The Relationship of Academic Workload Typologies and Other Selected Demographic Variables to Burnout Levels Among Full-Time Faculty in Seventh-day Adventist Colleges and Universities in North America

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THE RELATIONSHIP OF ACADEMIC WORKLOAD TYPOLOGIES
AND OTHER SELECTED DEMOGRAPHIC VARIABLES TO
BURNOUT LEVELS AMONG FULL-TIME FACULTY IN
SEVENTH-DAY ADVENTIST COLLEGES AND
UNIVERSITIES IN NORTH AMERICA

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

by
Sylvia Gonzalez
March 2003
THE RELATIONSHIP OF ACADEMIC WORKLOAD TYPOLOGIES AND OTHER SELECTED DEMOGRAPHIC VARIABLES TO SEVENTH-DAY ADVENTIST COLLEGES AND UNIVERSITIES IN NORTH AMERICA

A dissertation presented in partial fulfillment of the requirements for the degree Doctor of Philosophy

by

Sylvia Gonzalez

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ABSTRACT

THE RELATIONSHIP OF ACADEMIC WORKLOAD TYPOLOGIES AND OTHER SELECTED DEMOGRAPHIC VARIABLES TO BURNOUT LEVELS AMONG FULL-TIME FACULTY IN SEVENTH-DAY ADVENTIST COLLEGES AND UNIVERSITIES IN NORTH AMERICA

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Chair: Hinsdale Bernard
ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

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Problem Statement

Research has shown that burnout is a widespread phenomenon among teachers, and that workload could be a possible predictor. No study had been done to date in Seventh-day Adventist colleges and universities in North America to determine the levels of burnout in full-time faculty. Research was necessary, therefore, to determine the possible impact of academic workload typologies, gender, age, years of service in education, rank of professorship, teacher perception of academic workload intensity, and teacher perception of academic workload on burnout levels in this population.
Methodology

A non-experimental, exploratory, correlational, field-based, and cross-sectional study was conducted. Data were collected from a sample of 90 department chairs, and 365 full-time university teachers in 11 Seventh-day Adventist colleges and universities. A combination of purposive, stratified, and random sampling was used. Cluster analysis was utilized for the development of academic workload typologies; categorical regression with optimal scaling was used to determine the possible relationship of academic workload typologies and other selected demographic variables to levels of burnout.

Results

Four typologies of academic workload for Seventh-day Adventist colleges and universities emerged from the study of the data. The results of this study also revealed that full-time faculty showed that there was a significant relationship between academic workload and other selected demographic variables in levels of emotional exhaustion. The variables that contributed the most to levels of emotional exhaustion were academic workload typologies, teacher perception of academic workload intensity, and years of service in education. A significant relationship was found between the variables and levels of depersonalization, age being the highest contributor. No relationship was found between the variables studied and levels of personal accomplishment.
To God,
my husband, Eduardo,
my children, Laura, Daniel, and Dallas,
my teachers, and friends
who have supported me unconditionally
during this long journey
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CHAPTER 1

INTRODUCTION

The opening paragraph of Maslach and Leiter’s 1997 book on work exhaustion, entitled The Truth About Burnout, awakens us to the fact that “burnout is reaching epidemic proportions among North American workers today. It’s not so much that something has gone wrong with us but rather that there have been fundamental changes in the workplace and the nature of our jobs” (p. 1).

The dictionary defines burnout as “to fail, to wear out, or become exhausted by making excessive demands on energy, strength, or resources” (Webster’s New World Dictionary, 1972). Burnout has been defined as a metaphor: the smothering of a fire or the extinguishing of a candle. Where there used to be a vital spark and the flame of life was burning bright, it is now dark and chilly (Schaufeli & Enzmann, 1998).

Burnout manifests itself in physical signs such as lingering colds, suffering from headaches and gastrointestinal disturbances, sleeplessness, and shortness of breath. Burnout has been linked to cardiovascular changes and immunosuppression (Guglielmi & Tatrow, 1998). Behavioral signs of burnout include quickness to anger, irritation, frustration, and a suspicious attitude. Victims of burnout feel that everyone is out after them (Freundenberger, 1974). Burnout victims block change and progress because change

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means adaptation and they are just too tired for yet another adaptation. They develop into
cynics and manifest a negative attitude towards any workplace program.

It is interesting to note that the people who are most prone to burnout are the
dedicated and committed, the ones who work too much, for too long, and too intensely
(Freundenberger, 1974).

Herbert Freundenberger, in 1974, was the first to refer to the burnout syndrome.
He observed volunteers in a free clinic in New York who experienced a gradual energy
depletion and loss of motivation and commitment, accompanied by mental and physical
symptoms.

While Freundenberger was analyzing this phenomenon on the East Coast, Christina
Maslach was doing the same on the West Coast, studying the impact of burnout on health
service workers. Thus, burnout emerged first as a social problem rather than a scholarly
construct (Schaufeli & Enzmann, 1998).

Maslach and Jackson, in 1981, proposed a tripartite operationalization of burnout,
the Maslach Burnout Inventory, which has been extensively used up to the present time.
The three components of the burnout construct are emotional exhaustion,
depersonalization, and reduced personal achievement. The first dimension, emotional
exhaustion, refers to feelings of being emotionally overextended and drained by others,
accompanied by a general sense of fatigue. The second dimension, depersonalization, is
characterized by a negative shift in responses to others. The third dimension involves a
negative response towards oneself, that is, a lessened sense of personal accomplishment as
a result of work pressures (Miller & Ellis, 1990).
Two key lines of research have been defined in the burnout or work exhaustion literature. On one hand, researchers have focused on the individual characteristics that are predictors of burnout. On the other hand, other researchers emphasize that organizational characteristics are more important than individual ones in predicting burnout (Maslach & Leiter, 1997).

Both models have different implications for work-site intervention programs. For the models stressing individual characteristics, burnout is a personal problem. "This has troubling sociopolitical implications," note Schwartz, Pickering, and Landsbergis (1996, as cited in Guglielmi & Tatrow, 1998), because instead of focusing on reducing or eliminating job stress, organizations may put the entire responsibility on individuals.

Since the beginning of the burnout research, it was evident that teachers, as well as other service-oriented professionals, were subject to a great deal of job stress. Teachers feel burnout because of overload, insufficient rewards for their work, lack of control over what they do, and lack of efficient communication. Other workplace stressors related to burnout are technology changes occurring at a very rapid pace (Swenson, 1992), dealing with conflicting values, and a breakdown of family and community support as a result of a greater degree of individualization and alienation in modern society (Maslach & Leiter, 1997).

Workload is a key dimension of organizational life, and one of the possible predictors of burnout. Workload includes what work is done and how much work is done. "The current crisis in the workplace affects the workload in three ways: it is more intense, it demands more time, and it is more complex" (Maslach & Leiter, 1997, p. 39).
According to Stoner and Wankel (1986), quantitative overloading occurs when a teacher has more work than can be completed in a given time. Qualitative overloading occurs when teachers lack the skills or abilities needed to complete their work in a satisfactory manner.

There is empirical research that provides evidence that perceived work overload contributes to teacher burnout (Byrne, 1999).

The literature on faculty workload shows how complex this construct is and, especially, how to categorize and measure it. And yet workload is a critical factor in the life of faculty (Seaberg, 1998).

The issue of academic workload is very controversial. Administrators associate higher workload with higher productivity. Academics, on the other hand, associate a higher workload with burnout, among other things (Soliman & Soliman, 1997).

Historically, faculty workload has consisted of three distinct components: teaching, research, and service. The way these three components are allocated is related to institutional types and their diverse missions (Milem, Berger, & Dey, 2000). Research-oriented institutions of higher education place a greater emphasis on research as a means of tenure and rewards, and this has in turn made a significant impact across all institutional types as they turn their efforts to emulate institutions on the higher end of the educational hierarchy (Dey, Milem, & Berger, 1997).

At present there is an on-going controversy on the role of teaching versus research, and the time that should be allocated to each function. Massy and Zemsky (1994) have found that while there is a decrease in the amount of time spent teaching,
grading, preparing for classes, and advising students, there is a growing trend in spending more time devoted to research. Fairweather (1993) has found that this trend is caused by the fact that actual rewards in terms of pay, tenure, and promotion are based almost exclusively on research productivity across all institutional types. "The results . . . indicate that teaching is either a neutral or, more often, a negative factor in basic salary" (p. 620).

At the same time that academia and government are interested in faculty time allocation, key words are heard in this arena that previously belonged to the corporate and business world: accountability, performance, efficiency, and productivity. It is evident that there is an inability of academics and legislators to speak a common language and that non-academics of all sorts find it hard to comprehend collegiate work patterns, points out Allan M. Winkler, in his article "The Faculty Workload Question" (1992).

Added to this picture of academic workload is the fact that technology has introduced totally new concepts in faculty time allocation. How much is a class worth taught on the Web versus a class taught face to face? How much time should be spent in dialoging online with students? How much time should be spent by a faculty obtaining the latest online information on the course he/she teaches? What percentage of time should be allocated to placing classes on the Web or developing a Web page? These are new areas that have to be accounted for and thoroughly researched.

According to Maslach and Leiter (1999), one of the top priorities in the burnout research agenda is to "gain a deeper understanding of both the impact of burnout on the teaching process and the key causal factors" (p. 296), among them, workload, which has been linked to negative classroom climate, which in turn is a predictor of teacher burnout.
There is an abundance of literature related to burnout and the teaching profession, however, the vast majority of the studies have dealt with elementary and secondary teaching. There is a more limited number of studies on burnout and university faculty, looking at various personal and organizational predictors.

A few studies have dealt with the issue of workload as a predicting factor of burnout in university faculty, among them a research done by Boyd and Wylie in 1994 on workload and stress in New Zealand universities. In 1998, Ann Chalmers did a follow-up study of the 1994 results in the same universities.

Gender, age, years of service in education, and rank of professorship have been the subject of several studies linking them to burnout levels in university faculty (Goldenberg & Waddell, 1990; Poinquinette, 1991; Wageman, 1999).

No study has yet been done among faculty in Seventh-day Adventist colleges and universities in North America that looked specifically at workload and selected demographic variables in relation to burnout.

Statement of the Problem

Considering that there is research evidence that shows that there is an effect of workload (Maslach & Leiter, 1997; Soderfeldt, Soderfeldt, & Warg, 1995) and other demographic variables (Chalmers, 1998; Poinquinette, 1991) on faculty burnout, the following question was answered by the present study:

Is there a significant relationship of academic workload typologies, gender, age, rank of professorship, years of service, teacher perception on academic workload, and
teacher perception on academic workload intensity on the levels of the three components of burnout in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?

**Purpose of the Study**

The present study, conducted among undergraduate faculty at Seventh-day Adventist colleges and universities in North America, had two purposes.

The first purpose was to develop academic workload typologies for these colleges and universities.

The second purpose was to determine if there existed a relationship of workload typologies and other selected demographic variables to levels of burnout.

**Research Questions**

Considering the statement of the problem, and the importance of the different variables as possible predictors, the following subordinate questions guided the present research:

1. What are the academic workload typologies for full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?

2. Is there a significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity on the levels of emotional exhaustion in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?
3. Is there a significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity on the levels of depersonalization in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?

4. Is there a significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity on the levels of personal accomplishment in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?

Hypotheses

From the research questions, three hypotheses were formulated as follows:

Hypothesis 1 stated: Academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity have a significant relationship on the levels of emotional exhaustion in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

Hypothesis 2 stated: Academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity have a significant relationship on the
levels of depersonalization in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

Hypothesis 3 stated: Academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity have a significant relationship on the levels of personal accomplishment in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

Significance

Research has evidenced that there is a relationship between faculty workload and levels of burnout (Maslach & Leiter, 1997). Teachers are working harder and longer than ever, in spite of a reduction in actual teaching (Winter, Taylor, & Sarros, 2000).

Workload has come up in several studies as a common reason for job change, reason to quit, or burnout. Maslach and Leiter (1997) recommend that future studies on burnout focus on work overload as a possible causal factor. This recommendation was followed in the present study.

The information that this study provided adds a unique contribution in two distinct areas. On one hand, the study provided knowledge of the different workload typologies of Seventh-day Adventist colleges and universities in North America. This information will be helpful in addressing the different workload needs, the rationale for them, and the future goals for each institution and for the Seventh-day Adventist institutions of higher education in general.
The second unique contribution of this study was an understanding of the possible factors that could lead to burnout in full-time faculty. Recruitment and retention of good faculty members are crucial for the academic, financial, and spiritual well-being of an institution. There is a need, therefore, to acknowledge the possible existence of burnout among academicians and to realize to what extent that is due to workload.

Information on research-based data, that is accurate and trustworthy, will be the basis for intervention techniques and work-site policies and regulations that will lessen the impact of workload-related burnout in university faculty.

This study, therefore, presents a major opportunity for gaining useful knowledge, both in the areas of academic workload and burnout, in Seventh-day Adventist institutions of higher education.

Conceptual Framework

Burnout emerged as a “social problem,” not a scholarly construct, according to Christina Maslach, who in 1981, together with Susan Jackson, was the first to develop a three-component operationalization of burnout.

Since then several conceptual frameworks have originated and evolved. Some theoretical and empirical research has focused on the individual, and some on organizational characteristics, the latter being the emphasis of the current study.

The present research establishes its conceptual framework in two models: the demand-control model developed by Scandinavian researchers in the late 1970s (Guglielmi & Tatrow, 1998), and a teacher burnout model proposed by Maslach and Leiter (1999).
The demand-control model establishes that there are two factors that determine job
stress: job demands (such as workload), and decision latitude (autonomy and control). The
combination of these two factors results in predictions of work conditions that will cause
less or more work stress. A combination of a heavy workload with a low decision latitude
would predict a high level of burnout. In this model, both job demands and decision latitude
are seen as organizational characteristics, outside of individual control. This model has
been very popular in Europe, especially in the Scandinavian countries, where employees
have greater control of some organizational variables.

