A Study of Student and Faculty Perceptions of the Religious Environment of Andrews University in Relation to Religiosity

Walter M. Booth

Andrews University

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A study of student and faculty perceptions of the religious environment of Andrews University in relation to religiosity

Booth, Walter M., Ph.D.
Andrews University, 1989

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Andrews University
School of Education

A STUDY OF STUDENT AND FACULTY PERCEPTIONS
OF THE RELIGIOUS ENVIRONMENT OF ANDREWS
UNIVERSITY IN RELATION TO RELIGIOSITY

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

by
Walter M. Booth
June 1979
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ABSTRACT

A STUDY OF STUDENT AND FACULTY PERCEPTIONS
OF THE RELIGIOUS ENVIRONMENT OF ANDREWS
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By

Walter M. Booth

Chair: Dr. Roger L. Dudley
ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University
School of Education

Title: A STUDY OF FACULTY AND STUDENT PERCEPTIONS OF THE RELIGIOUS ENVIRONMENT OF ANDREWS UNIVERSITY IN RELATION TO RELIGIOSITY

Name of Researcher: Walter M. Booth

Name and degree of faculty advisor: Roger L. Dudley, Ed. D.

Date completed: June 1989

Problem

A report of the perceptions of the environment of an institution can be useful in assessing the effectiveness of that institution. This study assessed student and faculty perceptions of the religious environment of Andrews University, a Seventh-day Adventist (SDA) school.

Method

An instrument developed for the study was administered to 350 randomly selected subjects in eight subsamples: non-SDA students, faculty, freshmen, sophomores, juniors, seniors, theological seminary
students, and other graduate students. The instrument consisted of inventories to measure perceptions of the religious environment and subject religiosity. Approximately 75% of the subjects completed the instrument. Scores were analyzed by analysis of variance, analysis of covariance (with religiosity as a covariate), multivariate analysis of variance, discriminant analysis, correlation, and enumeration.

Results

Analysis of the data revealed:

1. that faculty and non-SDA students perceived the religious environment more positively than SDA students did;

2. that differences in the perceptions of the environment by undergraduate and graduate (non-seminary) students, graduate and theological seminary students, and male and female students were not statistically significant;

3. that positiveness of perception of the environment varied directly with degree of subject religiosity;

4. that early home influence on the development of religious experience and ratio of time spent in SDA and public schools before college did not affect perception of the environment;

5. that a majority of the subjects believed that
the overall religious emphasis of Andrews University was weaker than they thought it should be;

6. that faculty, graduate students, and theological seminary students scored higher on religiosity than other subjects did;

7. that subjects assessed their religiosity more positively than they assessed the religious environment.

Conclusions

The following conclusions emerged from the study:

1. Subjects perceived the religious environment as moderately positive, with perceptions of faculty and non-SDA students being more positive than those of SDA students.

2. Subjects at higher levels of religiosity perceived the environment more positively than other subjects did.

3. Religiosity of subjects was moderately high, with faculty, seminary students, and graduate students scoring higher than other subjects.
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CHAPTER I

INTRODUCTION

This investigation dealt with perception of the religious environment, or atmosphere, at Andrews University, an institution operated, along with many other schools, by the Seventh-day Adventist Church. The university, situated in southwestern Michigan, is composed of a College of Arts and Science, a College of Technology, a School of Business, a School of Education, and the Seventh-day Adventist Theological Seminary. For a statement of the University's mission and objectives, see appendix A. The statement of the research problem addressed by the study is preceded by a statement on the role of church-related colleges and universities in America.

The Role of Church-related Colleges

One of the remarkable phenomena of life and education in the United States since the early part of the colonial period has been the role of the church-related colleges. For 150 years following the establishment of Harvard College in 1636, church colleges enjoyed a monopoly on higher education. Even when that monopoly was broken in 1785 by the establishment of the first state college,
church colleges continued to dominate higher education for more than a century.

These colleges have played a vitally important role in American history. According to Pattillo and Mackenzie (1966), certain of these institutions had contributed to American educational and professional life to a degree "out of all proportion to their size and resources" and produced "more than their share" of the members of certain professions (p. 123).

In a similar vein, Wicke (1964) declared that the churches deserved gratitude because of their many "generous contributions" to American higher education. Among these contributions were: (1) the founding of many institutions "of exceptional power" and (2) the contribution of a "steady stream of young men and women" educated in these institutions who enriched by their lives the nation and the world (p. 9). Last, Snavely (1965) maintained that the churches and their affiliated colleges had been "the chief agencies" in the rapid rise of the United States to its position of prominence as a world power (p. 1).

Although the importance of their role has declined during the past 50 to 100 years, church colleges are still a major force in American education, contributing to its strength and diversity. Finding solutions to the acute problems currently confronting these institutions, however,
necessitates continuing self-study and improvement if they are to remain as an important factor in America.

One possible form of that self-study is to ask students and other college personnel to report on their perceptions of the school environment and of the effectiveness of the college in its attempts to realize its stated objectives. In order to satisfy this need for self-evaluation, a number of studies of student and faculty perceptions of either the general environment or the religious environment of church-related colleges have been undertaken. Many studies of the perceptions of the general campus environment of non-church-related colleges and universities have also been conducted. This activity appears to have peaked in the first half of the 1970s, and, after a decline, again at a lower level, in the 1980s.

The basis of that research has been the conviction that the behavior and academic achievement of students are influenced by the impact of the school environment upon them and by the ways in which they react to that impact.

Statement of the Problem

The realization of their stated objectives must be regarded as a most important and continuing concern for educational institutions. This would seem to be especially true of certain church-related schools, such as Andrews University, which operate under the transcendent mandate of Biblical theism (see appendix D for a formulation of the
transcendent mandate). The importance of this concern for the realization of objectives is further emphasized by the fact that church-related colleges and universities are generally recognized as experiencing an identity crisis, with their futures in doubt. In this crisis their religious distinctiveness is seen as a primary asset that may ensure their survival. The manner in which these objectives are actualized and the discovery of any gap between the objectives and their actualization are matters, therefore, that require continuing study.

One of the ways to measure the degree of success in the efforts of Andrews and other schools to realize their objectives, as noted above, is an assessment of student and faculty perceptions of the religious environment, or atmosphere, of the institution. No study of this kind has, apparently, ever been undertaken at Andrews.

The Purpose of the Study

The purpose of this study was to measure student and faculty perceptions of the religious environment at Andrews University, with relation to specific variables (listed below). The study consisted of the following parts: (1) a review of related literature; (2) the development and validation of a research instrument; (3) the gathering of data through administering the instrument to randomly selected students and faculty at the university;
(4) scoring of returned copies of the instrument and statistical analysis of the scores; and (5) writing a report of the investigation.

This study measured perception of the environment at one time only and was not a study of development or changes in that perception by the same subjects. Nor did the investigation involve any attempts to control or influence that perception experimentally.

**Importance of the Study**

Since the education of young people constitutes the goals of education, the importance of the impact of the campus environment on the lives of students in colleges and universities must be recognized. This would seem to be true especially of institutions that base their educational programs on the transcendent principles of Biblical theism and aim for transcendent results in the lives of their students, as Andrews University does.

A study of the proposed type can be valuable in a broader study of a possible gap between the objectives of Andrews University and the degree to which those objectives are being realized. Certainly, Vanzant (1968) was hardly exaggerating when he declared that it was "educationally desirable" for the stated objectives and functionally experienced goals of a college to agree as closely as possible (p. 5). Clearly, soliciting the impressions and opinions of students and faculty must be considered an
important method of ascertaining whether or not such a gap exists. Knowing which activities, programs, and emphases are perceived as effective and which as ineffective, administrators can retain and strengthen those seen as effective, modify those perceived as ineffective but redeemable, and discard those considered ineffective and irredeemable.

Apparently no study of student and faculty perceptions of the religious environment of Andrews or any other Seventh-day Adventist (SDA) college or university has ever been undertaken. Thus, this study was important as probably the first to measure those perceptions. Another value of the study is the possibility that the instrument designed for the study might be useful in similar studies at other institutions or in a later study at Andrews.

Theoretical Framework

The purpose of this section is to discuss the theoretical framework of the investigation. This framework consists of constructs related to (1) the conceptualization of religion as holistic and multidimensional, (2) the nature of perception, and (3) the nature of environments. Each of these is discussed in its turn1; and the theoretical framework and the ways in which its constructs were operationalized in the study are then presented.

1The discussion of the conceptualization of religion as multidimensional is reserved for chapter 2.
Constructs

Religion

A presupposition of this research was that one of the determining personal factors, perhaps the most important factor, in the perception of the religious environment was the degree of religiosity of the percipients. Hence an important part of the investigation was to ascertain (by means of a survey instrument) the degree of religiosity of the subjects. For this purpose, anything less than a holistic concept of religion—that is, of religion as involving the whole person—was considered inadequate.

This holistic concept was precisely formulated by the sociologist of religion, Joachim Wach (1951), in a definition of religion as "the total response of man's total being to what he experiences as ultimate reality" (p. 35). Wach maintained that the overall expression of religious experience fell under the three headings of "theoretical expression, practical expression, and sociological expression." Explaining these, he stated that human beings had always and everywhere manifested their religious experience in three ways: "conceptually; by action, or practically; and in covenanting, or sociologically." He believed, further, that these were essential components of religion and that there was "no religion deserving of the name" in which any of these three elements was totally lacking (p. 34).
Wach was by no means the first to note a threefold dimension in religion. Schleiermacher, the theologian (1968), is famous for locating the essence of religious experience in feeling: "Piety in its diverse expressions remains essentially a state of Feeling [sic]." This feeling he defined as "the consciousness of being absolutely dependent," that is, "of being in relation with God" (pp. 10-12).

Thus, to Immanuel Kant's characterization of religion as practical and George Hegel's as theoretical, Schleiermacher added the concept of religion as feeling. He also recognized, however, the theoretical and practical dimensions and termed them a "knowing" and a "doing"; but he denied that either constituted the essence of religion (pp. 10-12). Paul Tillich (1969) also emphasized the nature of religion as including all three of these aspects and stated that none of these had been able to maintain itself separately, but that, rather, religion involved all of them bound together in a "complex whole" (p. 160).

Milton Rokeach (1973), in his study of values in general, advanced a similar schema. Values, he said, "have cognitive, affective, and behavioral components" (p. 7). So also Kluckhohn and Strodtbeck (cited by Stanger, 1978) recognized as "analytically distinguishable elements of the evaluative process--the cognitive, behavioral, and directive elements" (p. 36). Cornwall, Albrecht, Cunningham,
and Pitcher (1986, p. 227) stated that Hall, Starbuck, and Leuba, the prominent early psychologists, had also accepted this threefold typology in religiosity.

**Perception**

The second component of the theoretical rationale involved convictions regarding the nature of perception, namely, the belief that perception is more than a passive reception of stimuli, more than an objective reading of the environment, but is, to a degree, an end result of the nature of the percipient. Three factors may be recognized in perception: first, that which is perceived, whether objects, events, situations, relationships; second, the environment of the perception; and third, the nature and characteristics of the percipient. The third of these is relevant here. Klein and Schlesinger (1968) declared that the viewpoint in research which assumed that sensory processes were "little influenced by the kind of person in which they are studied" was incomplete (p. 33). G. A. Kelly (1955) agreed with their assessment: "Man looks at his world through transparent patterns or templates which he creates and then attempts to fit over the realities of which the world is composed" (1:8-9). Weintraub and Walker (1966, p. 2) shared the same view, stating that transparent differences in perception were based on differences in the lives and characters of the percipients.

Huse and Bowditch (1973) held (1) that perception
was influenced by the characteristics of the percipient: "The culture and society in which one lives" have "a strong effect on his attitudes, values, and the way in which he perceives the world," and (2) that variation in perception resulted from the fact that human beings differed from one another and had different backgrounds and experiences. "Therefore, several factors influence the development of the individual's perception," among them family and culture (p. 89). Stern, Stein, and Bloom (1956) spoke of "highly selective percepts of the environment" which are a "function of the idiosyncratic properties of the individual" (p. 38).

Thurmond Vanzant (1968, p. 120), in a study of perceptions of the religious climate at a church-related college, discovered subjective factors in perception. He concluded from his study that students' perceptions of their environment were influenced by their sex, academic ability, and the spiritual influence of their home church.

Environment

The third aspect of the rationale is the discussion of theories regarding the nature of environments and the ways in which they impinge on human beings. According to Sanford (1962), one of the concepts underlying investigation of the environments of colleges and universities is the belief that the institution is a culture. This culture is to be understood as "a pattern of values, beliefs, and
prescribed ways of behaving." The environment consists of the "general culture as well as the social organization" (p. 57).

Stern et al. also formulated a theory of the environment in which they saw human behavior as "an ongoing field process," the resultant of the interaction between the individual and the environment. They held that the environment consisted of "people, institutions, situations, rewards and penalties, as well as numerous factors of physical and biological significance" and also provided "actual and potential stimulus demands and consequences." Both the individual and the environment were changed by this interaction (pp. 35-36).

The aspects of the environment considered significant in relation to behavior were conceptualized by Murray (1938) under the term "press." He defined press as the power of an object or environment "to affect the well-being of the subject in one way or another," everything that can "supposedly harm or benefit the well-being of an organism." Examples of press are affiliation, nurturance, aggressiveness, competition, and economic need. He classified press as positive (beneficial and enjoyable) and negative (harmful and distasteful). He also distinguished between alpha press, or press as determined by scientific inquiry, and beta press, or the "subject's own interpretation of the phenomenon that he observes." This interpretation may, in
fact, be a misinterpretation—a real (alpha) press of affiliation might be construed as a beta press of aggression or belittlement (pp. 118-122, 290).

Formulation of the Theory

It was theorized, therefore, that in an assessment of perceptions of the religious environment in relation to degree of subject religiosity, a holistic conceptualization of religion, i.e. one that involves the whole person, would form a more accurate basis of assessment than a conceptualization involving only one or two dimensions of personality. As noted above, this conceptualization of religion as holistic was extended to a multidimensional framework, discussed in chapter 2.

It was also theorized that subjects of the investigation would perceive the religious environment in different ways, in relation to factors such as degree of religiosity and others, and that differences in perception would extend to discrete groups, such as faculty and students, men and women, etc.

Last, the theory held that different aspects of the environment would probably impinge differentially on the subjects with resultant variations in perceptions. It was considered necessary, therefore, to assess perceptions of important components of the environment, as well as of the total environment, rather than the latter only, in order to assess perceptions more accurately. (This approach would
also afford a basis for specific remedial action as deemed necessary.

In summary, therefore, a theoretical framework that took account of (1) a holistic, multidimensional conceptualization of religion, (2) the tendency of the perception of any phenomenon to vary among percipients, and (3) the tendency of any environment to impinge differently on different people seemed to promise an assessment of the religious environment that would be sufficiently comprehensive and practically useful. Another advantage that might be afforded was an enhanced validity.

Operationalization

This theory was operationalized as follows in the investigation: (1) a holistic, multidimensional perspective of religion was utilized; (2) perceptions of the environment were assessed in terms of discrete components (freshmen, faculty, etc.) of the study sample, and in terms of sex, religiosity, etc., of subjects; and (3) perceptions of the environment were analyzed in terms of important components of the environment.

Research Hypotheses

The research investigated the validity of the following hypotheses. These are presented here, with a rationale for each.

1. The perceptions of both the overall religious

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environment and of the components of the environment by faculty and students do not differ. Any tendency of the faculty to view the environment more critically, and therefore less positively, was believed to be offset by a tendency of the faculty to hold idealized perceptions of the environment because of their self-perceived role in the creation of that environment.

2. The perceptions of both the overall religious environment and the components of the religious environment differ among students when grouped by class level, with a change from more positive among freshmen to less positive among graduate students. These differences were expected because (1) the perceptions of freshmen were considered likely to reflect a residue of idealized expectation, and (2) the educative and maturing processes were considered likely, if not certain, to render students more critical in their perceptions.

3. The perceptions of both the overall religious environment and of the components of that environment differ between seminary and graduate students, with the perceptions of seminary students being less positive than those of graduate students. As specialists in the study of religion and related fields, seminary students were expected to be more critical in their perceptions, more aware of anything considered to be a deficiency in the environment.
4. There is no difference between the perceptions of the overall religious climate and the components of that environment by SDA and non-SDA students. It was believed likely that any expected advantage that SDA students might have in the development of positive perceptions might be offset by the consideration that non-SDA students, willing to pay the cost of attendance at Andrews University when lower-cost institutions are not far away, are likely to have friendly feelings toward Andrews.

5. There is a difference in perceptions of the overall religious environment and the components of that environment between men and women, with women showing more positive perceptions. This difference was expected because nearly all studies of religiosity in which men and women were compared have shown women to be more religious than men, and also because of a presumed tendency of women to be more idealistic than men in their perceptions.

6. The perceptions of the overall religious environment and of the components of that environment differ in relation to degree of religiosity, with the perceptions of highly religious subjects being more positive than those of the moderately religious or irreligious. These differences were expected because of the conviction that the highly religious are likely to hold more idealized perceptions, and to be more appreciative, of that environment than are
other subjects, who are likely to be more critical of the environment.

7. The perceptions of the overall religious environment and of the components of that environment differ by subjects when grouped on the basis of self-perceived influence of parents on their religious development, with those reporting a more positive influence holding more positive perceptions. This difference was expected as a concomitant of the strong tendency of persons, when questioned, to claim the home influence as the strongest influence on their religious lives.

8. The perceptions of the overall religious environment and the components of that environment by SDA subjects differ when subjects are grouped on the basis of ratio of time spent in SDA and non-SDA schools before college, with students reporting a low ratio (less time in SDA schools) holding more positive perceptions than those reporting a higher ratio. The expectation of this difference was based on the assumption that the development by young minds of a critical attitude toward the environment requires time and exposure to that environment or a similar environment.

**Basic Assumptions**

The study was based on the following assumptions:

1. that the religious environment at Andrews University was sufficiently real for students and faculty to be aware
of it and to answer questions regarding it, and (2) that students and faculty, if questioned about their religiosity and their perceptions of that environment, would answer questions honestly if their anonymity was guaranteed and they were informed regarding the importance of the study.

**Delimitations**

The study was undertaken at Andrews University only. The findings would not necessarily be true of other SDA colleges and universities or of similar institutions operated by other denominations. Because of the same denominational affiliation and similar objectives, however, it may be that the findings of the present study can be generalized to some degree to other SDA colleges and universities. Selected components only of the religious environment and selected dimensions only of religiosity were involved in the study. Others were not dealt with. Furthermore, the study must be considered valid only for the time at which it was made: changing conditions might result in changed perceptions of the environment.

**Definitions of Terms**

The following terms as used herein are defined:

*Religion*

The sum of human knowledge, thoughts, beliefs, rites, actions, feelings, and commitments as they derive from the conviction that there is a Supreme Being, whose
existence is powerfully relevant to the lives of human beings. The adjective 'religious' is used in the same sense as the noun.

Religiosity

Religion as manifested in the life, especially in terms of the dimensions of religiosity, as indicated below, and including beliefs, rites, commitments, and practices.

Environment, Campus Environment

The sum of the activities, emphases, programs, personnel, attitudes, etc., that make up the overall college or university culture.

Religious Environment

Those aspects of the environment that directly involve religion, as religion and environment are defined above.

Graduate Students

Students in graduate programs at Andrews University but not including those in the theological seminary.

Organization of the Report

The report of the investigation consists of five chapters as follows: (1) an introduction consisting of a discussion of the role of church-related colleges in America, their present problems and prospects for the future; a statement of the research problem; a rationale and
theoretical framework for the study; and lists of research hypotheses, assumptions, delimitations, and definitions of terms, (2) a review of (a) historical, theoretical, and philosophical literature related to the investigation and (b) empirical studies of perceptions of the environment at church-related colleges, the religiosity of SDA students, and the development or retrogression of college students in religiosity; (3) a description of the research methodology employed, including an account of the development and validation of the instrument; (4) a report on the analysis of the data and the testing of the null hypotheses; and (5) a summary, conclusions, recommendations, and suggestions for further research.
CHAPTER II

REVIEW OF RELATED LITERATURE

The literature reviewed was of four kinds. The first dealt with the history, present problems, and future prospects of church colleges in the United States. The second dealt with religiosity in terms of its dimensions. The third discussed selected elements held by several Christian educational thinkers to be essential elements of the distinctively Christian environment of colleges and other schools dominated by the religious ethos of sponsoring denominations. This section also constitutes a semi-philosophical basis for the study by showing that these thinkers expected Christian schools to be dominantly religious and not only nominally so. The fourth dealt with (1) empirical studies of the perceived environment, whether general or religious, of church-related colleges, (2) descriptive studies of the religiosity of students at Seventh-day Adventist (SDA) schools, and (3) developmental studies of religiosity among college students.

Historical Summary

The purpose of this section was to provide a summary of the history of church-related higher education.
The history of church-related colleges, indeed that of higher education, in America began in 1636 with the founding of Harvard College under Congregationalist auspices. The stated purpose in the founding of Harvard was to provide for the continuing training of ministers. The strongly religious character of Harvard is clear from the mottoes of the institution: "In Christi Gloria" and "Christo et Ecclesiae" (Pattillo & Mackenzie, 1966, p. 2) and a statement among the printed rules of the college to the effect that "Every one shall consider the Mayne End of his life and studyes, to know God and Jesus Christ, which is Eternall Life" (cited by Brubacher & Rudy, 1968, p. 8).

During the next 150 years nine other colleges were established: William and Mary, Yale, Princeton, Washington and Lee, Columbia, Pennsylvania, Brown, Rutgers, and Dartmouth (Pattillo & Mackenzie, pp. 2-3). All of these were founded "more or less directly in association with religious denominations" and primarily for the training of ministers (Tewksbury, 1932, p. 59). According to Pattillo and Mackenzie, the "strongly religious character" of the education in all of these institutions was apparent (p. 4). Brubacher and Rudy (p. 8) affirmed that the role of the clergy in the founding of these colleges, in the
formulation of the purposes for their existence, and as faculty members was important.

Of critical importance in the history of American education was the attitude of the new federal government (set up in 1789) toward religion and education. To a degree, that attitude was determined in advance by the constitutional provision for the separation of church and state, which meant that the freedom of the various churches to establish colleges was assured.

The constitutional provision was tested, in effect, before the United States Supreme Court in the historic Dartmouth College case (1819). The decision rendered forbade the state of New Hampshire to interfere with the affairs of Dartmouth, in effect barring the states and the federal government from control, or meddling in the affairs, of private institutions.

This landmark decision reaffirmed to the "religious interests" of the country the freedom to develop and operate educational institutions without fear of being molested by the states and the federal government. It also meant a setback to secular interests and "contributed in no small degree to checking the development of state universities for at least half a century" (Tewksbury, p. 151).

Brubacher and Rudy (p. 72) saw, as a consequence of this decision, a rapid multiplication of colleges as the American frontier moved westward. Pattillo & Mackenzie
(p. 5) maintained the same viewpoint and declared that, by the time of the Civil War, 516 colleges, most of them under denominational sponsorship, had been established. Tewksbury cited C. F. Magoun, a contemporary, to the effect that colleges not founded by churches could be counted on the fingers of one hand. He also declared that the emphasis on founding church-related colleges was so strong that colleges founded "on principles other than religion" either failed to survive or suffered for lack of adequate support (p. 79).

The expansion of church-related higher education continued throughout the latter half of the 19th century and into the 20th. According to Pattillo and Mackenzie (p. 15) possibly as many as 2,000 colleges, a substantial portion of them under church auspices, were organized. But forces were at work to slow that expansion. Among these were the Industrial Revolution, the rise to prominence of a scientific mentality and the wide diffusion of Darwinism, the advance of secularism, the increase in the number of colleges founded under state auspices--and the attempts of church-related colleges to imitate these (especially in the area of curriculum), and the development, or importation from Europe, of new educational and theological ideas--ideas that were not necessarily compatible with the idea of education dominated by religion. As a consequence of these factors and others that developed later, many church
colleges lost their sense of identity and mission. Several of these factors deserve comment.

The passage of the Morrill Act in 1862 committed the United States government to the support of higher education, especially in the founding of state colleges. By constitutionally mandated church and state separation, the churches could not benefit from this Act in founding colleges. The inevitable consequence was to lessen the dominance of the church-related colleges, partly because the newly founded colleges competed with the church colleges for students, partly because some of the latter relinquished their church affiliations in order to qualify for the federal largesse.

According to R. D. Allen (1984), the introduction of European ideas of higher education, especially the "German university idea" with its "graduate school approach," resulted ultimately in a loss of a sense of purpose by some church-related colleges (p. 29). Pattillo and Mackenzie (p. 10) emphasized the same thought.

Last, because of the polarization in religion and theology between Modernists and Fundamentalists after World War I, religious education was de-emphasized by the former. Many colleges, regarding their denominational affiliation as an embarrassment, relinquished their formal denominational connections (Gough, 1981, pp. 3-4). This deemphasis on religion by many church-related colleges continued
until, in 1960, Ahlstrom could say that "in the vast majority of cases" the church-related college, in anything other than a nominal sense, had become a "rarity" (p. 31).

What is the present status of the church-related college? Currently, church colleges are beset with problems. To a large degree these are the same problems as those referred to above, with the addition of increased government regulation and rising costs. To some observers, these problems have assumed collectively the proportions of a crisis.

There is agreement, however, that the major problem confronting the church-related colleges is that of reestablishing a sense of identity and mission (McCoy, 1972, p. 38). David Trueblood, in an interview with Richard Foster (Foster, 1980, p. 22), claimed that the loss of meaning and identity was the major problem facing church colleges today. Earl J. McGrath (1961) expressed a similar opinion, believing that without their sense of mission and identity these colleges must eventually lose out in competition with secular counterparts.

McCoy (1972, p. 34) blamed church colleges for this crisis, suggesting that they had sought to imitate the prestigious colleges. Albert Quie, addressing the National Congress of Church-Related Colleges in 1980, warned against this imitation: "One thing I guarantee you . . . if you
become more and more like the public institutions there is no reason for your existence" (cited by Allen, 1984, p. 43). Stanger (1978) has accused church colleges of developing a universally inoffensive institutional style and mission, of playing down values "in order to partake of that quality of mainstream respectability" which would enable them to receive government funds, as some of them have done (p. 9).

What, then, does the future hold for church-related colleges? The content of the preceding paragraphs suggests the answer. Observers are convinced that, if these institutions are to survive, they must retain or regain their sense of special mission, their identity and religious distinctiveness. Christian students and their parents are not very likely to be attracted to these colleges with their higher expenses unless these colleges, while offering the advantages of state colleges in terms of academic standards and student services, at the same time offer that which they alone can provide: (1) answers to ultimate questions, (2) opportunities for Christian growth, (3) a climate friendly to Christian values, and (4) the maintenance of Christian standards of behavior.¹

Earl McGrath (1971) believed that the survival of church-related colleges as such depended on their "ability

¹For a discussion of the distinctive elements of church-related colleges, see section "Distinctives of Christian Education."
and willingness ... to establish and sustain a unique set of purposes." He also maintained that if the church colleges could equal their secular counterparts in other respects, their religious distinctiveness would "draw rather than repel students" (p. 433). In a similar vein, Wicke (1964) stated that the future of these colleges was bright if they could keep a "clear view of their mission" and succeed in attempts to interpret this mission to their constituencies (p. 102).

