-1.7509	-.8798
7	-.0011	-.9288	.7431	-1.9982	-1.3220
8	1.1933	-.7596	-.5605	.2182	.0800
9	-.1327	-.2908	-.9753	.0224	.3025
10	.9557	.7435	2.0299	-.9352	.7503
11	.6537	.4255	-.9490	-1.0289	-1.1469
12	-1.1488	1.0921	-.3959	-.8173	.2935
13	1.3469	1.5843	-1.0696	-.7820	.1190
14	.2888	-.6799	-.7439	.2110	-.1389
15	-4.2378	.1628	-.3643	1.9384	.1547
16	.3667	.2516	-.6952	.4902	.7802
17	.8151	1.0931	-1.1292	-1.1075	-.5202
18	-.4183	-.0891	-.7744	.3395	.2216
19	-2.0636	-1.6451	.1211	-1.3751	-1.9359
20	.7830	.6054	.2111	-.5203	-.7482
21	.3798	.5826	-.5569	-2.4243	-.8611
22	.8536	-.7650	.3000	1.0233	.3823
23	-1.3412	-.0665	2.9354	.2250	-.7495
24	.2978	.1980	.0556	1.4518	-.3509
25	.8960	-1.0531	.4394	.0869	1.0252
26	1.1665	.3030	2.3415	-.3071	1.1122
27	-.8431	-.2262	-1.0999	.8810	-.0578
28	.4482	.7698	-.5420	-1.7609	1.1987
29	1.3640	-.3771	.0878	-.0483	-2.9208
30	-.1640	.4789	1.6218	-.7141	.7112
31	.4959	.9644	-.0268	-.7037	.0453
32	.7434	.6768	-.2770	.2708	.6764
33	-.4402	-1.9115	-.2598	.0897	-.0927
34	.2359	.5319	-1.1766	.0630	.2625
35	-.9820	-.8182	-.4035	-1.0519	.9964
36	.0101	-1.4273	.2158	.4132	.7703
37	.4208	-1.0199	-1.2532	-.1024	.0944
38	-1.6348	.5092	.6684	-.9232	1.8817
39	-.4660	-.3035	.9133	-2.3864	.2738
40	-.6345	.1300	1.6111	1.6719	1.4520
41	.8469	1.4839	-.8950	.0578	.1308
42	-1.6427	.0527	-.0947	-.0317	1.0327
43	-.6670	.9686	-1.0988	-.4082	-.6792
44	-.2040	.0121	-.3442	-2.2208	-1.6554
45	.2389	-.0534	.0854	-.3877	-1.2022
46	-.0669	-.6169	-1.3274	-.4988	.1651
47	.2973	.5086	-1.0319	.8123	-.9294
48	-.3891	-2.0578	-.9460	-.1565	.4968
49	1.1369	-.2135	-.2998	.5450	-.7644
50	.0724	.5377	-1.0495	.0417	-.3017
51	-.9855	-.1476	.3228	1.5600	-.5017
52	-.6845	1.2128	.7402	.3783	-1.3318
53	-.6122	-.5678	1.0344	-.8519	-2.6284
54	-.1180	-1.6499	2.0939	-2.2019	-1.5197
55	-.7058	-1.9934	.1192	.2930	.6984
56	.5198	-.4106	-1.0081	1.1510	-.4980
57	-1.2202	.4326	.0835	-.6021	.6927
58	1.3859	.9522	-.1599	-.9965	-.5784
59	.0722	-.6546	-1.3246	-2.6225	-1.0782