The second model that provides a framework for this study was developed by
Maslach and Leiter (1999, p. 297). As shown in Figure 1, burnout is a factor that
contributes to teacher behavior and student behavior and outcomes.

On the other hand, burnout is influenced by many factors, among them task
qualities, such as workload, role conflict, and role ambiguity. Other influencing factors are
personal qualities of teachers, and social support. Much research has been devoted to these
areas of possible burnout linkage (Schaufeli & Enzmann, 1998; Schaufeli, Maslach, &
Marek, 1993).

Organizational characteristics such as decision-making, teacher autonomy and
control, and policies and regulations have also a direct impact on levels of burnout.

Finally, the larger social, political, economic, and ecological context also has a role
to play in burnout levels. The authors propose that this larger context and personal teacher
qualities be regarded as interactive variables. In other words, the least they impact, the
more burnout is responsible for teacher and student outcomes, and vice versa.
Social Support

Political, Policy, Economic Context and Ecology of The School

Task Qualities

Organizational Characteristics

Personal Qualities of Teachers

Burnout

Exhaustion

Depersonalization

Diminished Accomplishment

Teacher Behavior

Student Perception and Evaluation

Student Behavior and Outcomes

Figure 1. A proposed model of teacher burnout. From *Understanding and Preventing Teacher Burnout* (p. 297), by Roland Vandenberghe and A. Michael Huberman, 1999, Cambridge, UK: University Press. Reprinted with permission.
This model shows the three components of the burnout concept: emotional exhaustion, depersonalization, and diminished personal accomplishment. Leiter (1993) maintains that emotional exhaustion occurs first, and then it is linked sequentially to depersonalization. On the other hand, diminished personal accomplishment develops separately. There is evidence that certain job demands (such as workload) are more predictive of emotional exhaustion and depersonalization than of a diminished personal accomplishment. This latter factor is more strongly impacted by social support and autonomy.

Maslach and Leiter (1997) recommend that future studies focus on demographic information that could be related to critical causal factors of burnout, such as work overload. Thus, this recommendation was also followed in the present study.

Limitations

This study had the following limitations:

1. It included voluntary respondents to the Maslach Burnout Inventory. Efforts to know the reasons why people decided not to respond to the questionnaire were not feasible.

2. It included voluntary respondents to workload information.

3. It was a cross-sectional study, pertaining only to responses for a specific time and place.
Delimitations

1. The study included only full-time undergraduate faculty in Seventh-day Adventist colleges and universities in North America in 2002.

2. The only instrument to be used to determine levels of burnout was the Maslach Burnout Inventory.

3. The information used to determine workload typologies in Seventh-day Adventist colleges and universities was gathered from responses from deans of schools and department chairs to an objective information questionnaire.

4. The results of this study apply in particular to full-time undergraduate faculty in Seventh-day Adventist colleges and universities in North America and generalizations should be made only for similar circumstances.

Assumptions

The following assumptions apply to this present study:

1. The subjects of this study were full-time undergraduate faculty in Seventh-day Adventist colleges and universities in North America, that subscribe to a distinct worldview, which in turn determines their educational approach.

The Seventh-day Adventist worldview is based on the belief that God created human beings in his own image. Human characteristics are rationality, creativity, and the exercise of free choice. When humankind rebelled against him and broke its relationship to God, “they entered a state of brokenness that extends to every dimension in life” (School of Education Bulletin, 2002-2003 p. 243).
God has provided a way of restoration through the sacrifice of Jesus Christ. Education is a work of redemption, to fully restore men and women to their original state.

Seventh-day Adventists adhere to the concept of the holistic nature of humankind, that is, that the spiritual, mental, physical, and social dimensions are equally important and must be developed in a harmonious way.

Faculty in Seventh-day Adventist institutions of higher education impart more than academic knowledge. Ideally they portray to the students the concept of the development of the whole person, in all the aforementioned dimensions.

Therefore, one of the premises of this study was that a balanced life is “necessary and attainable” (Swenson, 1992, p. 223).

2. The Maslach Burnout Inventory—Educators Survey (MBI-ES) was considered appropriate because of its widespread use in assessing burnout levels in the service professions. Research has validated its appropriateness.

3. The questionnaire used for gathering information on workload typologies was considered appropriate for its intended use. Information gathered from this questionnaire was based on objective data.

4. The responses to the MBI-ES were assumed to be genuine and legitimate perceptions of the way full-time undergraduate faculty in Seventh-day Adventist colleges and universities relate to workload and burnout.
Definition of Terms

The following definition of terms will clarify the concepts liberally used in this study:

*Academic workload:* A three-dimensional construct involving teaching, research, and service, which characterizes how faculty allocate their work.

*Burnout:* Burnout is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals engaged in the human services sector (Maslach & Jackson, 1986).

*Categorical regression with optimal scaling (CATREG):* Statistical technique that allows the simultaneous use of metric and non-metric independent variables to predict the response of the dependent variable.

*Cluster analysis:* Technique that groups individuals or objects into clusters so that the objects in the same cluster are more similar to one another than they are to objects in other clusters.

*Depersonalization:* One of the components of the burnout dimension in the Maslach Burnout Inventory, typified by a negative shift in responses to recipients (clients, students, patients).

*Discriminant analysis:* Statistical technique used when the primary objective is to identify the group to which an object belongs. Group membership is explained by a set of independent variables.
Emotional exhaustion: One of the components of the burnout dimension in the Maslach Burnout Inventory. It is characterized by feelings of emotional overextension, loss of energy, and general fatigue.

Full-time faculty: Faculty that devote their time to the three components of academic workload, teaching, research, and service. For the purpose of this study, full-time faculty are the ones who are not engaged in administrative positions.

Job stressor: A characteristic of the work environment which may lead to burnout.

Importance: Pratt’s measure of relative importance aids in interpreting predictor contributions to the regression. Large individual importances relative to the other importances correspond to predictors that are crucial to the regression.

Part correlation coefficient: Value that measures the strength of a relationship between a dependent and a single independent variable when the predictive effects of the other independent variables in the regression model are removed (Hair, Anderson, Tatham, & Black, 1998).

Partial correlation coefficient: Value that measures the strength of a relationship between the dependent variable and a single independent variable when the effects of the other independent variables in the regression model are held constant (Hair et al., 1998).

Reduced personal accomplishment: One of the components of the burnout dimension in the Maslach Burnout Inventory. A reduced personal accomplishment is characterized by a lessened sense of one’s worth in terms of work accomplishments.
Maslach Burnout Inventory (MBI): Instrument developed by Maslach and Jackson in 1986 to assess levels of burnout. The MBI-ES, Educators Survey, is especially used in education.

Seventh-day Adventist Church: A conservative Christian body, worldwide in extent, professing to believe in the Bible only. The Seventh-day Adventist Church (SDA) is administered by a representative organization ranging from local churches, through conferences and unions, to worldwide divisions, and a central headquarters, the General Conference of Seventh-day Adventists (Brown, 1996).

Organization of the Study

This study contains five chapters.

Chapter 1 consists of the introduction, the statement of the problem, the purpose of the study, the research questions, the objective of the study, the hypotheses, the significance, the conceptual framework, the limitations and delimitations, the assumptions, and the definitions of terms that appear in the study.

Chapter 2 contains the review of the literature. The main areas described are burnout and academic workload.

Chapter 3 describes the research design, the population and sample, the instruments used, the null hypotheses, the variables, the procedure for data collection, and the statistical analysis used.
Chapter 4 presents the findings of the study. It includes the characteristics of the demographic and non-demographic variables, the development of the typologies, and the testing of the null hypotheses.

Chapter 5 consists of the discussion of the findings, conclusions, and recommendations for further research.
CHAPTER 2

LITERATURE REVIEW

Introduction

The story that caught the attention of the headlines was all too familiar. Mariah Carey, considered by some as one of last decade’s great pop stars, “lost control of her life” (Keeps, 2001). The magazine article reveals telltale signs of a common modern malady: she buckled “under personal and professional pressures,” “unreal levels of expectations,” “all she did was work,” her social relationships crumbled “under conflicting schedules,” “workaholic,” “she burned the candle at both ends,” “worked round the clock,” “manages on just a few hours of sleep per night” (pp. 26-31).

One day before her emotional and physical breakdown, Mariah looked at her pager, and she had 297 messages awaiting her! The article starts with words that deeply hit each one of us: “Mariah Carey was running on empty.” And ends saying, “Somebody needs to tell her it’s OK to slow down” (pp. 26-31).

Anecdotal evidence, no doubt. Not hard-core research data. And yet it serves to portray a phenomenon that has progressively gotten out of hand and of which we are all participants to a certain degree.
Historical and Conceptual Development of the Burnout Construct

The concept of burnout existed way before it was “discovered” in the 1970s. Partridge (1961, as cited in Schaufeli & Enzmann, 1998) points out in his volume 1 of *A Dictionary of Slang and Unconventional English* that at the turn of the century “to burn oneself out” was borrowed from English slang and it meant to work too hard and die early. Likewise, the Japanese have a term, *karoshi*, which means ‘death by overwork’, considered the extreme form of burnout (Haratani, 1997, as cited in Schaufeli & Enzmann, 1998).

According to the above-mentioned authors, Schwartz and Will, in 1953, presented a case study of nurse Miss Jones, which became for two decades the best description of burnout as a job-related phenomenon. Writer Graham Greene (1961), in his novel *A Burnt Out Case*, portrays the story of Querry, a tormented and disillusioned architect who leaves his job for the African jungle, in pursuit of the meaning of who he really is and what he wants out of life.

It was, however, in the mid-1970s that several researchers started observing this phenomenon at the same time. The reasons for this apparent resurgence of burnout are economic, social, and historical factors. According to Farber (1983a), “American workers have become increasingly alienated from their communities, and increasingly insistent upon attaining personal fulfillment and gratification from their work” (p. 11). This lack of community and family support, which is part and parcel of our highly mobile society,
united to unrealistic expectations people take to the workplace (what Cherniss, 1980a, pp. 249-256, calls “the professional mystique”), has produced the perfect recipe for burnout.

It was in this societal and organizational context that the first studies of burnout emerged, more as a social problem than a scholarly construct. The historical development of burnout went through two distinct phases: the pioneer phase, with its emphasis on the clinical description of the symptoms of burnout, and the empirical phase, where the emphasis shifted to a more systematic study and the use of assessment tools to measure this phenomenon (Maslach & Schaufeli, 1993).

**The Pioneer Phase**

Herbert Freudenberger, an American psychiatrist, is considered the originator of the term “burnout syndrome.” Freudenberger (1974) had the opportunity to carefully observe volunteers at a free clinic in New York. He noted that many volunteers, in the time frame of a year, went from being highly motivated and dedicated individuals to people who experienced a gradual loss of energy, motivation, and commitment, together with a host of physical and mental symptoms.

He coined the term “burnout,” colloquially used to refer to the effects of chronic drug abuse, to encompass the wide spectrum of symptoms that he observed. Freudenberger himself was twice a victim of burnout, no doubt, this being the spark behind his studies (Freudenberger & Richelson, 1980).

At the same time as Freudenberger started his studies in burnout, Christina Maslach (1976), in California, was becoming interested in how people coped with
stressful jobs. As she interviewed workers in the health service areas she became aware of feelings of emotional exhaustion, energy depletion, and negative feelings towards patients.

These two seminal works, that of Freundeberger in 1974, and Maslach in 1976, one in the East Coast, and the other in the West Coast, laid the groundwork for further studies in burnout.

The approach towards burnout in this early beginning was clinical in nature. Elaborate descriptions were made of the characteristics and symptoms of burnout, which later allowed the identification of a syndrome (Schaufeli & Enzmann, 1998). Nonetheless, this early pioneer stage was characterized by "conceptual confusion" (Schaufeli, Enzmann, & Girault, 1993, p. 199). Perlman and Hartman (1982, as cited in Schaufeli, Maslach, & Marek, 1993) counted more than 48 definitions of burnout.

Maslach, Schaufeli, and Leiter (2001) contend that the importance of burnout as a social problem was identified long before it became the focus of research.

The Empirical Phase

It was Christina Maslach and Susan Jackson who in the early 1980s developed one of the first standardized measurements of burnout. They described it as a multidimensional syndrome characterized by three distinct components: emotional exhaustion, depersonalization, and reduced personal accomplishment. The emotional exhaustion characteristic of the Maslach Burnout Inventory (MBI) refers to the depletion of emotional capacity. Some professionals have termed this characteristic as being "at the end of the rope" (Schaufeli & Enzmann, 1998, p. 31). Depersonalization encompasses
negative, cynical attitudes towards one's clients. A reduced personal accomplishment is the tendency to a negative self-evaluation in regard to one's work.

In spite of the widespread use of the MBI, Leiter (1991) contends that it presents "conceptual and statistical challenges" (p. 549). Research indicates that emotional exhaustion and depersonalization are more strongly correlated than personal accomplishment with either emotional exhaustion or depersonalization (Ashforth & Lee, 1997; Lee & Ashforth, 1993). Moreover, the depersonalization subscale has a different meaning to those whose work does not require a personal interaction with clients (Leiter, 1993), while on the other hand, for those who do interact with clients on a regular basis, it is a central issue.

Some authors, like Koeske and Koeske (1993) and Moore (2000a, 2000b), have reconceptualized burnout exclusively using Maslach’s dimension of emotional exhaustion, with the exclusion of depersonalization and personal accomplishment.

In spite of these challenges, to date, the MBI is almost universally used as the instrument of choice in the assessment of burnout. The first edition of the MBI was introduced in 1981, the second one in 1986, and most recently the third one in 1996, by Maslach et al.