Cuninggim (1978) and Kantzer (1983) went even further. The former believed it to be "just barely possible" that the future of both religion and higher education lay in the hands of those church-related colleges that knew themselves to be homes of both higher education and spiritual values (p. 89). Kantzer maintained (p. 10) that the private church-related colleges could fully meet the challenges of higher education today, but that they could do this only with the solid support of their sponsoring denominations and of those people who saw the value of these colleges and were willing to pay for it.

Dimensions of Religiosity

One of the more recent forms of the study of religion has been consideration of the question, whether religiosity is best considered as unidimensional or as multidimensional. According to Hilty, Morgan, and Burns
(1984, p. 252), the conviction of most investigators has been that religiosity should be regarded as multidimensional. Various typologies of the perceived dimensions have been formulated. Since none of these appears to have been fully accepted by all interested parties, a sample of them is discussed here. (For a fuller discussion, see Menegusso, 1980.)

C. Y. Glock

One of the foremost students in this investigation has been C. Y. Glock. Glock (1962) thought that the most important requisite for a comprehensive assessment of religious commitment was "to establish the different ways in which individuals can be religious." Among the different ways in which religion manifested itself, he detected five. These he called "core dimensions" and said they included "all the many and diverse manifestations of religiosity prescribed by the different religions of the world" (p. 98).

These five dimensions he called the ideological (religious beliefs), the intellectual (religious knowledge), the ritualistic (worship and devotional practices), the experiential (religious feelings and emotions and direct knowledge of ultimate reality), and the consequential (the questions of what people ought to do and the attitudes they ought to hold as a consequence of their religious experiences (p. 99).
Faulkner and De Jong (1966) sought empirical verification of Glock's five dimensions in terms of the interrelationships of these dimensions. An instrument of 23 items, including items for each of the five dimensions, was administered to students at Pennsylvania State University in 1964. Correlation coefficients for scores for each of the scales representing the five dimensions with scores for each of the other four dimensions were computed. The correlations were highest for the scores for the ideological dimension with those for the other dimensions (except consequential), and lowest for the scores for the consequential dimension with those for the other dimensions. Consequently, the ideological dimension was considered to be the most important dimension, the consequential the least important.\footnote{For a report of a study of the reality of Glock's consequential dimension, see Tamney and Johnson (1985).}

Glock's typology, especially his consequential dimension, has not escaped criticism. Cornwall, Albrecht, Cunningham, and Pitcher (1986), for example, regarded the expressions of religiosity that involved the consequential dimension as a consequence rather than a dimension of religiosity. Recognition of this criticism as valid would not necessarily mean that Glock's consequential dimension is wholly lost: either the conviction that religion should have consequences in the lifestyle or the conviction that

\begin{itemize}
  \item For a report of a study of the reality of Glock's consequential dimension, see Tamney and Johnson (1985).
\end{itemize}
it need not may itself be regarded as a dimension of religiosity.

King and Hunt

King (1967) studied religiosity among Methodists and concluded that religiosity was multidimensional. He identified nine dimensions of religiosity among his subjects: (1) credal assent and personal commitment, (2) participation in congregational activity, (3) personal religious experience, (4) personal ties to the congregation, (5) commitment to the search for meaning in religion, (6) openness to religious growth, (7) dogmatism and extrinsic orientation, (8) financial attitude and behavior, and (9) talking and reading about religion.

Later, King and Hunt (1969), on the basis of statistical analysis, refined this list to one of 11 dimensions. These resulted from dividing #2 (above) into church attendance and organizational activities, discarding #5, and dividing #7 into dogmatism and extrinsic orientation, and adding religious knowledge (pp. 321-323).

Cornwall et al.

Cornwall et al. (1986) studied religiosity among Mormons. Their study involved the recognition of three general components of religion—belief, commitment, and practice—and two modes of religious involvement—personal and institutional. (The three components are equivalent,
more or less, to those identified above, namely, the cognitive, affective, and behavioral.)

The cross-classification of these components provided a schema for identifying six dimensions of religiosity: (1) traditional orthodoxy, such as the belief in the existence of God; (2) particularistic orthodoxy, that is, acceptance of the beliefs peculiar to a given denomination; (3) spiritual or personal commitment; (4) church commitment, that is, the orientation to a denomination or congregation; (5) religious behavior, that is, activities of a private, devotional nature; and (6) participation in the activities of organized religion. The study led to the identification of a seventh component, home religious observance.

These investigators regarded several dimensions of Glock's typology, viz., consequential, experiential, and intellectual, as peripheral.

Distinctives of Christian Education

The purpose of this section is to summarize the views of four religious-educational thinkers regarding selected distinctive elements of Christian education.¹ For this purpose the following have been chosen: Benjamin W. Dwight and Ellen White in the 19th century (Ellen White

¹The contents of this section are illustrative of conceptualizations of Christian education and are not to be regarded as a part of the theoretical framework of the study as discussed in chapter 1.
died in 1915.) and Frank Gaebelein and Henry Morris in the 20th.

Dwight founded and operated several schools. In The Higher Christian Education (1859) he called insistently for the religious dominance of education. This volume constitutes a landmark document on Christian education. Ellen White was a cofounder of the Seventh-day Adventist system of education and the author of several books on education. Frank Gaebelein was the headmaster at Stony Brook school and a strong advocate of the integration of religion into the overall programs of Christian schools. Henry Morris, a prominent creationist and, during the 1970s, a cofounder, vice-president, and president of Christian Heritage College, was the author of Education for the Real World (1977).

The views of these thinkers are presented in the framework of the following concepts: (1) the need for a dominant penetration of Christian conviction into all aspects of the programs in Christian schools, (2) the objectives of Christian education, (3) the need for a dominant role of the Bible in Christian education, (4) the spiritual and moral qualifications of teachers in Christian schools, (5) the spiritual and moral responsibilities of teachers in Christian schools, and (6) freedom of Christian education from compromise with, or imitation of, the policies, practices, and emphases of non-Christian schools. A
summary of the views of two other thinkers regarding the meaning of church-relatedness of Christian colleges is also included.

Pervasive Christian Influence

The four thinkers agreed on the need for a dominant Christian emphasis in the educational programs of Christian schools. Classes in religion and chapel services were not enough, they believed, to make a college truly Christian. Rather, they maintained, the spirit and convictions of Biblical Christianity must pervade the whole program.

Gaebelein (1968) called for a "wholly Christian world-view" on the part of Christian educators (p. 23). He cited Gordon Clark (Clark, 1946, pp. 208-10) to the effect that Christian education must be more than "pagan education with a chocolate covering of Christianity."

Dwight (1859) stated that religion should transfuse its "deep, sweet light" through education, including "all the minutest parts of the entire work of the teacher." He also declared that all systems of education not "vitaly Christian" were doomed (pp. 190, 125).

Ellen White saw the need for a theocentric orientation in education, declaring (1913) that "the Lord God should be represented in every phase of education." The divorce of God from education could only result, she held, in a "one-sided education, dead to all the saving qualities that give true power to the man" (pp. 413, 395). She also
emphasized the need for a Christ-centered emphasis, as did also Dwight and Morris. Dwight believed that the ideal for education existed "in a beauty and magnificence all its own in the person, life, and spirit of Jesus Christ" (p. 51). Morris (1977, p. 158) stated that courses and curricula at all levels of Christian schools should be Christ-centered.

Objectives of Christian Education

There was agreement among the educational thinkers who discussed its objectives that Christian education is character training, education for Christian service, and preparation for a future immortal life. Thus Morris stated that schools should be operated in such a way as to "optimize the Christian character" of all students (p. 146). Dwight stated (p. 48) essentially the same thought.

Ellen White repeated the same conviction, declaring (1913) that the great aim of the teacher was the "perfecting of Christian character" in students (p. 68). She also stated (1882) that the "great purpose of education" was to bring man back into harmony with God and restore in him the divine image (p. 433). In similar vein, Dwight (1859) believed that "to make the pupil like Christ in his character" (p. 51) was one of the ends of all true education.

The same three also agreed that the inculcation in students of the spirit of service was one of the aims of education. Ellen White stated plainly (1923, p. 517) that
education should prepare students for missionary service (not necessarily in foreign countries). Morris stated (p. 44) what was essentially the same idea, and Dwight saw benevolence in action—"the outlay of one's self for the world's good in every form of action"—as "the real end of all true education" (pp. 115, 116). Both White (1923, p. 383) and Morris (p. 7) held that education should also prepare students for the future immortal life.

The Bible in Education

Another distinctive of Christian education is the important place that it assigns to the Bible. Gaebelein (1968) saw the Bible, with its "life-giving revelation of Christ," as "the unifying factor of Christian education" and stated that "any adequate basis for Christian education" must include the divine revelation as found in the Scriptures (pp. 28-30).

Morris believed that "education must be grounded [in] and governed by" the Scriptures and that educators must search in the Scriptures and only there for the "basic principles of real education" (p. 16). He also believed (pp. 137, 141-44) that every course of instruction, every activity, must be based on Scripture, integrated with Scripture, and judged and corrected by Scripture continually.

Ellen White (1923) saw a triple dimension in the importance of the Bible in education—as the groundwork and
subject-matter of education and as in itself an unrivalled educating power. She insisted that the Bible should stand as the highest educating book in the world, have the first place "in every system of education," and be made the basis of all the schools of her denomination. She believed further (1923, pp. 542–43; 1900, p. 107) that the Bible was relevant and valuable in every area of life, "every phase of human experience," and to "every branch of knowledge."

Dwight shared these convictions. He considered it "a great enigma" that the Bible did not occupy a "conspicuous central place" in "our educational system" (p. 110).

The four thinkers agreed also that Biblical truth must be integrated into education. Occupying a central position with respect to integration was Gaebelein. He defined integration as "the living union" of education's "subject matter, administration, and even of its personnel, with the eternal and infinite pattern of God's truth" (p. 9).

Morris (p. 28) and Gaebelein (p. 21) both emphasized the unity and universality of truth and the absence, therefore, of any dichotomy between spiritual and so-called secular truth. Both insisted on the integration of truth into all areas of the curriculum. Gaebelein also urged this integration into administration, personnel aspects, and extra-curricular activities. Morris stated that every subject taught "should be structured in a Scriptural
framework" (p. 160). Ellen White's position was that Biblical truth was relevant to all aspects of learning, and (1923) that "in every line of instruction," teachers should "seek to impart light" from God's word (p. 516). Dwight (p. 167) did not treat extensively of integration, but he did state that in the teaching of science, teachers should lead students to see and appreciate the handiwork of God in nature.

Spiritual Qualifications of Teachers

The spiritual and moral qualifications of teachers were also of importance to the four thinkers. Gaebelein (p. 37) declared that truly Christian schools must operate on the basis of Christian teachers only. Morris listed spiritual and Biblical maturity as qualifications of Christian teachers and maintained that they should be filled with the Spirit, hold sound doctrine, and be "born-again Christians" (pp. 150-162). Dwight stated that the primary qualification of teachers was that they be "intelligently and earnestly Christian" and that they should be men of "large attainments" and "all heroic manliness of character" (p. 331).

Ellen White (1903) believed that teachers should "cherish the attributes of Christ" (p. 294). She also believed that only the "most devout and consecrated" and only those who love children should be selected to be church school teachers (1901, p. 10). She listed as
qualifications of teachers "high moral qualities," tact and patience, soundness of faith, and abstinence from even the appearance of evil (1948, 5:583).

None of this should be understood as a rationale for lack of professional qualifications. Several of the thinkers affirmed that, in addition to spiritual and moral qualifications, professional competence and experience were important (Morris, pp. 150-162; White, 1923, p. 119).

Spiritual Responsibilities of Teachers

Three of the thinkers (Gaebelein, Dwight, White) dealt in their writings with the spiritual responsibilities of teachers. Gaebelein plainly indicated his view that teachers should concern themselves with the salvation of unsaved pupils. He made "the clear presentation of the Gospel of Christ for personal decision" an essential feature of Christian education (p. 94). Dwight (p. 190) held the same conviction and declared that there should be "direct specific effort made for the conversion and sanctification of each pupil." He also stated that youth were God's children and were "to be trained for Him" (p. 189).

Similarly, Ellen White (1913) believed that the salvation of their pupils was "the highest interest" entrusted to God-fearing teachers, and that teachers should make friends of their students, "help them over the rough places," and "patiently, tenderly strive to win them to
Jesus" (pp. 503, 269-70). She declared (1913) that the restoration in humanity of the defaced image of God was the primary object of education and insisted that "every teacher in our schools should work in harmony" with this goal (p. 436).

Freedom from Secularism

Fear of the possibility that some Christian schools might lose, or the realization that others had already lost, their Christian distinctiveness led several of the thinkers to caution against loss of this kind.

Morris (p. 143) and Ellen White (1913, p. 532) warned that there was great danger in the temptation confronting the Christian school to conform to the secular schools. Morris believed that many denominational colleges had become so secularized that they appeared to be little different from private non-religious schools. He also maintained that "most Christian schools" were infected with "humanistic and evolutionary" philosophies and that even evangelical schools had compromised to an unwarranted degree with these philosophies. He believed, therefore, that "false philosophies and unwholesome moral and spiritual attitudes" should not be introduced into Christian schools and that these schools should not "conform in any respect to secular education" but should be loyal to the Bible (p. 137).

In saying these things, Morris was only repeating
what Ellen White (1913) had declared decades earlier. She saw a "constant danger" that Seventh-day Adventist educators would entertain the idea that they must "study the things the world studies and become familiar with the things the world becomes familiar with" (p. 16). She believed, therefore, that conformity to the world "should be strictly guarded against" (1897, p. 30), that there was to be "no compromise in order to meet the world's standards" (1910, p. 2), and "that every worldly" practice opposed to Biblical teaching should be weeded from life and from the schools (1913, p. 56).

Dwight did not warn explicitly against compromise of educational standards, but did state that the sin and "blighting power" of "earthlimindedness" had been felt more "in every department of education" than elsewhere (p. 280).

The Meaning of Church-Relatedness

Other writers have commented, without particular reference to the evangelical thrust of church-related colleges, on the features that make these colleges distinctive or that constitute church-relatedness. Thus Carlson (1962, cited by Gough, 1981) offered a list of essential points governing a church-college relationship: (1) a faculty committed to a Christian perspective, (2) a student body "eager for a religious environment," (3) a congenial relationship between church and college, (4) continuing church support for the college, (5) use of the college
facilities for church purposes, and (6) programs in the college curriculum for training of church leaders (p. 33).

Cuninggim (1978), writing in a somewhat similar vein, listed the following, among others, as essentials of a church-related college: (1) It must want to be church-related. (2) It must make "proper provision" for religion in all its dimensions in at least "rough harmony" with the views and beliefs of the sponsoring denomination. Included in this category is the serious study of religion and a serious attitude toward worship. (3) It must put its values (intellectual, credal, human, and moral) and those of the parent denomination into "recognizable operation in every aspect of the life of the institution." (4) It must be able to count on the understanding by its denomination of its educational task. (5) It must receive both tangible and intangible support from its denomination. (6) The church and the college must both understand why they want to be related to each other (pp. 74-79).

Empirical Studies

The purpose of this section is to describe some of the empirical studies of (1) the perceptions of the environment at denominational colleges and universities, (2) religiosity among SDA students, and (3) the development or retrogression in religiosity among college students.
Studies of Perception of Environments

As noted above, a number of studies of perceptions of the general or religious environments of church-related colleges have been undertaken. Several of those studies are reviewed here. Most of these studies were conducted at Protestant colleges.

Lutheran Colleges

Carroll Peter (1980), in 1971 and again in 1979, investigated the perceptions of the overall campus environment by administrators, faculty, and senior and sophomore students at three colleges of the Lutheran Church— Missouri Synod. The instrument used was the College and University Environment Scales (CUES), which was developed to measure student perception of campus environment and consists of five scales: Community, Practicality, Awareness, Propriety, and Scholarship, of 30 items each. None of these scales pertained exclusively to religious elements.

Major findings were that individual scale scores generally fell above the median of Pace's norms for 100 colleges and between the norms for teachers' colleges and those for denominational liberal arts colleges. Administrators scored higher than did faculty and students, perhaps reflecting a degree of idealization. Scores of faculty and students increased between 1971 and 1979. This
change was related to changes in the program and changes in student characteristics.

St. Louis University

In one of the earliest studies of perceptions of college environments, Robert Weiss (1965) studied the faculty and student perceptions of the overall environment at St. Louis University, a Roman Catholic institution. The study did not assess perceptions of the specifically religious environment.

Subjects included practically all of the 3,054 freshmen, sophomores, and seniors, and 291 faculty. The instruments were the College Characteristics Index and, formulated for the purpose of the study, the Comprehensive Student Inventory and the Shorter Faculty Inventory. Findings indicated that the educational environment of the university was not characterized by any exceptionally strong or weak press (as this word was defined above), such as distinguishes many smaller schools. The highest scores were on vocational climate, academic organization, and social life; the lowest were on student dignity and intellectual climate.

Seven Religious Colleges

Boyer and Michael (1968, pp. 59-66) studied student and faculty perceptions of the environment at seven small, church-related colleges. The CUES was administered to 462
seniors and 278 faculty at Bryan, Eastern Mennonite, Salem, Malone, Sacred Heart, Upland, and Westmont colleges. Scale for scale, the perceptions of seniors and faculty were almost identical. The highest scores were on the community and propriety scales. These scores were higher than was the case in a study at several institutions—Antioch, Purdue, Reed, and the University of California at Los Angeles. On three of the scales, scores were lower than at three of these four institutions (pp. 64-66).

Evangel College

One of the first studies of the perceptions of a specifically religious environment at a college was that of Vanzant (1968) at Evangel College, an Assemblies of God institution. For the purpose of his study, he designed the Religious Environment Scales, a questionnaire of 96 true-false items structured in terms of six components of the religious environment: denominational affiliation, faculty, chapel, religion classes, lives of students, and moral and social regulations. The study population was the faculty and student body.

The study revealed that there definitely was a perceived religious environment at Evangel and that the subjects perceived the various components of that environment as varying in importance.
Western Michigan Colleges

William Stob (1975) investigated the perceptions and expectations of freshmen in regard to the religious environment of three church-related colleges (not identified in the report of the study) in western Michigan. The instruments were the CUES and a religious scale developed for the study.

Scores on the various scales of the CUES varied. Scores were high on the scholarship and community scales, low on the practicality scales. The religious dimension was an important component of the environment at the two colleges with the stronger denominational affiliations.

Protestant Colleges

Gough (1981) investigated the religious climate at Protestant church-related colleges in the United States. From a population of 301 regionally accredited church-sponsored colleges, she selected a sample of 120 colleges. A copy of the research instrument, "A Survey of College Environments," was sent to the chief officer for student affairs at each of the participating colleges.

The major findings revealed significant differences in the perception of the environment at these colleges, and that the differences were related to the strength of the denominational affiliation—the stronger the affiliation, the more positive was the perception of the environment (p. 116).
Wesleyan Colleges

Richard Allen (1984) investigated faculty and student perceptions of the religious climate at four liberal arts colleges—Bartlesville Wesleyan, Central Wesleyan, Houghton, and Marion Colleges—operated by the Wesleyan church. The instrument, a revision of Gough's instrument, was developed to measure religious climates at schools and was administered to random samples of students and teachers. The findings revealed a high degree of homogeneity in the perceptions of the religious climates of the various colleges among students, regardless of the grade level and whether they were resident or non-resident students, and among faculty (pp. 114-17).

A Seventh-day Adventist College

Spoor (1973) studied perceptions of the environment of Pacific Union College (a SDA school), using the CUES. Among the findings were the following: (1) significant differences in perception of the environment by the various subsamples (students, faculty, administrators, trustees, etc.); (2) idealized perceptions of the environment on the part of trustees, administrators, and freshmen students; (3) higher ratings on the community and propriety scales and lower ratings on the scholarship and awareness scales (as has been true of studies at certain other church
(4) high ratings on the practicality scale—a finding unexpected on the basis of other studies.

Studies of SDA Student Religiosity

A number of studies of the religiosity of students in Seventh-day Adventist colleges and secondary schools have been undertaken. The rationale for the reference to these studies here was twofold. In the first place, there were conceptual reasons to believe that the perception of the religious environment at Andrews University was closely related to the degree of subjects' religiosity and the nature of their religious experience. Persons with a meaningful religious experience were considered almost certain to perceive the religious environment differently (whether more sympathetically or more critically) than those whose religious experience was only superficial or nominal. Similarly, subjects alienated from religion would probably perceive the religious environment more critically than those who were friendly to religion. Second, the knowledge of the religious experience of SDA adolescents would probably help readers to assess the findings of the investigation reported herein.

Colleges

Vonhof (1972) studied the religious attitudes of seniors in eight Seventh-day Adventist colleges in the United States in order (1) to analyze the degree of
influence that the colleges had on student attitudes and (2) to determine how these attitudes were affected by selected variables such as sex, geographical area from which students were drawn, and others. The instrument used was the Study of Values by Gordon Allport and his associates. Analysis of the data indicated that seniors at SDA colleges had higher religious values than students in the college normative group of Allport's study and that seniors had higher religious values than freshmen at the same SDA colleges (pp. 118-120).

Academies in Brazil

Menegusso (1980) studied the relationship between the level of religiosity attained by students at SDA secondary schools in Brazil and the amount of their exposure to SDA parochial education. He developed a new instrument for the study. Individual items were "generated, adopted, or adapted" on the basis of Glock's paradigm, examination of existing instruments, and the investigator's own experience and knowledge of SDA standards and beliefs. As a result of the study, Menegusso concluded that the longer students were exposed to education in SDA schools the greater their religious knowledge but the less they tended to translate it into their life-styles (pp. 174, 176).
Academies in the Pacific Northwest

Noble (1971) studied the relationship between the length of student attendance in SDA academies and their knowledge and acceptance of church beliefs, and the self-perceived degree of conformity of their life-styles to these beliefs and value perceptions of the SDA school system. The population consisted of all the senior students in the nine academies of the North Pacific Union Conference of SDAs. The sample included all seniors attending these schools who were present on the day that the instrument was administered. The investigator designed his own instrument.

The analysis of the data indicated (1) that the subjects knew well the doctrines of the church; (2) that acceptance of beliefs was a strong factor in what they were willing to commit themselves to; (3) that they reported difficulty in integrating into their lives the expectations of the church for them in terms of these beliefs; and (4) that they knew and accepted church doctrines but were "not prepared to enter into a full commitment" to denominational values and principles (pp. 201-206, 137).

Adolescent Alienation from Religion

Dudley (1977) studied alienation from religion on the part of students in SDA secondary schools in the United States. A stratified random sample of 400 students--20
from each of 20 academies—was selected. Subjects completed the Youth Perceptual Inventory, an instrument designed specifically for the investigation. Dudley concluded that 16% of the study sample were alienated from religion in general, and about 52% from one or more aspects of religion. Items which indicated the greatest degree of perceived alienation related to church sermons, church membership, experiences with the church, Bible classes, and influences perceived as church restrictions on the life style.

Studies in Student Religious Development

Many studies of the development and retrogression of religiosity of college students have been conducted. The literature reviewed here covers a period of more than four decades. The successive parts of the review deal with (1) students in non-denominational colleges, (2) students in non-SDA denominational colleges and a Young Men's Christian Association college, and (3) students in SDA colleges.

One caveat is necessary: the earlier studies were conducted before the formulation of multidimensional concepts of religiosity. It could be argued, therefore, that some or all of these studies did not probe extensively enough to provide valid conclusions regarding religiosity as a whole.
Non-Denominational Schools

Paul Whitely (1938) studied changes in the religiosity of students at Franklin and Marshall College. Using annual administrations of the Allport-Vernon-Lindzey Study of Values, he discovered a "slight tendency" for an increase in scores on the esthetic scale, and a decrease in scores on the religious scale, between the freshman and junior years. Only a few of the differences, however, were statistically significant.

According to Jacob (1957, p. 56), studies during the 1930s indicated liberalizing of beliefs in the existence of a personal God, in prayer, and in the supernatural determination of human and physical events. He pointed out that such liberalization was by no means universal and could not be regarded, therefore, as an inevitable outcome of the college experience.

A. R. Gillaland (1940) studied student religiosity at the University of Chicago and Northwestern University. He used the Thurstone scales designed to measure beliefs regarding the reality of God, beliefs regarding the relevance of belief in God to everyday life, and attitudes toward the church. He reported generally conservative attitudes and little change in student attitudes toward God and the church during the university experience.

Erland Nelson (1940), in a study of the attitudes toward religion of 3,756 students in 18 colleges and
universities, discovered that freshmen tended to be more conservative than seniors in Sunday observance, attitudes toward the church, belief in the existence of God, and convictions about the influence of belief in God on personal behavior.

Helen K. Mull (1947) studied religious thinking among students at a small unidentified liberal arts college. Using the revised Watson Test of Religious Thinking, she found that the results, "while not statistically all that might be wished," indicated an improvement in the quality of students' religious thinking during their college careers.

Daniel Brown and Warner Lowe (1951) studied religiosity of Protestant students at the University of Denver. Using a 15-item instrument, they discovered a significant decline in the mean scores between freshman and sophomores, freshmen and juniors, freshmen and seniors, and sophomores and juniors, but no significant decrease between juniors and seniors.

A study by Cornell University (Jacob, p. 55) of 4,585 undergraduate students at 11 universities (Harvard, Michigan, Dartmouth, etc.) indicated a rising interest in religion during the college years. One third of the subjects indicated an increased evaluation of religion during their college period; one-sixth reported a decreased evaluation; and about one-half, no change.
Summarizing the situation in the mid-1950s, Jacob (1957) expressed the belief that, in general, students' religious beliefs and values had been remarkably persistent through college, regardless of the institution or the time when students were in college (p. 56).

Studies during the 1960s reported a more uniform tendency toward loss of religious values than those conducted during the period 1930-1959. Huntley (1965), using the Allport-Vernon-Lindzey instrument in a study of 1,027 college men over a four-year span, found a "significant decrease in religious values" for the entire group during the four-year period. Hites (1965) reported a similar shift among students at Birmingham Southern College.

Vernon Jones (1970) measured the attitudes of Clark University students towards God, the church, and religion. Using the Thurstone Scales, he found seniors more skeptical than freshmen in attitudes toward the deity, less favorable in their attitudes toward religion than freshmen, and about the same as freshmen in their attitudes toward the church.

Stanger (1978), in his summary of the effects of the secular college experience on religious values, stated that

Whether measured by some kind of religious orthodoxy scale, some attitudinal measure concerning favorableness [of attitudes] toward God and the church, or by the Allport-Vernon-Lindzey Study of Values, the impact of the collegiate experience on such religious values is one of decreasing favorableness or salience. (pp. 27-28)
Church-Related Colleges

A somewhat similar condition (loss of religious values) has been discovered at (some) church-related colleges.

Wickenden (1932) measured student conceptions of God in 15 church-related and 5 non-church-related colleges and universities. He discovered an erosion of belief as between freshmen and seniors in schools of both kinds. Scores on responses to one item in his instrument illustrate his findings: 90% of the freshmen and only 78% of the seniors in the church-related schools considered the concept of God of vital importance to their overall faith.

Nelson (1940), in the study cited above, found that the erosion of attitudes toward God and the church was less pronounced at Catholic than at non-denominational schools, and that seniors at Lutheran schools were more favorably disposed towards these concepts than were freshmen. Stanger maintained that these results represented "a significant college impact" (p. 26).