60	-.0248	-.5330	-.2251	.0018	.0959
61	.2321	.1001	-.7753	.5871	.3611
62	1.5291	1.4808	.5602	-.4328	-.1201
63	-.7163	.9201	4.6439	-.2634	2.3447
64	-.1037	.2750	3.1389	-.2972	-.4585
65	-1.1539	2.2225	.6706	1.8661	-.7787
66	-.7625	1.3059	-1.1685	-1.2520	.6839
67	.6007	-.4005	-.0892	2.1407	-1.2807
68	.0619	-1.0903	1.5834	-.0219	.6073
69	-.3572	-.0505	.2029	.7842	.9414
70	.6741	-1.5601	-.7138	-1.4643	-.8505
71	-.4386	-.1954	-.4610	-1.0057	1.1694
72	1.3534	.8127	-.4001	-.2373	-.6648
73	-.0269	-1.4626	1.4300	.2430	1.4270
74	.2104	1.1766	-.4890	-1.0545	.2943
75	.2613	-1.3443	-.6563	-3.9616	-1.4424
76	-.0479	.3728	.6875	-.5654	.0800
77	-.8259	-.3519	-1.1792	.7449	.1762
78	.6194	-.5404	-.2617	.2740	.8723
79	-.1631	.6287	-.7817	1.5779	-1.4018
80	1.4637	-.0622	.6192	-.8060	-.9268
81	-.1872	-.6015	-.5761	-.9205	.5827
82	-.7878	-1.4109	-.2476	-1.5113	-1.4375
83	.5730	.2043	-.5630	-1.0418	.6769
84	.6014	.7850	1.0557	-.7596	.6858
85	.5990	.7417	-1.3264	.5520	-3.2418
86	-.9986	.8115	.4395	-.8071	-.5241
87	-.3588	.6555	-.8478	.5604	.6197
88	.4788	1.2428	.4885	.2106	1.0038
89	.3993	-.5736	-.8811	.3473	.1392
90	-.4158	.1031	.9223	.5893	.3062
91	-.2999	-.4557	-.1681	-.9413	-.4010
92	1.3492	-.3154	.7723	-.4938	-1.5445
93	-.1388	-2.1477	.1997	-.2971	1.5776
94	.8005	-.0081	-.5564	1.1256	.5014
95	.4799	.5629	-.5953	1.2635	.4185
96	.3675	.7100	1.6764	-.6543	.1624
97	.2598	1.4042	-.1899	.4669	-.7608
98	1.1539	.3710	1.3513	1.1154	.0281
99	1.0217	.8264	.6515	.1576	.5716
100	1.3636	1.5089	.7125	.8280	-.5694
101	-1.1781	-1.1683	.0647	.9824	1.2561
102	-.9799	-1.5195	.1261	-.2792	1.7040
103	-.3012	-.7219	-.5413	.1767	1.1237
104	-1.8214	.1301	.5455	.0691	-1.5428
105	.2132	.1730	-.9930	.1164	-.2292
106	-1.0233	.7910	-.4288	-.2400	.6500
107	-.7583	-1.0666	-.8720	.1777	.3011
108	-2.4572	1.6478	-.1232	.9984	-2.0181
109	-.0508	.6352	-.4288	.6041	-.2796
110	-2.3385	.0766	1.6988	3.2352	-1.6240
111	-.0228	-1.2474	1.1174	-.1688	-1.0146
112	-.0640	.4421	-.6049	-.0895	.1409
113	.8361	1.7374	-.6661	.1940	-.3076
114	-.1447	-.6196	-.1446	-.2836	-.1063
115	-1.6829	-.6831	.4880	-.3146	.9045
116	-.4942	.2655	-.6944	-.0542	-1.2269
117	-1.1255	-.7282	-.2411	1.2750	1.5439
118	.5840	.4716	-.3034	1.2580	.1107
119	-.0285	-1.1315	.5373	.8211	.2390
120	-.9687	.0025	-.8633	.1847	-1.3199
121	-.2053	1.9159	-.0900	.9075	.8350

122	-.6793	-.4971	.3912	.1950	-1.1132
123	-1.7512	.6691	-.3644	1.6052	.0820
124	1.0670	-.2502	.7778	1.0091	-.5305
125	-.6772	-1.0510	3.1485	-.8080	-.9941
126	.3759	-.9659	.4464	2.0941	-1.0976
127	-3.3451	.9302	3.9344	1.1812	-.3161
128	.7091	.9807	-1.2174	-.6746	-.6060
129	-.5086	-.2852	-.7592	-.7260	.6732
130	-.2596	.6899	.6618	-.3785	1.0479
131	.9150	.0167	.3035	.6929	.5407
132	-1.0131	.2680	-.1193	.4547	1.4207
133	.3089	-.1903	-.4852	-1.5364	.7364
134	.9322	.5726	.1270	.3118	.7907
135	-4.1208	-.3383	2.0728	3.3607	-2.0990
136	.7016	1.8545	-.1900	.8518	.4815
137	.5684	.9058	-.7364	-.1405	.5454
139	-.4677	.4401	-.4701	.8608	1.1394
140	.7531	-.9075	.3219	1.2293	.3142
141	-1.4186	-.0161	-.6105	-.8247	-.1920
142	.2753	-1.7348	.4087	.5587	.5911
143	-.9982	.9839	-1.4899	-.3443	.1929
144	-1.9473	.6732	-.9584	-.3942	.6850
145	-1.1290	-1.6960	.1835	-.2557	.2020
146	-.9932	-.8711	-1.4536	-.5889	-.4516
147	.6883	.0856	-.5169	.0791	.7803
148	.9428	-.1005	-.4144	-.0240	.3161
149	-1.2390	-.2245	-1.2097	-1.0293	-.4946
150	-1.0322	-1.2336	.5276	-.8126	.3282
151	-1.0752	-.0517	-1.3794	.3932	.2742
152	1.6514	1.1704	-.8902	-1.5935	-.1912
153	-.4272	-1.4249	.4685	1.1314	.2944
154	.5438	-.2966	-.0552	2.0711	-.2610
155	.4695	-1.7247	-.1058	.3389	.7492
156	.0160	-.7910	.1433	.9717	.3449
157	1.8096	-1.1362	.0451	.0979	-1.0274
159	.8943	-1.5236	-.1850	.4010	-.6601
159	.8035	-.1112	-.3779	.5111	.9539
160	-.2051	-.7724	.1682	-1.4618	-.1014
161	.9589	-1.1038	-.3953	.9402	.4314
162	-.5357	-.6294	-1.0429	.6781	-.0600
163	.2385	.1361	-.1068	1.1724	-.4684
164	1.3785	.0766	2.5444	-1.3589	1.3898
165	1.4501	-1.7140	-.2459	.1311	-1.0376
166	-1.9653	-1.2149	-.0026	-.1782	-.3784
167	.7226	.8698	2.0626	.7665	1.5455
168	1.0286	-.3324	-.7207	.7509	-.4412
169	1.2440	-.4551	.7892	.1648	-.3223
170	.9605	-.7228	-.8161	.0858	.4185
171	.8021	.7579	-.8119	.7618	-.8599
172	1.2841	-1.8170	.3919	1.1587	-.2839
173	.8697	-.0504	.0658	-.0996	.6533
174	.8856	-.3873	-.5697	1.2301	-.1087
175	1.0230	-.5287	-.4671	1.3373	.1660
176	1.4987	1.3665	-.7747	.7089	-.5899
177	.1641	.2354	-.5755	.9332	.8554
178	.2597	.2395	-1.2669	-.4115	-.3474
179	.9366	-.8967	-.1000	.2927	.8393
180	.2152	-.0045	-1.0749	-.4597	-.4795
181	-.3901	-1.5088	.3199	-.4887	1.4652
182	.7795	-.6003	-.3017	1.1202	.6535
183	.1498	-.1879	-.0418	1.5508	-.2994
184	.9520	-2.0992	-.2340	.2739	.4932