In 1981, at the same time of the introduction of the first MBI measurement instrument, Pines, Aronson, and Kafry worked on the Tedium Measure (TM). In contrast to the MBI, the TM is a one-dimensional questionnaire from which a single score is computed (Pines et al., 1981; Pines & Aronson, 1988).
It was at this point that the study of burnout entered a more theory-driven, empirical phase, even though some authors contend that many of the studies, especially the early ones, are not grounded in a theoretical framework and that sometimes the choice of variables does not show a clear rationale. It is important, then, when dealing with findings on burnout to understand that sometimes it is difficult to ascertain if the results are due to chance, or the ideas of the researcher, or consistent with previous research (Schaufeli & Enzmann, 1998).

**Definition of the Burnout Construct**

During the early stages of burnout studies, burnout was defined simply by listing its symptoms. However, this type of definition has its drawbacks, as it gives origin to a static concept of burnout instead of a process that develops over time. These two definition approaches, state and process, have originated different theoretical approaches to the study of burnout, even though they are not mutually exclusive. Rather, they are complementary, in the “sense that state definitions describe the end-state of the burnout process” (Schaufeli & Enzmann, 1998, p. 31).

The diversity of symptoms and characteristics of burnout has led to many attempted definitions. Burnout has been linked or compared to tedium, work exhaustion, depression, low morale, anxiety, tension, stress, conflict, and crisis. Cox, Kuk, and Leiter (1993) argue that this confusion is due to two levels of understanding: the clinical level and the scientific measurement.
Schaufeli and Enzmann (1998) have put together a widespread variety of possible burnout symptoms, at the individual level, at the interpersonal level, and at the organizational level. These symptoms include affective, cognitive, physical, behavioral, and motivational aspects. Being that human beings are holistic in nature, these symptoms encompass manifestations in several of those categories at the same time.

Burnout in the workplace is associated with personal, organizational, and societal costs (Collins, 1999). It is linked to increased absenteeism, turnover, and reduced productivity (Cordes & Dougherty, 1993; Maslach & Leiter, 1997). For Kijai and Totten (1995) the climax of burnout is the desire to quit.

Burnout distinguishes itself from other constructs in the time factor. Occupational stress, for example, a term sometimes linked to burnout, refers to "the inability of the individual worker to cope effectively with various work demands" (Blix, Cruise, Mitchel, & Blix, 1994, p. 158). Burnout is considered a prolonged job stress. Stress and burnout are not different in their symptoms, only in their process. Corrigan, Holmes, and Luchins (1995) define burnout as a possible response to job stress.

The three-dimensional operationalization of burnout, as described by Maslach et al. (Maslach & Jackson, 1981, 1986; Maslach, Jackson, & Leiter, 1996), provide the most widely used definition of burnout. According to these authors, burnout is composed of three dimensions that are "conceptually different but empirically related" (Burke & Greenglass, 1995, p. 187).

The most widely cited definition of burnout as a state comes from Maslach and Jackson (1986), as follows: "Burnout is a syndrome of emotional exhaustion,
depersonalization, and reduced personal accomplishment that can occur among individuals who do people work of some kind” (p. 1).

Koeske and Koeske (1993), on the other hand, conceptualize burnout exclusively as the emotional exhaustion dimension in the MBI, with the exclusion of the depersonalization and reduced personal accomplishment components.

Pines and Aronson (1988) offer another definition of burnout, which includes symptoms of physical exhaustion, emotional exhaustion, and mental exhaustion. At first they made a distinction between burnout and tedium (Pines et al., 1981), tedium being the object of their Tedium Measure (TM). Later on, they labeled this measurement the BM, Burnout Measurement (Pines & Aronson, 1988). For Pines et al. (1981), physical exhaustion is characterized by low energy, chronic fatigue, weakness, and a wide variety of physical and psychosomatic illnesses. Emotional exhaustion includes feeling helpless, hopeless, and trapped. Mental exhaustion refers to the development of negative attitudes towards self, work, and life in general (Schaufeli & Enzmann, 1998).

Burnout has also been described as a “process in which the professional’s attitudes and behavior change in negative ways in response to job strain” (Cherniss, 1980a, p. 5). For Cherniss, the root cause of burnout is excessive job demands.

The early researchers (Freudenberg, 1974; Maslach, 1976) observed the first symptoms of burnout in the human service organizations, that is, in places where people work in close relation to recipients, such as teachers, policemen, social service workers, nurses, etc. Nowadays, the concept of burnout has extended to include other professions (Maslach & Leiter, 1997).
Conceptualizations of burnout abound as are interpretations. Kahill (1988) asks for further clarification of the burnout concept, as it is difficult to compare and evaluate findings when there are so many different measures and explanations. Collins (1999) contends that reviews of the last 20 years also ask for integration and clarification in future research.

**Theoretical Perspectives of Burnout**

Two main types of theoretical approaches to burnout have been detected in the literature review. Individual approaches look at burnout from a psychological standpoint, analyzing the impact of individual characteristics on burnout. Freudenberger and Richelson (1980) contend that people who burn out are the ones who have unrealistic and extremely high expectations of who they are and what they can do.

According to Pines (1996) burnout is the final result of a gradual process of disillusionment, specifically when work does not give meaning to existence.

The individual approaches assume that very often the individual’s characteristics do not match the needs or the realities of a particular job. Burnout, then, would be the result when there is a mismatch between people and their jobs. In this approach burnout is primarily a problem of the individual. “People burn out because of flaws in their characters, behavior, or productivity. According to this perspective, people are the problem, and the solution is to change them or get rid of them” (Maslach & Leiter, 1997, p. 18), many employers believe.
Personal factors that have been studied in relation to burnout are demographic variables such as gender, age, marital status, and years of service (Byrne, 1991; Goldenberg & Waddell, 1990; Poinquinette, 1991). Other variables emphasizing the individual characteristics have focused on locus of control, hardiness, health, social support at home, and personal values and commitment.

The second approach to the study of burnout is to focus more on job factors as the main predictors of burnout. Variables that have been studied include workload, role conflict, role ambiguity, social support on the job, turnover, and absenteeism. Burnout has been linked to absenteeism, turnover, and reduced productivity (Cordes & Dougherty, 1993; Shirom, 1989).

Chemiss (1980a) considers that there are eight critical factors in work settings that might produce burnout: a poor orientation process, high workload, routine, narrow scope of client contact, lack of autonomy, incongruent institutional goals, poor leadership and supervision practices, and social isolation. Chemiss contends that when there are programs that ensure these eight critical factors, then employees do not experience burnout.

Cross-sectional studies done with police officers, conducted by Burke, Schearer, and Deszca, in 1984, and with teachers (Burke & Greenglass, 1989) support the validity of the organizational approach as explained by Chemiss (1980a). According to these studies, significant direct paths were found from work setting to burnout (Schaufeli & Enzmann, 1998).

Golembiewski and colleagues have studied burnout as a process, triggered by job characteristics, that leads to negative consequences for the individual and for the
organization (Golembiewski & Munzenrider, 1988; Golembiewski, Boudreau, Munzenrider, & Luo, 1996). Basically, their work focuses on eight phases of progressive burnout, with which to classify individuals according to the depth of their burnout symptoms. Their model does not sustain that there is a logical sequence in the stages, which has led to some confusion over the term “phase model.”

In spite of criticisms towards Golembiewski’s work (Lee & Ashforth, 1993; Leiter, 1993), his studies have shown that burnout is an intrinsic part of organizational life. According to Schaufeli and Enzmann (1998), the reason is

not only because about one in every five North American employees is classified in the most advanced burnout phase, but also because burnout is associated with a host of poor job characteristics, and last but not least, because burnout seems to have severe negative consequences for the organization. (p. 134)

Maslach and Leiter (1997) consider six types of organizational characteristics that could be potential sources of burnout: work overload, lack of control, lack of reward, lack of community, lack of fairness, and value conflict. These authors have conducted qualitative research in several work settings and they argue that these organizational characteristics are pervasive in modern organizational life.

An integrative model of burnout has been the focus of several authors, connecting both the individual and the job characteristics as possible explanations of burnout. Three recurring themes are present in all approaches: first, a strong dedication to work; second, an unfavorable job environment; and third, the use of coping strategies to mediate the effects of burnout.
Studies of Burnout in University Teachers

The past 20 years have seen a considerable body of research on burnout. The majority of the studies deal with teachers at the elementary and secondary level. There are, however, an increasing number of studies done with university teachers.

The majority of the studies reviewed are based on self-reports and are correlational in nature. No causal interpretations can be made of the results (Gay & Airasian, 2000), therefore the approach is to be cautious in terms of predictions. Guglielmi and Tatrow (1998), who did a methodological and theoretical analysis of occupational stress and burnout, also caution against selection bias in reports on burnout. They contend that 46% is the average response rate for burnout instruments, and that it is possible that the teachers experiencing higher levels of burnout are the ones more likely to return the questionnaires because the issue is so important to them. However, it can also be contended that those with higher levels of burnout are the ones who will not respond.

Several studies done on university teachers stand out. In a 1984 study done by Gmelch, Lovrich, and Wilke, university teachers reported that 60% of the total stress in their lives came from work. This study also found that four out of 10 faculty cited the feeling that one is continually overloaded with work as a major source of stress. Out of the three academic functions (teaching, research, and service) the one reported as most stressful was teaching.

University teachers are likely candidates for burnout because of their constant interaction with large numbers of students, staff, and administrators (Blix et al., 1994). These researchers conducted a study of tenure-track teachers randomly selected from the
California State University system. Among other instruments, the MBI-ES (Maslach Burnout Inventory - Educators Survey) was used as it reflects more effectively, according to the authors, the educational context. Teachers were asked to report stress and burnout in four different categories: teaching, research, professional activities, and service. The results showed that emotional exhaustion was the component that was the highest and the most critical in the burnout syndrome. Teachers who had been in the system for 10 years or less reported higher means in emotional exhaustion than those that had been in the job for more than 10 years. The mean score for depersonalization was also higher for teachers who had been working 10 or less years than for those with more than 10 years of service. This study also showed that teachers reported a strong sense of personal accomplishment.

Heavy workload came up in this study as a major contributor of stress and burnout, which, in turn, was the principal reason for considering a job change. Similar to Gmelch et al.'s (1984) study, Blix et al. (1994) found that university teachers at CSU perceived work-related stress 50% of the time.

In 2000, Laura Talbot conducted a study to assess, among other things, the levels of burnout in college nursing faculty from a metropolitan area in Texas. She reported that 11% had high levels of emotional exhaustion, 4.8% showed high levels of lack of personal accomplishment, while levels of depersonalization were minimal.

These studies will be referred to again in the sections related to workload and burnout, and demographic variables and burnout.
The Academic Workload Construct

Since the early 1990s there has been a widespread concern about what university faculty do and how they do it, both from within and outside academia (Association of American University Professors [AAUP], 1994). A new economic motivation is driving governments and the general public to redefine their understanding and relationship with higher education, especially in times of economic crisis and declining funds.

Two major factors have spurred this interest in faculty workload. The first one is the expansion or “massification” of American and European higher education which is considered to be “the biggest single change in higher education over the past two decades,” according to *The Economist* (“A Survey of Universities,” 1997, p. 5). The enormous increase in college and university enrollment in Western societies, or what Alexander calls “the universality of higher education” (1998, p. 9), is the basis for national economic development and growth. The second factor behind the interest in faculty workload is the limitations of funding, which seem to be in stark contrast with the concept of massification.

Therefore, the current utilitarian interest in the productivity and efficiency of higher education as a means of meeting the demands of a high-performance and technology-based world economy, in a climate of limited financial resources, is requiring colleges and universities to be held more accountable (Alexander, 1998).

Since 1984 several books and studies have appeared that were critical of higher education. One that attracted media attention was *The Closing of the American Mind*, by
Allan Bloom (1987, as cited in AAUP, 1994), further leading the effort to scrutinize higher education.

What university faculty do and how they allocate their time is one of the areas that is being closely monitored. This process is difficult to measure to the satisfaction of academics, public, and government. The reasons for this include confusion over what constitutes academic workload, what is an appropriate academic workload, and the amount of time which should be devoted to the different workload components (Soliman & Soliman, 1997).

To complicate the measurement of academic workload, it should be said that workload measures have focused almost entirely on quantitative data, and not on the quality of teaching, although certain universities are now incorporating both quantitative and qualitative aspects of workload (Bensimon & O’Neill, 1998). Krahenbuhl (1998) contends that universities should not focus on what faculty do but on what is accomplished by their efforts. The number of classes taught can give an idea of time spent in instructional teaching, but says nothing as to the outcome of that teaching. However, this present study focuses only on the most widely used type of workload measurement, which relies on quantitative data, leaving qualitative measurements to the realm of further studies.

“One of the largest of the problems in the administration of educational institutions is that of the proper method of determination of the working load of the members of the instructional staff” (Koos, 1919, as cited in Yuker, 1974, p. 4). This seemingly current
quotation was made 83 years ago, and yet it states clearly what is still today one of the
most difficult tasks: measuring what should be an appropriate faculty workload.

Yuker, in 1974, presented a seminal review of the literature on faculty workload
and called attention to the complexity of the concept and the ways to measure it. One of
his conclusions was that “in view of varying opinions, it will be impossible to define total
faculty workload in a way that everyone would find satisfactory” (p. 9).

According to Yuker (1974), in a very narrow definition, workload is the number
of classes and the number of students. This is the simplest way to measure faculty
workload. In general, external state and governmental agencies monitor workload using
this type of indices (Miller, 1994; Winkler, 1992). Within academic circles, however,
workload is calculated with quantity and quality parameters in teaching, research, and
service, thereby generating a source of friction between academia and governmental
agencies in regard to the measurement of workload (Seaberg, 1998).