Donald B. Gragg (1942) studied the religious attitudes of students in three denominational colleges (identified only by location in the southwestern part of the Bible Belt). Using the Thurstone Scales, he discovered that, if anything, the attitudes became "very slightly more favorable" as the students' college careers progressed.

Stanger reported without documentation a study by
Arsenian in 1963 at Springfield College, a Young Men's Christian Association college. Arsenian discovered that 66% of his subjects were more favorable toward religion at the end of the college experience than at the beginning. According to Stanger these findings suggested that the religious focus that was measured stressed the ethical and practical in religious expression, an emphasis which he considered compatible with the YMCA philosophy (p. 19).

Stanger (1978) himself studied religious change in college students at three church colleges, namely, Luther College (American Lutheran Church), MacMurray College (United Methodist), and Millikin University (United Presbyterian). Using the Study of Values and the Omnibus Personality Inventory, he discovered that all three schools had "minimal impact" on student religiosity, and that the impact that they did have lay not in transforming any dimension of religiosity but rather "in either sustaining or eroding what is already present when the student comes to college" (pp. 358-60).

He concluded, therefore, that the impact of college life on the religious values of students is "generally one of decreasing favorableness or salience." In church colleges, there is, however, a tendency for this process of erosion of religious values to be tempered or in some cases even reversed (pp. 27-28).
Seventh-day Adventist Colleges

Nelson (1940), in the study cited above, included among his subjects students at one SDA college, identified only by location west of the Mississippi. He measured attitudes towards (1) Sunday- or Sabbath-keeping, (2) the church, (3) the reality of God, and (4) the influence of belief in God on personal conduct. He found that, except for the last of these, there was negligible change between SDA freshmen and seniors but in the last there was increased favorableness. See table 1.

TABLE 1

DEVELOPMENT OF RELIGIOSITY: SDAS

<table>
<thead>
<tr>
<th>Attitude Measured</th>
<th>Mean Freshmen</th>
<th>Mean Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sabbath Keeping</td>
<td>6.46</td>
<td>6.44</td>
</tr>
<tr>
<td>Church</td>
<td>9.34</td>
<td>9.32</td>
</tr>
<tr>
<td>Reality of God</td>
<td>8.58</td>
<td>8.57</td>
</tr>
<tr>
<td>Influence of God on conduct</td>
<td>9.19</td>
<td>9.57</td>
</tr>
</tbody>
</table>

Vonhof (1972), using Allport's Study of Values, discovered an increase in religious values between freshmen and seniors at the same SDA colleges, as noted above. It appears, therefore, that students at SDA colleges tend to increase in certain dimensions of religiosity and to
maintain freshmen-level religiosity with respect to certain other dimensions. At least, any loss in religiosity tends to be made up by the senior year.
CHAPTER III

RESEARCH METHODOLOGY

The purpose of this chapter is to discuss the research procedures utilized in the investigation.

The Population and Sample

The study population consisted of the full-time faculty and students of Andrews University. In order to identify and measure possible differences in the perceptions of the religious environment by various components (freshmen, sophomores, faculty, etc.) of this population, a stratified random sample was drawn.

Subsample Selection Procedures

The sample consisted of eight subsamples: faculty, theological seminary students, graduate students, seniors, juniors, sophomores, freshmen (with Seventh-day Adventists [SDAs] only in each subsample), and non-SDA graduate and undergraduate students. Undergraduate and graduate students were selected without respect to the colleges in which they were enrolled.

Subjects for each subsample were selected from a list provided by the university Department of Institutional
Research. The names on each list were numbered, and persons having the same numbers as those randomly generated by the university computer were selected. A separate list of random numbers was generated for each subsample. Separate lists were generated for undergraduate and graduate non-SDAs in order to preserve the proper ratio between these groups, as indicated below.

Seminary and graduate students were selected as separate subsamples in order that any possible influence of the specialized religious and theological training of the former on their perceptions of the environment might be identified as such. It was believed that the diffusion of the measurement of this influence, if real, among seminary and graduate students, were they grouped in one subsample, might tend to mask any real differences between the groups. Similarly, measurements of the perceptions of seminary students as such were excluded from other comparisons (except student-faculty) called for by null hypotheses of the research design.

Sizes of Sample and Subsamples

The minimum acceptable sample size is a function of various factors, such as method(s) of statistical analysis, alpha (significance level), and power. For one-way analysis of variance, with alpha, or significance level, of .05 and power of .90, a minimum of 12 subjects per subsample is required (Winer, 1971, pp. 221-225, 880). For discriminant
analysis, for stability of the variance-covariance matrix, Kendall (1975, p. 10) recommended, as a rough working rule, a sample of at least 10 times the number of variables.

These criteria were more than satisfied and allowance made for subjects who might not complete the research instrument by a sample of 350, distributed among the subsamples as follows: freshmen, sophomores, juniors, seniors, and faculty--40 each; seminary students, graduate students, and non-SDA students--50 each. The ratio of SDA undergraduate to graduate students was, therefore, 3.2:1. The subsample of non-SDA students was selected to conform to this ratio, with a resultant subsample of 38 undergraduate and 12 graduate students.

Faculty and students involved in judging or pilot-testing the instrument and members of the investigator's dissertation committee were excluded from the sample.

Independent Variables

In harmony with the viewpoint expressed above, that perception is influenced by various factors in the percipients' lives, it was considered essential to take account of selected independent variables. For this purpose the following were chosen: sex, self-assessed degree of religiosity, self-perceived influence of the home life on religiosity, and the proportion of education received (measured by time spent) before college in SDA and non-SDA
schools. Other variables were class level and status as faculty, non-SDA student, and seminary, and graduate student.

The Research Instrument

It was decided that a new survey instrument would be developed, rather than using one of the existing instruments, and that it would consist of two inventories, a Perception of the Environment Inventory and a Religious Experience Inventory, each with several scales.

The development of the research instrument involved three phases: (1) the identification of the components of the religious environment and dimensions of religiosity, (2) the construction of the instrument, and (3) the validation of the instrument.

Identification of Categories

The identification of the components of the environment and dimensions of religiosity took place in three steps. First, a search of the literature (including, but not confined to, studies mentioned in chapter 2) was undertaken for the purpose of discovering the components of the religious environment of a college or university and those dimensions of religiosity identified in previous studies, whether empirical or theoretical. Second, these lists of components and dimensions were submitted to judges (Andrews University students and faculty and other professionals
identified below), who were asked to inspect the lists and indicate necessary additions or deletions. Additional items received as a result were added to the lists. Third, these revised lists were submitted to other judges, who were asked to mark the items they considered most important on each list.

The components of the environment, namely, faculty, students, classes in religion and theology, campus church, Campus Ministries\(^1\), and denominational affiliation, considered most important by these judges, together with a seventh component, overall environment, were utilized in the study. Items in each category measured perceptions of the role of that category in the formation of the religious environment.

The dimensions of religiosity considered most important by the judges were beliefs (representing the cognitive domain); affective experiences, loyalties and commitments, and importance and meaning of the individual's religious experience to him/her (representing, more or less, the affective domain); and devotional activities, attendance at public religious services, and the influence of religion on personal living (representing the behavioral domain). This last category represents the convictions of

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\(^1\)Campus Ministries is a campus organization designed to counsel students, to provide literature and other materials to students interested in spiritual growth, and to assist them in a strong program of spiritual activities.
subjects regarding the role of personal religiosity in shaping their lifestyles. In harmony with the collective opinion of the judges these seven dimensions were used in the study.

Development of the Instrument

The first step in the construction of the instrument was to copy on small cards hundreds of items from instruments designed to measure perceptions of religious environments and personal religiosity. Many additional items were generated by the investigator.

These items were sorted by the components of the environment and dimensions of religiosity, duplicate or near-duplicate items were removed, and the surviving items assembled as the first version of the instrument. The instrument was revised several times, with attendant reductions in the number of items.

The final steps in the development of the instrument were taken as part of the judging and pilot-testing of the instrument, as described immediately below.

Validation of the Instrument

Before being pilot-tested, the instrument was submitted to judges, who were asked to inspect the instrument, recommend addition, modification, or deletion of items, judge items for clarity, and determine whether each item had been assigned to the proper category.
Judges for the process of selecting the components of the environment and dimensions of religiosity and in assessing the instrument itself included Andrews University students; teachers of religion, theology, and religious education at Andrews University and non-SDA colleges; and other professional specialists (ministers, psychologists, and sociologists), some of them not affiliated with Andrews. The assistance of these judges helped to increase the validity and usability of the instrument.

The penultimate version of the instrument was pilot-tested on 50 Andrews University faculty and students. These were not included among the subjects in the main study. About 160 items were included in the pilot-test version of the instrument. It was considered desirable to retain this number of items so that the final reduction in the number of items to the desired level of 100-125 would be based on statistical analysis rather than subjective criteria.

Forty-five subjects (90%) completed and returned the instrument, providing data for further modification of the instrument and affording assurance that an adequate proportion of the 350 subjects would complete the instrument. Two copies that were returned were considered unsuitable for use because of dual responses to some items. Responses for the remaining 43 copies were entered into the university Sigma 6 computer and submitted to an item
analysis, a statistical procedure designed to measure the internal consistency, or reliability, of each of the scales of the instrument.

The item-weight analysis provided for each scale the mean, standard deviation, frequency distribution, and reliability coefficient. It also furnished for each item a point-multiserial coefficient of the correlation between the item and the scale of which it was a part, as well as the percentage of subjects who responded at each point on the Likert scale for that item.

The data were used to reduce the number of items in the instrument and increase its reliability. First, two scales with unacceptably low reliability coefficients were dropped. The scale Denominational Affiliation, with a reliability coefficient of only .51, was removed from the instrument with all of its items. Similarly, the scale public worship, with a reliability coefficient of .57, was dropped, but two of its items were retained for the sake of content validity. These two items were added to the scale private devotions. The enlarged scale was renamed religious activities. Reliability coefficients for the other scales ranged from .70 to .89.

Second, 9 of 11 items having unacceptably low point-multiserial-correlation coefficients were eliminated, with two retained for the sake of content validity. For the purposes of this study, a coefficient below .30 was
considered too low. Third, five of nine items for which more than one-third of the respondents marked the mid-point on the Likert scale, thereby indicating insufficient knowledge to respond to the items otherwise, were eliminated, with four retained for the sake of content validity. To effect further necessary reduction in the number of items, additional items were eliminated on subjective bases.

A second item analysis indicated that the reliability coefficient for each scale was acceptably high as the result of the changes just indicated (for a comparison of the reliability coefficients yielded by the first and second item analyses, see table 2). Note that all of the coefficients yielded by the second item analysis are moderately high to high* all but one are .78 or higher. The analysis also resulted in the virtual elimination of items with point-multiserial-correlation coefficients below the critical level of .30—only one such item survived the second item analysis. Coefficients for most of the items were between .40 and .90.

Final Version of the Instrument

The analysis just described led to the final version of the instrument (see appendix B). The final version consisted of 60 items in the Perception of the Environment and 58 in the Religious Experience Inventory. Five items in the latter inventory, considered unsuitable
TABLE 2

RELIABILITY COEFFICIENTS FROM ITEM ANALYSES

<table>
<thead>
<tr>
<th>Scales</th>
<th>Item Analysis 1</th>
<th>Item Analysis 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Items</td>
<td>No. of Items</td>
</tr>
<tr>
<td>Faculty</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>Students</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Religion classes</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Campus church</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Campus Ministries</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Overall</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Denominational affil.</td>
<td>8</td>
<td>*</td>
</tr>
<tr>
<td>Beliefs</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Religion in Life</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Affective</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Importance</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Loyalties</td>
<td>5</td>
<td>**</td>
</tr>
<tr>
<td>Public worship</td>
<td>4</td>
<td>+</td>
</tr>
<tr>
<td>Private Devotions</td>
<td>6</td>
<td>+</td>
</tr>
<tr>
<td>Activities++</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

*This scale with all of its items was dropped.

**The item analysis was not repeated, because no change was made in the number of items.

+The item analysis was not repeated on this scale as such, due to its being merged.

++This scale results from the merger of the two previous scales.
for non-SDA subjects because of a heavy SDA bias, were eliminated from copies distributed to them.

The 118 items in the final version were distributed among 12 scales, each scale representing either a component of the religious environment or a dimension of religiosity. Most of the scales were further divided into subscales. Neither scales nor subscales were explicitly identified in the instrument. The scales and subscales, with the numbers of items in each scale or subscale, were:

**Perception of the Religious Environment Instrument**

**Faculty:** 14 items.

- Religious experience: 1, 17, 32.
- Relations with students: 2, 19.
- Concern for the religious growth of students: 3, 18.
- Religious elements in teaching: 4, 20, 33, 34.
- Overall contribution to the environment: 59, 60.
- Support for the program of religious activities: 35.

**Students:** 13 items.

- Religious experience: 5, 6, 7, 23, 47.
- Relationships among: 21, 22.
- Concern for spiritual growth of other students: 37, 46, 48.
- Responsiveness to the religious and moral thrust of the university: 36, 38.
- Overall contribution to the environment: 55.
Classes in Bible, Religion, and Theology: 10 items.
Strength of this area: 49, 50.
Emphases of this area: 8, 51.
Impact on students: 9, 24, 25, 39, 40.
Overall contribution to the environment: 56.

Campus Church: 11 items.
Christian experience of pastors: 10.
Pastors' relations with students: 11.
Planned impact on students: 26, 27, 42.
Actual impact on students: 12, 13, 28, 41, 43.
Overall contribution to the environment: 57.

Campus Ministries: 6 items.
Relations with students: 44.
Planned impact on students: 15, 30.
Actual impact on students: 29.
Overall contribution to the environment: 58.

Overall Religious Environment: 6 items.
Strength and emphasis of the environment: 52, 53, 54.
Penetration of religion into the overall university environment: 16, 45.
Impact on students: 31.
Religious Experience Inventory

Beliefs: 13 items.

Beliefs in the importance of religion: 1, 2, 3, 18.
Theistic and Christian beliefs: 6, 7, 11, 12, 17.
Seventh-day Adventist beliefs: 22, 23, 24, 25.

Affective Experiences: 11 items: 35, 45, 46, 47, 49,
50, 51, 52, 53, 54, 57.

Importance of Religious Experience: 9 items.

As a source of happiness: 43.
As a source of meaning: 36, 40.
As a source of security: 38, 41, 42, 48.
In ethical decision making: 37.
As a source of moral strength: 39.

Religious Activities: 9 items.

Private devotions: 26, 27, 28, 29, 30, 31, 32.
Attendance at public services: 33, 34.

Religion in the Life: 11 items.

Penetration of religious conviction into the
lifestyles: 13, 58.
Religiosity and ethical issues: 4, 5, 9, 14, 15,
16, 19.
Religiosity and happiness: 10.
Religiosity and stewardship: 8.
Loyalties and Commitments: 5 items.

- Commitment to God: 44, 55.
- Loyalty to denomination: 56.
- Loyalty to religious convictions: 20.
- Satisfaction with the SDA church: 21.

All of the 118 items involved use of a five-point Likert scale. Items from the various scales and subscales were intermixed in each inventory, but to a lesser degree in the Religious Experience Inventory. Negatively and positively worded items were also intermixed in each inventory. The data were not analyzed with reference to the subscales.

A number of open-ended questions, to which subjects were asked to respond in whatever way they chose, and items soliciting demographic information, were also included.

**Administration of the Instrument**

In mid-November 1987, the 350 subjects were provided with copies of the instrument in the following ways: copies for dormitory and seminary students were delivered to the dormitory and seminary offices with the request that the instruments be placed in the students' mailboxes; copies for faculty were delivered to the faculty members' offices or to the offices of departments or schools; copies for all other subjects were mailed. Each copy was enclosed in a sealed envelope with a self-addressed return envelope and a letter from the dean of the
School of Education explaining the purpose of the study, promising anonymity, and requesting the subject's cooperation in completing the instrument in good faith. Stamps were placed on the return envelopes of subjects to whom instruments were mailed.

A different code number was placed on each return envelope (but not on the instrument). The first digit of each number identified the subject as to subsample. On return of the instrument the first digit only of the code number was placed on the instrument, the number checked off against a list of the numbers utilized, and the envelope discarded. Once the envelope had been discarded, it was impossible for the researcher to know who had returned the instrument.

November was chosen as the time to administer the instrument in order to avoid a possible temporary enthusiasm for religion generated by the fall week of spiritual emphasis sponsored by the university and held in October. By the end of the month about 80 copies of the completed instrument had been returned. In late November a reminder letter was sent by an assistant to each subject who had neither returned the instrument nor refused to do so. These letters generated the return of about another 40 instruments. In mid-January a new copy of the instrument was delivered to each subject who had not responded. This move generated the return of about another 40. During
February, subjects who had not responded by returning the instrument or refusing to do so were contacted by telephone in two cycles of calls. Fifteen subjects who could not be reached in this way were notified by mail. Each cycle of calls generated the return of about another 40 instruments. It was discovered that 22 subjects had left school or (in one case) had left the country while still enrolled. These 22 subjects were excluded from the count of 350 on which the percentage of returns was based.

A total of 246 instruments, representing a 75% response rate, were returned. Nine of these were excluded from further consideration: in two cases it was obvious that the instruments had not been completed by the persons for whom they had been intended; in six cases the subjects did not respond to a sufficient number of items; in one case a subject combined assessments of more than one category. Thus the analysis was based on responses of 237 subjects (22 freshmen, 22 sophomores, 27 juniors, 30 seniors, 31 non-SDAs, 36 seminary, 37 graduates, and 26 faculty, plus 5 not identified).

**Hypotheses Tested**

Sixteen hypotheses, stated in null form, were tested:

1. There is no difference between the means for perception of the religious environment, with degree of religiosity as a covariate, by faculty and SDA students.
2. There are no differences among the centroids\(^1\) for perception of the components of the religious environment by faculty and SDA students.

3. There are no differences among the means for the perception of the religious environment, with degree of religiosity as a covariate, by freshmen, sophomores, juniors, seniors, and SDA graduate students.

4. There are no differences among the centroids for perception of the components of the religious environment by SDA freshmen, sophomores, juniors, seniors, and graduate students.

5. There is no difference between the means for perception of the religious environment, with degree of religiosity as a covariate, by seminary and SDA graduate students.

6. There are no differences among the centroids for perception of the components of the religious environment by seminary and SDA graduate students.

7. There is no difference between the means for perception of the religious environment, with degree of religiosity as a covariate, by SDA and non-SDA students.

8. There are no differences among the centroids for perception of the components of the religious

\(^{1}\text{A centroid is the multivariate equivalent of the center of gravity and is a point in multidimensional space whose coordinates are the group means of the several variables.}\)
environment by SDA and non-SDA students.

9. There is no difference between the means for the perception of the religious environment, with degree of religiosity as a covariate, by SDA men and women.

10. There are no differences among the centroids for the perception of the components of the religious environment by SDA men and women.

11. There are no differences among the means for perception of the religious environment by SDA subjects when grouped on the basis of degree of religiosity.

12. There are no differences among the centroids for the perception of the components of the religious environment by SDA subjects when grouped on the basis of degree of religiosity.

13. There are no differences among the means for the perception of the religious environment by SDA subjects when grouped on the basis of self-perceived kind and degree of influence of early home life on the development of religiosity, with degree of religiosity as a covariate.

14. There are no differences among the centroids for the perception of the components of the religious environment by SDA subjects when grouped on the basis of self-perceived kind and degree of influence of early home life on the development of religiosity.

15. There are no differences among the means for perception of the religious environment by all SDA subjects
when grouped on the basis of the ratio of time of attendance at SDA and non-SDA schools before college.

16. There are no differences among the centroids for perception of the components of the religious environment by all SDA subjects, when grouped on the basis of the ratio of time of attendance at SDA and non-SDA schools before college.

Scoring and Analysis of the Data

Responses for the 237 instruments accepted for analysis were entered into the university computer for statistical analysis.

Null hypotheses 1, 3, 5, 7, 9, and 13 were tested by analysis of covariance; null hypotheses 2, 4, 6, 8, 10, 12, 14, and 16 by multivariate analysis of variance; null hypotheses 2, 8, and 12 by discriminant analysis, and hypotheses 11 and 15 by analysis of variance. Correlation coefficients were computed in relation to hypotheses 11, 12, and 16. The significance level for all hypotheses was set at .05.

The data were also submitted to an item analysis like that described above in the write-up of the pilot test. Thirteen items designed to measure perception of the effectiveness of the explicitly religious components (classes in religion, campus church, and Campus Ministries) were also submitted to an item analysis. With utilization of a five-point Likert scale, it was expected that the
means would be in the neighborhood of three, assuming normal distribution of the scores. Responses to selected key items in the Perception of the Religious Environment Inventory were also analyzed by enumeration and correlation with degree of religiosity.

Responses to the demographic items were used to describe the sample. The open-ended questions were analyzed by categorizing the responses to each item and counting the responses in each category with relation to degree of religiosity. The final item, which invited subjects to say anything they chose about the study or anything related to it, was analyzed by counting responses.
CHAPTER IV

ANALYSIS OF THE DATA

This chapter is an analysis of the data and consists of (1) a demographic description of the sample, (2) analysis of the data for the Perception of the Environment Inventory, (3) analysis related to testing of the null hypotheses, (4) analysis of responses to key items in the Perception of the Environment Inventory, (5) analysis of data related to the Religious Experience Inventory, (6) analysis of the responses to the open-ended questions, and (7) a chapter summary.

Demographic Description of the Sample

The demographic description of the sample is based on responses to items in the instrument related to subjects' age, gender, etc. For each item, subjects were asked to check one of several categories. The results for the first four categories are displayed in tables 3-6. Each figure in these tables is a percentage of the respondents in a subsample. Some subjects did not provide the desired information, hence percentages of some rows do not total 100.
### Table 3

**Percentages of Subjects by Age Categories**

<table>
<thead>
<tr>
<th>Subsample</th>
<th>N</th>
<th>17-22</th>
<th>23-30</th>
<th>31-40</th>
<th>41-50</th>
<th>50+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>24</td>
<td>96</td>
<td>19</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sophomores</td>
<td>26</td>
<td>81</td>
<td></td>
<td>16</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Juniors</td>
<td>25</td>
<td></td>
<td>81</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Seniors</td>
<td>22</td>
<td></td>
<td>50</td>
<td>39</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Non-SDAs</td>
<td>31</td>
<td></td>
<td>35</td>
<td>51</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Seminary</td>
<td>36</td>
<td></td>
<td></td>
<td>58</td>
<td>28</td>
<td>6</td>
</tr>
<tr>
<td>Graduate</td>
<td>36</td>
<td></td>
<td>11</td>
<td>44</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td>Faculty</td>
<td>26</td>
<td></td>
<td>12</td>
<td>23</td>
<td>31</td>
<td>35</td>
</tr>
<tr>
<td>Unidentified</td>
<td>5</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Overall</td>
<td>237</td>
<td>40</td>
<td>32</td>
<td>14</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

### Table 4

**Percentages of Subjects by Gender**

<table>
<thead>
<tr>
<th>Subsample</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>54</td>
<td>42</td>
</tr>
<tr>
<td>Sophomores</td>
<td>46</td>
<td>54</td>
</tr>
<tr>
<td>Juniors</td>
<td>44</td>
<td>56</td>
</tr>
<tr>
<td>Seniors</td>
<td>43</td>
<td>57</td>
</tr>
<tr>
<td>Non-SDA</td>
<td>32</td>
<td>68</td>
</tr>
<tr>
<td>Seminary</td>
<td>92</td>
<td>3</td>
</tr>
<tr>
<td>Graduate</td>
<td>47</td>
<td>53</td>
</tr>
<tr>
<td>Faculty</td>
<td>77</td>
<td>23</td>
</tr>
<tr>
<td>Unidentified</td>
<td>54</td>
<td>80</td>
</tr>
<tr>
<td>Overall</td>
<td>54</td>
<td>44</td>
</tr>
</tbody>
</table>
### TABLE 5
PERCENTAGES OF SUBJECTS BY MARITAL STATUS

<table>
<thead>
<tr>
<th>Subsample</th>
<th>Marital Status Category</th>
<th>Single</th>
<th>Married</th>
<th>Divorced, Separated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td></td>
<td>96</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Sophomores</td>
<td></td>
<td>88</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Juniors</td>
<td></td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seniors</td>
<td></td>
<td>82</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Non-SDAs</td>
<td></td>
<td>68</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>Seminary</td>
<td></td>
<td>25</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td></td>
<td>44</td>
<td>53</td>
<td>3</td>
</tr>
<tr>
<td>Faculty</td>
<td></td>
<td>12</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Unidentified</td>
<td></td>
<td>60</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>62</td>
<td>35</td>
<td>1</td>
</tr>
</tbody>
</table>

### TABLE 6
PERCENTAGES OF SUBJECTS BY ETHNIC AFFILIATION

<table>
<thead>
<tr>
<th>Subsample</th>
<th>Ethnic Category</th>
<th>White</th>
<th>Black</th>
<th>Hispan.</th>
<th>Asian-Oriental</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td></td>
<td>42</td>
<td>29</td>
<td>13</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Sophomores</td>
<td></td>
<td>62</td>
<td>19</td>
<td>4</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Juniors</td>
<td></td>
<td>48</td>
<td>36</td>
<td>4</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Seniors</td>
<td></td>
<td>61</td>
<td>18</td>
<td>14</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Non-SDA</td>
<td></td>
<td>65</td>
<td>23</td>
<td>14</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Seminary</td>
<td></td>
<td>53</td>
<td>14</td>
<td>17</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Graduate</td>
<td></td>
<td>44</td>
<td>36</td>
<td>14</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Faculty</td>
<td></td>
<td>96</td>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Unidentified</td>
<td></td>
<td>60</td>
<td></td>
<td>20</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>59</td>
<td>22</td>
<td>8</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>
Religious affiliations of the subjects were as follows: Seventh-day Adventist (SDA)—84%, other Protestant—7%, Catholic—2%, other and none—4%. Because some subjects did not respond, the total of percentages is less than 100%.

Perception of the Environment Inventory

Each of the items in the Perception of the Environment Inventory utilized a five-point Likert scale for scoring. The score on any item, then, would range from one to five, and the range of scores for any of the six scales in the inventory would be n to 5n, where n is the number of items in that scale. Thus, scores on the faculty scale, with 14 items, would range between 14 and 70. The score for the inventory is the total of scores for the various scales in that inventory. High-number responses on negative items would represent negative assessments, but negative items were reverse-scored by the computer analysis program. For each item separately and for each scale, the higher the score, the more positive was the assessment.

The item analyses of the data for the Perception of the Environment Inventory yielded the following data for each scale: a mean, a standard deviation, a reliability coefficient, and a frequency distribution; and for each item a point-multiserial-correlation coefficient. These are displayed in tables 7 and 8, except that a range of point-multiserial-correlation coefficients, rather than
individual coefficients, is given for each scale. The scale effectiveness combined items from the scales religion classes, church, Campus Ministries, and overall and measured perceptions of the effectiveness of these components in producing religious growth in students.