186	.2245	-2.0837	.1669	.0165	.7250
187	.2790	.9550	-.1874	-1.1136	.4758
188	.7406	.0194	-.1737	.9683	1.0045
189	.4639	-.6810	-.6000	-.2982	-2.0643
190	-.0405	-1.6647	.0878	.4441	.7856
191	.2869	-1.3868	-.3904	.8874	.7857
192	.9935	1.3218	.9845	.0128	.9760
193	-1.0841	.3953	-1.5660	-1.0077	-.1063
194	1.9055	1.1885	1.1603	-1.0770	-.0187
195	-1.6317	-1.6631	.4135	-3.7413	-1.9600
196	.6894	-1.1243	2.6444	1.2786	-1.5047
197	.5272	-.2548	-.7100	.2890	.6746
198	.0910	-.5957	-.1751	2.0015	-3.1531
199	.0791	1.5158	-.2471	.8940	-2.1121
200	.1411	-.4830	-.0411	-1.2254	-.2398
201	1.5221	.6904	.2714	1.0201	-.1806
202	.6561	-.4593	-.8499	.7924	.0678
203	1.3352	-.2324	-.2274	.9680	-1.5084
204	-.2179	-.9764	-.9550	-.0807	-.5792
205	.9582	-1.2251	.3068	-.6784	-.1852
206	.6951	.2192	-.9209	.6390	.3486
207	.5846	-.7815	.5664	1.5937	.2838
208	1.7022	.0924	1.3783	.1419	-.0604
209	.8574	.6659	-.2297	-.6448	.2709
210	.3825	.9738	-.1538	.8644	.2622
211	.9214	-.9724	-.6084	.3227	-.5428
212	.7237	.1954	2.7150	.6668	-.2543
213	1.2592	.9402	-.5351	.0686	-.1295
214	1.1558	-.7870	-.5860	1.0068	-.4979
215	.7010	-.4823	-.5695	.2893	.2798
216	.9862	-.0640	-.6481	1.2839	.1033
217	.6427	-.4552	-.6134	.4106	.6619
218	.8340	-1.2137	1.9559	-1.0852	2.0889
219	.6238	.2630	-.5758	-.0068	.1313
220	.5869	-.8665	-.5193	.9965	.2710
221	-.0378	-.4939	-.6337	.3255	.6078
222	.5101	-.9427	.5480	1.3681	-.5860
223	.8896	-1.1555	-.5671	-.7588	-.5929
224	1.7684	2.2224	1.6303	-1.1403	-.1726
225	1.1248	-.9739	-.0190	-.2441	.3718
226	.0890	.9860	.6914	-.2449	-.4149
227	.4412	.5393	-.6174	-.8787	-.4198
228	1.5023	-1.5595	.2351	-1.0981	-.4207
229	.2564	-1.0922	-.0236	-.0181	1.3041
230	1.4269	-.7710	1.6172	.8003	.8611
231	.3099	-.6504	-.1370	.8263	-.0438
232	.6700	-1.2639	-.8835	-.3232	.4589
233	1.1022	-.2593	.4469	.5803	.6506
234	1.4804	-1.1107	-.3716	-.4274	-.6432
235	1.0765	.9901	1.0820	2.1593	.1570
236	.6584	.3206	.6734	.8769	-.1034
237	.7129	-.0039	-.0961	1.3542	.5702
238	.4172	.8114	1.1240	.4443	-.1606
239	.9176	.4200	-.4904	-.1129	.3239
240	1.4142	.2798	-.5583	.7884	.0638
241	.6209	-.3037	-.8195	1.2704	-.4088
242	1.5070	-.6847	1.8982	.4230	-.5686
243	1.1313	-.1404	.1512	-.5025	.8841
244	-.0469	-1.5793	1.0550	.0173	1.1389
245	.0424	-.6484	.4641	.3537	-1.9174
246	-.0914	-.1759	-.6744	.2319	.7612
247	-.6072	1.3018	1.0394	-1.4037	-.0551