Traditionally, academic workload is comprised of three components: teaching,
research, and service. Teaching consists of hours spent in classroom contact and also in
class preparation, grading, and student advising. Research involves the generation of new
knowledge, and creation of new ideas and insights. Service refers to institutional and/or
departmental committee involvement and volunteering at the community level.
Researchers use these three main categories or a number of other subcategories of faculty
activities depending on the purpose of their studies.

Teaching, research, and service are interrelated in many ways, and their
relationship has been the subject of numerous investigations (Krahenbuhl, 1998; Massy &
Zemsky, 1994). Different types of institutions allocate different percentages of time to each component, in accordance with the institution’s mission and objectives (Mancing, 1994; Winkler, 1992).

Academic administrators tend to associate higher workload with higher productivity, following guidelines of the business world, while academics associate a higher workload with stress and burnout. The current concern about academic productivity has encouraged some states to mandate minimum teaching loads and to require reports on teaching load (Cage, 1995). There is, therefore, a need to understand what constitutes an appropriate academic workload, and the amount of time devoted to each of its components.

In 1969 the American Association of University Professors addressed the question of academic workload and the appropriate mix between the different activities. The 1969 Statement on Faculty Workload (AAUP, 1969) concluded that “no single formula for an equitable workload can be devised for all of American higher education” (p. 70). The report recommends maximum and preferred teaching loads, with the understanding that the workload should be sensitive to different research and instructional expectations.

The maximum teaching load was set at 12 hours per week of formal class meetings at the undergraduate level. This workload assumes that there are no unusual expectations in terms of other activities. On the other hand, the preferable approach, according to the 1969 Statement, would be 9 hours per week of class time. This lower teaching load should “provide a reliable guide . . . in any institution intending to achieve and maintain excellence in faculty performance” (p. 71).
In March 2000, the Association of American University Professors published a report on college and university teaching, research, and publication. This report, titled, “2000 Interpretive Comments on Faculty Workload,” refers to the 1969 Statement, but also adds that, due to the changing and complex world of higher education, consideration should now be given to the impact of distance education and new instructional media on faculty workload. Faculty members who engage in new technologies should be given “reduction in the maximum classroom hour assignments” (p. 70), so they can meet the demands of interactive electronic communication and new technologies.

Faculty workload should now be defined as a mix of the three basic areas of faculty activity. Faculty workload is a term preferred to teaching load, because it refers to the complex range of activities that faculty perform, whereas teaching load refers only to one area of performance (Mancing, 1994).

One of the key issues in faculty workload is the amount of time spent teaching, which is closely related to how teaching and research should be balanced.

The debate about teaching and research has gone from one end of the spectrum to the other, from finding a strong relationship, to no relationship, depending on the interests applied. Some studies, like Neumann’s (1992), report a high relationship between teaching and research. On the other hand, Johnston (1991) proposes that academic workloads should not be based on research and publications. Barnett (1992) and Hornback (1993) both argue in favor of teaching as a higher priority instead of research.

Currently, research is valued higher than teaching (Fairweather, 1993), as tenure and promotion are based on research productivity and not on teaching excellence.
It is common for colleges and universities to use the 40/40/20 formula, with 40% devoted to teaching, 40% to research, and 20% to the area of service. In institutions where there is no mandate to research, teachers devote approximately 75% of their time to teaching, 10% to research, and 15% to service (Mancing, 1994). Jordan and Layzell reported in 1992 that university professors devoted 56% for teaching in all public institutions, 43% in research universities, 47% in doctoral universities, and 62% in comprehensive universities, corroborating the fact that the university’s mission is central to the distribution of workload.

Academic workload, emulating similar situations in the business and organizational world, has seen both a quantitative and a qualitative increase. Quantitative overloading occurs when a teacher has more work to do than he or she can complete in a given time. Qualitative overloading occurs when the teacher lacks the skills or abilities needed to complete the teaching commitment satisfactorily (Stoner & Wankel, 1986). Laabs (1999) contends that what were once considered crises-mode workloads have now become business as usual.

Academic workload is increasing internationally as a result of efficiency measures achieved by a decreasing workforce through voluntary attrition and non-replacement (Soliman & Soliman, 1997). Cage (1995) argues that, at Ohio State University, incentives for professors to retire early have caused the number of full time professors to decline, forcing the ones still on the campuses to work even harder. On the other hand, state governments press for greater demands on productivity, in an effort to balance their budgets (Winkler, 1992).
Added to this situation is the information overload experienced in the last two decades (Swenson, 1992), as well as new technological advances that require faculty training and use in new modes of learning deliverance. The growing use of information technology in teaching presentations was a source of increased demands and possibly stress and burnout (Chalmers, 1998). A Faculty Survey (1999) conducted by the Higher Education Research Institute, at the University of California, Los Angeles campus, shows that “keeping up with information technology” has proven to be stressful for 67% of college and university professors.

Harden (1999) contends that whereas teachers before were concerned with content of teaching, now they have to grapple with issues of performance assessment, quality assurance, and new educational approaches, all of which add to the intensification of the job.

Regarding an increased workload, Jordan and Layzell (1992) have found that teachers in Arizona work between 50 and 60 hours per week. Altbach (1995) shows that in 1992 academics in the U.S. spent a median of 18.7 hours in teaching compared to Sweden, 15.9; Germany, 16.4; Japan, 19.4; and England, 21.3. England has seen the rise of many voices in academia criticizing this situation.

Several studies show that university faculty work between 52 and 57 hours per week (Jordan, 1994), devoting 56% on teaching, about 16% on research, and the remainder of the time in other activities (Jordan, 1994; Russell, Cox, Williamson, Boismier, Javitz, & Fairweather, 1990). A study in Virginia, in 1991, resulted in a figure of 52 hours per week of average work for university faculty (Winkler, 1992). Figures for
1999 at a national level show that the average hours worked per week is 53 for all institutions, with 56.6% of the time devoted to teaching and 15.2% devoted to research (U.S. Department of Education, 2001). Since 1977 faculty increased their workload by about 10 hours, when they worked an average of 42 to 44 hours per week (AAUP, 1994). This situation disputes the claim that faculty work too few hours.

Massy and Zemsky (1994) have conducted a well-known study on how university faculty allocate their time. Their findings show a trend of increased time devoted to research, which is part of the reward system, and less time to teaching, preparing for class, grading, and student advising. Some argue that there is a positive relationship between less teaching and better teaching (AAUP, 1994). This position is reinforced by a 1989-1990 Higher Education Research Institute study at the University of California, Los Angeles campus. Faculty who taught 9 to 12 hours per week spent 32% of their time teaching and 25.2% preparing for teaching. Faculty who taught 13 to 16 hours per week spent only 17.3% preparing for teaching. Those who spent 17 to 20 hours in classroom teaching devoted only 13.8% of their time preparing their classes (AAUP, 1994).

Massy and Zemsky's study (1994) also suggests that there may be systematic differences among different types of institutions in regard to how faculty spend their professional time. Faculty time allocation was also the topic of research conducted by Milem et al., (2000), based on a previous work (Dey et al., 1997) that showed changes in publication productivity among faculty. One major question they tackled was the existence of systematic variations of faculty time allocation at different types of institutions. The different types of institutions represented were research universities, doctoral universities,
comprehensive universities, and liberal arts colleges, according to the Carnegie system of classification (Carnegie, 1987).

Milem et al.'s (2000) findings show that institutions of different types are becoming more similar in patterns of faculty time allocation, especially in regard to time spent in research. Both research universities and liberal arts colleges show significant increases in time spent in research. In spite of this increase, there is also a pattern of increase in the amount of teaching and time spent preparing for teaching across all institutional types, except research institutions.

Time spent advising and counseling students shows a pattern of very little change over the course of 20 years. The authors contend that this might be due to teachers' mental models of their own past experience, coupled with the institution's reward system.

Even though the study has some important limitations, one of them being that research and doctoral universities represented 22% of the sample compared to the actual 6% of the population, which could bias the estimate of faculty time allocation, nevertheless it brings attention to how different institutions have changed over time in teachers' workload, and that, as a whole, faculty "actually have less discretionary time now than they did in 1972" (Milem et al., 2000). On the other hand, Massy and Zemsky (1994) argue that decreased teaching loads have produced more discretionary time for faculty. The increments of discretionary time are referred to by the authors as "the academic ratchet" (p. 2) and they contend that teaching suffers because faculty use their discretionary time available to pursue research.
The literature on faculty workload shows a scarcity of theory and practice. Yuker's 1974 monograph on faculty workload remains the "only substantial inquiry into the topic" contends Mancing (1994, p. 31). Since then several other authors have attempted to look at faculty workload and ways to measure it.

Mancing (1994) proposes developing a theory of faculty workload that would take into account the following assumptions:

1. Faculty workload should be related to the mission and values of the institution.
2. The department is the place where workload should be distributed.
3. Even though faculty can have different workload distributions (i.e., percentages between teaching, research, and service), all full-time faculty should have comparable loads.
4. The administration should be flexible in distributing workloads, so that each teacher can focus on their strengths (i.e., teaching or research), if and when the department can have that possibility.

The traditional workload model proposes 40% for teaching, 40% for research, and 20% for service. However, according to Mancing (1994), the department, when possible, could stretch those percentages to show other allocations. For example, a teacher could devote 10% to teaching, 90% to research, and 0% to service, whereas another teacher could devote 60% to teaching, 25% to research, and 15% to service.

Departments should be able to adjust percentages considering class size, time-consuming classes, or considering if the class has been taught for a long time or not (Mancing, 1994).
Bensimon and O’Neill (1998) share their collaborative effort at the University of Southern California to measure faculty work. Based on Rice’s (1996) thoughts that we need “fresh conceptions of faculty work, ones that reunite institutional and personal endeavors” (as cited in Bensimon & O’Neill, 1998, p. 24), the University of Southern California’s School of Education came up with a Faculty Productivity Report that tried to link individual performance with organizational goals, which reminds one of Management by Objectives widely used in business administration. This model, to my view, is complicated and time-consuming, and as some argued, “the idea of an instrument that would reduce our professional work to a list of activities with points assigned is reductionist and repugnant” (Bensimon & O’Neill, 1998, p. 31). However, in spite of these criticisms it is a step towards defining and measuring faculty work.

Faculty workload policies should be central to the mission of the institution and to decision-making. It should be a crucial part of institutional planning, evaluation, and salaries. While there is no perfect model that will satisfy each of the publics involved in the question, it is mandatory that each university develop faculty workload standards and policies.

As Mancing (1994) states, “faculty workload policies can be a major factor in creating an atmosphere of mutual accountability that unites faculty and administration” (p. 37).
Burnout and Workload in University Faculty

The article “Strain Spotting” (1998) suggests that “in academia, longer hours, more students and endless cuts have been rubbing nerve endings raw for years now.” Harden (1999, p. 245) considers there is an alarming prevalence of burnout in the education literature, which has been shown to be related to two main work characteristics: workload and decision latitude (Mullins, 1993).

These two main characteristics are part of a dominant theoretical perspective, the ‘demand-control model’ developed by Karasek and Theorell (1990). Decision latitude (i.e., degree of control over one’s work) and job demands, are the two factors that show a clear correlation. The more stressful jobs, and the ones that may lead to burnout, are the ones that combine a high workload with a low decision latitude.

Firth-Cozens (1998) cites overload at work as a stressor in medical teachers, due to an increased number of hours of teaching, and also an increased number of students. Harden (1999) cites an American psychotherapist, Geneva Rowe, as saying, “Twenty-five years ago we had more intermittent stress. We had a chance to bounce back before we encountered another crisis. Today, we have chronic, unremitting stress” (p. 246). Chronic, unremitting stress equates the concept of burnout (Schaufeli & Enzmann, 1998).

Winter et al. (2000) report a study they were involved in describing the quality of academic worklife in an Australian university. Their findings show that role overload was one of the major issues for the respondents at all academic levels, with professors and associate professors reporting significantly more role overload than associate lecturers.
In regard to role overload, the university research expectation versus the teaching loads creates stresses due to lack of time and clarity over the importance of one over the other. One of the qualitative survey respondents mentions that “neither teaching/research are highly satisfying due to their causing continual time-related stress” (Winter et al., 2000, p. 279).

A senior lecturer in Sciences at that same university expresses the following: “Workload has increased dramatically—not enough time to find a quiet corner and cogitate long enough to bear fruit research-wise” (p. 280).

The authors finally conclude that as universities search for efficiencies in a climate of declining public funding, work intensification will become an overriding feature of academic worklife (Winter et al., 2000).

Easthope and Easthope (2000) collected narratives of Tasmanian teachers during a 10-year study, 1984-1994, to gain understanding of the changes in education during that decade. Teachers reported that their workload increased and intensified, leading to a more complex workplace. These findings coincide with Hargeaves (1994) who contends that teachers face a chronic and persistent overload, with no time to update skills or care for students.

The correlation between workload and burnout has been determined by several studies. As previously mentioned, in 1984, Gmelch et al. conducted a study in all doctoral-granting institutions in the United States. The results show that 4 out of 10 university faculty report “feeling that one is continuously overloaded with work” (p. 483).
Goldenburg and Waddell (1990) identified heavy workload as one of the stressors for university teachers. They studied nursing faculty in eight university schools of nursing in Ontario. One of the results showed that 83% of the nursing faculty selected a heavy workload as one of the principal contributors to their stress and burnout.

Manning (1990), from Oklahoma State University, researched 200 full-time, full, associate, and assistant professors in this university in an effort to ascertain their stress and burnout levels. Her findings show that burnout at Oklahoma State University was so high among faculty that it appeared to supercede all factors other than research load. Those teachers who devoted 20% or more of their time to research and published three or more articles per year showed higher levels of burnout than those who devoted less time to research.