### TABLE 7

**ITEM ANALYSIS: COMPONENTS OF ENVIRONMENT**

<table>
<thead>
<tr>
<th>Scales</th>
<th>No. of Items</th>
<th>Mean</th>
<th>Stand. Dev.</th>
<th>Rel.*</th>
<th>Range</th>
<th>Range, PMCC+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>14</td>
<td>48.2</td>
<td>7.65</td>
<td>.83</td>
<td>26-65</td>
<td>.37-.75</td>
</tr>
<tr>
<td>Students</td>
<td>13</td>
<td>38.2</td>
<td>6.54</td>
<td>.74</td>
<td>22-55</td>
<td>.12-.66</td>
</tr>
<tr>
<td>Religion Classes</td>
<td>10</td>
<td>29.8</td>
<td>6.19</td>
<td>.81</td>
<td>16-44</td>
<td>.33-.80</td>
</tr>
<tr>
<td>Campus church</td>
<td>11</td>
<td>38.4</td>
<td>6.73</td>
<td>.86</td>
<td>21-55</td>
<td>.38-.76</td>
</tr>
<tr>
<td>Campus Ministries</td>
<td>6</td>
<td>20.4</td>
<td>3.26</td>
<td>.73</td>
<td>10-29</td>
<td>.56-.79</td>
</tr>
<tr>
<td>Overall</td>
<td>6</td>
<td>17.5</td>
<td>3.81</td>
<td>.67</td>
<td>8-26</td>
<td>.57-.67</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>13</td>
<td>41.8</td>
<td>8.05</td>
<td>.89</td>
<td>13-58</td>
<td>.54-.73</td>
</tr>
</tbody>
</table>

*Coefficients of reliability.
+Point-multiserial-correlation coefficients.

Note that the reliability coefficients were all respectably high—the exception being that for overall, which was low partly because of the small number of items in the scale. The low point-multiserial coefficient for students was the only coefficient below the critical value of .30. Note also that the full range of scores was not recorded for any scale, and in only one case—campus church—was the highest possible score realized. The highest score for one scale, Campus Ministries, was one
short of the highest possible score. In no case was the lowest possible score realized, but the lowest score---eight---for overall was two above the lowest possible score.

A frequency distribution showing the number of scores for each applicable frequency interval for each scale in the Perception of the Environment Inventory is displayed as table 8. In this table, as in subsequent tables, names of the scales are abbreviated when they appear as column headings: faculty (FAC), students (STU), classes in religion and theology (CLA), campus church (CHU), Campus Ministries (MIN), overall (OVE), and effectiveness (EFF).

**TABLE 8**

**COMPOSITE FREQUENCY DISTRIBUTION: ENVIRONMENT**

<table>
<thead>
<tr>
<th>Scales and Possible Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervals</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>61-65</td>
</tr>
<tr>
<td>56-60</td>
</tr>
<tr>
<td>51-55</td>
</tr>
<tr>
<td>46-50</td>
</tr>
<tr>
<td>41-45</td>
</tr>
<tr>
<td>36-40</td>
</tr>
<tr>
<td>31-35</td>
</tr>
<tr>
<td>26-30</td>
</tr>
<tr>
<td>21-25</td>
</tr>
<tr>
<td>16-20</td>
</tr>
<tr>
<td>11-15</td>
</tr>
<tr>
<td>6-10</td>
</tr>
</tbody>
</table>

*Computed for SDAs only.
Note that the position of the full range of scores for any scale was determined not only by the scores themselves but by the number of items in that scale. One subject's score for church was excluded because of improper completion of items in this scale.

Means for the Perception of the Environment Inventory are displayed in table 9. The "expected mean" at the head of each column assumes a normal distribution of scores over the full possible range and is the average of the smallest and largest possible scores.

### TABLE 9
MEANS: PERCEPTION OF THE ENVIRONMENT

<table>
<thead>
<tr>
<th>Scales and Expected Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsamples</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>Freshmen</td>
</tr>
<tr>
<td>Sophomores</td>
</tr>
<tr>
<td>Juniors</td>
</tr>
<tr>
<td>Seniors</td>
</tr>
<tr>
<td>Non SDA</td>
</tr>
<tr>
<td>Seminary</td>
</tr>
<tr>
<td>Graduates</td>
</tr>
<tr>
<td>Faculty</td>
</tr>
</tbody>
</table>

It should be noted here, and for future reference, that the means for church and Campus Ministries reflect the fact that many subjects, in some cases more than one-half,
responded at the mid-point of the Likert scales for the items related to those components, indicating lack of sufficient knowledge to respond more definitely. This tendency to respond at the mid-point could only result in lowering the means for the items involved, if those means were above 3. Thus the scores for church and Campus Ministries would have been somewhat higher if the subjects who responded at point 3 had responded instead at the other points on the scale in the same proportion as did the other subjects.

The data in table 9 permit comparison of the means for the perception of any component of the environment by the various subsamples. Note that the means representing perception of faculty, church, and Campus Ministries were higher than the expected means; that the means for perception of students, classes in religion, and overall were generally lower than the expected means; and that the means for assessment of the various components by faculty and non-SDAs tended to be higher than the means for the other subsamples. The statistical significance and other implications of these differences are explored below.

Because the numbers of items in the various scales differ, the group means in table 9 do not permit comparison of the mean for perceptions of the various components by any one subsample. To permit such comparisons a table of proportional group means (table 10) was compiled. Each
proportional mean was computed by dividing a mean in table 9 by the number of items in the corresponding scale. These proportional means are, then, the average scores for the items. The combined means in the last row of the table were calculated from the data in table 9.

**TABLE 10**

**PROPORTIONAL MEANS: ENVIRONMENT**

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>FAC</th>
<th>STU</th>
<th>CLA</th>
<th>CHU</th>
<th>MIN</th>
<th>OVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>3.44</td>
<td>2.87</td>
<td>2.81</td>
<td>3.49</td>
<td>3.42</td>
<td>2.95</td>
</tr>
<tr>
<td>Sophomores</td>
<td>3.26</td>
<td>2.75</td>
<td>2.60</td>
<td>3.31</td>
<td>3.12</td>
<td>2.71</td>
</tr>
<tr>
<td>Juniors</td>
<td>3.16</td>
<td>2.79</td>
<td>2.85</td>
<td>3.38</td>
<td>3.39</td>
<td>2.77</td>
</tr>
<tr>
<td>Seniors</td>
<td>3.41</td>
<td>2.88</td>
<td>2.98</td>
<td>3.63</td>
<td>3.54</td>
<td>2.96</td>
</tr>
<tr>
<td>Non SDA</td>
<td>3.59</td>
<td>3.01</td>
<td>3.14</td>
<td>3.34</td>
<td>3.36</td>
<td>3.19</td>
</tr>
<tr>
<td>Seminary</td>
<td>3.49</td>
<td>3.02</td>
<td>3.29</td>
<td>3.41</td>
<td>3.42</td>
<td>2.88</td>
</tr>
<tr>
<td>Graduates</td>
<td>3.42</td>
<td>2.90</td>
<td>2.98</td>
<td>3.45</td>
<td>3.31</td>
<td>2.70</td>
</tr>
<tr>
<td>Faculty</td>
<td>3.71</td>
<td>3.18</td>
<td>3.11</td>
<td>3.81</td>
<td>3.65</td>
<td>3.21</td>
</tr>
<tr>
<td>Combined</td>
<td>3.44</td>
<td>2.94</td>
<td>2.98</td>
<td>3.49</td>
<td>3.40</td>
<td>2.92</td>
</tr>
</tbody>
</table>

Overall Rank 2 5 4 1 3 6

An inspection of the table shows that campus church, faculty, and Campus Ministries were rated highest, and about equal, and that classes in religion, students, and overall were rated lowest and about equal. Campus church was rated highest by five of the subsamples. The combined means may be compared with the mean for effectiveness, which, with a value of 3.22, occupies the median
position among the other proportional means. (The mean for effectiveness was computed for SDA subjects only.) In the bottom row, the combined means are ranked from 1, for the component assessed most positively, to 6.

With overall environment being rated lowest, it is obvious that subjects perceived elements in the environment that they definitely considered negative religiously. Some of these negative elements are discussed in the analysis of responses to the open-ended questions below.

Table 11 shows the order in which each component was assessed by each subsample. The lower the number, the more positive was the assessment. The overall ranks reflect the combined means of table 10. Note that church, faculty,

TABLE 11
PERCEPTION OF THE ENVIRONMENT: COMPONENTS RANKED

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>FAC</th>
<th>STU</th>
<th>CLA</th>
<th>CHU</th>
<th>MIN</th>
<th>OVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sophomores</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Juniors</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Seniors</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Non SDA</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Seminary</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Graduates</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Faculty</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Overall rank</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>
and Campus Ministries were rated highest by each subsample; that classes in religion, students, and overall were rated lowest; and that faculty and all student subsamples rated students low. Note also the fairly high degree of consistency in the way in which the various components of the environment were rated by the various subsamples—for any scale the greatest difference between any two ranks was two.

An intercorrelation matrix, using Pearson's product-moment coefficient of correlation, was also calculated for scores on the Perception of the Environment Inventory. The coefficients are displayed in table 12.

**TABLE 12**

INTERCORRELATION MATRIX: PERCEPTION OF THE ENVIRONMENT

<table>
<thead>
<tr>
<th>Components</th>
<th>FAC</th>
<th>STU</th>
<th>CLA</th>
<th>CHU</th>
<th>MIN</th>
<th>OVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>.53</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classes</td>
<td>.43</td>
<td>.43</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church</td>
<td>.08</td>
<td>.06</td>
<td>.05</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministries</td>
<td>.36</td>
<td>.26</td>
<td>.38</td>
<td>.29</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>.53</td>
<td>.55</td>
<td>.41</td>
<td>-.01</td>
<td>.26</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Each coefficient expresses the degree to which the assessment of one component agreed with that of another, but is not to be understood in terms of percentage. The greater the numerical value of the coefficient, was the greater the agreement. In table 13, these coefficients are ranked from highest to lowest, in order to show better the varying strengths of the relationships involved.

**TABLE 13**

CORRELATION COEFFICIENTS FROM TABLE 12 IN DESCENDING ORDER

<table>
<thead>
<tr>
<th>Rank</th>
<th>Coefficient</th>
<th>Means being Correlated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.55</td>
<td>Students and overall</td>
</tr>
<tr>
<td>2</td>
<td>.53</td>
<td>Students and faculty</td>
</tr>
<tr>
<td>3</td>
<td>.53</td>
<td>Overall and faculty</td>
</tr>
<tr>
<td>4</td>
<td>.43</td>
<td>Classes and faculty</td>
</tr>
<tr>
<td>5</td>
<td>.43</td>
<td>Classes and students</td>
</tr>
<tr>
<td>6</td>
<td>.41</td>
<td>Classes and overall</td>
</tr>
<tr>
<td>7</td>
<td>.38</td>
<td>Ministries and classes</td>
</tr>
<tr>
<td>8</td>
<td>.36</td>
<td>Ministries and faculty</td>
</tr>
<tr>
<td>9</td>
<td>.29</td>
<td>Church and ministries</td>
</tr>
<tr>
<td>10</td>
<td>.26</td>
<td>Ministries and overall</td>
</tr>
<tr>
<td>11</td>
<td>.26</td>
<td>Ministries and students</td>
</tr>
<tr>
<td>12</td>
<td>.08</td>
<td>Church and faculty</td>
</tr>
<tr>
<td>13</td>
<td>.06</td>
<td>Church and students</td>
</tr>
<tr>
<td>14</td>
<td>.05</td>
<td>Church and classes</td>
</tr>
<tr>
<td>15</td>
<td>-.01</td>
<td>Church and overall</td>
</tr>
</tbody>
</table>

Note that all but one of the coefficients are positive and that few are high—the highest being .55 for overall and students. Except for the low coefficients for church, the range is .26 to .55. All the coefficients
within this range were statistically significant at the .01 level or higher. There appears to be, as noted above, at least a moderate degree of consistency in the ratings of the components by the subjects. The low coefficients for church, together with the data for church in tables 9, 10, and 11, indicate a lack of relationship between subjects' rating of the other components and church and that, however they rated the other components, they tended to rate church high. The same appears to be true, but to a lesser degree, of Campus Ministries.

It should be noted that correlation coefficients may be statistically significant without indicating very strong relationships. Any coefficient below .30 must be regarded as indicating a rather weak relationship.

For SDA subjects a product-moment-correlation coefficient between scores on the effectiveness scale and overall religiosity was also computed. The coefficient of .47 indicated a moderate degree of relationship between degree of religiosity and strength of convictions regarding the effectiveness of campus church, classes in religion, Campus Ministries, and overall in developing moral and spiritual values in students. That the coefficient was positive indicated that the more religious the subjects, the more they tended to view these components of the environment as effective in producing spiritual and moral growth in students.
Testing the Null Hypotheses

Each of the 16 null hypotheses is here presented, together with the decision regarding its validity, and the data upon which the decision was based. Also included is a list of the various types of statistical analysis utilized and a description of the ways in which they were used. Each of the hypotheses is restated with its number (as in chapter 3), the relevant data are presented, the decision regarding the significance or nonsignificance is stated, and a brief interpretation is presented.

Description of the Analyses Used

Hypotheses 1, 3, 5, 7, 9, and 13 were tested by analysis of covariance (ANCOVA); hypotheses 11 and 15 by analysis of variance (ANOVA); and hypotheses 2, 4, 6, 8, 10, 12, 14, and 16 by multivariate analysis of variance (MANOVA), followed by discriminant analysis in cases where MANOVA yielded significant results. Hypotheses 11, 12, and 16 were also tested by correlation analysis with Pearson's product-moment-correlation coefficient.

ANOVA, ANCOVA, MANOVA, and discriminant analysis yield, among other data, probability values. A probability value is a measure of the probability that differences between the means (or among the centroids) are due to chance or sampling error and do not reflect real differences between the means. It is also a measure of statistical significance if sufficiently low--.05 in this
study. ANCOVA also yields adjusted means, that is (in this study), means adjusted to remove the effect of differences in religiosity on perceptions of the environment. The adjusted means are the group means on the environment scale which would be expected if the group means for religiosity were equal.

A necessary condition for the use of ANCOVA is homogeneity of regression, that is, equality of slope of the regression lines for the various groups being compared. The analysis (including ANCOVA) of the data for hypotheses 1, 3, 5, 7, 9, and 13 yielded the probability value by which the assumption of homogeneity of regression was tested in each case. A probability value in excess of .05 meant that the assumption of homogeneity of regression was accepted. The discussion for the testing for significance of each of these six hypotheses is preceded, therefore, by a discussion of the testing of the assumption of homogeneity of regression.

In cases in which MANOVA yielded significant results, discriminant analysis was used to indicate which differences among the centroids were significant. Discriminant analysis yields, among other data, one or more discriminant functions, with group means and a series of standard weights (one for each variable) on each discriminant function. The weights indicate which variables are more important in differentiating among the
group centroids and may be positive or negative in value. Groups being compared with higher means would tend to be stronger in variables with positive weights than groups with lower means, and weaker in variables with negative weights. Only weights which equal (approximately) or exceed in absolute value one-half the weight of highest value are commonly used.

Correlation analysis, using Pearson's product-moment correlation, yields one or more correlation coefficients. These fall between the limits 1.0 and -1.0, inclusive. Positive coefficients indicate direct relationship, negative coefficients inverse relationship, between the variables being correlated. The size of the coefficients, using absolute values, indicates the strength of the relationship. Coefficients with low absolute value indicate a negligible or weak relationship. Correlation coefficients are not to be understood in the sense of percentages. The square of the coefficient indicates the proportion of variance of one variable which is related to the other variable.

In the following analyses, the computed F-values, Chi-square values, and probability values are given, along with the numbers of degrees of freedom. Critical F-values and Chi-square values are not given, the comparison between critical and computed value in each case being part of the computer analysis that resulted in the probability value.
Results of Hypotheses Testing

Hypothesis 1. There is no difference between the means for the perception of the religious environment, with degree of religiosity as a covariate, by faculty and SDA students.

The data for testing the assumption of homogeneity of regression were 1 and 202 degrees of freedom, an F-value of 1.45, and a probability value of .23. Since the probability value exceeded .05, the assumption of homogeneity was upheld, and the ANCOVA was used.

The testing of Hypothesis 1 utilized means and adjusted means for perception of the environment and means for religiosity. These data are displayed in table 14.

TABLE 14
MEANS AND ADJUSTED MEANS FOR HYPOTHESIS 1

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>180</td>
<td>189.72</td>
<td>190.22</td>
<td>237.14</td>
</tr>
<tr>
<td>Faculty</td>
<td>26</td>
<td>207.42</td>
<td>203.90</td>
<td>251.85</td>
</tr>
</tbody>
</table>

With these adjusted means and 1 and 203 degrees of freedom, the ANCOVA yielded an F-value of 8.12 and a probability value of .0048. The difference between the means was significant at the .005 level indicated by the probability value.
value. The null hypothesis, therefore, was rejected—faculties perceived the religious environment more positively to a significant degree than students did.

**Hypothesis 2.** There are no differences among the centroids for perception of the components of the religious environment by faculty and SDA students.

The group centroids for the perceptions of the components of the religious environment are displayed in Table 15. With these centroids and 6 and 199 degrees of freedom, the MANOVA yielded an F-value of 2.56 and a probability value of .0206. The differences among the centroids were significant at the .05 level. The null hypothesis was rejected—the differences between faculty and student perceptions of the components of the environment were statistically significant.

Discriminant analysis was used to reveal which components were more important in separating the faculty

<table>
<thead>
<tr>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsamples</td>
</tr>
<tr>
<td>Students</td>
</tr>
<tr>
<td>Faculty</td>
</tr>
</tbody>
</table>
and student centroids. With 6 degrees of freedom, the discriminant analysis yielded a Chi-square value of 14.93, a probability value of .0208, and the means and standard discriminant weights displayed in table 16. The discriminant weights are listed in descending order of absolute value and importance.

**TABLE 16**

MEANS AND DISCRIMINANT WEIGHTS FOR HYPOTHESIS 2

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>Means</th>
<th>Components</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>56.2</td>
<td>Students</td>
<td>40.17</td>
</tr>
<tr>
<td>Students</td>
<td>50.7</td>
<td>Faculty</td>
<td>33.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Classes</td>
<td>-30.35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ministries</td>
<td>27.42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Church</td>
<td>25.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overall</td>
<td>22.34</td>
</tr>
</tbody>
</table>

All of the discriminant weights exceeded one-half the weight of highest value—using absolute values. The weights for students, faculty, Campus Ministries, church, and overall were positive; that for classes in religion was negative. The interpretation is, then, that on a syndrome defined by more positive attitudes toward students, faculty, ministries, church, and overall, and less positive attitudes towards classes in religion, faculty scored higher than students.

The discriminant analysis must be understood in
terms of the various intercorrelations involved. Thus, it is obvious from the centroids for faculty and students in table 15 that the perception of classes by faculty was more positive than that of students. Because of the intercorrelations, however, the syndrome identified by the discriminant function gave a negative weight for classes.

**Hypothesis 3.** There are no differences among the means for the perception of the religious environment, with degree of religiosity as a covariate, by SDA freshmen, sophomores, juniors, seniors, and graduate students.

The data for testing the assumption of homogeneity of regression were 4 and 128 degrees of freedom, an F-value of 1.74, and a probability value of .1449. Since the probability value exceeded .05, the assumption of homogeneity was upheld, and the ANCOVA was used.

The means and adjusted means for environment and the means for religiosity are displayed in table 17. With these means and with 4 and 132 degrees of freedom, the ANCOVA yielded an F-value of .87 and a probability value of .4843, a value too high for significance. The analysis did not indicate that the differences among the means were significant. The null hypothesis was retained—there was no evidence that the perceptions of the environment by SDA freshmen, sophomores, juniors, seniors, and graduate students differed among themselves.
TABLE 17
MEANS AND ADJUSTED MEANS FOR HYPOTHESIS 3

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>Environment Means</th>
<th>Adjusted Environment Means</th>
<th>Religiosity Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>190.09</td>
<td>191.85</td>
<td>226.59</td>
</tr>
<tr>
<td>Sophomores</td>
<td>178.64</td>
<td>183.85</td>
<td>214.68</td>
</tr>
<tr>
<td>Juniors</td>
<td>183.19</td>
<td>185.46</td>
<td>224.85</td>
</tr>
<tr>
<td>Seniors</td>
<td>193.97</td>
<td>192.64</td>
<td>236.90</td>
</tr>
<tr>
<td>Graduate students</td>
<td>189.41</td>
<td>184.62</td>
<td>248.46</td>
</tr>
</tbody>
</table>

Hypothesis 4. There are no differences among the centroids for perception of the components of the religious environment by SDA freshmen, sophomores, juniors, seniors, and graduate students.

The group centroids are displayed in table 18.

With these centroids and 24 and 448 degrees of freedom,
the MANOVA yielded an F-value of 1.09 and a probability value of .3507. The probability value was too high for significance—the analysis did not indicate that the differences among the centroids were significant. The null hypothesis was retained—there was no evidence that the perceptions of the components of the religious environment by SDA freshmen, sophomores, juniors, seniors, and graduate students differed significantly. Since the MANOVA failed to yield statistically significant results, discriminant analysis was not needed.

**Hypothesis 5**. There is no difference between the means for the perception of the religious environment, with degree of religiosity as a covariate, by seminary and SDA graduate students.

The data for testing the assumption of homogeneity of regression were 1 and 69 degrees of freedom, an F-value of 2.15, and a probability value of .1473. Since the probability value exceeded .05, the assumption of homogeneity was upheld, and the ANCOVA was used.

The means and adjusted means for the environment and the means for religiosity are displayed in table 19. With these adjusted means and 1 and 70 degrees of freedom, the ANCOVA yielded an F-Value of 1.13 and a probability value of .2907. This value was too high for significance—the analysis did not indicate that the difference between
the means was significant. The null hypothesis, therefore, was retained—there was no evidence that the difference between the perceptions of the religious environment by seminary and graduate students was significant.

Hypothesis 6. There are no differences among the centroids for perception of the components of the religious environment by seminary and SDA graduate students.

The group centroids for perception of the components of the religious environment by seminary and SDA graduate students are displayed in table 20. With these

TABLE 20
CENTROIDS FOR HYPOTHESIS 6

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>FAC</th>
<th>STU</th>
<th>CLA</th>
<th>CHU</th>
<th>MIN</th>
<th>OVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminary</td>
<td>48.81</td>
<td>39.22</td>
<td>32.92</td>
<td>37.56</td>
<td>20.50</td>
<td>17.28</td>
</tr>
<tr>
<td>Graduate</td>
<td>47.89</td>
<td>37.73</td>
<td>29.81</td>
<td>37.92</td>
<td>19.86</td>
<td>16.19</td>
</tr>
</tbody>
</table>
centroids and 6 and 66 degrees of freedom, the MANOVA yielded an F-value of 1.02 and a probability value of .4208. The probability value was far too high for significance—the analysis did not indicate that the differences among the centroids were significant. The null hypothesis, therefore, was retained—there was no evidence that the perceptions of the components of the environment by seminary and graduate students differed significantly. Since the MANOVA did not yield statistically significant results, discriminant analysis was not needed.

Hypothesis 7. There is no difference between the means for perception of the religious environment, with degree of religiosity as a covariate, by SDA and non-SDA students.

The data for testing the assumption of homogeneity of regression were 1 and 166 degrees of freedom, an F-value of .004, and a probability value of .95. Since the probability value exceeded .05, the assumption of homogeneity was upheld, and ANCOVA was used.

The means and adjusted means for perception of the environment and the means for religiosity are displayed in table 21. With these means and with 1 and 167 degrees of freedom, the ANCOVA yielded an F-value of 13.12 and a probability value of .0004. The probability value indicated that the difference between the means was
Hypothesis 7. There are significant differences in perceptions of the religious environment between SDA and non-SDA students. The null hypothesis was rejected— the perceptions of the religious environment by non-SDA students were significantly different from, and more positive than, those of SDA graduate and undergraduate students.

Hypothesis 8. There are no differences among the centroids for perception of the components of the religious environment by SDA and non-SDA students.

The group centroids are displayed in Table 22.

**TABLE 21**

MEANS AND ADJUSTED MEANS FOR HYPOTHESIS 7

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SDA Students</td>
<td>139</td>
<td>187.48</td>
<td>186.03</td>
<td>206.89</td>
</tr>
<tr>
<td>Non-SDAs</td>
<td>31</td>
<td>196.94</td>
<td>203.45</td>
<td>180.81</td>
</tr>
</tbody>
</table>

significant at the .0005 level. The null hypothesis was rejected—the perceptions of the religious environment by non-SDA students were significantly different from, and more positive than, those of SDA graduate and undergraduate students.

**TABLE 22**

CENTROIDS FOR HYPOTHESIS 8

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>FAC</th>
<th>STU</th>
<th>CLA</th>
<th>CHU</th>
<th>MIN</th>
<th>OVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDA</td>
<td>46.82</td>
<td>37.00</td>
<td>28.62</td>
<td>38.01</td>
<td>20.15</td>
<td>16.89</td>
</tr>
<tr>
<td>Non-SDA</td>
<td>50.32</td>
<td>39.13</td>
<td>31.42</td>
<td>36.77</td>
<td>20.13</td>
<td>19.16</td>
</tr>
</tbody>
</table>
With these group centroids and with 6 and 163 degrees of freedom, the MANOVA yielded an F-value of 3.52 and a probability value of .0030. The probability value was low enough for significance--the differences among the centroids were significant at the .005 level. The null hypothesis was rejected--the perceptions of the components of the religious environment by non-SDA and SDA students differed significantly.

Since the MANOVA yielded statistically significant results, discriminant analysis was used to ascertain which components of the religious environment were more important in separating centroids for SDA and non-SDA students. With the centroids given above and with 6 degrees of freedom, the discriminant analysis yielded a Chi-square value of 20.08, a probability value of .0027, and the means and standard discriminant weights displayed in table 23.

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>Means</th>
<th>Components</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-SDAs</td>
<td>14.64</td>
<td>Church</td>
<td>-46.23</td>
</tr>
<tr>
<td>SDAs</td>
<td>10.53</td>
<td>Overall</td>
<td>35.06</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Classes</td>
<td>30.31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Faculty</td>
<td>23.29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ministries</td>
<td>-4.88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students</td>
<td>-2.79</td>
</tr>
</tbody>
</table>
The discriminant weights are listed in descending order of absolute value, and, therefore, of importance. Weights that equaled or exceeded 50% of the highest weight (using absolute values) were those for church, overall, classes in religion, and faculty. The weight for church was negative; weights for overall, classes in religion, and faculty were positive. On a syndrome defined by less positive perceptions of church and more positive perceptions of overall, classes in religion, and faculty, non-SDA students scored higher, therefore, than SDA students.

**Hypothesis 9.** There is no difference between the means for the perception of the religious environment, with degree of religiosity as a covariate, by SDA men and women.

The data for testing the assumption of homogeneity of regression were 1 and 198 degrees of freedom, an F-value of 1.64, and a probability value of .2017. Since the probability value exceeded .05, the assumption of homogeneity was retained, and the ANCOVA was used.

The means and adjusted means for the environment and the means for religiosity are displayed in table 24. With these adjusted means and with 1 and 199 degrees of freedom, the ANCOVA yielded an F-Value of .04 and a probability value of .8327. The probability value was far too high for significance— the analysis did not indicate that the difference between the means was significant. The null hypothesis, therefore, was retained— there was no
evidence that men and women perceived the religious environment differently. Similar results were obtained when the analysis was restricted to undergraduate subjects—48 men and 53 women.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>118</td>
<td>193.02</td>
<td>192.41</td>
<td>241.68</td>
</tr>
<tr>
<td>Women</td>
<td>84</td>
<td>190.86</td>
<td>191.71</td>
<td>237.02</td>
</tr>
</tbody>
</table>

**Hypothesis 10.** There are no differences among the centroids for the perception of the components of the religious environment by SDA men and women.