248	1.3723	1.3825	1.6001	-.1439	.7382
249	-.6856	.5495	-1.3143	.4457	.7060
250	.2926	1.3727	-1.1571	.1756	-1.1370
251	-.7619	.6949	1.6930	-2.0846	-.7963
252	.5890	-1.1302	-.5142	1.5279	.0458
253	-1.3981	-.1940	-1.3159	-.7070	-.0500
254	.0281	-.1256	-.1656	.0628	.6057
255	-.4585	.4458	.1519	-.0570	.9958
256	-1.1591	-1.5824	.7334	-2.5934	-2.0575
257	-1.1972	-.4059	1.8491	.6112	-.0054
258	-.6761	-.2922	-.7112	-.2774	-.5592
259	.2850	.8067	-.3888	.4852	.7648
260	-1.4122	.3668	-.5430	.4191	-.7306
261	-1.1095	1.2769	-1.0767	-1.1016	.9575
262	-.7416	-.4328	-.4240	-.6887	-.5622
263	-.1874	1.0304	.4442	-.5840	.7043
264	.4468	1.0128	.4628	-.0096	-.4079
265	.3776	-.2927	.9857	.1228	-1.0177
266	-1.5985	-.1114	-.4557	-1.0487	-.6822
267	1.1257	.9938	1.9580	-1.4691	-1.4138
268	-1.0102	.7432	-.0894	-1.1626	-.2269
269	.0106	.7938	-1.1494	.0363	-.6682
270	.0618	.2981	-.9189	-.0890	-.7389
271	.9568	-.6644	-.2893	.1228	.5792
272	.5960	-.7534	.1136	1.0309	.7193
273	.9825	.9828	-.2610	-.3372	-.3996
274	-1.4366	1.3491	-.2449	.0424	1.1987
275	.6562	.9396	.2545	.1140	-.3296
276	-.5900	.2341	.8146	-.3901	.0312
277	-.3126	.0086	.1243	1.3946	1.1802
278	-.7740	-1.0254	-1.0905	-.5312	1.0022
279	-.4277	.5092	-.8602	.0562	.2141
280	-.2212	1.3132	-.0024	-2.1075	.3857
281	.3439	.1253	-.3615	-.7537	-1.3424
282	-4.3669	-2.3465	2.1362	2.4893	-3.8894
283	-1.4395	.3618	.0289	.5408	1.7084
284	1.7664	.8532	1.7761	-.3385	-1.2397
285	.7963	-.9617	-.5356	.5769	.1571
286	.3148	-.4143	.2737	-.3511	-.4153
287	.7277	1.1228	-.1969	1.1898	.6807
288	1.0873	.1194	-1.1086	.5341	-.1937
289	-1.1006	-.3273	-1.4795	.0897	-.1454
290	.6540	-1.9757	-.1395	-.1439	.9302
291	1.2655	.7574	-.9151	-.7192	.4908
292	.6221	-.8280	.1713	.5872	.3469
293	-.5871	-1.0399	-.1809	.5479	1.2470
294	.6592	-.4259	-.4328	.5530	.6727
295	.2778	-1.2520	-.8294	.2215	-.7199
296	.0832	-2.0373	-.7179	-2.1506	.9939
297	.6401	.2322	-.2887	-.6351	.9838
298	-1.3252	-.0076	-.9217	-.2032	.4305
299	-.2341	-1.3747	-.5496	.8257	.8404
300	.3931	1.5492	1.3127	.2944	.9134
301	.2841	-1.2977	.0976	-.4914	.8429
302	-.5300	-.5763	.4439	.7569	-2.3102
303	1.0103	-.1871	-.2697	.1202	.6063
304	1.3577	.4980	-.3891	-1.4687	.3616
305	.9535	-1.6744	.8067	-.4234	1.4392
306	.6974	-.9678	.4810	-.8184	-.1793
307	-1.5734	-.2273	-.9312	-.4468	.6629
308	1.3213	-.8539	-.1533	.4062	.4608
309	.5656	-.9586	.1766	.3888	.7765