A study conducted in Alabama to measure burnout in higher education (Hughes, 1995) revealed that 20.12% of the faculty were burned out, and 37.28% were scorched, which according to their Burnout Assessment Inventory (BAI), were the highest levels. The three highest contributors to these high levels of burnout were politics, pressure of deadlines, and a heavy teaching load. This study seems to support a research conducted the year before (Dua, 1994) at the University of New England, Australia, with 2,250 faculty members. Thirty-four percent of the faculty declared that they were overworked, while 32% perceived that they had to do too much in too little time.

In 1998, Anna Chalmers did a follow-up of a 1994 study on workload and stress in New Zealand universities. Her findings show that the main source of work-related stress was linked to work and workload, rather than the contents of the job. "Causes of stress
were mainly related to workload,” she concludes, “in particular to the volume of work and inadequate time to do justice to work” (Chalmers, 1998, p. 2). Academics in New Zealand universities work an average of 53 hours per week; 87% reported that they worked in the evening or took work home on one evening or more a week. Eighty-five percent of university faculty reported they worked on one or more weekends a month. At least three-quarters of respondents regarded that their workload had increased.

Prolonged stress in the workplace, that can lead to burnout, is both damaging to the physical and psychological well-being. Kinman (1998) found that one in four respondents said they had taken time off for stress-related illnesses in the preceding 12 months. In 1996, Affleck studied burnout in bibliographic instruction librarians in New England, and found that 53% reported high burnout in one dimension of the syndrome, and 9% showed high burnout in all three dimensions (emotional exhaustion, depersonalization, and reduced personal accomplishment).

Workload has shown a significant amount of variance in the emotional exhaustion component (Cordes & Dougherty, 1993). In some studies a correlation between burnout and work overload has been found (Soderfeldt et al., 1995) but this correlation did not exist in other studies (Fahs-Beck, 1987).

Demographic Variables and Levels of Burnout

Investigation of particular demographic variables and their impact on teacher burnout has been conducted mainly among elementary and secondary teachers. Lately, however, researchers have focused on university teachers and the impact of variables such
as gender, age, years of experience, and rank on levels of burnout. Results have been contradictory in some cases.

Sedgwick and Lou (1999, as cited in Quinteros, 2000) report that, upon applying the MBI instrument to general education teachers to ascertain their burnout levels, they found a very weak relationship between burnout and demographic variables, such as gender, age, and years of service.

**Gender**

In regard to gender and its relationship with burnout levels, Chalmers (1998) in her follow-up study of New Zealand universities reports that women academics were more likely to note the impact of work-related stress on their health. Twenty-eight percent of women, compared to 12% of men, reported feeling run down, and with general illnesses.

Female teachers report higher burnout and stress levels than do males. Reasons for this increase in burnout may be due to more role conflict as they balance roles at work and at home (Blix et al., 1994).

De Heus and Diekstra (1999) sampled 13,555 people in the Netherlands, from different professions, in order to compare teachers with workers from other professions on burnout symptoms. As to gender, the only significant difference they found was that males showed more depersonalization than females.

**Age**

Studies relating age to levels of burnout are contradictory. Poinquinette, in 1991, studying the relationship of burnout with selected variables in private colleges found
among other things that age was significantly related to the emotional exhaustion and depersonalization component of the Maslach Burnout Inventory, Form ED (1986).

Manning (1990), on the other hand, states that burnout was not found to be related to gender, age, faculty rank, and teaching load, in a study conducted at the University of Oklahoma, with 200 full-time associate and assistant professors.

A study done by Lopez (2000), investigating burnout in Hispanic faculty in Hispanic-serving institutions of higher education, showed that in regard to age, the older the faculty member, the higher the level of depersonalization. This finding coincides with an investigation of Dutch teachers done by De Heus and Diekstra (1999), which showed lower levels of depersonalization in younger teachers than the older ones. However, in regard to burnout symptoms, “teaching appears to become much harder when one gets older” (De Heus & Dieskstra, 1999, p. 280).

Faculty, between ages 40 and 49, had higher emotional exhaustion and depersonalization scores than the age group over 50, in a study conducted by Wageman (1999). According to Hughes (1995), the age category between 46-55 is at a higher risk of burnout than other age categories. On the other hand, Goldenberg and Waddell (1990) and Dua (1994) coincide in that younger faculty members are more prone to stress from work than older, more mature ones.

Years of Service

Similar to the studies linking age and burnout, the ones linking years of service to burnout are also contradictory. Goldenberg and Waddell (1990) contend that teachers
with fewer years of service in education experience the highest levels of stress and burnout. Lopez's study (2000) seemed to confirm this result. It revealed that the more years of service in education, the lower the level of emotional exhaustion. One possible explanation of this is that as individuals gain work experience, they tend to develop more coping strategies towards the workplace and lower levels of burnout than workers with fewer years of work. The workers who indeed experience burnout tend to leave their jobs (Ashforth & Lee, 1997).

In contrast, Borg and Falzon (1989, cited in Vandenberghe & Huberman, 1999) report findings that teachers with more than 20 years of experience exhibited significantly higher levels of stress than colleagues with fewer years of experience.

**Rank**

A study done by Richard and Krieshok, in 1989 (cited in Gugliemi & Tatrow, 1998), in a large Midwestern university, reported that, at least for the male faculty, stress decreased markedly as faculty rank increased from assistant to full professor. This result was interpreted in the framework of the demand-control model. Even assuming that the work demands are similar for all ranks, there is greater control and decision latitude in the higher ranks of professorship that could help explain the decline in scores.

North Dakota faculty were studied in 1999 by Wageman in order to identify levels of burnout in relation to rank, demographic variables, and category of institution. As a group, the North Dakota sample showed higher burnout levels in all three of the MBI
components than the national average. Concerning rank, associate professors had higher scores in depersonalization than assistant and full professors.

Summary

This chapter presented a review of the literature related to burnout and some of its possible predictors among university faculty.

The review included an in-depth presentation of the burnout construct and the most salient theories and research. Special consideration was given to the work of Christina Maslach et al. (1986) who developed the Maslach Burnout Inventory used in the present study.

Workload also merited attention in this review, considering that it stands out as an important contributor to levels of burnout.

Finally, the demographic variables that were included in this study (i.e. gender, age, years of service, and rank of professorship) were shown to be linked to burnout levels among university faculty as a result of several studies.
CHAPTER 3

RESEARCH METHODOLOGY

Introduction

The review of pertinent literature has shown that burnout is a widespread phenomenon among teachers who are subject to a great deal of occupational stress. Workload has been suggested among the possible predictors of teacher burnout (Byrne, 1999).

The main purpose of this research was to determine the relationship and possible predicting impact of academic workload typologies, teacher perception on academic workload intensity, teacher perception on academic workload, and other selected demographic variables on the levels of burnout in full-time faculty in Seventh-day Adventist universities and colleges in North America in 2002.

This chapter provides insight on the research methodology that was carried out, detailing the research design, the population, the sampling method, the instruments used, the hypotheses, the operationalization of the variables, and the procedures for gathering, organizing, and analyzing the data obtained.
Research Design

A non-experimental, exploratory, correlational design was in this study. According to Voigt (1993, as cited in Brown, 1996), a non-experimental design is a research design in which the researcher observes or measures objects without altering or controlling the situation. The design was exploratory as this is the first time that some of the variables were studied and their behavior had not been established.

Correlational research involves collecting data to determine whether, and to what degree, a relationship exists between two or more variables (Gay & Airasian, 2000). It is, however, important to understand that if a high correlation is found between the variables researched, academic workload typologies, teacher perception of academic workload, teacher perception on academic workload intensity, other selected demographic variables, and burnout levels, this does not mean that there is a cause-effect relationship. Even though a study such as this one did not permit a test of cause-effect, "causal links are usually presumed and discussed" (Maslach & Schaufeli, 1993, p. 7).

This research was also field-based, as it surveyed full-time faculty in Seventh-day Adventist universities and colleges in North America. It was a research conducted at a point in time, the year 2002.

This study attempted to reach the following objective and answer the research questions already presented in chapter 1:

1. What are the academic workload typologies for full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?
2. Is there a significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity on the levels of emotional exhaustion in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?

3. Is there a significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity on the levels of depersonalization in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?

4. Is there a significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity on the levels of reduced personal accomplishment in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?

The data were collected by a subjective, self-report instrument, the Maslach Burnout Inventory, to measure the dependent variable, levels of burnout. The independent variable, academic workload typologies, was measured and classified using an objective questionnaire sent to all academic chairs.

It is important to recognize limitations in this type of research. Because some of the correlations of burnout and different variables “may be an artifact of the reliance on a single method (common method variance)” (Maslach & Schaufeli, 1993, p. 7), a
subjective self-report from the faculty was used alongside an objective questionnaire filled out by the academic chairs.

Population and Sample

Participants in this study were selected from the population of full-time undergraduate faculty in Seventh-day Adventist universities and colleges in North America in 2002. The population comprised 826 undergraduate faculty, dedicated full-time to teaching, research, and service, with the exclusion of administrative duties. The number of teachers were obtained in the second semester of 2002, through SDA.NET, a supporting ministry of the Seventh-day Adventist Church (www.sdanet.org) as well as verification via email and phone. The 826 undergraduate teachers corresponded to 179 departments in 11 Seventh-day Adventist colleges and universities in North America.

The 11 Seventh-day Adventist universities and colleges in North America, with four-year programs, include the following institutions:

1. Andrews University
2. Atlantic Union College
3. Canadian University College
4. Columbia Union College
5. La Sierra University
6. Oakwood College
7. Pacific Union College
8. Southern Adventist University
9. Southwestern Adventist University

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10. Union College, and


Loma Linda University, a Seventh-day Adventist university in southern California, was not considered in the population as it basically comprises graduate departments, and in the few undergraduate departments it has, the teachers divide their time between undergraduate and graduate teaching.

A list of departments with the number of faculty in each one was compiled with information obtained from SDA.NET (www.sdanet.org), and by verification via email and phone with the departments themselves (see Appendix C).

A matrix of colleges and universities, as well as their departments, was made to ascertain which departments were common to the majority of the institutions and which departments were unique (see Appendix C).

The sampling procedure used several criteria. In the first place, it was determined that the sample would include 50% of all the departments chairs, following the guidelines in Gay and Airasian (2000) which suggest that, for small populations, 50% of the population should be sampled. Thus, 90 department chairs comprised 50% of the total population (179 department chairs).

In the second place, a stratified sampling was conducted, choosing 50% of the departments in each university, in order to ensure that there would be a proportional representation of the number of departments.

Next, a purposive sample of six departments was included in the 90 departments, based on the criteria that they were unique undergraduate programs, and given their low
number it was difficult for them to come up in a random sample. Even though the use of purposive sampling has some degree of manipulation, it is nonetheless a characteristic of ex-post facto designs such as this one. The use of purposive sampling in this case assured that the unique departments be part of the sample. The following six departments were chosen to be part of the sample by purposive sampling:

1. Speech-Language Pathology and Audiology
2. Aeronautical Technology
3. Agricultural Sciences
4. Outward Pursuits
5. Respiratory Care, and
6. Physician Assistant.

Finally, a random selection, using a table of random numbers, was conducted in each university obtaining a sample of 50% of the departments, including the unique ones that were chosen by purposive sampling.

A final criterion used for the selection of the teachers was to sample all the full-time teachers in the 90 departments, as the study needed a match between the responses of the chairs and the responses of the teachers in their departments. This criterion also followed the guidelines of the United States Office of Education for sample sizes (Krejcie & Morgan, 1970, as cited in Gay & Airasian, 2000), which suggest that for a population between 800 and 850, the minimum sample should contain 265 subjects. The number of full-time teachers was 365, which exceeded the 265 minimum of the above guidelines, and represented an increase of 37.7% above the minimum.
The sample consisted of 90 departments (50% of the total number of
departments), 6 that were unique and 84 selected by random sampling, representing 50% of the total number of departments in each university. The number of full-time undergraduate teachers in the 90 departments was 365.

Instrumentation

Two different instruments were used in this study. One of them was the Survey on Academic Workload, an objective questionnaire that I prepared, which gathered information on academic workload, with questions such as name of the institution, name of the department, and total hours that the department normally would assign to different activities of an undergraduate level faculty member during a typical week. The activities were teaching (including class preparation time), general advising, university support (committee work, faculty meetings), community service (committees in church, boards in the community), field-based programs or trips to affiliated schools, supervision of independent studies and internships, professional development to stay current, research and scholarship, and total number of hours per week. This list of faculty activities was developed on the basis of an extensive review of the literature and the opinion of several experts in this area.

In the past, studies on workload focused mainly on the three basic activities of teaching, research, and service. However, this distribution brings inequities to the system. Some faculty are called upon to go beyond the call of duty by sitting on an inordinate number of committees, serving faithfully in religious and community activities related to a Seventh-day Adventist philosophy of education, advising more students than their peers,
etc. If the criteria for measuring workload is tied only to the three traditional areas of teaching, research, and service, then a faculty member can be burned out with work that is not even counted. Thus, the decision was made to base the study on nine dimensions of academic workload, instead of the traditional three.

These activities listed in the Survey of Academic Workload were measured in number of hours per week, on the basis of the review of the literature, showing that many studies such as the National Center for Education Statistics, the American Council on Education, and the Higher Education Research Institution at the University of California, Los Angeles campus, use this method to facilitate comparisons.

This objective questionnaire was sent out to the selected sample of departments in the 11 Seventh-day Adventist colleges and universities in North America, and was the basis for the development of academic workload typologies.