The group centroids are displayed in table 25.

<table>
<thead>
<tr>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsamples</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>Men</td>
</tr>
<tr>
<td>Women</td>
</tr>
</tbody>
</table>

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With these centroids and with 6 and 195 degrees of freedom, the MANOVA yielded an F-value of 1.93 and a probability value of .0779. The probability value was too high for significance—the analysis did not indicate that the differences among the centroids were significant. The null hypothesis, therefore, was retained—there was no evidence that the differences among the perceptions of the components of the religious environment by SDA men and women were significant. Similar results were obtained when the analysis was restricted to the data for undergraduates. Since the MANOVA did not yield significant results, discriminant analysis was not necessary.

Hypothesis 11. There are no differences among the means for the perception of the religious environment by SDA subjects when grouped on the basis of degree of religiosity.

For the purpose of testing this hypothesis, the mean scores yielded by the analysis of responses to the Religious Experience Inventory were grouped according to the degree of subjects' religiosity in five approximately equal groups: very low, low, middle, high, very high. The means for the perception of the religious environment for these five groups were: for very low religious—172.05 (N=40); for low religious—196.02 (N=45); for middle religious—194.52 (N=44); for high religious—192.00 (N=38); and for very high religious—204.72 (N=39).
With these means for perception of the environment and with 4 and 201 degrees of freedom, the ANOVA yielded an F-value of 11.41, and a probability value less than .00005. The differences among the means were significant at the .00005 level. The null hypothesis was rejected—there was a significant difference between the perceptions of the religious environment by SDA students when grouped on the basis of degree of religiosity, with the more religious subjects perceiving the environment more positively than the less religious. The matrix of probability values for hypothesis 11 is displayed as table 26. The coefficients

<table>
<thead>
<tr>
<th>Degree of Religiosity</th>
<th>Very low</th>
<th>Low</th>
<th>Middle</th>
<th>High</th>
<th>Very high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>&lt;.00005</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>&lt;.00005</td>
<td>.7543</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>.0002</td>
<td>.4194</td>
<td>.6142</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>Very high</td>
<td>&lt;.00005</td>
<td>.0797</td>
<td>.0413</td>
<td>.0143</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

indicate that the difference between the mean for the very low and the mean for each of the other groups was significant at the .0005 level or higher; the differences between the means for the very high and middle, and very
With these means for perception of the environment and with 4 and 201 degrees of freedom, the ANOVA yielded an F-value of 11.41, and a probability value less than .00005. The differences among the means were significant at the .00005 level. The null hypothesis was rejected—there was a significant difference between the perceptions of the religious environment by SDA students when grouped on the basis of degree of religiosity, with the more religious subjects perceiving the environment more positively than the less religious. The matrix of probability values for hypothesis 11 is displayed as table 26. The coefficients indicate that the difference between the mean for the very low and the mean for each of the other groups was significant at the .0005 level or higher; the differences between the means for the very high and middle, and very
high and high were significant at the .05 level. The other differences were not significant.

Hypothesis 11 was also tested by correlation analysis. The correlation coefficient of the scores for overall religiosity and perception of the religious environment, .38, was significant at the .01 level or higher, the critical level for N=204 being about .18. Positive coefficients indicate direct relationship. The interpretation is, therefore, that perceptions of the religious environment tended to become moderately more positive as degree of religiosity increased.

Hypothesis 12. There are no differences among the centroids for the perception of the components of the religious environment by SDA subjects when grouped on the basis of degree of religiosity.

Again, the scores were grouped by degree of religiosity: very low to very high. The centroids are displayed in table 27. With these centroids and with 24 and 685 degrees of freedom, the MANOVA yielded an F-Value of 3.99 and a probability value less than .00005. The differences among the centroids were significant at the .00005 level. The null hypothesis was rejected—the differences among the perceptions of the religious environment by SDA subjects in relation to degree of religiosity were significantly different.
TABLE 27

CENTROIDS FOR HYPOTHESIS 12

<table>
<thead>
<tr>
<th>Degree of Religios.</th>
<th>FAC</th>
<th>STU</th>
<th>CLA</th>
<th>CHU</th>
<th>MIN</th>
<th>OVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low</td>
<td>43.95</td>
<td>34.48</td>
<td>24.40</td>
<td>34.08</td>
<td>18.85</td>
<td>16.30</td>
</tr>
<tr>
<td>Low</td>
<td>49.11</td>
<td>39.73</td>
<td>29.24</td>
<td>39.53</td>
<td>20.02</td>
<td>18.38</td>
</tr>
<tr>
<td>Middle</td>
<td>48.23</td>
<td>37.82</td>
<td>31.27</td>
<td>39.91</td>
<td>20.75</td>
<td>17.55</td>
</tr>
<tr>
<td>High</td>
<td>47.92</td>
<td>37.42</td>
<td>29.37</td>
<td>39.95</td>
<td>20.61</td>
<td>16.74</td>
</tr>
<tr>
<td>Very high</td>
<td>50.44</td>
<td>40.28</td>
<td>33.85</td>
<td>40.44</td>
<td>22.13</td>
<td>17.59</td>
</tr>
</tbody>
</table>

Since the MANOVA of the data for hypothesis 12 yielded significant results, discriminant analysis was used to ascertain which components of the environment were more important in differentiating among the centroids. With 24 degrees of freedom, the discriminant analysis yielded the means and discriminant weights displayed in table 28, a Chi-square value of 91.01, and a probability value less than .00005. The weights are listed in decreasing order of absolute value and importance. Weights which equalled or exceeded one-half the value of the weight of highest value were those for classes and overall. The weight for classes was positive, that for overall negative. The interpretation is, then, that on a syndrome defined by more positive perceptions of classes in religion and less positive perceptions of overall, highly religious subjects
scored higher than low religious. The second and subsequent discriminant functions were not significant.

TABLE 28
MEANS AND DISCRIMINANT WEIGHTS FOR HYPOTHESIS 12

<table>
<thead>
<tr>
<th>Degrees of Religiosity</th>
<th>Means</th>
<th>Discriminant weights</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Components</td>
</tr>
<tr>
<td>Very high</td>
<td>36.89</td>
<td>Classes</td>
</tr>
<tr>
<td>Medium</td>
<td>33.88</td>
<td>Overall</td>
</tr>
<tr>
<td>High</td>
<td>33.14</td>
<td>Students</td>
</tr>
<tr>
<td>Low</td>
<td>32.35</td>
<td>Church</td>
</tr>
<tr>
<td>Very low</td>
<td>27.58</td>
<td>Ministries</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Faculty</td>
</tr>
</tbody>
</table>

Hypothesis 12 was also tested by correlation analysis. The correlation coefficients for the overall scores for religiosity and those for perception of the components of the environment were: for faculty—.22; for students—.23; for classes in religion—.45; for church—.31; for Campus Ministries—.32; and for overall—.06.

With 204 degrees of freedom, the critical value of the correlation coefficient at the .01 level of significance is about .18. All of these coefficients, with the exception of the coefficient for overall, therefore, were significant at the .01 level or higher. As degree of religiosity increased, the perception by SDA subjects of
all components of the religious environment, except overall, tended to become more positive, while the perception of overall did not change. Only the higher-valued coefficients should be considered indicative of even a moderate degree of relationship.

Hypothesis 13. There are no differences among the means for the perception of the religious environment by SDA subjects when grouped on the basis of self-perceived kind and degree of influence of early home life on the development of religiosity, with degree of religiosity as a covariate.

For purposes of analysis, the kinds and degrees of home influence on the development of religious experience were combined in the designations strongly negative, moderately negative, neutral, moderately positive, and strongly positive.

The data for testing the assumption of homogeneity of regression were 4 and 187 degrees of freedom, an F-value of 2.22 and a probability value of .0688. Since the probability value exceeded .05, the assumption of homogeneity was upheld, and the ANCOVA was used.

The means and adjusted means for the environment and the means for religiosity are displayed in table 29. With these adjusted means and with 4 and 191 degrees of freedom, the ANCOVA yielded an F-value of 2.13 and a probability value of .0783, a value too high for...
significance—the analysis did not indicate that the differences among the means were significant. The null hypothesis was retained—there was no evidence that the differences in perception of the religious environment in relation to the kind and degree of home influence on the development or religiosity were significant.

TABLE 29
MEANS AND ADJUSTED MEANS FOR HYPOTHESIS 13

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong negative</td>
<td>7</td>
<td>187.57</td>
<td>186.53</td>
<td>242.86</td>
</tr>
<tr>
<td>Moderate negat.</td>
<td>10</td>
<td>184.00</td>
<td>187.46</td>
<td>228.60</td>
</tr>
<tr>
<td>Neutral</td>
<td>15</td>
<td>175.80</td>
<td>178.65</td>
<td>230.53</td>
</tr>
<tr>
<td>Moderate posit.</td>
<td>64</td>
<td>195.11</td>
<td>196.79</td>
<td>234.25</td>
</tr>
<tr>
<td>Strong positive</td>
<td>101</td>
<td>193.62</td>
<td>191.87</td>
<td>245.12</td>
</tr>
</tbody>
</table>

Hypothesis 14. There are no differences among the centroids for the perception of the components of the religious environment by SDA subjects when grouped on the basis of self-perceived kind and degree of influence of early home life on the development of religiosity.

For purposes of testing this hypothesis, means of subjects were grouped in the same categories as for Hypothesis 13. The centroids are displayed in table 30.
With these centroids and 24 and 654 degrees of freedom, the MANOVA yielded an F-value of 1.16 and a probability value of .2766. The probability value was too high for significance—the analysis did not indicate that the differences among the centroids were significant. The null hypothesis, therefore, was retained—there was no evidence that the differences in the perceptions of the components of the religious environment in relation to the degree of influence of early home life on the development of subjects' religiosity were significant. Since the MANOVA did not yield significant results, discriminant analysis was not needed.

Hypothesis 15. There are no differences among the means for the perception of the religious environment by SDA subjects when grouped on the basis of the ratio of time in attendance at SDA and non-SDA schools before college.
For the purpose of testing this hypothesis, the means for the subjects were divided into five groups in relation to the percentage of time spent in SDA schools before college. The dividing points of these groups were 20%, 40%, 60%, and 80%. The five groups were designated very low (N=63), low (N=18), middle (N=18), high (N=13), and very high (N=82).

Means for these five groups were: 193.76 for very low; 190.61 for low; 193.39 for middle; 196.92 for high; and 190.21 for very high. With these means and with 4 and 189 degrees of freedom the ANOVA yielded an F-value of .33 and a probability value of .8542. The probability value was far too high for significance—the analysis did not indicate that the differences among the means were significant. The null hypothesis, therefore, was retained—there was no evidence that the differences in the perceptions of the religious environment by faculty and SDA students when grouped according to the ratio of time spent in SDA schools before college were significant.

**Hypothesis 16.** There are no differences among the centroids for perception of the components of the religious environment by all SDA subjects when grouped on the basis of the ratio of time spent at SDA and non-SDA schools before college.

The group centroids are displayed in table 31.
TABLE 31

CENTROIDS FOR HYPOTHESIS 16

<table>
<thead>
<tr>
<th>School ratio</th>
<th>FAC</th>
<th>STU</th>
<th>CLA</th>
<th>CHU</th>
<th>MIN</th>
<th>OVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low</td>
<td>48.41</td>
<td>38.35</td>
<td>30.44</td>
<td>38.78</td>
<td>20.19</td>
<td>17.59</td>
</tr>
<tr>
<td>Low</td>
<td>47.17</td>
<td>36.83</td>
<td>30.06</td>
<td>38.83</td>
<td>20.56</td>
<td>17.17</td>
</tr>
<tr>
<td>Middle</td>
<td>51.33</td>
<td>38.06</td>
<td>30.11</td>
<td>36.61</td>
<td>19.67</td>
<td>17.61</td>
</tr>
<tr>
<td>High</td>
<td>48.92</td>
<td>37.38</td>
<td>30.85</td>
<td>41.00</td>
<td>22.15</td>
<td>16.62</td>
</tr>
<tr>
<td>Very high</td>
<td>47.11</td>
<td>38.18</td>
<td>28.59</td>
<td>38.39</td>
<td>20.51</td>
<td>17.43</td>
</tr>
</tbody>
</table>

With these centroids and with 24 and 643 degrees of freedom, the MANOVA yielded an F-value of 1.02 and a probability value of .4406. The probability value was far too high for significance—the analysis did not indicate that the differences among the centroids were significant. The null hypothesis was, therefore, retained—there was no evidence that the differences in perceptions of the components of the religious environment by faculty and SDA students in relation to the ratio of time spent in SDA schools before college were significant. Since the MANOVA did not yield statistically significant results, discriminant analysis was not needed.

Hypotheses 16 was also tested by correlation analysis. The correlation coefficients for perception of the components of the environment with percentage of time spent at SDA schools were: -.14 for faculty; -.04 for
students; -.27 for classes in religion; -.09 for church; .09 for Campus Ministries; and -.04 for overall. With a critical value of about .138 at the .05 level for 204 degrees of freedom, the coefficients of correlation of percentage of time spent in SDA schools before college with scores for perception of the components faculty and religion classes were significant at the .05 level. The coefficient for faculty, however, was considered too small to be meaningful. The data indicate, therefore, that as the percentage of time spent at SDA schools before college increased, the perceptions of religion classes tended to become slightly less positive. The other correlation coefficients were not significant.

Summary of Hypothesis Testing

It appears, therefore, that the perceptions of both the religious environment and the components of the environment were fairly homogeneous among the subsamples of SDA students, and that faculty and non-SDA students perceived the religious environment and certain components of the environment more positively than SDA students did. It also appears that perception of the environment and most of its components by both faculty and SDA students became more positive with increase in religiosity. It also appears that the degree and kind of influence of early home life on the development of personal religiosity and the ratio of
time spent in SDA schools before college did not markedly affect subjects' perception of the religious environment.

Analysis of Key Items

Subjects' responses to certain key items in the classes in religion, student, and overall scales of the Perception of Environment Inventory were also analyzed. These items are listed below, numbered as in the instrument, with a summary of the response patterns for each item. Scores for the items were also analyzed by correlation with overall degree of subjects' religiosity. For this purpose, Pearson's product-moment-correlation was used. Only correlations statistically significant at the .05 level are given. In order to make more obvious the significance of the correlations, there is included for each item the phrases indicating the extreme points on the Likert scale for that item.

Analysis by Item

49. Which is stronger overall: the area of religious studies or other departments or areas? Other much stronger--religious much stronger. Fifty-one percent of all subjects and 60% of undergraduate SDAs indicated their belief that other areas were much or somewhat stronger than religion and theology. The correlation coefficient of .14 was significant at the .05 level but indicated only a weak relationship.
50. How do courses in religion and theology compare to other courses with respect to student interest or stimulation? Other much stronger—religious much stronger. Fifty-nine percent of all subjects and 71% of undergraduate SDAs indicated their conviction that other courses were more interesting or stimulating than courses in religion. The correlation coefficient of .26 was significant at the .01 level but indicated a weak relationship.

37. Students who show deep spirituality or strong interest in religion are likely to be ostracized by other students. Strongly disagree—strongly agree. While 55% of all subjects disagreed, 29% agreed with this statement.

46. How difficult or easy does the influence of other students make it for a student to have a meaningful religious experience? Very difficult—very easy. About 36% of all subjects and 43% of undergraduate SDAs indicated their convictions that student influence tended to retard the development of students' religious experience. About 29% believed that that influence made development of religious experience easy.

16. Religion does not have an important bearing on the overall university environment and activities. Strongly disagree—strongly agree. About 73% of all subjects and also of undergraduate SDAs disagreed with this statement. The correlation coefficient of .16 was
significant at the .05 level but indicated only a weak relationship.

31. The overall university environment helps students to develop strong moral and spiritual values. Strongly disagree—strongly agree. Forty-two percent of all subjects and 50% of undergraduate SDAs disagreed with this statement. The correlation coefficient of .22 was significant at the .01 level but indicated a weak relationship.

45. The Bible and its teachings are not an important integrating force in the overall program of Andrews. Strongly disagree—strongly agree. About 72% of all subjects and 68% of undergraduate SDAs disagreed with this statement.

52. Which is stronger here overall, the religious and spiritual emphasis or the academic and intellectual? Religious much stronger—academic much stronger. Only about 10% of all subjects and also of undergraduate SDAs indicated their conviction that the religious and spiritual emphasis was stronger.

54. Is the overall emphasis on religion weaker or stronger than you think it should be? Much weaker—much stronger. About 59% of all subjects and 62% of undergraduate SDAs indicated their conviction that the religious emphasis was weaker than they thought it should be. The
correlation coefficient of -.39 was significant at the .01 level and indicated a moderate and inverse relationship.

Since item 54 was considered one of the most important items in the instrument, the responses to it were analyzed more fully. The analysis is summarized in tables 32 and 33. The percentages of each subsample who thought the overall religious emphasis weaker than they thought it should be, about right, and stronger than they thought it should be are shown in table 32. Data in the first column are sums of the percentages of subjects who responded at positions 1 and 2 on the Likert scale, while data in the third column are sums of the percentages of subjects who responded at positions 4 and 5 on the scale.

TABLE 32
ANALYSIS OF RESPONSES TO ITEM 54 BY SUBSAMPLE

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>Weaker</th>
<th>About right</th>
<th>Stronger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-SDA</td>
<td>29</td>
<td>32</td>
<td>36</td>
</tr>
<tr>
<td>Freshman</td>
<td>59</td>
<td>29</td>
<td>13</td>
</tr>
<tr>
<td>Sophomores</td>
<td>73</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>Juniors</td>
<td>65</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td>Seniors</td>
<td>54</td>
<td>32</td>
<td>11</td>
</tr>
<tr>
<td>Seminary</td>
<td>70</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>Graduate</td>
<td>71</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>Faculty</td>
<td>46</td>
<td>42</td>
<td>4</td>
</tr>
</tbody>
</table>

Some subjects did not respond to the item, hence totals by some rows do not equal 100%.
It appears, therefore:

1. That non-SDA students showed a much greater tendency than SDA subjects to perceive the religious emphasis as stronger than they thought it should be.

2. That faculty showed a much greater tendency than students to perceive the religious emphasis as "about right."

3. That sophomores and graduate and seminary students showed a stronger tendency than other subsamples to perceive the religious emphasis as weaker than they thought it should be.

4. That only a minority of every SDA subsample believed the emphasis to be either about right or stronger than they thought it should be. Ranges of percentages for "about right" were 17-42, and for "stronger," 4-36, with all but one in the latter being in the range 4-13.

5. That a majority of subjects in each of six subsamples believed the emphasis weaker than they thought it should be. Percentages for all subsamples ranged from 29 for non-SDAs to 73 for sophomores.

The responses to Item 54 were also analyzed in terms of degree of religiosity of SDA subjects. The results are displayed in table 33. The figures are the percentages of subjects in each category of religiosity who believed that the overall religious emphasis of the university was about right or weaker or stronger than they
thought it should be. The classification of subjects by degree of religiosity is that used in relation to the testing of hypotheses 11 and 12, that is very low to very high.

It is clear from the table that disapproval of the overall emphasis on religion as being too weak tended to vary directly with degree of subjects' religiosity. Most subjects who believed that the emphasis was weak believed that it was somewhat too weak rather than much too weak.

**TABLE 33**

ANALYSIS OF RESPONSES TO ITEM 54 BY RELIGIOSITY

<table>
<thead>
<tr>
<th>Degr. of Relig.</th>
<th>Weaker</th>
<th>About right</th>
<th>Stronger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low</td>
<td>48</td>
<td>30</td>
<td>18</td>
</tr>
<tr>
<td>Low</td>
<td>46</td>
<td>36</td>
<td>14</td>
</tr>
<tr>
<td>Middle</td>
<td>71</td>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td>High</td>
<td>79</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Very high</td>
<td>75</td>
<td>18</td>
<td>3</td>
</tr>
</tbody>
</table>

Some subjects in each category did not respond to the item, hence totals by rows do not equal 100%.

**Summary**

The following conclusions emerge from the analysis:

(1) that subjects tended to see the area of religious and theological studies as weaker than other areas; (2) that student influence was seen to a degree as hindering the
development of students' religious experience; (3) that the religious emphasis was perceived as weaker than subjects thought it should be; (4) that the important place of the Bible and religion in the university program was recognized by most subjects; (5) that the academic emphasis was perceived as stronger than the religious; and (6) that many subjects believed that the overall university environment was not conducive to the spiritual and moral development of students.

It also appears that the more religious the subjects were the more likely they were (to a low to moderate degree) to believe: (1) that the area of religious studies is stronger than other areas; (2) that courses in religion and theology are more stimulating than other courses; (3) that religion does not have an important bearing on the overall university environment; (4) that the overall university environment helps students to develop strong moral and spiritual values; and (5) that the overall religious emphasis is weaker than they thought it should be.

Religiosity Inventory

The purpose of this section is to present the data on religiosity. The format parallels that of the second part of the chapter in the discussion of the data on perception of the environment. What was said above about
the meaning of the scores, the calculation of group scores, proportional mean scores, etc., applies here also.

In certain tables that follow, abbreviations are used for the dimensions of religiosity: IMP (importance), AFF (affective experiences), LIF (religion in life), LOY (loyalty and commitment), BEL (beliefs), and ACT (devotional activities and attendance at public services).

Table 34 displays the means, standard deviations, and other data related to the religiosity inventory. Note that the

**TABLE 34**

ITEM ANALYSIS DATA: DIMENSIONS OF RELIGIOSITY

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>#</th>
<th>MEAN</th>
<th>ST D</th>
<th>REL</th>
<th>RANGE</th>
<th>PMSC+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance</td>
<td>9</td>
<td>36.5</td>
<td>6.90</td>
<td>.91</td>
<td>9-45</td>
<td>.56-.87</td>
</tr>
<tr>
<td>Affective</td>
<td>11</td>
<td>44.1</td>
<td>6.87</td>
<td>.86</td>
<td>22-55</td>
<td>.40-.83</td>
</tr>
<tr>
<td>Loyalty</td>
<td>5</td>
<td>18.7</td>
<td>4.07</td>
<td>.72</td>
<td>8-25</td>
<td>.54-.79</td>
</tr>
<tr>
<td>Religion in Life</td>
<td>10</td>
<td>40.7</td>
<td>6.38</td>
<td>.76</td>
<td>18-50</td>
<td>.32-.69</td>
</tr>
<tr>
<td>Activities</td>
<td>8</td>
<td>29.5</td>
<td>7.10</td>
<td>.88</td>
<td>9-40</td>
<td>.60-.87</td>
</tr>
<tr>
<td>Rel. in Life SDA*</td>
<td>11</td>
<td>45.0</td>
<td>6.80</td>
<td>.76</td>
<td>25-55</td>
<td>.28-.68</td>
</tr>
<tr>
<td>Activities SDA*</td>
<td>9</td>
<td>33.0</td>
<td>7.54</td>
<td>.88</td>
<td>10-45</td>
<td>.57-.87</td>
</tr>
<tr>
<td>Beliefs SDA*</td>
<td>13</td>
<td>59.7</td>
<td>5.43</td>
<td>.73</td>
<td>27-65</td>
<td>.37-.64</td>
</tr>
<tr>
<td>Overall**</td>
<td>47</td>
<td>190.6</td>
<td>27.96</td>
<td>.95</td>
<td>85-235</td>
<td>.27-.81</td>
</tr>
</tbody>
</table>

* Scores of SDA subjects only are reflected in these data.
+ Range of point-multi-serial correlation coefficients.
** With 11 SDA-biased items removed from the analysis.

reliability coefficients are moderately high to very high, ranging from .68 to .91 for the various scales, and with .95 for overall. Note also that for all but one scale and overall, the point-multiserial-correlation coefficients are

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all above the critical value of .30. The possible range in scores for each scale is the number of items in that scale to five times the number of items. Note (1) that in each scale, at least one subject obtained the maximum score, (2) that in only one case did anyone score at the lowest point of the range, and (3) that in each of two other scales at least two subjects scored at one point above the minimum possible score.

The distribution of scores on overall religiosity by subsamples is displayed as table 35, and by dimension as table 36.

TABLE 35
FREQUENCY DISTRIBUTION: RELIGIOSITY BY SUBSAMPLE, SDAS

<table>
<thead>
<tr>
<th>Subsamples</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRE</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>249-85</td>
</tr>
<tr>
<td>218-48</td>
</tr>
<tr>
<td>175-211</td>
</tr>
<tr>
<td>138-74</td>
</tr>
<tr>
<td>101-137</td>
</tr>
</tbody>
</table>

The column headed "Oth" indicates subjects not identified as to subsample.
The frequency distribution reveals that the larger number of subjects tended to score at the upper end of the range for each scale—a high level of religiosity is indicated. Advanced age (over 40) is also a factor in degree of religiosity—subjects who scored highest in religiosity tended to belong to subsamples with older subjects, namely, faculty and graduate and seminary students.

The group means for SDA subjects are displayed in table 37. The expected mean for any scale, based on the assumption of normal distribution of scores throughout the
full range for the scale, is the mean of the lowest and highest possible scores for that scale.

TABLE 37
MEANS: RELIGIOSITY BY DIMENSIONS

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>IMP</th>
<th>AFF</th>
<th>LOY</th>
<th>LIF</th>
<th>ACT</th>
<th>BEL</th>
<th>OVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>34.13</td>
<td>41.88</td>
<td>17.08</td>
<td>42.50</td>
<td>27.96</td>
<td>57.46</td>
<td>226.56</td>
</tr>
<tr>
<td>Soph.</td>
<td>30.92</td>
<td>40.12</td>
<td>16.62</td>
<td>40.15</td>
<td>26.88</td>
<td>59.04</td>
<td>214.68</td>
</tr>
<tr>
<td>Juniors</td>
<td>35.48</td>
<td>42.32</td>
<td>18.34</td>
<td>42.44</td>
<td>31.00</td>
<td>57.52</td>
<td>224.85</td>
</tr>
<tr>
<td>Seniors</td>
<td>37.57</td>
<td>44.46</td>
<td>19.04</td>
<td>44.82</td>
<td>33.54</td>
<td>58.86</td>
<td>236.90</td>
</tr>
<tr>
<td>Seminary</td>
<td>40.44</td>
<td>47.69</td>
<td>21.33</td>
<td>49.06</td>
<td>38.75</td>
<td>61.58</td>
<td>258.86</td>
</tr>
<tr>
<td>Graduates</td>
<td>39.50</td>
<td>46.28</td>
<td>20.33</td>
<td>47.58</td>
<td>34.06</td>
<td>61.64</td>
<td>248.46</td>
</tr>
<tr>
<td>Faculty</td>
<td>39.92</td>
<td>47.50</td>
<td>20.38</td>
<td>46.23</td>
<td>37.35</td>
<td>60.46</td>
<td>251.85</td>
</tr>
</tbody>
</table>

Inspection of the table reveals that after a drop in religiosity, both overall and by dimension, between the freshman and sophomore years, there was a steady rise with progression from sophomores to juniors to seniors to graduates to faculty to seminary students.

Table 37 provides for comparison of the means of any dimension by subsample. Because the number of items varied from scale to scale, however, it does not permit comparison of the means for the various dimensions for any one subsample. In order to permit comparisons of the latter kind, table 38 was developed. In this table each mean was divided by the number of items in its scale,
giving potential values of from one to five, with an expected mean of three. The combined means were calculated from data in table 37.