310	.9803	-.0320	.1487	-1.0243	.5206
311	1.4912	-1.1374	.3435	.0869	.2106
312	.4172	-1.1978	-.1977	.6401	.0694
313	-.6223	-.6771	.1625	.7663	.1697
314	1.3636	1.5106	2.2548	-.7388	-.6357
315	.0961	-.8847	-.6512	1.2394	.1458
316	-.0893	-.2102	-.6576	-.4368	-.2930
317	-1.9677	-.9951	-.1760	-.7746	-.3963
318	.9689	1.4068	-1.5671	.3228	-1.0211
319	-1.5817	-.1251	-1.3993	.1662	-2.4706
320	1.3366	.1952	-.0430	1.2886	-.7489
321	.3539	1.0771	-.0909	-.5038	-1.3640
322	-.8956	.6503	-.8945	-.0810	-1.2158
323	-1.0874	1.4559	.5439	-2.2654	-1.0069
324	.3060	-.0054	1.7596	.5401	-2.0848
325	-.9032	.1021	-.6798	-1.2656	-.9288
326	.0300	-.1475	.3103	-2.0619	-2.4017
327	-1.0564	-.8920	-.7578	-.2732	-1.3459
328	-.8895	-.7482	-.0712	-.2501	-.1260
329	-.5397	-.5028	-.1978	1.2426	-.0054
330	-.9849	.8763	-.5934	.9003	.2281
331	.7845	-.1817	.0194	1.0704	.7392
332	.6284	1.9532	.4140	-2.3280	.2013
333	.2338	1.2035	.1833	-.2574	.3815
334	.7164	-1.2520	-.4102	.3498	.3983
335	-.0517	-1.0981	-.9781	-1.3454	-.4100
336	-.6747	-1.4499	-.2248	-1.4691	-.2332
337	-.3553	1.4975	-.4389	-.1065	.2653
338	.4346	.1293	-.7925	-1.3647	.7518
339	-.0089	.3472	-.5858	.4636	.2045
340	-.2566	1.5038	.4846	1.0086	.6354
341	1.5789	.4761	.8605	-.5109	-1.6228
342	.7813	-.8231	-.2547	.1039	.7346
343	-.2499	-.6492	-.4593	.7165	-.5502
344	.1517	.2990	-.5082	1.0874	.9016
345	-.9761	.2490	1.0476	-.9812	2.1051
346	-1.4812	-1.9144	-.1925	.3084	.6265
347	.5034	.0368	-.3143	1.3352	-.3076
348	-.1229	.9950	-.3855	1.3471	.7684
349	.3531	-1.3127	-.7859	-.0729	-1.3581
350	.2128	-.5693	1.2244	-.7769	-.5030
351	-.0025	2.3251	-.1840	.0380	.8214
352	-3.0029	.6146	-.5988	-.3443	-.9413
353	-.0387	1.1071	-.7634	-.2896	.1316
354	-.5274	-.1834	-.7321	1.1744	.5496
355	-.8589	.2510	-.7057	-1.9633	-1.0122
356	-.1771	-.5342	-.7175	.4067	-.5063
357	-.9500	-.4344	1.5628	-3.3855	.4974
358	.5711	.7865	-.7065	-1.0354	-.3935
359	-.2571	1.5808	-.2549	.4936	.1664
360	-.0646	.1119	-1.0647	-.3343	-.2550
361	-.0302	1.5978	-1.0121	.0117	-.0579
362	-1.0941	2.3807	-.2111	-.0030	.2828
363	.2525	-.1642	-.1490	-1.6275	-1.7450
364	-.6882	-1.0084	-.4345	-.9942	-3.0194
365	-.7265	-.6903	-1.0504	.5152	.5674
366	-.7141	-.4513	-1.2464	-1.0571	.2616
367	-.0928	.0581	.4918	-1.8189	.4910
368	-.1995	1.7809	.3474	-.9313	.1824
369	-.0625	-.8412	-.1586	-2.2927	.2517
370	-.5743	1.7618	-.1946	.8478	.0291
371	-1.5534	.6119	-1.0113	.2153	1.1491