To validate this instrument, it was reviewed by three experts, who made the necessary comments and modifications, assuring that the items were clearly written and pertinent to what it was intended to measure. To further validate this instrument a pilot study was conducted at the University of Montemorelos, Mexico, during April 2002. Department chairs of six departments were the recipients of the questionnaire.

The second instrument, Educators’ Survey on Academic Workload and Burnout Levels, was a self-report questionnaire filled out by all full-time undergrad faculty of the 90 departments at Seventh-day Adventist universities and colleges that were selected by purposive and random sampling. This instrument contained three sections; the first one consisting of demographic data potentially associated with levels of burnout, such as,
gender, age, years of service in education, and rank of professorship. The second section was on academic workload, consisting of two items: an item on teacher perception of academic workload intensity, on a semantic differential scale, ranging from -3 to 3, -3 being underloaded and 3 being overload; and an item on teacher perception of one's own academic workload in terms of number of hours that the faculty assigns to the following activities during a typical week: teaching (includes class preparation time), general advising, university support (committee work, faculty meetings), community service (committees in church, boards in the community), field-based programs or trips to affiliated schools, supervision of independent studies and internships, professional development to stay current, research and scholarship, and total number of hours per week.

The third section of the Educators' Survey on Academic Workload and Burnout Levels was the Maslach Burnout Inventory (MBI, Educator's Survey), published by Consulting Psychologists Press, Inc. (Maslach & Jackson, 1986), used to determine the level of burnout of the respondents.

The present version of the MBI that was used in this study, consisted of 22 items that measure the three components of the burnout construct: emotional exhaustion, depersonalization and reduced personal accomplishments. Each of these components is measured by a separate subscale of the MBI. Each respondent will have three scores, one for each subscale, and not a composite score for burnout.
The items of the MBI related to the Emotional Exhaustion subscale, which measures feelings of being emotionally overextended and exhausted by one’s own work (Maslach et al., 1996), are the following:

1. Item 1: I feel emotionally drained from my work.
2. Item 2: I feel used up at the end of the workday.
3. Item 3: I feel fatigued when I get up in the morning and have to face another day on the job.
4. Item 6: Working with people all day is really a strain on me.
5. Item 8: I feel burned out from my work.
7. Item 14: I feel I’m working too hard on my job.
8. Item 16: Working with people directly puts too much stress on me.
9. Item 20: I feel like I’m at the end of my rope.

There are five items in the Depersonalization subscale of the MBI, which relate to negative, impersonal, and cynical feelings towards students, as follows:

1. Item 5: I feel I treat some students as if they were impersonal objects.
2. Item 10: I’ve become more callous toward people since I took this job.
3. Item 11: I worry that this job is hardening me emotionally.
4. Item 15: I don’t really care what happens to some students.
5. Item 22: I feel students blame me for some of their problems.
The Personal Accomplishment subscale consists of eight items which measure the feelings of accomplishment and competence towards one’s work. The eight items are the following:

1. Item 4: I can easily understand how my students feel about things.
2. Item 7: I deal very effectively with the problems of my students.
3. Item 9: I feel I’m positively influencing other people’s lives through my work.
4. Item 12: I feel very energetic.
5. Item 17: I can easily create a relaxed atmosphere with my students.
6. Item 18: I feel exhilarated after working closely with my students.
7. Item 19: I have accomplished many worthwhile things in this job.
8. Item 21: In my work, I deal with emotional problems very calmly.

The range of the subscale scores is as follows: for the Emotional Exhaustion subscale, from 0 to 54; for the Depersonalization subscale, from 0 to 30; for the Personal Accomplishment subscale, from 0 to 48. In the Emotional Exhaustion and Depersonalization subscales, higher scores correspond to higher degrees of burnout. In contrast, lower scores in the Personal Accomplishment subscale are related to higher degrees of burnout. According to Maslach et al. (1996), “the Personal Accomplishment subscale is independent of the other subscales . . . and it cannot be assumed to be the opposite of the Emotional Exhaustion or Depersonalization” (p. 10).

Reliability coefficients, in terms of internal consistency (i.e., the extent to which the items in a test are similar to one another in content), for each of the MBI components are as follows: a Cronbach’s alpha of .90 for emotional exhaustion, .79 for depersonalization,

In terms of standard error of measurement for each MBI subscale, Maslach and Jackson (1986) reported the following: 3.80 for Emotional Exhaustion, 3.16 for Depersonalization, and 3.73 for Personal Accomplishment. Considering that a higher reliability is associated with a smaller standard error of measurement (Gay & Airasian, 2000), and being that the MBI subscales have high reliability, it is assumed that they are not subject to large errors (Brown, 1996).

Stability coefficients (i.e., the degree to which scores of one group of test takers on a test are consistent over time) for the three scales ranged from .33 to .67 in a sample of 700 teachers conducted in 1986 by Jackson, Schwab, and Schuler, matching almost similar findings in a sample of 46 human services professionals (cited in Schaufeli et al., 1993, p. 209). Other researchers have found stability coefficients that range from low to moderately high, with Emotional Exhaustion having the highest test-retest correlation (Lee & Ashforth, 1993; Leiter, 1991).

The factorial validity of the MBI has been confirmed in several studies (Koeske & Koeske, 1989; Pierce & Molloy, 1989), however, others have found two and even four dimensions (Iwanicki & Schwab, 1981). Lee and Ashforth (1993, cited in Maslach et al., 1996) confirmed the three-factor model of burnout with a confirmatory factor analysis based upon three composite score indicators for each of the three subscales.

Convergent validity (i.e., the overlap between different tests that presumably measure the same construct) has been demonstrated for the MBI in the significant
relationships \((p<.001)\) found between an individual's MBI scores and behavioral ratings made independently by people who know that individual very well (Maslach & Jackson, 1986). Likewise, correlations have been established between MBI scores and outcomes supposedly connected to burnout (Maslach, 1976).

Several studies have tried to assess the discriminant validity of the MBI. Discriminant validity is the degree to which a construct distinguishes itself from measures of other constructs that could be confounded with it (Brown, 1996). Firth, McKeown, McIntee, & Britton. (1987) found that Emotional Exhaustion was “substantially related to depression” in a well-known depression scale. On the other hand, researchers have found an association between emotional exhaustion and job satisfaction (Koeske & Koeske, 1989). Other studies, however, have found low correlations between the burnout subscale scores and other measures of job satisfaction (Leiter, 1985, cited in Maslach et al., 1996; Zedeck, Maslach, Mosier, & Skitka, 1988, as cited in Maslach et al., 1996). In regard to depression, there is a distinction between depression and burnout. Depression is a clinical syndrome, and burnout is primarily related to the work environment. The two concepts “are clearly different psychologically” (Maslach et al., 1996, p. 16).

In terms of construct validity, which determines that the presumed construct is what is being measured (Gay & Airasian, 2000), Iwanicki and Schwab in 1986 used factor analysis and a varimax rotation finding that the MBI “when used in education, measures the same basic constructs or factors as those identified through studies in the helping professions: emotional exhaustion, depersonalization, and personal accomplishment” (Brown, 1996, p. 88).
Permission was sought from Consulting Psychologist Press, Palo Alto, California, to obtain and reproduce the Maslach Burnout Inventory - Educator’s Survey. The permission agreement is included in the Appendix, as well as a copy of both instruments used in this study, the Survey on Academic Workload, and the Educators’ Survey on Academic Workload and Burnout Levels.

Null Hypotheses

The following null hypotheses indicated possible answers to the research questions posed in chapter 1.

Hypothesis 1: There is no significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, and teacher perception of academic workload intensity on the levels of emotional exhaustion in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

Hypothesis 2: There is no significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, teacher perception of academic workload intensity on the levels of levels of depersonalization in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

Hypothesis 3: There is no significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload, teacher perception of academic workload intensity on
the levels of personal accomplishment in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

The Variables

The validity of an instrument requires that it measures what it portends to measure, therefore, it is necessary to determine the variables to be measured, its conceptual definition, its measurement definition, and its operational definition.

Table 1 shows how the independent variables, academic workload typologies, age, gender, rank of professorship, years of service, teacher perception of academic workload, and teacher perception of academic workload intensity, and the dependent variable, levels of burnout, were operationalized.

Procedure for Data Collection

A package was sent to the chairs of the 90 departments selected in the sample containing the following items: for the chairs: a cover letter to the chairs regarding the study and instructions on how to fill out and mail the questionnaire; a sample of a letter of willingness to participate in the study which the chair had to write on his/her department letterhead and direct to the Office of Scholarly Research, at Andrews University; the Survey on Academic Workload; and a postage-paid pre-addressed envelope in which to return the questionnaire and the letter of willingness. In that same package, directed to the chair of each of the 90 departments, were envelopes for each teacher in the department, with a cover letter explaining the study and instructions on how to fill out the questionnaire, the Educators’ Survey on Academic Workload and Burnout
Table 1

**Operationalization of the Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Conceptual definition</th>
<th>Instrument definition</th>
<th>Operational definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Academic workload typologies</td>
<td>Classification of academic workload based on hours per week devoted to different areas of work, according to the department chairs</td>
<td>This variable was determined by the answers obtained in the academic workload questionnaire as follows:</td>
<td>The responses showed hours per week allocated to the different areas of workload. The scale was interval.</td>
</tr>
<tr>
<td>Data label: acadwork</td>
<td></td>
<td>Name of institution</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Department</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>According to the academic workload policy of your dept., please indicate the total number of hours that your dept. would normally assign to the following activities of an undergraduate level faculty member during a typical week:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teaching</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>General advising</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>University support</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Community service</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trips to field</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supervision of independent studies/field work</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professional development</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Research</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total number of hours per week</td>
<td></td>
</tr>
<tr>
<td>2. Gender</td>
<td>Group of people with common sexual characteristics: male or female</td>
<td>This variable was determined by the answer to the question:</td>
<td>The responses were categorized by a nominal scale as follows:</td>
</tr>
<tr>
<td>Data label: gender</td>
<td></td>
<td>Mark with an x the information that applies to you:</td>
<td>1 male</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Male</td>
<td>2 female</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Female</td>
<td></td>
</tr>
</tbody>
</table>
Table 1—Continued.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Conceptual definition</th>
<th>Instrument definition</th>
<th>Operational definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Age</td>
<td>Number of years that a person has lived</td>
<td>This variable was determined by the following answer:</td>
<td>The responses were categorized by a nominal scale as follows:</td>
</tr>
<tr>
<td>Data label: age</td>
<td></td>
<td>Age:</td>
<td>1 under 30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ under 30</td>
<td>2 31-40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ 31-40</td>
<td>3 41-50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ 41-50</td>
<td>4 51 or over</td>
</tr>
<tr>
<td>4. Rank of professorship</td>
<td>Categories based on years of service, degrees obtained, dedication to teaching and research, and solid moral integrity (University of Montemorelos Manual of Academic Policies, 2000)</td>
<td>This variable was determined by the answers to the question:</td>
<td>The responses were categorized by a nominal scale as follows::</td>
</tr>
<tr>
<td>Data label: rank</td>
<td></td>
<td>Mark with an x the information that applies to you:</td>
<td>1 instructor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ instructor</td>
<td>2 assistant professor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ assistant professor</td>
<td>3 associate professor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ associate professor</td>
<td>4 professor</td>
</tr>
<tr>
<td>5. Years of service</td>
<td>Time served in the teaching profession</td>
<td>This variable was determined by the answers to the question:</td>
<td>The responses were tabulated in an interval scale according to the years in education</td>
</tr>
<tr>
<td>Data label: yearserv</td>
<td></td>
<td>Years of service in education:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>years</td>
<td></td>
</tr>
<tr>
<td>6. Teacher perception of academic workload intensity</td>
<td>How a teacher perceives the degree of activity</td>
<td>This variable was determined by responses to the following question:</td>
<td>The responses were tabulated in an interval scale according to the scores obtained on a scale from -3 to +3</td>
</tr>
<tr>
<td>Data label: workint</td>
<td></td>
<td>Mark on the following scale your perception of your present academic workload intensity</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Semantic differential scale from -3 (underloaded) to +3 (overloaded)</td>
<td></td>
</tr>
<tr>
<td>Variable</td>
<td>Conceptual definition</td>
<td>Instrument definition</td>
<td>Operational definition</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>7. Teacher perception of academic workload</td>
<td>Allocation of time, in hours per week, to the different activities during a typical week, according to the teachers</td>
<td>This variable was determined by responses to the question: Indicate the total number of hours that you assign to the following activities during a typical week: Teaching, General advising, University Support, Community Service, Trips to Field, Supervision of independent studies/internships, Professional development, Research, Total hours per week</td>
<td>The responses were tabulated in an interval scale from 1-10</td>
</tr>
<tr>
<td>Variable</td>
<td>Conceptual definition</td>
<td>Instrument definition</td>
<td>Operational definition</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>8. Levels of emotional exhaustion</td>
<td>Feelings of being emotionally overextended and depleted of one's emotional resources (Maslach &amp; Jackson, 1986)</td>
<td>This variable was determined by the responses to the following items, on a Likert scale:</td>
<td>The responses were tabulated in an interval scale, determined by scores obtained from answers to the specific emotional exhaustion items, on a range from 0 to 54.</td>
</tr>
<tr>
<td>Data labels:</td>
<td></td>
<td>0 - never</td>
<td></td>
</tr>
<tr>
<td>emodrain</td>
<td></td>
<td>1 - a few times a year or less</td>
<td></td>
</tr>
<tr>
<td>usedup</td>
<td></td>
<td>2 - once a month or less</td>
<td></td>
</tr>
<tr>
<td>fatigued</td>
<td></td>
<td>3 - a few times a month</td>
<td></td>
</tr>
<tr>
<td>people</td>
<td></td>
<td>4 - once a week</td>
<td></td>
</tr>
<tr>
<td>burned</td>
<td></td>
<td>5 - a few times a week</td>
<td></td>
</tr>
<tr>
<td>frustrat</td>
<td></td>
<td>6 - every day</td>
<td></td>
</tr>
<tr>
<td>workhard</td>
<td></td>
<td>Items:</td>
<td></td>
</tr>
<tr>
<td>stresspe</td>
<td></td>
<td>1. I feel emotionally drained from work</td>
<td></td>
</tr>
<tr>
<td>endrope</td>
<td></td>
<td>2. I feel used up at the end of the work day</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. I feel fatigued when I get up in the morning and have to face another day on the job</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Working with people all day is really a strain for me</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. I feel burned out from my work</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13. I feel frustrated by my job</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14. I feel I'm working too hard on my job</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>16. Working with people directly puts too much stress on me</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20. I feel like I'm at the end of my rope</td>
<td></td>
</tr>
</tbody>
</table>
Table 1—Continued.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Conceptual definition</th>
<th>Instrument definition</th>
<th>Operational definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Levels of</td>
<td>Depersonalization refers to a negative, callous, or excessively detached response to</td>
<td>This variable was determined by the responses to the following items, on a Likert scale:</td>
<td>The responses were tabulated on an interval scale, determined by the scores obtained from answers to the depersonalization items, on a range from 0-30.</td>
</tr>
<tr>
<td>depersonalization</td>
<td>other people (Maslach &amp; Jackson, 1986)</td>
<td>0 - Never</td>
<td></td>
</tr>
<tr>
<td>Data labels:</td>
<td></td>
<td>1 - A few times a year or less</td>
<td></td>
</tr>
<tr>
<td>treatstud</td>
<td></td>
<td>2 - Once a month or less</td>
<td></td>
</tr>
<tr>
<td>callous</td>
<td></td>
<td>3 - A few times a month</td>
<td></td>
</tr>
<tr>
<td>hardemo</td>
<td></td>
<td>4 - Once a week</td>
<td></td>
</tr>
<tr>
<td>carestud</td>
<td></td>
<td>5 - A few times a week</td>
<td></td>
</tr>
<tr>
<td>blamepr</td>
<td></td>
<td>6 - Every day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Items:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. I feel I treat some students as if they were impersonal objects</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. I've become more callous towards students since I took this job</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11. I worry that this job is hardening me emotionally</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15. I don’t really care what happens to some students</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>22. I feel students blame me for some of their problems</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1—Continued.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Conceptual definition</th>
<th>Instrument definition</th>
<th>Operational definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Levels of personal accomplishment</td>
<td>Reduced personal accomplishment refers to a decline in one's feelings of competence and successful achievement in one's work (Maslach &amp; Jackson, 1986)</td>
<td>This variable was determined by the responses to the following items, on a Likert scale:</td>
<td>The responses were tabulated on an interval scale, determined by the scores obtained from answers to the personal accomplishment items, on a range from 0-48</td>
</tr>
<tr>
<td>Data labels:</td>
<td></td>
<td>Items:</td>
<td></td>
</tr>
<tr>
<td>undstud</td>
<td></td>
<td>4. I can easily understand how students feel about things</td>
<td></td>
</tr>
<tr>
<td>problstud</td>
<td></td>
<td>7. I deal very effectively with the problems of students</td>
<td></td>
</tr>
<tr>
<td>postinfl</td>
<td></td>
<td>9. I feel I'm positively influencing other people's lives through my work</td>
<td></td>
</tr>
<tr>
<td>energy</td>
<td></td>
<td>12. I feel very energetic</td>
<td></td>
</tr>
<tr>
<td>relaxat</td>
<td></td>
<td>17. I can easily create a relaxed atmosphere with students</td>
<td></td>
</tr>
<tr>
<td>exhala</td>
<td></td>
<td>18. I feel exhilarated after working closely with students</td>
<td></td>
</tr>
<tr>
<td>emoprob</td>
<td></td>
<td>19. I have accomplished many worthwhile things in this job</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>21. In my work I deal with emotional problems very calmly</td>
<td></td>
</tr>
</tbody>
</table>