**TABLE 38**

**PROPORTIONAL MEANS: DIMENSIONS OF RELIGIOSITY**

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>IMP</th>
<th>AFF</th>
<th>LOY</th>
<th>LIF</th>
<th>ACT</th>
<th>BEL</th>
<th>TTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>3.79</td>
<td>3.81</td>
<td>3.42</td>
<td>3.86</td>
<td>3.11</td>
<td>4.42</td>
<td>22.42</td>
</tr>
<tr>
<td>Soph.</td>
<td>3.44</td>
<td>3.65</td>
<td>3.32</td>
<td>3.65</td>
<td>2.99</td>
<td>4.54</td>
<td>21.58</td>
</tr>
<tr>
<td>Juniors</td>
<td>3.94</td>
<td>3.85</td>
<td>3.61</td>
<td>3.86</td>
<td>3.44</td>
<td>4.42</td>
<td>23.12</td>
</tr>
<tr>
<td>Seniors</td>
<td>4.17</td>
<td>4.04</td>
<td>3.81</td>
<td>4.07</td>
<td>3.73</td>
<td>4.53</td>
<td>24.35</td>
</tr>
<tr>
<td>Seminary</td>
<td>4.49</td>
<td>4.34</td>
<td>4.27</td>
<td>4.46</td>
<td>4.31</td>
<td>4.74</td>
<td>26.61</td>
</tr>
<tr>
<td>Graduates</td>
<td>4.42</td>
<td>4.21</td>
<td>4.07</td>
<td>4.33</td>
<td>3.78</td>
<td>4.74</td>
<td>25.53</td>
</tr>
<tr>
<td>Faculty</td>
<td>4.44</td>
<td>4.32</td>
<td>4.08</td>
<td>4.20</td>
<td>4.15</td>
<td>4.65</td>
<td>25.84</td>
</tr>
<tr>
<td>Combined</td>
<td>4.06</td>
<td>4.01</td>
<td>3.76</td>
<td>4.07</td>
<td>3.69</td>
<td>4.42</td>
<td>23.99</td>
</tr>
</tbody>
</table>

Note that all means were above the expected mean of 3.00, that all subsamples scored highest in Beliefs, that most subsamples scored second highest in Importance, that the lowest scores were in Loyalties and Activities, and that means increased from sophomores to seminary students. It appears that subjects tended to take their religion seriously, were firm in their beliefs, and found meaning in their religious experience. Note also their belief that religion should find expression in life, that their religion involved their feelings to at least a moderate degree, that they were at least moderately loyal to God and
their religious commitments, and participated in religious activities.

In Table 39 the data from Table 38 are displayed in the form of ranks by subsamples, permitting comparisons of the ratings for each scale by each subsample. A low number indicates a high degree of religiosity. It appears, therefore, that subjects scored in the various dimensions in the following order, from highest to lowest: beliefs, religion in life, importance, affective experiences, loyalties, and activities. It also appears that there was a fairly high degree of consistency among the various subsamples in the way that they rated themselves religiously--note that, in any column, the largest difference between any two ranks is two. Note also that,

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>IMP</th>
<th>AFF</th>
<th>LOY</th>
<th>LIF</th>
<th>ACT</th>
<th>BEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Sophomores</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Juniors</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Seniors</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Seminary</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Graduates</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Faculty</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Overall rank</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>
relative to other dimensions, the importance and meaningfulness of their religious experience increased from freshman and sophomores to juniors, seniors, seminary and graduate students, and faculty; and that affective experiences tended to decline in importance, or at least in frequency, in relation to other dimensions.

A correlation matrix, using Pearson's product-moment coefficient, was computed in order to discover any relationships between the assessments of the various dimensions by the subjects (see table 40). Note that all coefficients are positive and range from moderate to very high. These facts suggest that the various dimensions of religiosity were well integrated among the various subjects. All coefficients were significant at the .01 level or higher. In order to explore further the meaning of these coefficients, they are listed in descending order in table 41. Note that four of the six highest correlations involved the dimension importance, that three of the five highest involved loyalties, and that four of the five lowest involved beliefs. It appears, therefore, that subjects whose religious experience was most important to them tended to be strong in most of the other dimensions, that strong beliefs were not necessarily concomitant with strength in the other dimensions of religiosity, and that their beliefs were not as important to the subjects in
### TABLE 40
INTERCORRELATION MATRIX—RELIGIOSITY

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>IMP</th>
<th>AFF</th>
<th>LOY</th>
<th>LIF</th>
<th>ACT</th>
<th>BEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective</td>
<td>.82</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty</td>
<td>.79</td>
<td>.73</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life</td>
<td>.70</td>
<td>.63</td>
<td>.78</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>.73</td>
<td>.70</td>
<td>.68</td>
<td>.63</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Beliefs</td>
<td>.55</td>
<td>.48</td>
<td>.61</td>
<td>.66</td>
<td>.48</td>
<td>1.00</td>
</tr>
</tbody>
</table>

### TABLE 41
COEFFICIENTS FROM TABLE 40 IN DESCENDING ORDER

<table>
<thead>
<tr>
<th>Rank</th>
<th>Coef.</th>
<th>Dimensions Correlated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.82</td>
<td>Importance and Affective</td>
</tr>
<tr>
<td>2</td>
<td>.79</td>
<td>Importance and Loyalties</td>
</tr>
<tr>
<td>3</td>
<td>.78</td>
<td>Loyalties and Life</td>
</tr>
<tr>
<td>4</td>
<td>.73</td>
<td>Importance and Activities</td>
</tr>
<tr>
<td>5</td>
<td>.73</td>
<td>Loyalties and Affective</td>
</tr>
<tr>
<td>6</td>
<td>.70</td>
<td>Importance and Life</td>
</tr>
<tr>
<td>7</td>
<td>.70</td>
<td>Affective and Activities</td>
</tr>
<tr>
<td>8</td>
<td>.68</td>
<td>Loyalties and Activities</td>
</tr>
<tr>
<td>9</td>
<td>.66</td>
<td>Life and Beliefs</td>
</tr>
<tr>
<td>10</td>
<td>.63</td>
<td>Life and Activities</td>
</tr>
<tr>
<td>11</td>
<td>.63</td>
<td>Life and Affective</td>
</tr>
<tr>
<td>12</td>
<td>.61</td>
<td>Beliefs and Loyalties</td>
</tr>
<tr>
<td>13</td>
<td>.55</td>
<td>Beliefs and Importance</td>
</tr>
<tr>
<td>14</td>
<td>.48</td>
<td>Beliefs and Affective</td>
</tr>
<tr>
<td>15</td>
<td>.48</td>
<td>Beliefs and Activities</td>
</tr>
</tbody>
</table>
shaping their religious experience as the sense of the importance of their religion to them.

Open-ended Questions

The purpose here is to present the analysis of the responses to the open-ended questions included in the instrument.

1. What strengths do you see in the overall religious environment of Andrews?
2. What weaknesses do you see in the overall religious environment?
3. What suggestions would you make to strengthen the religious environment?
4. What features of campus life would convince a visitor to Andrews that Andrews is really a Christian institution, if he had not been told this?
5. What features of campus life might lead a visitor to doubt that Andrews is a Christian institution?
6. What, in your opinion, is the essence of genuine religious experience?

The responses to these questions were analyzed with respect to degree of religiosity, using the categories very low to very high, as above. The data are displayed in tables 42-47. The numbers in the tables indicate how many responses there were to each item by SDA subjects at each level of religiosity and by non-SDA subjects.

For certain questions, some subjects responded
indefinitely, others specifically. Thus, for question 4, responses included "campus church," and "church building," and "pastors and services." Definite and indefinite responses are listed separately. Indentation indicates a definite response under a general heading. In each table response totals are listed in decreasing numerical order. When two or more responses are listed under the same category (as campus church, religious activities), the sum of responses for the category indicates the placement. The number and percentage of respondents and number of non-respondents are listed in the bottom rows. Because of multiple responses to an item, the number of respondents and sum of responses are not necessarily equal.

Responses to question 1 are analyzed in table 42. Inspection of the data reveals a variety of responses. The following were most frequently mentioned as strengths in the religious environment: faculty (including Christian teaching), campus church (including pastors and services), students, religious activities, and opportunities for Christian growth. The placement of campus church and religious activities in the numerical order takes account in each case of the total number of responses to the various subcategories under those categories, as indicated by the total of 34 for church and 29 for activities. Note
TABLE 42
ANALYSIS OF RESPONSES TO QUESTION 1

What strengths do you see in the overall religious environment?

<table>
<thead>
<tr>
<th>Responses</th>
<th>Very low</th>
<th>Low</th>
<th>Mid High</th>
<th>Very High</th>
<th>Non SDA</th>
<th>Ttl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't know</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Faculty and staff</td>
<td>4</td>
<td>12</td>
<td>6</td>
<td>16</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Campus church</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Pastors</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Services</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>(Total church)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None, little, weak</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Religious activ.</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Worship, chapel</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Vesper</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>(Total activities)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Opporh. Chr. Growth</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Fellowsh., caring</td>
<td>2</td>
<td>20</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Classes in Relig.</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Campus Ministries</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>8</td>
<td>12</td>
<td>8</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Respondents</td>
<td>27</td>
<td>36</td>
<td>38</td>
<td>36</td>
<td>37</td>
<td>28</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>13</td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>% of group responding</td>
<td>68</td>
<td>80</td>
<td>86</td>
<td>95</td>
<td>95</td>
<td>90</td>
</tr>
</tbody>
</table>

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that in each case more of the respondents were in the higher degrees of religiosity than in the lower. That faculty and church were listed frequently agrees with the high ranking of these components in the responses to the items in the Environment Inventory. Some subjects who responded "faculty" or "students" qualified these responses by words such as "some," "many," etc. Note that nearly half of the 32 respondents who responded "none," "little," or "weak" were at the lowest levels of religiosity.

Responses to question 2 are analyzed in table 43. It is clear that required attendance at certain religious activities was a sore point with many subjects, especially those at the lower levels of religiosity. It should be pointed out that attendance at chapels is not required of faculty and graduate students—two subsamples that ranked high in religiosity. It is also clear that the lifestyles and level of spirituality of some students were viewed as major weaknesses in the environment; and what was said of students was said, but to a lesser degree, of faculty also. Negative religious attitudes and weak religious thrust of the university were also mentioned as weaknesses—mostly by subjects on the lower levels of religiosity. In some cases, responses "faculty" and "students" were qualified by the words "few," "some," etc.
TABLE 43
ANALYSIS OF RESPONSES TO QUESTION 2

What weaknesses do you see in the overall religious environment?

<table>
<thead>
<tr>
<th>Degrees of Religiosity</th>
<th>Very Low</th>
<th>Low</th>
<th>Mid.</th>
<th>High</th>
<th>Very High</th>
<th>Non-SDA</th>
<th>Ttl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't know</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Required attendance</td>
<td>12</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>None, few</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>Student lifestyles</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Student spiritual.</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>(Total student)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>Negat. Relig. Attit.</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Weak relig. thrust</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Faculty lifestyles</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Faculty spiritual.</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>(Total faculty)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Lack of freedom</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Lack of concern</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Excessive acad. emph.</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Little involvement</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Rules, regulations</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>8</td>
<td>18</td>
<td>16</td>
<td>23</td>
<td>9</td>
<td>83</td>
</tr>
<tr>
<td>Respondents</td>
<td>36</td>
<td>37</td>
<td>39</td>
<td>34</td>
<td>37</td>
<td>29</td>
<td>212</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>4</td>
<td>8</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>% of group responding</td>
<td>90</td>
<td>82</td>
<td>89</td>
<td>89</td>
<td>95</td>
<td>94</td>
<td>89</td>
</tr>
</tbody>
</table>

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Responses to question 3, soliciting suggestions for strengthening the religious environment, are analyzed in table 44. Subjects who did not respond or answered "none" were about one-fourth of the total number of subjects, in contrast to 41% of the total who, in response to item 54 in the Perception of the Environment Inventory, expressed the conviction that the overall religious emphasis of Andrews was about right or stronger than they thought necessary.

It is obvious that the emphases of responses to this question were on improving or increasing the number of religious activities and enhancing personal religiosity and human relations. Fifteen subjects, most of them on the lower levels of religiosity, mentioned voluntary attendance at religious services.

Responses to question 4 are analyzed in table 45. Some responses suggest that some subjects understood the intent of the question thus: What features of campus life, if they existed, would convince a visitor, etc. The summary of responses, therefore, must be viewed with some caution.

Note that more than any other factor, campus church, whether the building alone, the pastors, the services, or the (presumably) large attendance at the services, was considered as evidence that Andrews University is really a Christian institution. Religious activities (chapel, worship, weekend vespers services, and others),
What suggestions would you make to strengthen the religious environment?

<table>
<thead>
<tr>
<th>Degrees of Religiosity</th>
<th>Very Low</th>
<th>Low</th>
<th>Mid.</th>
<th>High</th>
<th>Very High</th>
<th>Non-SDA</th>
<th>Ttl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't know</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>Improv. relig. act.</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Emph. pers. relig.</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Provide outrea. opp.</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Volunt. attend. svcs.</td>
<td>6</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Addit. relig. act.</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Small groups</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>More Christian. fac.</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>More love and caring</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Improve fac-stu rel.</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>More student freedom</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Maintain Chr. stand.</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Other responses</td>
<td>15</td>
<td>9</td>
<td>9</td>
<td>13</td>
<td>18</td>
<td>11</td>
<td>75</td>
</tr>
<tr>
<td>Respondents</td>
<td>35</td>
<td>32</td>
<td>39</td>
<td>36</td>
<td>36</td>
<td>29</td>
<td>209</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>5</td>
<td>13</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>% of group respond.</td>
<td>88</td>
<td>71</td>
<td>89</td>
<td>95</td>
<td>92</td>
<td>94</td>
<td>87</td>
</tr>
</tbody>
</table>
TABLE 45
ANALYSIS OF RESPONSES TO QUESTION 4

What features of campus life would convince visitors to Andrews that Andrews is really a Christian institution, if they had not been told this?

<table>
<thead>
<tr>
<th>Degree of Religiosity</th>
<th>Very Low</th>
<th>Low</th>
<th>Mid</th>
<th>High</th>
<th>Very High</th>
<th>Non-SDA</th>
<th>Ttl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't Know</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Campus church</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Church bldg.</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Pastor, services</td>
<td>2</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>Chu. attendance</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>(Total church)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>57</td>
</tr>
<tr>
<td>Religious activit.</td>
<td>7</td>
<td>9</td>
<td>11</td>
<td>9</td>
<td>6</td>
<td>7</td>
<td>49</td>
</tr>
<tr>
<td>Caring and concern</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>Student lifestyles</td>
<td>0</td>
<td>2</td>
<td>8</td>
<td>8</td>
<td>1</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Maintain Chri. stan.</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>None, little</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Faculty lifestyles</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Christ. teach.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(Total faculty)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>Moral atmosphere</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Bible class, semin.</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>11</td>
<td>13</td>
<td>10</td>
<td>18</td>
<td>6</td>
<td>65</td>
</tr>
<tr>
<td>Respondents</td>
<td>36</td>
<td>35</td>
<td>37</td>
<td>36</td>
<td>35</td>
<td>30</td>
<td>209</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>4</td>
<td>10</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>% responding</td>
<td>90</td>
<td>78</td>
<td>77</td>
<td>95</td>
<td>90</td>
<td>97</td>
<td>88</td>
</tr>
</tbody>
</table>

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attitudes of caring and concern, and student and faculty lifestyles also were mentioned. As in previous items, some responses mentioning faculty and students were qualified by words like "some," etc.

Answers to question 5 are analyzed in table 46. Note that student lifestyles were considered to represent the strongest indication to a visitor that Andrews University might be only nominally Christian. Sixty-six subjects represented among all the levels of religiosity singled out this factor as tending to give a negative impression. Another 54 mentioned specific areas of student behavior—dress and wearing of jewelry, language (many of the subjects who mentioned this did not refer it explicitly to students), choice of music, and partying. Since much of this conduct is not overt, there seems to be an implication of "if only the visitor really knew what some students were doing." Eighteen subjects mentioned dress, including the use of jewelry, without referring it explicitly to students, making a total of 37 subjects, most of them at higher levels of religiosity, to whom this was a concern. Negative religious and social attitudes (without being referred explicitly to either faculty or students) were also mentioned frequently.

Responses to item 6 are analyzed in table 47.
TABLE 46
ANALYSIS OF RESPONSES TO QUESTION 5

5. What features of campus life might lead a visitor to doubt that Andrews is really a Christian institution?

<table>
<thead>
<tr>
<th>Degrees of Religiosity</th>
<th>Very Low</th>
<th>Low</th>
<th>Mid</th>
<th>High</th>
<th>Very High</th>
<th>Non SDA</th>
<th>Ttl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't know</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Student lifestyles</td>
<td>12</td>
<td>11</td>
<td>14</td>
<td>10</td>
<td>12</td>
<td>7</td>
<td>66</td>
</tr>
<tr>
<td>Language</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Dress, jewelry</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Music</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Parties, partying</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>(Total student)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>120</td>
</tr>
<tr>
<td>None, little</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>Unfriendliness</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td>Dress (not specif.)</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Neg. relig. attit.</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>Faculty conduct</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Student paper</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>16</td>
<td>15</td>
<td>8</td>
<td>69</td>
</tr>
<tr>
<td>Respondents</td>
<td>37</td>
<td>35</td>
<td>39</td>
<td>36</td>
<td>36</td>
<td>30</td>
<td>213</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>3</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>% responding</td>
<td>93</td>
<td>78</td>
<td>89</td>
<td>95</td>
<td>93</td>
<td>97</td>
<td>90</td>
</tr>
</tbody>
</table>

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TABLE 47
ANALYSIS OF RESPONSES TO QUESTION 6

What, in your opinion, is the essence of genuine religious experience?

<table>
<thead>
<tr>
<th>Degrees of Religiosity</th>
<th>Very Low</th>
<th>Low</th>
<th>Mid</th>
<th>High</th>
<th>Very High</th>
<th>Non-SDA</th>
<th>ttl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't know</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Relation w God/Jesus</td>
<td>12</td>
<td>15</td>
<td>18</td>
<td>21</td>
<td>19</td>
<td>8</td>
<td>93</td>
</tr>
<tr>
<td>Ethical, love to man</td>
<td>3</td>
<td>5</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>4</td>
<td>41</td>
</tr>
<tr>
<td>Dedication, commit.</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Faith, peace, trust</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Nothing, none</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Jesus, God</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Freedom</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Sincerity, humility</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Belief, convictions</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Devotional activ.</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Church attendance</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td>Respondents</td>
<td>32</td>
<td>35</td>
<td>39</td>
<td>36</td>
<td>37</td>
<td>26</td>
<td>205</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>32</td>
</tr>
<tr>
<td>% responding</td>
<td>80</td>
<td>78</td>
<td>89</td>
<td>95</td>
<td>95</td>
<td>84</td>
<td>87</td>
</tr>
</tbody>
</table>

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These responses clearly indicate a high degree of consensus that the essence of a genuine religious experience is found in a personal relationship with God or Jesus Christ and/or in ethical living. Included among responses in the latter category were items like "love to man" and "being like Jesus." Note also that the responses in these categories are distributed throughout all the levels of religiosity but tend to be more frequent at higher levels. Commitment/dedication and faith/peace/trust were mentioned frequently. If these had been included under the head "relationships," the total for that category would have been 124.

That only four subjects mentioned belief and convictions is surprising, since all subsamples scored higher on beliefs than on any other dimension of the Religious Experience Inventory. The rare mention of beliefs here agrees with the fact that scores for beliefs tended to correlate at lower levels with scores for other dimensions of religiosity than the other dimensions did.

The large number of responses to this item in terms of relationships and ethical living may be regarded as a salient finding of this study. That church attendance was rarely mentioned accords with the low scores (relative to other dimensions) on religious activities in responses to items in the Religiosity Inventory.
Analysis of responses to the six questions in terms of degree of subjects' religiosity reveals that

1. Subjects in the two higher categories of religiosity showed a higher rate of response to every question than did subjects in the lower categories.

2. Subjects in the two higher categories of religiosity and non-SDA subjects showed a slightly higher rate of response to positive items 1 and 4 than to negative items 2 and 5.

3. Subjects in the lower and middle categories of religiosity showed a higher rate of response to negative items 2 and 5 than to positive items 1 and 4.

4. The lowest rate of response to question 6 was by low-level religious SDA subjects and non-SDA subjects.

   The final item—"Tell us anything that you want to about this study or anything related to it."—elicited a wide variety of responses. About one-half of the subjects did not respond to this item.

   The responses recorded most frequently related to the survey instrument and were about equally divided between positive and negative reactions. Most of the negative reactions had to do with the length of the instrument.

   Responses in the second highest category were statements of appreciation for the study and recognition of

   

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its importance. Some subjects expressed the desire to receive a copy of the findings or to see them published.

Third in frequency of responses were constructive criticisms of Andrews University (these were matched, but not in number, by statements of appreciation for Andrews). A number of subjects also expressed the hope that constructive changes would result from the study, but a few expressed pessimism that such good changes would result. Expressions of felicity to the investigator were also included among the responses.

Chapter Summary

Chapter 4 presented an analysis of the findings. It appears, in summary:

1. That subjects gave a qualified approval to the religious environment of Andrews University, their assessment of the environment being only moderately positive.

2. That campus church, faculty, and Campus Ministries were rated more positively than other components of the environment.

3. That the existence of specific weaknesses in the environment was recognized.

4. That the environment was assessed more positively by faculty and non-SDA students than by SDA students and more positively by SDA subjects at higher levels of religiosity than by those at lower levels.

5. That a majority of subjects, particularly SDA
subjects at higher levels of religiosity, believed that the overall religious emphasis of the university was weaker than they thought it should be.

6. That SDA subjects scored moderately high on religiosity, as assessed by their responses to items in the Religious Experience Inventory.

7. That faculty, campus church, and religious activities were mentioned most frequently as sources of strength in the environment.

8. That student lifestyles and attitudes and negative religious attitudes were mentioned most frequently as weaknesses in the environment.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter is to present a summary of the investigation, a list of salient findings, a list and discussion of conclusions, recommendations for strengthening the religious environment of Andrews University, and suggestions for additional research.

Summary

The study is summarized in terms of defining the problem, the review of literature, research procedures, and research findings.

The Problem

With church-related colleges beset with financial and identity problems, it is important that they keep clearly in mind their mission and stated objectives and the means by which these objectives can be realized. One way of doing so is a study of faculty and student perceptions of the religious environment, especially of those components of the environment such as chapel and classes in religion and theology that are explicitly religious in their goals.

This study was an investigation of student and
faculty perceptions of the religious environment of Andrews University, especially as those perceptions were influenced by, or at least related to, degree of subjects' religiosity, sex, class level or status as faculty, whether or not subjects were Seventh-day Adventists (SDAs), the influence of their early home life on the development of their religious experience, and the ratio of school time spent in SDA schools before college.

Review of Literature

In order to provide a background for the study, a review of relevant literature was included. Literature reviewed included four types: a history of church-related higher education in the United States; conceptualization of religion as multidimensional; the meaning of Christian education; and empirical studies of perceptions of the religious environment, or in some cases the general environment, of church colleges, religiosity of SDA students, and the development of religion among college students.

Research Procedures

The research procedures involved six phases: the review of relevant literature, the development and validation of a research instrument, selection of a random sample, the administration of the instrument to the sample, statistical analysis of the responses to the items in the
instrument, and compilation of a report of the investigation and the research findings.

The research instrument consisted of inventories to measure perceptions of the religious environment and degree of subjects' religiosity, items soliciting demographic and related information, and open-ended questions. The penultimate version of the instrument was pilot-tested on 50 students and faculty. The scores were submitted to an item analysis and the instrument modified as considered necessary on the basis of the analysis.

The sample consisted, in accordance with expert judgment and a power analysis, of 350 randomly selected subjects, including 40 faculty and 310 students. The latter included discrete subsamples of freshmen, sophomores, juniors, seniors, graduate students, seminary students (all of which were SDAs), and non-SDA students. Non-SDA students were selected from both the graduate and undergraduate schools, but not from the theological seminary.

Subjects were provided with copies of the instrument in mid-November 1987. By mid-March 75%, or 246, of the 328 subjects (22 were eliminated because it was discovered too late to replace them that they had left Andrews) had returned completed or partly completed copies of the instrument. Because nine of these did not complete
the instrument satisfactorily, the analysis was based on 237 returned instruments.

Research Findings

The types of analysis utilized were item analysis, analysis of variance, analysis of covariance, multivariate analysis of variance, discriminant analysis, correlation, and enumeration.

The analysis of the data of the Perception of the Environment Inventory revealed: (1) that subjects' perceptions of the religious environment were moderately positive; (2) that the perception of SDA students were quite homogeneous from one subsample to another; (3) that the perceptions of faculty and non-SDA students were significantly more positive than those of SDA students; and (4) that the more religious SDA subjects tended to perceive the environment more positively than did less religious subjects. The analysis also revealed, in general, a consistency in the perceptions of the various components of the environment by the various subsamples, and that campus church, faculty, and Campus Ministries were rated highest and about equal.

An overall rating of the perceptions of the religious environment, in terms of a per-item, per-subject mean was computed. The resultant mean of 3.2, on a possible scale of 1 to 5, cannot be seen as representing a high level of approval of the environment.
The analysis of the data of the Religious Experience Inventory revealed: (1) that most subjects were of moderately high religiosity; (2) that degree of religiosity among SDA subjects was lowest among sophomores and became increasingly higher with progression to freshmen and juniors, seniors, graduate students, faculty, and seminary students; and (3) that, overall, men and women were about equal in religiosity, but that undergraduate women proved more religious than undergraduate men.

The data on religiosity also revealed: (1) that the religious experience of subjects seemed to be well-integrated, a conclusion stemming from the generally high level of intercorrelations of the various dimensions of religiosity; (2) that religious experiences and beliefs were important to the subjects; (3) that there was a high degree of consistency in the ranking of the various dimensions of religiosity as reported by the various subsamples, with all subsamples scoring highest on beliefs; and (4) that, with 11 specifically SDA items removed from the instrument, SDA undergraduate and graduate students scored higher on religiosity than did non-SDA subjects.

The various analyses involved in testing the 16 null hypotheses indicated that six of these (1, 2, 7, 8, 11, and 12) were not supported by the data and were, therefore, rejected as invalid. The testing of these six showed: (1) that faculty and non-SDA students perceived the
environment, both overall and components, more positively than did SDA students; and (2) that the higher the degree of SDA subjects' religiosity, the more positively they perceived the overall environment and its components.

The analysis of the data supported the remaining 10 null hypotheses (3, 4, 5, 6, 9, 10, 13, 14, 15, and 16), and these, therefore, were retained as valid. The testing of the first 6 of these 10 hypotheses revealed that differences in perception of the overall environment and its components among undergraduate and graduate SDA students, between seminary and graduate students, and between men and women were not statistically significant. The testing of the last four of these revealed that degree and kind of influence of early home life on the development of religious experience and proportion of time spent by SDA subjects in SDA schools before college did not result in statistically significant differences in the perception of either the overall religious environment or most of its components.

An analysis of the responses to the open-ended questions revealed

1. That campus church and faculty were most frequently mentioned as strengths in the religious environment. This assessment agrees with the high rankings of these components in the overall response to the Perception of the Environment Inventory. Campus Ministries, which was
also ranked high, was not frequently mentioned as a strength of the environment.