372	.5393	.4281	.0720	-1.0526	-1.3871
373	1.3824	.0631	2.2357	2.1506	-2.5945
374	.0389	1.2404	.4877	-.9965	-.0785
375	1.1105	2.7411	-.4425	.0430	.1122
376	.1656	-.3673	-.7288	.0392	.3722
377	.3274	.0188	-.4652	1.0802	.3459
378	-.4055	.2272	.4210	.3057	1.9885
379	.4420	-.7110	-.1685	.8197	.6570
380	-2.5783	.4200	-.5611	-.0733	1.7054
381	-.4823	.5364	3.2317	-1.0264	.6836
382	-1.1356	1.2028	-1.0761	.5300	1.3051
383	-1.6900	.7555	-1.1718	.7450	.9076
384	-2.4620	2.1620	-.4360	.7759	-.4017
385	-2.1921	1.8974	1.2662	-.3949	2.2636
386	1.0453	2.0410	-1.0117	-.1764	-.1779
387	-.2003	1.6332	.6948	-.0996	1.4058
388	-1.1244	.6527	-1.5098	.5315	-.2900
389	-.8816	-.0205	-1.5780	-.0574	-1.7984
390	1.8105	1.0430	2.6359	2.2935	-2.9690
391	.3163	.2995	3.4323	1.4127	-2.1492
392	-.2068	-.3605	-.6167	1.1754	.6996
393	-1.8210	.3045	-.1977	-1.2104	.1595
394	-.2874	-.8171	.7071	-1.6116	.0424
395	-.5324	1.6003	.2781	.7830	.7375
397	-.3717	1.5522	4.0493	-.1946	.8363
398	-.8580	1.0807	3.0724	.2299	1.1205
399	.5754	-1.1450	-.3737	.7355	-.5454
400	.9755	1.0488	1.1596	-1.4278	.1644
401	.1138	-.2804	-.2118	1.5827	-.6173
402	.5485	1.0324	2.0117	-.1247	1.1495
403	.7328	-.1357	2.2698	-.3838	1.4508
404	-.1599	.0900	1.0939	-1.3372	1.6219
405	1.0099	.9056	-.1825	1.5768	-.7725
406	-.5515	.1591	-1.0964	.2154	.0107
407	-.7130	.8318	-.2143	.2207	.2923
409	-.1045	-1.4862	-.1993	.7272	.2320
409	.4296	1.8829	-1.3150	-.0768	-1.5746
410	1.3182	1.3325	.7555	-1.4461	.2819
411	.2645	-.3209	-1.0026	-.2863	.6756
412	-.3649	-.1452	-1.4160	-.1921	.2147
413	-.4078	1.2690	-.5489	-2.4223	-.4671
415	.3549	-1.1332	1.0037	-.3280	.0842
416	-1.0592	.9630	-.7921	.7578	1.2632
417	.0191	1.7612	-.1120	-1.2646	.9224
418	.6973	.7741	-.6714	-1.1870	-.0805
419	.8369	-.2983	-.2914	-.6231	.4732
420	-.8003	2.1873	-.1221	-.3181	1.0789
421	.3641	1.5802	-.3064	.2426	.6527
422	-2.6757	.6631	1.5196	.4897	1.3616
423	-.5414	-.1582	-1.1580	-.3340	.9620
424	-1.9457	.0451	.4475	-.4847	1.3255
425	1.7101	1.4792	-.0651	.4352	.2004
426	-2.2043	-.2246	1.8264	-.0122	-2.8769
427	.3027	-1.3803	-.1492	-.9425	.5508
428	1.3256	-.1219	-.5575	.3425	-1.6627
429	.8977	.7333	-1.1655	.4455	.1195
430	.3274	.9652	.2175	.8864	.1144
431	.4374	.1411	-.3664	1.2123	.4504
432	-.5291	1.5768	-.3123	1.1575	.5734
433	1.0120	-.0880	-.5796	.8048	.1341
434	.0572	1.8042	-.8458	.4614	-.1643
435	-.5825	-.5421	-.7652	.1264	.9624

436	.9540	.6824	.8111	.6486	.4390
437	-.2743	.2999	-.5829	.4110	1.2882
438	-1.5832	.4535	.9247	1.9897	-.2553
439	-.1550	-.8963	-.4563	.2679	.5065
440	-.1516	.0335	-.2032	1.6399	.4351
441	.1207	.7311	-1.3161	-.2687	-2.5307
442	.4524	.5076	-1.3688	-.4143	-.3126
443	-3.4019	2.0480	1.1474	2.2506	-.7979
444	.8176	2.0542	-.5441	-1.6093	.6695
445	.4671	-1.7265	.2296	.7882	.2052
446	-.2975	.6029	2.5494	-2.4359	1.2330
447	-.1588	-.7654	-.7052	-.8321	.7828
448	.9930	.7912	.3045	-.3107	-.0164
449	-.6355	-.6131	-.8864	1.1442	.4754
450	-1.7053	-1.6143	.3317	.3494	1.2842
451	-.1043	-.9358	3.0226	-.4767	.8320
452	-.8487	-2.0429	.6379	-.8797	-.4822
453	-.4750	.6525	-1.4371	-1.5401	-.7216
454	-.2946	-1.6178	.2115	.8934	.8484
455	-.2592	-1.0994	.4668	.0252	.6330
456	.0039	-2.2110	.3615	-.3427	1.6390
457	.6754	.1326	-.6224	.2837	.1811
458	-.6464	1.6801	-1.3266	.0461	.2441
459	1.2036	.1170	-.9408	.3239	.0192
460	-2.0782	.6277	.0381	-.7928	-.5545
461	-.4994	.6910	-.5208	.4142	.6151
462	-.5679	-.1932	1.1575	.3624	-3.5459
463	1.0515	-.6158	-.4711	-.2202	.1581
464	-.9958	.8979	-1.7787	-.2344	.2908
465	.2395	1.8213	.6856	.2070	.1148
466	.9995	-1.2023	-.3165	.4088	.1033
467	-.7659	-.7066	-.5080	.9927	-.7487
468	-.1589	-1.4834	.0840	-1.9140	.4221
469	1.4448	.2586	-1.1386	-.0195	-.3392
470	-.0694	-.4931	.4488	-.0481	.1425
471	-2.3023	.3049	2.2307	-.7880	1.5027
472	-.7865	.8871	-.0102	.8999	-1.8456
473	-1.3533	2.4070	-.3973	.3063	-.6098
474	-.4273	-1.8527	.6184	-.0861	.7857
475	1.1713	-.5652	.7731	.2120	-3.0725
476	.5635	-.1812	.3581	-.4979	-1.4318
477	-.2992	-.8931	-.5754	-.6414	1.3911
478	-.3676	-1.5153	.1773	.2002	1.7811
479	-.5433	-1.6534	-.1225	.2012	1.0783
480	-.6220	-1.5059	.0899	-.4001	.8732
481	-1.0984	.5634	-1.4313	.3596	.0340
482	.7299	-1.1259	-.5482	.4023	.6236
483	.4865	.2613	-.0419	.6891	1.0775
484	.8545	-.1137	-.6407	-1.0242	-.1696
485	1.7372	.5589	2.7057	-.6334	.3150
*STOP* 0					