Levels; and a postage-paid pre-addressed envelope in which to return the teachers’ questionnaires (see Appendix B).

Participants were requested to return their surveys and/or the letter of willingness to participate in the study, in the case of chairs, within 7 calendar days after receiving the package. Both the Survey on Academic Workload, for the chairs, and the Educators’
Survey on Academic Workload and Burnout Levels, for the teachers, had code numbers in one of the corners of the questionnaire. It was explained in their letters that these were for tabulation purposes only and in no way were they linked to their names.

A follow-up to the chairs was done via email 3 weeks after the date the packages were sent out, especially requesting them to fill out their surveys and also to encourage their teachers to participate.

Chairs and faculty were encouraged to get in touch with me, via email, in case of questions or doubts, and many did so, showing a willingness to participate in the study as well as an interest in the findings once they were obtained.

Appendix A contains copies of the cover letter for the chairs, the sample letter of willingness, and the cover letter for the faculty.

Responses were tabulated in an SPSS version 10 database, one for the responses of the chairs, and one for the responses of the faculty.

**Statistical Analysis of the Data**

All the statistical analysis were done using SPSS Version 10. Cluster analysis was utilized to develop typologies of academic workload based on the responses of department chairs in 11 Seventh-day Adventist universities and colleges to the Survey on Academic Workload.

The analysis closely followed the six-step process outlined in Hair et al. (1998). Nine variables of academic workload were identified in the survey and they differed according to the responses.
The clusters were derived employing the hierarchical method, which is a stepwise clustering procedure involving the combination of objects into clusters. The agglomerative algorithm used was the average linkage method (between groups) as this method tends to combine clusters with small within-cluster variance. The distance used to measure similarity was the squared Euclidean method. The agglomeration schedule showed that either a two- or a four-cluster solution was viable. I opted for the four-cluster solution, as the dendogram showed that the two-cluster solution left many outliers.

The validity of the four-typology clusters was supported by further clustering analysis utilizing other methods and combinations, such as centroid linkage using all nine variables, centroid linkage using only four variables, and average linkage using four variables. The makeup of the four clusters remained essentially the same, with very minor differences. The outliers remained essentially the same.

Multiple discriminant analysis was utilized in several cases where the faculty who responded to the survey did not have a department to match, and hence a typology to match. Utilizing their own perception of number of hours devoted to the nine activities of faculty work, multiple discriminant analysis allowed them to be identified with one of the four typologies that came up with cluster analysis. The stepwise method was used to estimate the discriminant function, with the Mahalanobis $D^2$ being the measure of statistical significance, as it was deemed the most appropriate (Hair et al., 1998).

A descriptive analysis of the demographic variables (gender, age, years of service in education, and rank of professorship), as well as of the other non-demographic variables (academic workload typologies, teacher perception of academic workload intensity, teacher...
perception of academic workload, emotional exhaustion, depersonalization, and reduced personal accomplishment) was utilized. The analysis included measures of central tendency (mean and mode), measures of variability (the range and standard deviation), score distributions, and frequency histograms.

The hypotheses were tested using Categorical Regression with Optimal Scaling (CATREG). The goal was to use regression analysis to predict a response variable from a set of possible predictor variables. This statistical analysis allowed for the use of categorical and metric independent variables at the same time. It does so by simultaneously scaling nominal, ordinal, and numerical values, without losing the characteristics of the original variable. By using non-linear transformations the variables can be analyzed at a variety of levels to find the best fitting model.

The results obtained by categorical regression with optimal scaling showed correlation coefficients ($r$), determination coefficients ($R^2$), and adjusted determination coefficients (adjusted $R^2$). Also shown were the beta coefficients for each hypotheses, that use standardized data to directly make comparisons between variables. Part and partial correlations, Pratt's relative importance measure, and $F$ tests were also displayed in this analysis.

**Summary**

This chapter presented the type of research, the description of the population, and the selection of the sample. A description of the instruments used, and of the variables involved was also included.
Additionally, this chapter presented the null hypotheses, the procedure for data collection, and the statistical methods utilized.
CHAPTER 4

ANALYSIS OF THE DATA

Introduction

An exploratory, descriptive, correlational study was conducted to determine the relationship of academic workload typologies and other selected demographic variables on the levels of burnout in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002. The development of academic workload typologies for Seventh-day Adventist colleges and universities was also part of the study, and an important preliminary step to the main objective of the research.

Undergraduate faculty in the departments of the sample were the unit of observation for the main section of this research. The department was the unit of observation for the development of the academic workload typologies.

Two instruments were used to arrive at the results presented in this chapter. The Survey on Academic Workload, an objective questionnaire filled out by department chairs, was the basis for the development of the academic workload typologies. The Educators’ Survey on Academic Workload and Burnout Levels, consisting of three sections (demographic information, academic workload information, and the Maslach Burnout Inventory), was the instrument that the undergraduate faculty of the sample filled out.
Chapter 4 presents the characteristics of the sample, the characteristics of the variables, the results of the statistical analysis of the data, and the testing of the null hypotheses.

**Characteristics of the Demographic Variables**

A combination of stratified, purposive, and random sample of 90 departments and 365 teachers in those departments was selected from 11 Seventh-day Adventist colleges and universities in North America in 2002. A total of 37 department chairs (41.1% of the sample) and 156 undergraduate faculty (42.7% of the sample) participated in the study on academic workload and levels of burnout.

Tables 2-5 show the demographic characteristics of the faculty who participated in the study, in relation to the variables of gender, age, years of service, and rank of professorship.

**Gender**

Approximately three-fourths of the respondents consisted of male faculty (71.2%) in contrast to female faculty (28.8%). See Table 2.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>111</td>
<td>71.2</td>
</tr>
<tr>
<td>Female</td>
<td>45</td>
<td>28.8</td>
</tr>
<tr>
<td>Total</td>
<td>156</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Age

Half of the respondents consisted of faculty 51 years or over (50.6%), while the age category of 41 to 50 accounted for 28.8%. Only 20% of the respondents were between 31 to 40 years (2.6% correspond to those <30 years, and 17.3% corresponded to those between 31-40 years). See Table 3.

Table 3

*Age of Respondents by Categories*

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30</td>
<td>4</td>
<td>2.6</td>
</tr>
<tr>
<td>31-40</td>
<td>27</td>
<td>17.3</td>
</tr>
<tr>
<td>41-50</td>
<td>45</td>
<td>28.8</td>
</tr>
<tr>
<td>51 or more</td>
<td>79</td>
<td>50.6</td>
</tr>
<tr>
<td>Total</td>
<td>155</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Rank of Professorship

Table 4 shows the distribution of the respondents according to rank of professorship. The highest percentage belonged to the professor category (42.9%), followed by the associate professor category (29.5%).
Table 4

*Rank of Professorship of Respondents*

<table>
<thead>
<tr>
<th>Rank of Professorship</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor</td>
<td>8</td>
<td>5.1</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>35</td>
<td>22.4</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>46</td>
<td>29.5</td>
</tr>
<tr>
<td>Professor</td>
<td>67</td>
<td>42.9</td>
</tr>
<tr>
<td>Total</td>
<td>156</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Years of Service in Education

Table 5 shows the results obtained on the variable Years of Service in Education: a mean and median of 18 years of service; multiple modes of 7, 20 and 25 years; a range that spreads from 1 to 43 years; and a standard deviation of 10.43.

Table 5

*Years of Service in Education of Respondents*

<table>
<thead>
<tr>
<th>n</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Range</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>147</td>
<td>18</td>
<td>18</td>
<td>7*</td>
<td>1-43</td>
<td>10.43</td>
</tr>
</tbody>
</table>

* Multiple modes exist. The smallest value is shown.*

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The frequency histogram, shown in Figure 2, shows a normal curve, being that the mean and the median are the same values, with the peculiarity that there are three mode values.

Characteristics of the Non-Demographic Variables

A univariate analysis was conducted to describe the non-demographic variables of the study, as a prior step to the testing of the hypotheses by multivariate analysis. Table 6 shows the number of cases, the minimum and maximum scores, the measures of central tendency (mean, median, mode), the standard deviation, and the skewness.
Table 6

Descriptive Statistics of the Study Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>n</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>SD</th>
<th>Skew</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic workload intensity</td>
<td>153</td>
<td>-2</td>
<td>3</td>
<td>1.33</td>
<td>1.00</td>
<td>1.00</td>
<td>1.12</td>
<td>-.322</td>
</tr>
<tr>
<td>Perception of academic</td>
<td>156</td>
<td>24</td>
<td>84</td>
<td>50.00</td>
<td>49.00</td>
<td>50.00</td>
<td>11.16</td>
<td>.326</td>
</tr>
<tr>
<td>workload</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional exhaustion</td>
<td>153</td>
<td>0</td>
<td>47</td>
<td>20.08</td>
<td>19.00</td>
<td>17.00</td>
<td>10.81</td>
<td>.175</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>154</td>
<td>0</td>
<td>20</td>
<td>5.71</td>
<td>5.00</td>
<td>1.00</td>
<td>4.41</td>
<td>.901</td>
</tr>
<tr>
<td>Personal Accomplishment</td>
<td>146</td>
<td>0</td>
<td>48</td>
<td>38.14</td>
<td>39.00</td>
<td>40.00</td>
<td>6.00</td>
<td>-.377</td>
</tr>
</tbody>
</table>

**Academic Workload Intensity**

The scale that measured the variable Academic Workload Intensity went from -3 to 3, -3 being rated as underloaded, and 3 being considered overloaded. The minimum score obtained was -2 and the maximum was 3.

The mean is higher than both the median and the mode. Figure 3 shows negatively skewed distribution, with a standard deviation of 1.12, with a skewness of -.322.
Perception of Academic Workload

The minimum score obtained was 24 and the maximum was 84. The measures of central tendency of this variable are very similar, with a mean of 50, a median of 49, and a mode of 50.