2. That student and faculty lifestyles and degree of spirituality, required student attendance at religious activities (chapel and dormitory worships), and negative religious attitudes were most frequently mentioned as weaknesses in the religious environment. The frequent mention of students in response to item 2 accords with the low ranking of students as a component of the environment.

3. That improving the quality of religious activities, providing new religious activities and outreach opportunities, and making attendance at religious activities voluntary were most frequently mentioned as means of strengthening the religious environment.

4. That campus church (whether the building, the pastors, or the services), Campus Ministries, and insistence on maintaining religious standards of behavior were regarded as strongest evidence to a visitor that Andrews University is a Christian institution.

5. That student behavior--lifestyles, attitudes, choice of music, dress, and partying--and negative religious attitudes were most frequently mentioned as reasons for a visitor to doubt that Andrews University is really a Christian institution.

6. That the essence of a genuine religious experience was most frequently defined in terms of a personal
relation with God or Jesus; and ethical living— including love to man—and being like God or Jesus.

It also appears that the theoretical rationale (see chapter 1) on which the study was based was confirmed, although not to the degree that might have been expected. This confirmation is reflected in the fact that certain factors such as status as faculty or student, status as SDA or non-SDA student, and degree of religiosity, obviously influenced subjects' perception of the religious environment. The study of perception in terms of components of the environment appears to have been justified in view of the rather wide range in the perceptions of the components faculty, campus church, and Campus Ministries, on the one hand, and students and classes in religion and theology, on the other.

Three areas in which differences in perceptions of the religious environment did not materialize to a significant degree were (1) the influence of sex, (2) the kind and degree of the influence of early home life on the development of religious experience, and (3) the ratio of school time before college spent in SDA and non-SDA schools.

The validity of the concept of multi-dimensional religiosity received some confirmation from the study. It seems obvious that basing the study on one dimension only might have resulted in a distorted view of subjects' religiosity. Using orthodoxy of belief alone would have
resulted in unrealistically high scores, while using attendance at public religious services only would have resulted in deceptively low scores.

**Salient Findings**

Among the findings considered especially salient by the investigator were the following:

1. Non-SDA students perceived the religious environment more positively than did SDA students.

2. The majority (59%) of all subjects believed that the overall religious emphasis of Andrews University was not as strong as they thought it should be. This percentage was even higher for SDA subjects, especially students.

3. The religious thrust of the University, in relation especially to campus church, classes in religion and theology, and Campus Ministries, was perceived as only moderately effective in developing religious and moral values in students. The assessment by SDA subjects of the effectiveness of the religious environment differed by only a small margin from their overall assessment of the components. It should also be noted that the scores for self-assessed religiosity of subjects were higher than their scores for the assessment of the effectiveness of the religious environment in promoting moral and spiritual growth and in their assessment of the environment generally.

4. Overall student religiosity (as a subcomponent
of the environment) was rated much lower by subjects than students' assessment of their own religiosity.

5. The essence of genuine religious experience was defined most often in terms of a personal relationship with God or Jesus Christ and only a negligible number of times in terms of beliefs or religious activities.

6. The dimensions of religiosity on which subjects scored highest were beliefs, religion in life, and the importance of their religious experience to them.

Conclusions and Discussion

Conclusions that seem warranted from the study, together with a discussion, including a suggested explanation for each conclusion, are as follows:

1. The assessment of the religious environment by both faculty and students was moderately positive, as evidenced by actual group means that were somewhat larger than would have been expected on the basis of normal distribution of the scores. Specific areas of both strength and weakness in the religious environment were indicated by responses to specific items in the Perception of the Environment Inventory and to open-ended questions.

2. The overall religious emphasis of the university could be strengthened, and such strengthening would be welcomed by many faculty and students. The evidence for this conclusion is twofold: (1) 59% of the subjects, in response to item 54 in the Perception of the Environment
Inventory, expressed the conviction that the overall religious emphasis of the university was not as strong as they thought it should be; and (2) most subjects, in response to open-ended questions, mentioned specific weaknesses in the religious environment and suggested how the environment might be strengthened.

3. Perceptions of the environment by SDA students were fairly homogeneous by subsample—the only variable in the study that made any significant difference in the perceptions of SDA students was degree of religiosity. That religiosity made a difference is evident from the data used in testing hypotheses 11 and 12 and from the analysis of the open-ended questions. This homogeneity in perceptions may be considered indicative of subject honesty in responding to the instrument.

4. The faculty and non-SDA students perceived the environment more positively than SDA students did. The difference in perceptions of the environment by faculty and students may be explained by: (1) the possibility that faculty are more perceptive than students; (2) the presumptive probability that faculty, because of their self-perceived role as important creators of the environment, tend to view that environment more idealistically than do students; (3) the possibility that students are more aware than faculty of certain weaknesses in the environment, especially those related to student behavior, attitudes,
and conduct--such as were mentioned in responses to the open-ended questions; and (4) the fact that students are on a different end of the religious impact of the religious environment than are faculty.

That the faculty may tend to perceive the religious environment more idealistically than students is indicated by the facts (1) that, with the exception of classes in religion and theology, the faculty rated every component of the environment (including faculty) higher than did any student subsample, and (2) that in response to item 54 in the Perception of the Environment Inventory, faculty expressed a higher degree of satisfaction with the overall religious emphasis of the university than students did. It should be pointed out, however, that with the ratings of all subsamples combined, faculty were rated higher than any other component except church.

That non-SDA students perceived the environment more positively than SDA students may be explained on the basis of several possibilities: (1) SDA students may be more aware of the kind of character on the part of students that is one of the objectives of Andrews University and, therefore, more aware of any shortfall in the realization of that character by students. (2) Andrews University, with its obvious religious emphasis, may tend to "select" from prospective non-SDA students those who wish to attend a school with a distinctive religious emphasis and who,
finding that emphasis at Andrews University, welcome and appreciate it; while SDA students attend because of their denominational affiliation and not necessarily because of a distinctive religious emphasis. It is altogether possible that non-SDA students who attend Andrews University because of its religious emphasis find the religious emphasis stronger than they hoped, while SDA students find that emphasis weaker than they expected. In this connection note that, in response to item 54 in the Perception of the Environment Inventory, 68% of non-SDAs expressed their belief that the overall religious emphasis of Andrews University was about right or stronger than they thought it should be. The range of corresponding percentages for SDA subsamples was 23-46 (see table 32). (3) The religious environment, to many SDA students, is "old stuff" and lacks the novelty that might make it more appreciated.

It is conceded, of course, that some non-SDA students may attend Andrews University mostly for reasons of geographical convenience. That non-SDA students would attend Andrews university because of its religious emphasis would confirm the convictions of some students of church-related colleges that the religious distinctiveness of these colleges would prove advantageous in the competition with other colleges for students (see the Review of Literature, chapter 2).

5. The religious and moral impact of Andrews
University on students appears to be real and positive. This positive impact is indicated by an increase in overall religiosity between freshmen and seniors (with a decline only between freshmen and sophomores). This increase in religiosity may be more than can be expected on the basis of findings at some church colleges that student religiosity may decline or, at best, remain stable during the college years. (It is true, of course, that some studies have revealed an increase in religiosity during college years.)

That religiosity declined at Andrews University between freshmen and sophomores accords with certain studies that reported a similar decline in religiosity between freshmen and sophomores, even in cases where there was no decline in later years (see the Review of Literature, chapter 2). Such a decline at Andrews may reflect a tendency of younger students to assimilate their religious lifestyles to those of older students, choosing as role models the less religious. Another possible explanation is that by their sophomore year students have experienced disillusionment with the religious environment. This possibility would conform with the finding in this study that sophomores expressed a higher degree of dissatisfaction with the overall religious emphasis, in the direction of finding it weak, than did any other subsample.

A possible partial explanation of apparent changes
in religiosity during the university experience is the departure from the university of highly religious students who become disillusioned by negative religious elements in the environment, and/or of students of low religiosity who find the religious emphasis too heavy. In this respect, it is significant that responses to item 54 in the Perception of the Environment Inventory correlated negatively (-.39) to a moderate degree with degree of religiosity; that is, the higher the degree of subject religiosity, the greater the tendency of the subjects to perceive the overall religious emphasis at Andrews University as weaker than they thought it should be.

6. The scores in overall religiosity are quite high—well above the expected means. Are these scores inflated? What factors might tend to result in scores higher than a true assessment of religiosity would produce?

Several possible explanation must be noted. These are listed and then discussed: (1) The survey instrument by its very nature may have tended to select from the 350 subjects to whom it was submitted the more highly religious subjects as respondents; (2) subjects may have tended to perceive their religious experience idealistically; and (3) the selection of dimensions of religiosity for representation in the instrument may have tended to result in high scores.

In response to these items it may be said that:
(1) There is no way of knowing whether the instrument tended to select as respondents subjects of higher levels of religiosity. It is true that subjects at these higher levels showed a higher response rate to the open-ended questions, but it would be an unwarranted extrapolation to see in this fact evidence that highly religious subjects were more likely to respond to the instrument than subjects at lower levels. (2) If subjects tended to idealize their religiosity, they obviously did so selectively—as the means for each subsample varied considerably from one scale to another—and consistently. High scores in the beliefs scale could be expected. Lower scores in the activities and loyalties scales would suggest, however, that subjects may not have inflated their scores by reporting an idealized assessment of their religiosity. (3) It must be conceded that selection of other dimensions of religiosity, such as Christian witnessing, might have resulted in lower scores than was the case.

7. Scores for student religiosity as determined by responses to the Religious Experience Inventory were considerably higher than the assessment (by all subsamples collectively) of student religiosity in response to five items in the Perception of the Environment Inventory. The mean involved in the scores for these five items was 14.24. This mean, divided by five yields a proportional mean, or a per-subject, per-item mean, of 2.85. This mean is
considerably lower than the corresponding means for self-assessed degree of religiosity as determined by responses to items in the religiosity inventory—with a range of 3.52 for non-SDA subjects to 4.64 for seminary students\textsuperscript{1}.

Did the study uncover any reasons—aside from the possibility that students tended to report idealized assessments of their religiosity—for these differences? A possible answer is that subjects scored higher on dimensions of religiosity that are more private and inward, such as beliefs, than on dimensions that are more outward and visible, such as attendance at religious services. Indeed the instrument emphasized the more inward dimensions.

Also to be considered are the responses to two items in the Perception of the Environment Inventory: 23. Religious themes are not very important in casual student conversations; and 48. How many students try to influence other students to seek a deeper spiritual commitment? Only 23\% of the subjects indicated disagreement with the first item. To the second 84\% responded to the options "about one fourth" and "few or none." These factors suggest that the religious experience of students is more private than open and vulnerable, therefore, to a low assessment.

8. Faculty and graduate and seminary students scored considerably higher than did undergraduate students

\textsuperscript{1}These proportional means were calculated on the basis of exclusion of responses to 11 SDA-biased items.
on overall religiosity and all dimensions of religiosity. To what extent this difference resulted from exposure to the religious environment of Andrews University is uncertain. The difference may be explained, however, on the basis of (1) the greater maturity with higher attendant degree of religiosity: the study showed that religiosity is highest among the subsamples—faculty and seminary and graduate students—that include most of the older subjects; (2) advanced religious training (on the part of seminary students and many graduate students and faculty); and (3) the fact that the faculty and many of these advanced students are experienced workers, as pastors, teachers, etc., and were chosen for their career positions, at least in part, because of their loyalty to Christian and SDA ideals. Further, as denominational workers (many of them), they have survived religiously oriented scrutiny of their performance and behavior.

**Recommendations**

The following recommendations seem in order:

1. That the religion department and seminary be strengthened—not necessarily by replacing faculty members. The relatively high assessment of the faculty as a component of the religious environment tends to suggest that the low rating of classes in religion and theology may not reflect a lack of confidence in the faculty in this area. The fact that the longer SDA students were in SDA schools
before college, the less positive their assessment of classes in religion and theology suggests that the approach to teaching, teaching methods, or the theological perspective underlying the teaching might not be sufficiently dynamic to make these classes interesting and stimulating to students. Note in this respect that a majority of subjects in responding to item 50 in the Perception of the Environment Inventory expressed the conviction that classes in religion and theology were less interesting and stimulating than other classes (see chapter 4). A remark by a noted SDA, Ellen White (1891, p. 769), to the effect that divine truth is capable of unlimited expansion suggests that Bible teaching need never be mere routine. The explication by her of a transcendent, non-conventional (by the standards of Christian theology) perspective in her writings suggests that a lack of dynamism in Bible teaching is by no means inevitable (see Appendix D for a formulation of this perspective).

2. That further study be given to the matter of required attendance at chapel and dormitory worships. The requirement could be modified by providing additional optional experiences that would be relevant to students and acceptable, even if attendance were required. The fact that faculty, campus church, and Campus Ministries were rated relatively high by students and faculty as components of the environment suggests that faculty, pastors, and
ministries chaplains could be utilized to a higher degree in making these activities more interesting and valuable to students. Perhaps the Religious Activities Committee could establish a speakers' bureau of qualified and willing faculty, pastors, chaplains, graduate and seminary students, and off-campus pastors and other professionals, who would be available for providing leadership in alternate religious activities, such as introducing students to a Christian perspective on the so-called secular areas of life of concern to students.

3. That an enlarged program of Christian activities and outreach opportunities, including the organization of small groups for prayer, study, and discussion, be inaugurated.

4. That a director of religious activities, with possible vice-presidential status, be appointed to coordinate the various religious activities, programs, and emphases of the university. Recommended qualifications would be ordination as a gospel minister; a minimum of five years of experience in youth ministry or college campus pastorate; a doctorate in ministry, theology, or religious education; suitable age—that is, old enough for spiritual maturity, young enough to have the maximum confidence of students; demonstrated spirituality; and confidence of students—on grounds other than age.
Suggestions for Further Study

Because the present investigation was a cross-sectional study, with the limitations that are an inevitable concomitant of such studies, the following additional studies are recommended: (1) a longitudinal study, involving religiosity and/or perceptions of the environment with annual testing of the same subjects throughout a four-year or five-year period, (2) a comparative study involving religiosity at a number of SDA colleges (one of the advantages of such a study would be that if significant differences in religiosity were discovered from college to college those colleges with the highest scores, provided these resulted from more successful attempts to nourish the spiritual and moral lives of students, could share the secrets of their success with the other institutions, and (3) a longitudinal study of the religiosity of SDA college-age youth, with three subsamples as follows: students in SDA colleges, students in non-SDA colleges, and non-students. The justification for such a study, as far as its relation to the present study is concerned, is that it would afford some indication whether the growth in religiosity of students at Andrews University is paralleled by a similar growth in other SDA youth or results, perhaps, from the religious impact of the university. Such a study should be conducted during the first quarter, trimester, or semester in order to identify
students of high or low religiosity before they have had a chance to leave school—the assumption being that once those dropping-out have left, they are highly unlikely to respond to survey instruments.
APPENDIX A

ANDREWS UNIVERSITY STATEMENT OF MISSION
AND OBJECTIVES

The statement of mission and objectives is taken from the annual Andrews University Bulletin.
ANDREWS UNIVERSITY: MISSION AND OBJECTIVES

Statement of Mission

Andrews University, established by the Seventh-day Adventist Church in order to prepare church leaders, laity, and other responsible citizens to fulfill the Gospel Commission, is committed to providing high-quality Christian education in the context of the Adventist faith, . . . . While the scope of the institution has changed since its founding, the distinguishing marks of identity envisioned by the founders still guide the University. Paramount among these are:

1. An educational program that is balanced in the development of the spiritual, mental, physical, and social life of the student.

2. A hospitable climate wherein faculty and students may pursue excellence, truth, and continuing relevance.

3. Programs which encourage Christ-centered service to humanity.


The University strives to achieve its goals under Divine [sic] guidance, recognizing that only in this way can the maximum potential of its academic community be realized.
Objectives

Along with the statement of missions, the following general objectives for Andrews University serve as a guide for the board of Trustees, the University administration, and the faculty in their combined attempts to carry out their educational tasks.

Instruction and research at the University shall be directed toward these objectives. . . . The objectives of Andrews University, as interpreted in the light of the Seventh-day Adventist religious heritage, are:

1. To enable its students intelligently to dedicate their lives to spiritual leadership and selfless service for God and humanity.

2. To guide in the formation of character marked by integrity, self-discipline, responsibility, tolerance, and loyalty to God, one's nation, and humanity.

3. To widen humanity's knowledge of life and nature, of the arts and sciences.

4. To develop the student's ability in critical thinking.

5. To cultivate the highest levels of refinement and esthetic taste.

6. To provide systematic preparation for vocations and professions.

7. To encourage wholesome respect for the dignity of labor.
8. To tender guidance for the community, the church, and for society.

Ideals

The ideals of Andrews University are portrayed in its seal—the harmonious development of the spiritual, the mental, and the physical powers.

Spiritus—striving for spiritual maturity

Nothing in life is of greater significance than the relationship between human beings and God, the creator and sustainer of life. The individual's behavior in concert with others has demonstrated the folly and tragedy of human existence without reference to God. Therefore, the University proclaims with boldness and vigor that no one can be truly educated without learning to love God and to serve Him. But a form of commitment manifested in a whirl of church or other philanthropic activities, good as they may be, is not enough. Multiple daily or weekly attendance at corporate worship services, although helpful in spiritual development, is inadequate. Daily personal communion with God in meditation and prayer is a necessity that surpasses in importance all other forms of worship. Through emphasis on this personal communion along with public worship and service, Andrews University students learn that life should be a constant quest for spiritual
maturity. Andrews alumni have demonstrated that such spiritual maturity bears fruit in Christian service.
APPENDIX B

THE SURVEY INSTRUMENT

The instrument is presented in the same form that was used in the study, except that, for each item the percentages of the whole sample who responded at each point on the Likert scale for that item, or did not respond, are shown. The analysis of 11 SDA-biased items in the Religious Experience Inventory is based on responses of SDA subjects only. Five of these items, excluded from copies of the instrument distributed to non-SDA subjects, are here grouped with related items, instead of being placed together at the end of the inventory, as was the case with copies of the instrument prepared for use by the subjects. The percentages of non-respondents are listed in the column headed NR.
I PERCEPTION OF THE RELIGIOUS ENVIRONMENT INVENTORY

I. INSTRUCTIONS: For items 1-45 indicate how strongly you agree or disagree with each item. Circle the number to the right that corresponds to the extent of your agreement or disagreement, thus: 1 Strongly disagree (SD), 2 Disagree (D), 3 No opinion, don't know (DK), 4 Agree (A), 5 Strongly agree (SA).

1. As a rule, the faculty live genuine Christian lives. ................. 00 01 09 25 55 10

2. In general, the faculty relate to students with Christian love and concern. ................. 00 02 09 12 63 14

3. The spiritual and/or moral development of students is not a high priority with the faculty. ................. 01 11 45 18 22 04

4. The faculty consistently confront students with religious and/or moral issues arising within their subjects. ................. 00 05 32 21 35 06

5. As a rule, students live genuine Christian lives. ................. 00 14 40 27 17 02

6. Few students have a strong sense of loyalty to God and/or their religious convictions. ................. 00 05 24 19 37 14

7. The religious convictions of students play only a small part in determining their lifestyles. ................. 02 17 34 12 32 03

8. Classes in religion and theology do not adequately emphasize Seventh-day Adventist beliefs. ................. 00 17 38 29 11 04

9. Classes in religion and theology are taught in such a way that the spiritual needs of students are satisfied. ................. 00 06 30 33 26 05

10. The pastors of the campus church live strong Christian lives. ................. 00 01 03 45 28 22

11. The pastors of the campus church are not very sensitive to the religious and moral problems of students. ................. 00 19 29 43 07 02
12. The services in the campus church help students to develop strong moral and/or spiritual values. ................................................. 00 04 16 31 37 12

13. Services at the campus church do not satisfy the spiritual needs of students. ................. 00 10 35 34 18 03

14. The personnel of Campus Ministries live strong Christian lives. ................................................. 00 00 02 58 31 09

15. The personnel of Campus Ministries really try to lead students to deeper spiritual commitment. 00 01 05 40 39 14

16. Religion does not have an important bearing on the overall university environment and activities. ................................................. 01 21 52 06 17 04

17. For the most part the faculty live up to the standards of the Seventh-day Adventist church in such things as diet dress and sabbath-keeping. .. 00 00 07 22 59 11

18. The faculty do not try to lead students to lives of deep spiritual commitment. ................. 01 06 47 19 26 02

19. The faculty are willing to help students individually academically and/or spiritually. . 01 02 09 09 56 23

20. The faculty in their teaching challenge students to think in a Christian way about the important issues of life. ................................................. 00 01 22 12 53 11

21. There is a strong spirit of Christian love among students. ................................................. 00 10 44 20 24 02

22. It is difficult for students with spiritual problems to find other, spiritually-mature, students who are willing to help them with their problems. ................................................. 00 07 35 25 27 07

23. Religious themes or interests are not very important topics in casual student conversations. ................................................. 01 04 20 10 51 13

24. Classes in religion and theology do not strengthen students' commitment to God/Jesus. .. 00 11 31 34 18 06
25. Classes in religion and theology do not strengthen the religious beliefs of students. 01 12 36 31 17 04

26. The services at the campus church as a rule are not attractive to students. 00 10 38 25 22 05

27. The pastors of the campus church challenge students to seek active commitment to the Seventh-day Adventist church. 00 01 09 38 39 13

28. Services in the campus church tend to strengthen the religious beliefs of students. 00 02 13 34 41 09

29. Campus Ministries helps students to develop strong spiritual and/or moral values. 00 02 08 51 34 05

30. Campus Ministries lacks an effective program for ministering to the spiritual needs of students. 00 02 23 44 26 04

31. The overall university environment helps students to develop strong moral and/or spiritual values. 01 06 36 14 40 03

32. The religious experience of the faculty for the most part is superficial. 01 10 33 41 13 02

33. The faculty in their teaching do not help students very much to see the practical applications of Christian principles in their (students') lives. 01 06 49 14 27 05

34. The faculty do not consistently integrate Christian concepts into the content of their courses. 00 04 44 12 37 04

35. Faculty support for the university program or religious activities is strong. 00 03 23 38 30 06

36. Few students attend religious services regularly. 00 05 34 32 23 06

37. Students who show deep spirituality or strong interest in religion are likely to be ostracized by other students. 00 07 47 19 26 01

38. Most students try hard to obey the social and moral rules and regulations of the University. 00 10 29 20 37 03
39. Classes in Bible and theology tend to strengthen students' desire for a deeper spiritual life.

40. Classes in Bible and theology help students to develop strong moral and/or spiritual values.

41. The services in the campus church do not strengthen students' commitment to God/Jesus.

42. The services in the campus church are planned to meet the spiritual needs of students.

43. Services at the campus church do strengthen students' desires for deeper spiritual lives.

44. The personnel of Campus Ministries are available as needed for counselling students on moral and spiritual concerns.

45. The Bible and its teachings are not an important integrating force in the overall program of Andrews University.

II. INSTRUCTIONS: For each of the following items (46-54) mark the number to the right that corresponds to your response to that item. Use the scale given for each item.

46. How difficult, or easy, does the influence of other students make it for a student to have a meaningful religious experience?

47. How many students seem to be alienated from religion in one way or another?

48. How many students try to influence other students to seek a deeper spiritual commitment?
49. Which is stronger overall, the area of religious, Biblical, and theological studies, or other departments?

1 Other areas much stronger, 2 other areas some stronger, 3 about equal, 4 Bible some stronger, 5 Bible much stronger

07 27 25 25 10 07

50. How do courses in religion and theology compare to other courses with respect to student interest and stimulation?

1 Other courses much stronger, 2 Other courses some stronger, 3 About equal, 4 Religion courses some stronger, 5. Religion courses much stronger

06 29 31 23 07 04

51. Which seems to be emphasized more strongly in classes in Bible and theology, the spiritual growth of students or their religious beliefs and knowledge?

1 Beliefs much more, 2 Beliefs some more, 3 About equal, 4 Spiritual growth some more, 5 Spiritual growth much more

10 34 25 22 06 03

52. Which is stronger here overall, the religious and spiritual emphasis or the academic and intellectual?

1 Religious much stronger, 2 Religious some stronger, 3 About equal, 4 Academic some stronger, 5 Academic much stronger

04 03 07 26 31 29

53. Does the overall religious emphasis seem stronger or weaker now than you expected or thought it would be when you first came to Andrews?

1 Much weaker now, 2 Some weaker now, 3 About as expected, 4 Some stronger now, 5 Much stronger

02 14 28 39 13 03

54. Is the overall emphasis on religion weaker or stronger than you think it should be?

1 Much weaker, 2 Some weaker, 3 About right, 4 Some stronger, 5 Much stronger

04 25 34 26 09 02

III. INSTRUCTIONS: For each of the following (55-60) indicate you conviction regarding the importance of the part which it plays in the formation of the religious environment here. Use this scale: 1 Of no importance (NI), 2 Of little importance (LI), 3 Moderately important (MI), 4 Highly important (HI), 5 Critically important (CI)
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<tbody>
<tr>
<td>55. Students</td>
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<td></td>
</tr>
<tr>
<td>56. Classes in Bible and theology</td>
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<tr>
<td>57. Campus church—services and pastors</td>
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<td>58. Campus Ministries</td>
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<tr>
<td>59. Faculty</td>
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<td></td>
<td></td>
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<tr>
<td>60. Classes other than those in religion and theology</td>
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II RELIGIOUS EXPERIENCE INVENTORY

I. INSTRUCTIONS: Please indicate the extent of your belief or disbelief in each of these statements (1-21). Circle one of the numerals according to this scale: 1 Strongly disbelieve (SD), 2 Tend to disbelieve--strong doubt (TD), 3 Uncertain (UN), 4 Tend to believe--some doubt (TB), 5 Strongly believe (SB).

1. For the most part, religion (or Christianity) has been a force for good in the world. . . . . 00 01 03 06 27 63

2. It is not necessary to have religious commitment and convictions in order to live the best life. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 01 49 19 05 15 10

3. It doesn't really matter how people live their lives as long as their religious beliefs are correct . . . . . . . . . . . . . . . . . . . . . . . . . . . . 00 81 12 01 03 02

4. Even moderate use of alcoholic drinks is wrong. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 01 11 06 05 16 60

5. It is all right for Seventh-day Adventists to wear jewelry if they want to. . . . . . . 01 35 20 09 23 13

6. There is a personal God. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 01 02 01 02 05 89

7. The best way for sinners to be accepted by God is for them to try as hard as they can to keep His law. . . . . . . . . . . . . . . . . . . . . . . . . . 01 63 13 05 08 10

8. Our property (money, automobiles, houses, etc.) is ours to do with as we want to. . . . . 01 52 21 05 13 07

9. Christians should abstain from what are often called worldly amusements. . . . . . . . 02 10 22 18 27 20

10. Happiness comes mostly or entirely from doing "fun" things--amusements, games, TV, sports, etc. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 00 61 24 03 07 03

11. There is a personal devil who tempts human beings to do wrong. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 01 07 03 06 13 71

12. Human beings originated by evolution from lower forms of life. . . . . . . . . . . . . . . . . . . . . . . . 00 91 06 01 00 01

13. All aspects of a Christian's life should be governed by his/her religious convictions. . . 01 02 05 05 25 62
14. There are certain kinds of music that are not right for Christians to listen to. 01 07 07 08 24 53

15. There is nothing wrong with premarital sex between a man and a woman who love each other. 00 68 12 10 08 02

16. There is nothing wrong with taking drugs for kicks. 00 94 02 01 01 02

17. The Bible is the inspired word of God. 00 01 01 02 07 88

18. A genuine religious experience is not necessary for happiness. 00 52 20 09 14 05

19. There is nothing wrong in telling a little white lie if it is considered necessary to do so. 01 39 23 12 20 05

20. Christians may not rightly violate their religious convictions for any reason whatever. 02 07 10 23 29 28

21. The Seventh-day Adventist church places too many restrictions on the lifestyles of its members. 01 31 23 09 23 13

22. The true Sabbath established by God is the Seventh day of the week. 01 00 00 01 06 92

23. Ellen White was a prophet inspired of God. 01 01 00 04 20 73

24. The world will soon end under conditions described in the Bible. 01 01 01 04 17 76

25. The only hope for a world much better than the present world is the second coming of Jesus. 02 01 01 01 07 89

II. INSTRUCTIONS: In items 22–29, please indicate by marking the appropriate number how frequently on the average during the past six months you have engaged, on your own initiative, in private devotions, alone or with friends, or in public worship.