## APPENDIX 7

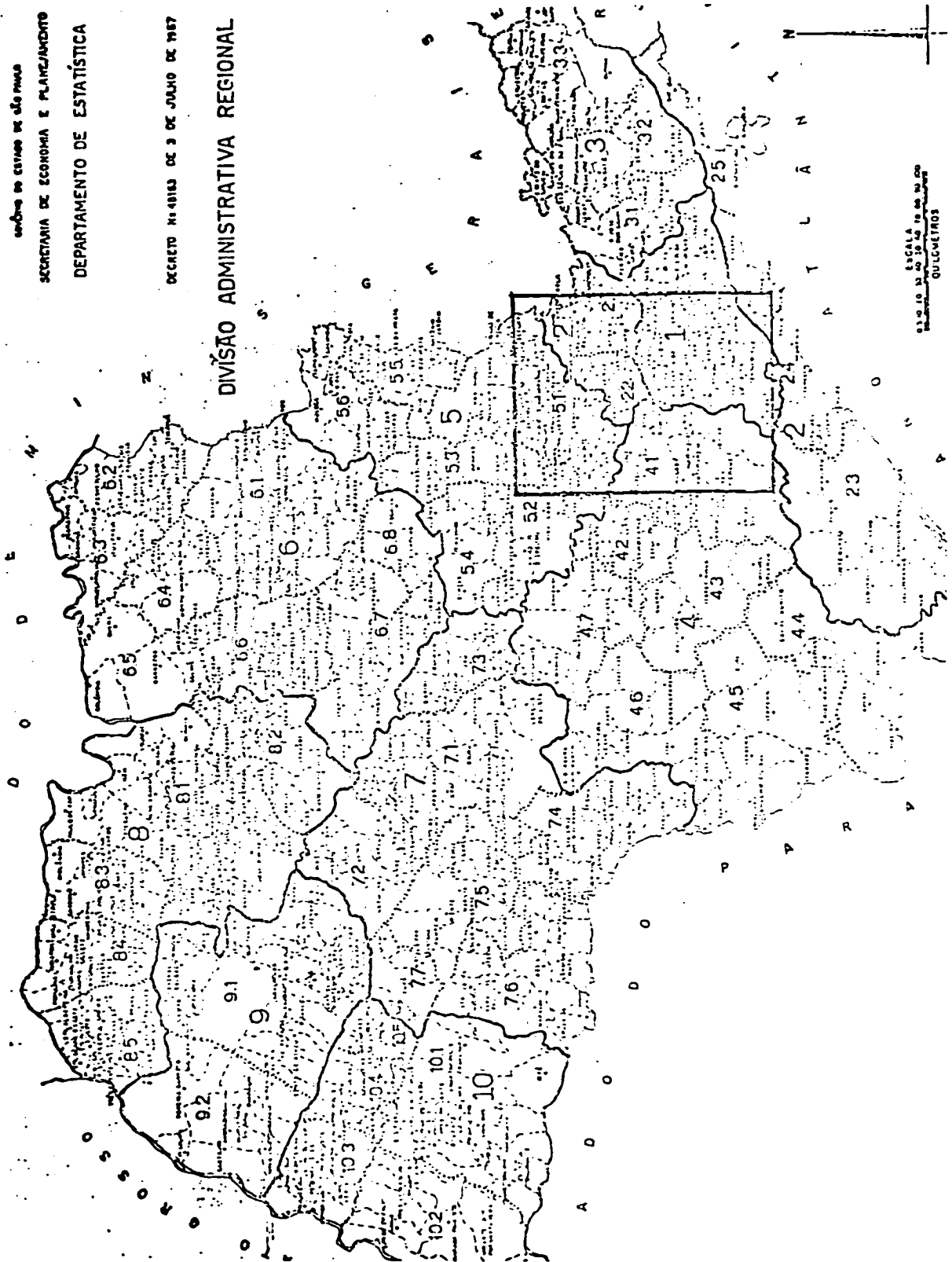
### MAPS

1. The state of Sao Paulo (Brazil)
2. The Corridor Greater Sao Paulo - Campinas

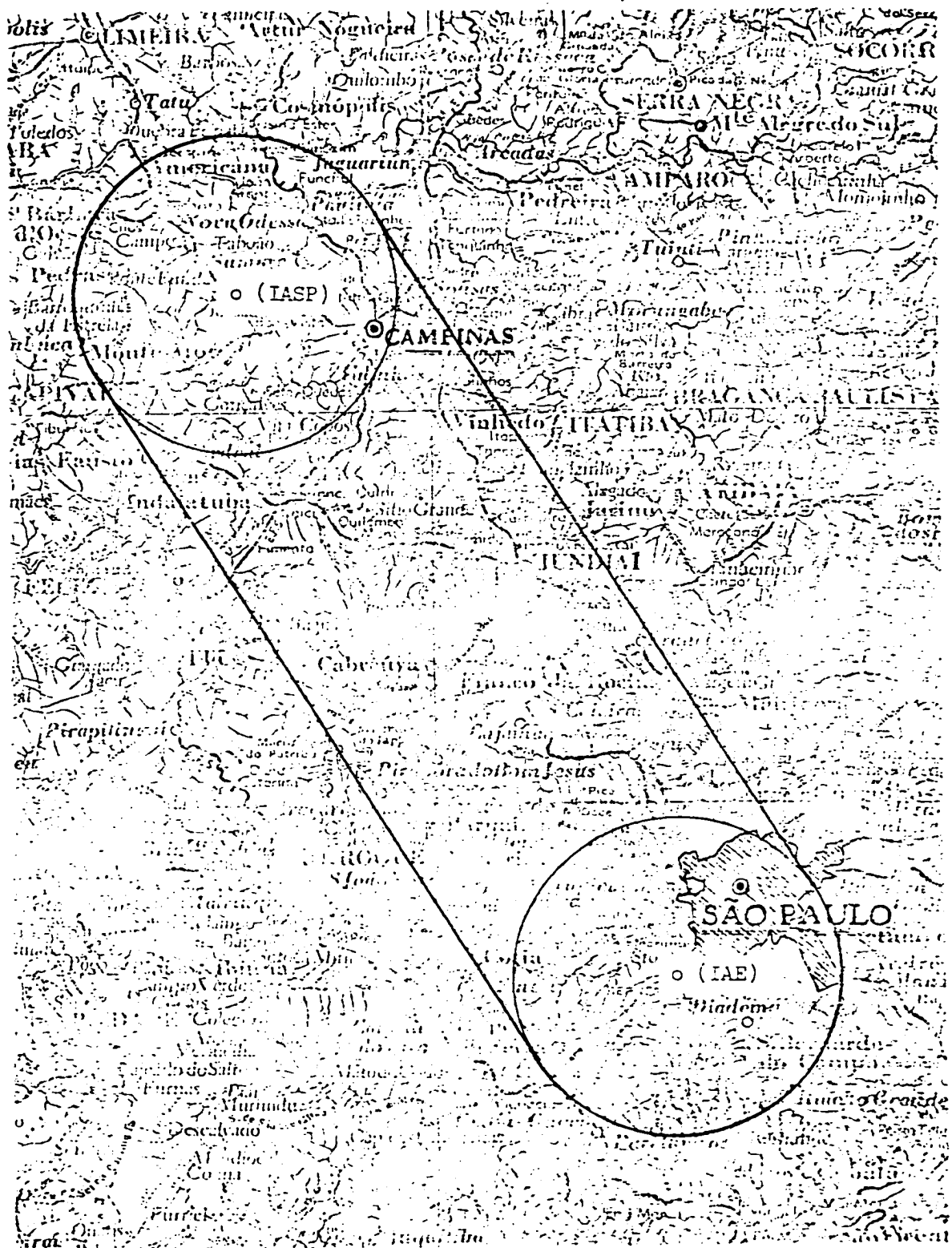
UNION DE CIVILIZACAO DE ADO PAVIA  
SECRETARIA DE ECONOMIA E PLANEJAMENTO  
DEPARTAMENTO DE ESTATISTICA

DECRETO Nº 48112 DE 3 DE JULHO DE 1987

# DIVISÃO ADMINISTRATIVA REGIONAL



ESCALA  
0 10 20 30 40 50 60 70 80 90 100  
KILÔMETROS



IASP = INSTITUTO ADVENTISTA DE SÃO PAULO

IAE = INSTITUTO ADVENTISTA DE ENSINO

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Middle-level education:

Ginasio Adventista Paranaense,	1957
Colegio Adventista Brasileiro,	1958-1960
(later Instituto Adv. de Ensino)	

Secondary-level education:

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Collegiate institutions attended:	Dates	Degree
Instituto Adventista de Ensino	1964-1966	
Seminaire Adventiste du Saleve (France)	1966-1968	B.A.
Newbold College (England)	1968	
Andrews University	1969-1970	M.Div
Andrews University	1977-1980	Ed.D.

Major: Religious education

Cognate: Religion (New Testament)

Positions held:

Pastor - Guarapuava, Parana	1971-1972
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Junior-high, secondary and college teacher - Instituto Adventista de Ensino - Sao Paulo, S. Paulo	1973-1976
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College teacher - Instituto Adventista de Ensino - Sao Paulo, S. Paulo	Appointed June 1980
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