Use this scale for private devotions: 1 Never (N), 2 Seldom--less frequently than once a week (S), 3 Once a week (W), 4 Two to six times a week (2W), 5 Once a day or oftener (D).

26. Devotional activities of any and every kind. 01 05 13 10 28 42

27. Prayer. 00 02 06 02 15 73
<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>Devotional reading of the Bible</td>
<td>00 08 21 18 27 26</td>
</tr>
<tr>
<td>29</td>
<td>Religious thought and meditation</td>
<td>01 02 12 11 31 42</td>
</tr>
<tr>
<td>30</td>
<td>Reading denominational periodicals</td>
<td>01 16 37 26 15 05</td>
</tr>
<tr>
<td>31</td>
<td>Reading other devotional literature</td>
<td>00 14 29 23 20 13</td>
</tr>
<tr>
<td>32</td>
<td>Reading devotionally the writings of Ellen G. White</td>
<td>05 21 35 11 19 08</td>
</tr>
</tbody>
</table>

Use this scale for attendance at public worships: 1 Never (N), 2 Seldom—not as often as once a month (S), 3 Once a month (M), 4 Two or three times a month (2M), 5 At least once a week (W).

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>Sabbath (or Sunday) School</td>
<td>01 08 17 07 09 58</td>
</tr>
<tr>
<td>34</td>
<td>Preaching, or worship service, or mass</td>
<td>00 06 07 05 15 67</td>
</tr>
</tbody>
</table>

III. INSTRUCTIONS: Mark the appropriate number in each row in the right margin to indicate the degree to which items 30-43 are true of you or characteristic of your life. Use this scale: 1 To no degree (N), 2 To little degree (L), 3 To a moderate degree (M), 4 To a high degree (H), 5 Absolutely or to a very high degree (VH)

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>You trust God with your life</td>
<td>01 00 02 05 25 66</td>
</tr>
<tr>
<td>36</td>
<td>Life would continue to have meaning for you without belief in God or a relationship with Him.</td>
<td>01 60 22 10 04 04</td>
</tr>
<tr>
<td>37</td>
<td>Your religious commitment and convictions have a controlling influence on other aspects of your life.</td>
<td>01 02 05 15 30 48</td>
</tr>
<tr>
<td>38</td>
<td>Your trust and confidence in God free you from worry about present problems.</td>
<td>01 02 15 29 36 18</td>
</tr>
<tr>
<td>39</td>
<td>Your religious commitment and convictions would motivate you to do right even if your best friends were not doing so.</td>
<td>01 01 04 13 40 41</td>
</tr>
</tbody>
</table>
40. Your religion is important to you as the source of answers to questions about the meaning of human existence. 02 02 06 09 29 53

41. Your religious commitment helps you to keep your life steady and balanced. 01 02 05 21 30 41

42. Your trust and confidence in God free you from anxiety about your future. 01 01 13 22 33 29

43. Your Christian experience has been a source of happiness to you. 01 02 07 15 27 47

44. You are willing to do whatever God wants you to do. 01 01 05 14 34 45

45. The love of Jesus is a reality in your life. 02 02 04 14 27 51

46. You feel alienated from your church. 02 41 27 15 10 05

47. You are confident that God will give you wisdom, if you ask, for making the right decisions in life. 01 01 01 11 32 54

48. Your religious commitment and convictions give you a sense of security in difficult situations. 01 01 03 20 34 35

IV. INSTRUCTIONS: Indicate (items 44-51) how much of the time each statement is true of you. Use this scale: 1 None of the time (N), 2 Little of the time (L), 3 About one-half of the time (H), 4 Most of the time (M), 5 All of the time (A)

49. You feel joyful in the Lord. 00 02 11 18 53 17

50. You feel a real peace of mind by knowing that your relationship with God/Jesus Christ is secure. 00 02 10 20 41 26

51. You feel guilty because of your sins, even if you have confessed them to God. 01 17 48 13 15 05

52. You feel afraid of God or feel that He is angry with you. 00 55 27 11 04 02

53. You feel close to God or that God is close to you. 00 01 10 20 44 24
54. God does not seem real to you. .......... 00 61 26 07 02 05
55. You feel a strong commitment to God/Jesus. .. 01 01 08 13 37 39
56. You feel a strong loyalty to the denomination of which you are a member. .......... 01 07 16 09 38 29

V. INSTRUCTIONS: Indicate in items 52, 53 how frequently the following have been true of you. Use this scale: 1 Never (N), 2 Seldom (S), 3 Occasionally (O), 4 Frequently (F), 5 At least once a day (D).

57. You have felt overwhelmed in contemplating the power, goodness, or love of God or Jesus Christ. ............ 00 05 06 33 42 13
58. You have tried to find out what God wanted you to do when making decisions in everyday life. ............ 00 02 06 23 47 22

OPEN-ENDED QUESTIONS

We would also like your answers to the following questions. Just answer in the spaces provided. If your answer to any question is "none," write "none".

1. What strengths do you see in the overall religious environment at Andrews?
2. What weaknesses do you see in the overall religious environment?
3. What suggestions would you make to strengthen the religious environment?
4. What features, of campus life would convince a visitor to Andrews, that Andrews is really a Christian institution, if he had not been told this?
5. What features, of campus life might lead a visitor to doubt that Andrews is really a Christian institution?
6. What, in your opinion, is the essence of genuine religious experience?

DEMOGRAPHIC QUESTIONS

In order to interpret the findings of this survey, we would also like you to respond to the following items:

INSTRUCTIONS: For each numbered item underline the response that applies to you.
1. Age bracket: 17-22, 23-30, 31-40, 41-50, 50 and over

2. Sex, or gender: Male, Female

3. Your status at Andrews University: Freshman, Sophomore, Junior, Senior, Seminary Student, Graduate (Non-Seminary), Faculty

4. Marital status: Single, Married, Divorced or separated, Widowed

5. Ethnic: White, Black, Hispanic, Asian-oriental, Other

6. Religious or denominational affiliation:
   Seventh-day Adventist, Other Protestant, Catholic, Non-Christian, None

7. School years before college in schools of each of the following kinds:
   Seventh-day Adventist: 0 1 2 3 4 5 6 7 8 9 10 11 12
   Other private: 0 1 2 3 4 5 6 7 8 9 10 11 12
   Public: 0 1 2 3 4 5 6 7 8 9 10 11 12

8. The way and degree in which your religious development has been influenced by your life at home before college or boarding academy:
   Strongly positive, Moderately positive, Neutral, Moderately negative, Strongly negative

Thank you for completing this questionnaire. In this space you may say anything that you want to about this study or anything related to it.
APPENDIX C

THE DATA FILE

The data file consists of the raw scores of each subject. Each numeral represents the position on the Likert scale at which a subject indicated a response to an item. Thus, 1 would indicate, as a response to many items, strong disagreement. A zero indicates non-response. The first three digits of each row are an assigned identification number. The scores for each subject occupy two rows—the first for responses to the items in the Perception of the Environment Inventory, the second for responses to the Religious Experience Inventory and demographic items. Subjects may be identified as to subsample by the first digit in each identification number, that is the digit in the first column: faculty—1, freshmen—2, sophomores—3, juniors—4, seniors—5, non-SDAs—6, seminary students—7, graduate students—8, and subjects unidentified by subsample—9. Blank spaces near the end of the second row for each non-SDA subject represent instrument items excluded, because of a heavy SDA bias, from copies of the instrument distributed to them.
APPENDIX D

THE TRANSCENDENT PERSPECTIVE AND MANDATE

The transcendent perspective is a way of understanding Biblical theology—a purely Biblical approach that emphasizes two main themes: (1) the existence of a God who transcends without limit all else that is, and (2) the existence of beings created in the image of God who, because so created, participate in the transcendence of God. This perspective includes a number of familiar concepts of Christian theology, plus some new ones developed by the writer. Many of the concepts of this perspective are explicitly stated in the writings of Ellen White and some of them in the writings of certain of her older contemporaries.
TRANSCENDENT PERSPECTIVE

The transcendent perspective includes the following components:

1. There is a personal, self-existent, eternally existent, omnipresent, unchangeable God, infinite in creative energy, wisdom, love, and holiness.

2. God is the creator and sustainer of all else that exists.

3. God has peopled the universe with beings, including human beings, created in His image.

4. The divine purpose in the existence of human beings, the divine ideal for their lives, and the destiny to which they are divinely intended are all transcendentally exalted.

5. Human beings exist for the sake of an eternal relationship of mutual love with God.

6. Human beings are divinely intended for the eternal progression of conformity of their lives and characters to the life and character of God; to an unending, unlimited, undeviating, upward development; to an eternal growth in knowledge, wisdom, love, and holiness. This progression of conformity must take place as rapidly individually as maturational capacity permits and is attended, as an inevitable concomitant, by an eternally escalating happiness.

7. Human beings are infinitely precious to God.
8. Human potential for growth and development is unlimited.

9. Unending existence and immortality are conditions essential to the realization of the divine ideal for human lives—since that ideal has as its goal the perfection and infinitude of God, it can never be fully realized.

10. Given the existence of human beings created in the image of God, everything else that has been placed in their physical and spiritual environment—the material world and all of its non-human components, the relationships of life, revealed truth, every ethical requirement—is for this one purpose: the unending development of human potential in the continuing realization of the divine ideal for every human being.

11. The life of God is ethically normative for the life of human beings.

12. The image of God includes the whole being of man, and the development of the image is to be the whole life of man—human beings may rightly engage in those activities only that involve the development of the image.

13. God is working eternally and without interruption in every place to guide and impel human beings in the continuing realization of his ideal for their lives.

14. The unlimited love of God received supreme expression in His gift of Himself in the incarnate Jesus.
Christ for His vicarious sacrifice for the redemption of human beings from sin.

15. Sin will ultimately be excluded from the universe.

Most of these concepts are considered legitimate deductions from the declarations of Scripture, and not, in every case, explicitly supported thereby. Item 10 is supported by a passage of Scripture, Eph 5:1, where believers are exhorted to be "imitators of God." Despite the rendering "followers" of the King James Version, the correct translation of the Greek word mimetes is "imitators." Modern versions, including the Revised Standard and New International Versions, for example, have corrected the incorrect translation "followers."

The concepts of the transcendent perspective, because they relate the nature of man to a transcendent God, are considered transcendentally useful in guiding all aspects of the development and education of human beings.

THE TRANSCENDENT THEISTIC MANDATE

The transcendent theistic mandate referred to in chapter 1 may be understood as the total ethical impact of the existence of a transcendent God on human beings, especially as that impact motivates them to appropriate ethical behavior. For present purposes, it may be regarded as a mandate to human beings to educate themselves theistically. There are two aspects in the discussion: the
mandate as implied by the existence of a transcendent God and of beings, including human beings, created in His image; and the mandate as Scripturally explicated.

The discussion of the first aspect relates to the concept formulated as part of the transcendent perspective, namely that human beings are intended for an unlimited, unending, undeviating upward development. It seems obvious that, if they are so destined, they must be educated in harmony with an unending, unlimited, undeviating loyalty to principles that transcend them and will continue to transcend them, regardless of the level of development that they reach. These principles can be none other than the principles of the character of God.

The explicit passages of Scripture relate to God and Jesus Christ as teachers, divine commands to teach, and teaching as a spiritual gift.

The first topic considered here is that of God as a teacher. The relevant statements are of two kinds: those that actually represent God as a teacher (Job 35:11; 36:12; Isa 54:3; Hos 11:3, and others) and prayers that He might be a teacher to one or more human beings. Statements of this latter category are found oftener in the Psalms than elsewhere, especially in the 25th and 119th Psalms. The Hebrew verbs in these passages are usually "" (lamadh) in the Pi el, with a causative force, or "" (yarah) in the
Hiph il, or causative active. The Holy Spirit was also referred to as a teacher in at least two passages.

Jesus Christ was also referred to as a teacher many times. The several dozen relevant passages are distributed among all three gospels and in the book of Acts.

The Scriptures also record a number of divine commands to teach, as in Eze 44:23. Note also, in what is often referred to as the Gospel Commission (Matt 28:18-20), Jesus commanded His disciples to preach the gospel to the world, make disciples, and teach them whatever He had commanded.

Teaching was mentioned as a spiritual gift in two passages (1 Cor 12:28 and Eph 4:12). It should be noted that the grammatical construction of the Greek in the passage in Ephesians requires the translation "pastors who are teachers" or "teaching pastors."

The work of teaching was also referred to in many places in both the Old and the New Testament. This work was carried on especially by the Levites and the disciples and apostles of Christ. In the very early days, however, the primary educational agency appears to have been the home, and the urgent injunction to teach children the divine statues (Deut 6:7ff.) was given to parents.
APPENDIX E

LETTERS AND OTHER DOCUMENTS

The following documents relate to the implementation of the research design in connection with the determination of the components of the environment and dimensions of religiosity, the judging of the instrument, and the administration of the pilot study version and final version of the instrument. The following are included:

1. Letter requesting assistance in the identification of components of the environment and dimensions of religiosity.

2. Letter requesting assistance in rating the components and dimensions.

3. Letter requesting assistance in judging the instrument.


5. Cover letter for version of instrument distributed to subsamples.

6. Follow-up letters (several).
Dear

I am writing to request your assistance in a research project in which I am engaged as part of my doctoral studies in religious education at Andrews University. This project will be a study of faculty and student perceptions of the religious climate, or environment, of Andrews, in terms especially of degree of religiosity of the subjects of the study. A holistic, multidimensional perspective will be employed, and the religious environment will be assumed to consist of various components.

My first task is to develop a valid questionnaire, including an identification of the components of the religious atmosphere, or the factors which make for this, and the dimensions of religiosity. For this purpose I am soliciting the assistance of various individuals as judges. Previous studies have led me to the identification of the following components of the environment and dimensions of religiosity. I would appreciate it if you would read over these lists, cross out any items that you think do not belong and add items that you think should be, but are not, included, and return this letter to me.

Components of the religious atmosphere:
Faculty
Denominational relationship
Religion courses
Personal lives of students
Moral and social regulations
Chapel
Curriculum
Extracurricular activities
Campus church

Recommended additions:
Dimensions of Religiosity (these are listed in terms of the intellective, affective, and behavioral components of personality):

Cognitive or intellective component:

Religious knowledge
Religious beliefs
  Acceptance of teachings or doctrines
  Beliefs about the overall relevance or religion
Personal thinking about religion

Affective component:

Emotional experiences involving religion, such as
  a sense of the reality or nearness of God,
  Christian joy, etc.
Commitments and loyalties, as to God, Jesus Christ,
  and the church.

Behavioral component:

Private devotions
Church activities
  Corporate worship
  Christian outreach
Service to the church, as deacon, usher
Financial support for the church
Consequences of religion in the everyday life, as in
  answer to the question, Does religion make a difference
  in the life, or is it valid only while the person is in
  church or engaged in religious activities.

Recommended additions:

Your assistance is deeply appreciated.

Sincerely,

Walter M. Booth
January 15, 1987

I am soliciting your help in putting together a questionnaire to be used in measuring faculty and student perceptions of the religious environment, or atmosphere, of Andrews University, as part of my doctoral studies in religious education. The study will take into consideration the extent to which religious experience plays a part in the lives of faculty and students. In order to enhance the validity of the questionnaire I have solicited the convictions of various people regarding the identification of the component parts of the religious environment and the dimensions of religious experience (a holistic, multidimensional perspective is being utilized).

My next step is to determine which of the various components of the environment and dimensions of personal religious experience are most important. Would you be kind enough to inspect every item in the lists below and rate that item according to your convictions or opinions of its importance (actually or potentially) as a component of the religious environment (first list) and as part of a dynamic religious experience (second list)? The dimensions of religiosity should be considered as dimensions in their own right and not with respect to their importance for other dimensions.

Please place one of the numbers in the following rating scheme on the line before each item in both lists.
1. Of no importance whatever
2. Of little importance
3. Moderately important
4. Very important
5. Critically important

Components of the religious environment

_ Faculty and staff: religious commitment, professional lives, relations with students, provision for religious program, hiring qualified personnel, etc.
_ Denominational relationship
_ Students: relations with each other, religious activities, etc.
_ Moral and social regulations
_ Campus church: activities and pastors
_ Campus Ministries: personnel and programs
_ Chapel
_ Overall curriculum (excluding classes in Bible and religion)
_ Classes in Bible and religion
_ Dormitory life, worship, and deans.
_ (Most subjects of the study will not be dormitory students)
_ Overall program of extracurricular activities
Dimensions of religious experience

- Religious knowledge, as Biblical knowledge, doctrines, church history, SDA history.
- Beliefs: doctrines and beliefs about the importance and relevance of religion as a force in the world.
- Religious thinking, as about the ultimate meaning of life and human existence, ethical thinking.
- Religious feeling, as peace and joy in the Lord, the feeling of the closeness of God, etc.
- Loyalties and commitment, as to God or Jesus, to the church, and to one's religious convictions.
- Salience, or importance and relevance to the individual of his/her religious experience.
- Private or family devotions
- Participation in corporate worship, as in Sabbath School, preaching service, vespers, weeks of spiritual emphasis.
- Christian outreach, whether witnessing or ministry to the needy, sick, etc.
- Service to the church, as deacon, usher, Sabbath school teacher, special music, choir, etc
- Financial support—tithes and offerings
- Guidance of the everyday life (music, dress, recreation, use of money, etc) by Christian principles.
- Nature study—seeing God in nature.
Your willingness to participate in the preparation of this survey questionnaire is very much appreciated. Each item below relates to an identified component of the religious environment of Andrews University or to the composite, overall environment. These components are Faculty and Administration, Students, Bible Classes, Campus Church, Campus Ministries, Affiliation with the SDA church, and the overall environment. You are requested to evaluate each item in two ways: whether the statement is clear and which component of the environment it refers to. If the statement makes sense to you and its meaning is clear mark it with a †, if the meaning is unclear, mark it with a 0. If the statement refers to the role of the faculty and or administration in contributing to religious environment, mark it FA. If the item refers to the contribution of students to the religious environment, mark it ST. If the item refers to the way in which students are affected by the environment, it should not be marked ST for student. So also, for the other components: use CC for campus church, CM for Campus Ministries, BC for classes in Bible, religion, and theology; DA for affiliation with the SDA church, and CV for composite, overall environment.

Items may be marked in the margin immediately to the left or right of the individual items. Use whichever margin is convenient for you.

Again, thank you for your cooperation. Your assistance in judging these items will help to make the questionnaire more valid.
The purpose of this instrument, or questionnaire, is to measure the faculty and student perceptions of the religious environment, or atmosphere at Andrews University. Every item relates to Andrews. You are asked to record your perceptions and impressions of this environment. The questionnaire also includes items about your religious beliefs, convictions, and practices.

The purpose in asking you to complete this questionnaire is to pilot test it before administering it to a large sample group of faculty and students at Andrews. Your suggestions regarding any weaknesses or inadequacies in the questionnaire as a whole, any individual items, and the instructions will be appreciated. Comments about any items that are unclear on the first reading, too long or complicated, or likely to offend or irritate members of the sample group are welcome. Write any comments regarding individual items in the margin near those items. Please also record the amount of time it took you to complete this questionnaire.

Remember that the first part of the questionnaire was designed to measure impressions and perceptions, not facts, about the religious environment. Please mark each item according to your impressions. There are no correct or incorrect responses. Just indicate what you see in the environment. The second part is to measure your religious attitudes.

Each part of the instrument has its instructions. For most of the items all that needs to be done is to circle one of five numerals in the right margin. There are a few items to which a longer response is requested.

Thank you for your cooperation in responding to this instrument.
Dear All Faculty Student:

You have been randomly selected to participate in a research project by Walter Booth, one of our doctoral students. This project will assess faculty and student perceptions of the religious environment at Andrews University. Your assistance in this project by completing this questionnaire not only will be appreciated by Mr. Booth and ourselves but also will be of value to the University as it seeks to fulfill its mission more effectively.

In the first part of the questionnaire you are asked to record your impressions of the religious environment at Andrews University, and in the second part to respond to items about your own religious experience. [Please note the occasional change of instructions and that the questionnaire is printed on both sides of each page.]

Your anonymity as a participant in this study is assured, and your responses will be treated with confidentiality. Coding on the return envelope is used only for determining that a particular questionnaire has been returned. Only Mr. Booth will read your questionnaire, and only an assistant will know your code. In addition, the return envelope will be destroyed as soon as the questionnaire is checked in.

Approximately 30 minutes of your time in completing this questionnaire will contribute data which may become of inestimable value to your school. Please return the completed questionnaire in the self-addressed return envelope.

Sincerely,

E. Stanley Chace, Dean
School of Education
Dear Fellow Student,

Perhaps you have heard the little jingle that goes:

I NEED YOU! NO ONE ELSE WILL DO.

Well, right now I need you. More than two weeks ago I sent you, and hundreds of other students and faculty, a questionnaire with a request for your participation in a research project I am directing. The purpose of this project is to assess, for the very first time, faculty and student perceptions of the religious environment at your own Andrews University. In a letter attached to the questionnaire, Dr. Chace, Dean of the School of Education, pointed out the great importance of this study.

Many students and faculty have filled out this questionnaire and returned it. Still, one thing bothers me—I haven't heard from you. And you are important. I really need your response—whether you're an underclassman, upper classman, graduate or seminary student, or faculty. I know you are busy, with classes, work, recreation, and perhaps family. No doubt you intended to fill out this questionnaire and return it, but perhaps you laid it aside and forgot about it. So please take thirty minutes or so and fill it out today. I would really like to get it back from you this week. If you need a new questionnaire, you may call me to request one at 471-4098, 12.15 to 2.15 or 5.15-6.30 pm daily, and I will see that you get one. Completed questionnaires may be returned to the School of Education office, left at Dr. Hasel's office (Seminary Students), left at the desk in the lobby of your dormitory, or, for off-campus students, mailed in the stamped envelope provided.

I'll be waiting—and praying—to hear from you. If you have filled out and returned the questionnaire, my apologies—just ignore this letter. May God bless you with a good school year.

Your friend,

Walter Booth, Project Director
Dear Faculty Member:

This is just a note to remind you of my research project, Faculty and Student Perception of the Religious Environment at Andrews University, and the related questionnaire which I brought to your department office for you over two weeks ago. Many students and faculty have completed and returned this questionnaire to me. One thing bothers me, however--I have not heard from you; and your response to this questionnaire really is important to me. I know you are busy, but perhaps you could find a few minutes to complete this questionnaire and return it to me. I would really like to receive it back from you this week. If you need a new questionnaire, I will be glad to see that you receive one. Just call me at 471-4098. I will be home between 12.15 and 2.30 and between 5.15 and 6.15 pm, daily. Completed questionnaires may be returned to the office of the School of Education. I will be waiting to hear from you. If you have filled out and returned the questionnaire, my apologies--just ignore this letter.

May God give you a good school year.

Sincerely,

Walter M. Booth
Dear

I am very grateful to the many, many people (most of whom don't even know me) who filled out the questionnaire I sent then in November in connection with an important study I am undertaking. Some of them have commented on the importance of this study—the first of its kind ever undertaken at Andrews U.

Still, I haven't heard from you, and I really, really, really need your participation in this study by filling out the survey questionnaire and returning it to me. Your participation is so important that I have gone to the expense of ordering new copies so that you would have one in case you have lost or mislaid the one originally sent to you. Enclosed is a new copy.

Surely, you will want to contribute to this important study by filling out this questionnaire and returning it to me in the envelope provided. You may discard the original survey if you still have it.

Your completed questionnaire may be returned directly to the School of Education Office, mailed (if the return envelope is stamped), left with Dr. Hasel's secretary (seminary students), or left at the desk in the lobby of your dormitory. Do not return this letter.

I am grateful for your cooperation and will look forward to hearing from you.

Sincerely,
Dear,

I am writing to you again regarding my study of faculty and student perceptions of the religious atmosphere at Andrews University. (I tried without success for more than two weeks to contact you by telephone.) I am grateful to the more than 200 faculty and students that have responded to my survey questionnaire. They are all very important to me as partners in this research. However, I have not heard from you, and you are just as important to me as the others. I have, therefore, sent the expense of copying additional questionnaires and mailing them. I am anxious to hear from you and will be looking forward to your response by filling out my personal survey instrument and returning it in the envelope provided.

If, however, there is something wrong with the questionnaire that causes a difficulty for you or you do not want to fill it out, would you please let me know what it is? And I promise to benefit you in some.

I will be writing to you from you—town soon, as the end of the quarter is not far away.

Thank you and best wishes,

[Signature]

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Dear

I appreciate your willingness to fill out my survey questionnaire on student and faculty perception of the religious environment at Andrews University. You may recall our telephone conversation of one to three weeks ago, in which you indicated you might be willing to fill out this questionnaire if I sent you a new copy. I did send you one, but perhaps you did not receive it. Since your participation in this project is really important to me, I am sending you another copy. You would truly be doing me a big favor to fill out this survey form and returning it to me in the stamped envelope provided. (The code number on the return envelope is only to let me know that you have returned it, and your anonymity is guaranteed. No one will know how you have marked the various items.)

If, however, there is something about this questionnaire that bothers or distresses you so that you do not wish to fill it out, just return it to me with your explanation of why you do not feel like filling it out. Either way, I will bother you no further.

Again, thank you, and best wishes.

Walter Booth
SELECTED BIBLIOGRAPHY


VITA

Name: Walter M. Booth

Date of Birth: June 8, 1928

Education:

Public Schools, Kingston, PA 1934-1945
Columbia Union College (BA degree) 1945-1951
SDA Theological Seminary (MA degree) 1951-1953
Andrews University (MA degree) 1963-1964
Andrews University (PhD degree) 1975-1976

Work Experience

Aerial Photo Indexer, 1954-1957
Photogrammetry, Inc.

United States Army 1955-1957

Teacher, SDA parochial schools 1959-1963

Teacher and substitute teacher, 1965-1979
Berrien Co., Michigan, schools

Self-employed 1969-1981

Research: Andrews University (intern.) 1978-1980

Contract teacher, Walla Walla College 1980 (smmr)

Teacher, Middle East College 1981-1982

Telephone and data entry operator, 1982-1984
Adventist Information Ministry

Night supervisor, 1985-1989
Adventist Information Ministry

Bibliographer, Institute for Christian College Teaching 1987-1988

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