Figure 4 shows a positively skewed distribution, with a standard deviation of 11.16 and a skewness of .326.

Emotional Exhaustion

Emotional Exhaustion, one of the three subscales of the Maslach Burnout Inventory, was measured on a scale that ranged from a minimum of 0 to a maximum score of 54.
Figure 4. Frequency histogram of the variable Perception of Academic Workload.

The scores obtained in the sample ranged from a minimum of 0 to a maximum of 47. The mean showed a higher figure (20.08) than for the median and the mode (19.00 and 17.00 respectively). Figure 5 shows a positively skewed distribution as the mean was greater than the median. The standard deviation was 10.81, with a positive skewness of .175.
Depersonalization

The variable Depersonalization was measured on a scale from a minimum of 0 to a maximum of 30 points. The results obtained in the sample ranged from a minimum of 0 to a maximum of 20 points.

The mean was 5.71, the median 5.00, and the mode 1.00. Figure 6 shows a positively skewed distribution, with a standard deviation of 4.41, and a skewness of .901.

Personal Accomplishment

The variable Personal Accomplishment was measured with a scale that ranged from a minimum of 0 to a maximum of 48. The scores obtained in the sample ranged from a minimum of 24 to a maximum of 48.
Figure 6. Frequency histogram of the variable Depersonalization.

Results showed a mean of 38.14, a median of 39.00, and a mode of 40, indicating that the distribution is negatively skewed, as the mean is of lesser value than the median. A standard deviation of 6.00 and a skewness of -0.377 was obtained. Figure 7 shows the distribution for the variable personal accomplishment.

Academic Workload Typologies

Development Through Cluster Analysis

Cluster analysis was utilized to develop typologies of academic workload according to an objective report from department chairs in Seventh-day Adventist universities and colleges in North America in 2002.
The research design closely followed the six-step process outlined in Hair et al. (1998). Nine activities of academic workload were identified as follows: teaching, general advising, university support, community service, field-based programs/trips to affiliated schools, supervision of independent studies/internships, professional development, research/scholarship, and total number of hours worked per week. The time allocated to these nine activities differs based on the type of response.

Data were collected from the responses of 37 department chairs, which comprised 41.1% of the original sample of 90 department chairs. The clusters were derived employing the hierarchical method. The agglomerative algorithm used was the average linkage method (between groups), as this method tends to combine clusters with small within-cluster
variance. The distance used to measure similarity was the squared Euclidean method. The agglomeration schedule showed that either a two- or a four-cluster solution was viable. I opted for the four-cluster solution, as the dendogram showed that the two-cluster solution left many outliers (see Appendix D).

The validity of the four clusters was supported by further clustering analysis utilizing other methods and/or combinations, such as centroid linkage using all nine variables, centroid linkage using only four variables, and average linkage using four variables. The makeup of the four clusters remained essentially the same, with very minor differences. The outliers remained essentially the same.

Table 7 shows the four typologies that have emerged, with the numbers representing response cases.

The outliers were cases #1, #19, #33, #30, and #35. A careful analysis of the components of each of the outlier cases showed that cases #1 and #19 could be part of typology #1; and cases #30 and #35 could be part of typology #4. The remaining case, #33, due to the characteristics of its variables, cannot be logically included in any category and therefore was deleted from the analysis as it is deemed unrepresentative of the groups in the sample.

The typologies were formed using the nine variables or activities of academic workload. Utilizing a posteriori canonical discriminant analysis showed that four variables (i.e., teaching, research, university support, and professional development) correctly classified 91.7% of the cases in their respective typologies. (See Appendix D.)
Table 7

*Academic Workload Typologies*

<table>
<thead>
<tr>
<th>Typology 1</th>
<th>Typology 2</th>
<th>Typology 3</th>
<th>Typology 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>34</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>17</td>
<td>37</td>
<td>28</td>
<td>26</td>
</tr>
<tr>
<td>22</td>
<td>14</td>
<td>18</td>
<td>31</td>
</tr>
<tr>
<td>20</td>
<td>7</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>16</td>
<td>21</td>
<td>23</td>
<td>36</td>
</tr>
<tr>
<td>11</td>
<td>8</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>24</td>
<td>12</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>29</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The four typologies that have emerged, as well as the average time allocated to the four more important workload activities that resulted from the discriminant analysis performed, are shown on Table 8.

Typology #1, labeled *Teaching-oriented workload*, represents the academic workload that leans more heavily towards teaching as the main function than the other three typologies. On the other hand, it is the typology with the least amount of time devoted to university support, research, and professional development of all the other three. In regard to research, the average time allocated per week is less than an hour.

Typology #2, labeled *Balanced workload*, represents an academic workload that combines all the different activities in a balanced way. The characteristics of typology #2
place it between the extremes of typologies #1 and #4. Fewer hours per week are devoted
to teaching in comparison with typology #1, and this extra time is allocated to the other
workload activities considered (i.e., university support, research, and professional
development) although they do not reach the values shown for typology #4.

Table 8

Average Time Devoted to Academic Workload Activities by Typologies

<table>
<thead>
<tr>
<th>Activities</th>
<th>Typology #1 Teaching-oriented</th>
<th>Typology #2 Balanced</th>
<th>Typology #3 Lighter load</th>
<th>Typology #4 Research- and support-oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching</td>
<td>35.0</td>
<td>28.8</td>
<td>22.6</td>
<td>21.2</td>
</tr>
<tr>
<td>University support</td>
<td>2.2</td>
<td>2.4</td>
<td>2.5</td>
<td>6.0</td>
</tr>
<tr>
<td>Research</td>
<td>.6</td>
<td>4.1</td>
<td>1.3</td>
<td>6.0</td>
</tr>
<tr>
<td>Professional Development</td>
<td>1.2</td>
<td>3.1</td>
<td>1.1</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Typology #3, labeled **Lighter-load**, comprises the lighter workload of the four
typologies. The amount of time devoted to professional development is the lowest of the
four typologies.

Typology #4, labeled **Research- and support-oriented workload**, represents the
academic workload with the highest amount of hours per week devoted to research,
university support, and professional development. It also shows the least amount of hours
devoted to teaching in comparison with the other three typologies.
The mean value of the total weekly hours spent in academic pursuits reported by the 37 department chairs is presented in Table 9.

Table 9

*Minimum, Maximum, and Mean Values of the Four Academic Workload Typologies*

<table>
<thead>
<tr>
<th>Typology</th>
<th>Minimum hs/week</th>
<th>Maximum hs/week</th>
<th>Mean Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Teaching-oriented</td>
<td>39</td>
<td>57</td>
<td>44.9</td>
</tr>
<tr>
<td>#2 Balanced</td>
<td>40</td>
<td>53</td>
<td>45.6</td>
</tr>
<tr>
<td>#3 Lighter load</td>
<td>29</td>
<td>40</td>
<td>35.9</td>
</tr>
<tr>
<td>#4 Research- and support oriented</td>
<td>44</td>
<td>75</td>
<td>52.1</td>
</tr>
</tbody>
</table>

It is to be cautioned that cluster analysis is not a defined science, but an art. Different clustering techniques would probably lead to different results, hence the use of different methods and combinations that were applied in this study in order to produce a valid and practical classification. Therefore, the objective of forming typologies of academic workload for Seventh-day Adventist universities and colleges in North America at the undergraduate level is a first step in a long process. This objective has been to detect underlying patterns that will be used to relate to burnout levels. Due to the fact that cluster analysis bases its solution in both objective and subjective decisions, this has to be taken into consideration, and therefore there is the need for replication under varying circumstances.
Assignment of Typologies

Each of the 156 respondents to the Educators’ Survey on Academic Workload and Burnout Levels was assigned to an academic workload typology. The general criteria was to assign each case to the typology of its respective department. One hundred cases out of the 156 fell under this criteria.

The remaining 56 cases, which had no matching response from their department chairs, were assigned to one of the typologies based on their responses to the item on their surveys regarding perception of academic workload, and their allocation of hours per week to nine different activities. Multiple discriminant analysis was the statistical technique utilized. The variables were the nine activities of the teachers’ workload, even though research and scholarship was the predictor variable that significantly contributed the most to the discriminant function.

The stepwise method was utilized to estimate the discriminant function. The level of statistical significance was assessed with the Mahalanobis $D^2$ measure, which is based on generalized squared Euclidean distance that adjusts for unequal variances (Hair et al., 1998). The internal validity of the discriminant function was done by applying it to a holdout sample, in this instance the 100 cases that had already been assigned a typology through cluster analysis.

As shown on Table 10, 50% of all the teachers that responded fell under academic workload typology #1, which corresponded to a teaching-oriented typology. The typology least represented in the sample was typology #4, research- and support-oriented, which accounted for 11.5% of the total number of teachers.
Table 10

Frequency and Percentage of Teachers in Each Academic Workload Typology

<table>
<thead>
<tr>
<th>Typology #</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td># 1</td>
<td>78</td>
<td>50.0</td>
</tr>
<tr>
<td># 2</td>
<td>26</td>
<td>16.7</td>
</tr>
<tr>
<td># 3</td>
<td>34</td>
<td>21.8</td>
</tr>
<tr>
<td># 4</td>
<td>18</td>
<td>11.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>156</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Testing of the Null Hypotheses

Null Hypothesis 1

Categorical regression with optimal scaling was used to test the three null hypotheses by allowing nominal, ordinal, and numerical variables. This procedure quantifies categorical variables so that the quantifications retain the characteristics of the original categories. By applying this statistical procedure, all the variables-categorical and numerical-can be analyzed at the same time.

Null hypothesis 1 stated that there is no significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload intensity, and teacher perception of academic workload on the levels of emotional exhaustion in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.
A multiple correlation coefficient ($R$) of .616 ($F_{7,132} = 11.506$, sig. = .000) showed that there is a significant multiple relation between the predictor variables and the criterion variable. A coefficient of determination ($R^2$) of .379, and an adjusted coefficient of determination (adjusted $R^2$) of .346 showed that 37.9% and 34.6% respectively of the variability of emotional exhaustion was explained by the predictor variables.

Academic workload intensity (Importance = .430), academic workload typologies (Importance = .218), and years of service in education (Importance = .182) were the variables that contributed the most to the regression, according to Pratt’s measure of relative importance, shown in Table 11. The other variables (gender, age, rank of

Table 11

**Correlation Coefficients and Importance of the Variables Related to Emotional Exhaustion (Categorical Regression With Optimal Scaling)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload intensity</td>
<td>.369</td>
<td>.401</td>
<td>.345</td>
<td>.430</td>
</tr>
<tr>
<td>Academic workload typology</td>
<td>-.260</td>
<td>-.303</td>
<td>-.251</td>
<td>.218</td>
</tr>
<tr>
<td>Years of service in education</td>
<td>-.209</td>
<td>-.198</td>
<td>-.159</td>
<td>.182</td>
</tr>
<tr>
<td>Age</td>
<td>-.085</td>
<td>-.092</td>
<td>-.073</td>
<td>.062</td>
</tr>
<tr>
<td>Rank of professorship</td>
<td>-.092</td>
<td>-.094</td>
<td>-.074</td>
<td>.060</td>
</tr>
<tr>
<td>Gender</td>
<td>-.076</td>
<td>-.091</td>
<td>-.072</td>
<td>.051</td>
</tr>
<tr>
<td>Perception of academic workload</td>
<td>-.008</td>
<td>-.010</td>
<td>-.008</td>
<td>-.002</td>
</tr>
</tbody>
</table>

*Note. $R = .616, R^2 = .379, Adjusted R^2 = .346, F_{7,132} = 11.506, \text{sig.} = .000.*
professorship and perception of academic workload) showed low importance. Considering the results obtained, null hypothesis 1 was rejected and the research hypothesis 1 was retained.

**Null Hypothesis 2**

Null hypothesis 2 stated that there is no significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload intensity, and teacher perception of academic workload on the levels of depersonalization in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

Table 12

*Correlation Coefficients and Importance of the Variables Related to Depersonalization (Categorical Regression With Optimal Scaling).*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.387</td>
<td>-0.307</td>
<td>-0.298</td>
<td>0.924</td>
</tr>
<tr>
<td>Workload intensity</td>
<td>0.109</td>
<td>0.111</td>
<td>0.103</td>
<td>0.068</td>
</tr>
<tr>
<td>Rank of professorship</td>
<td>0.068</td>
<td>0.059</td>
<td>0.055</td>
<td>-0.062</td>
</tr>
<tr>
<td>Perception of academic workload</td>
<td>-0.129</td>
<td>-0.133</td>
<td>-0.125</td>
<td>0.058</td>
</tr>
<tr>
<td>Years of service in education</td>
<td>-0.022</td>
<td>-0.018</td>
<td>-0.017</td>
<td>0.030</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.053</td>
<td>-0.054</td>
<td>-0.050</td>
<td>-0.022</td>
</tr>
<tr>
<td>Academic workload typology</td>
<td>-0.021</td>
<td>0.023</td>
<td>0.021</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*Note.* $R = 0.380$, $R^2 = 0.144$, Adjusted $R^2 = 0.099$, $F (7, 133) = 3.97$, sig. = 0.04.
A multiple correlation coefficient \( R \) of .380 \( (F_{7,133}) = 3.197, \text{ sig.} = .004 \) showed a significant relation between the predictor variables and the criterion variable, depersonalization. 14.4\% \( (R^2 = .144) \), and 9.9\% (adjusted \( R^2 = .099 \)) of the variance of depersonalization was explained by the predictor variables.

Pratt's measure of relative importance indicated that the variable Age (Importance = .924) contributed the most to explain the variance in the criterion variable. The other variables showed a more limited contribution.

Considering the results obtained, null hypothesis 2 was rejected and the research hypothesis 2 was retained. See Table 12.

**Null Hypothesis 3**

Null hypothesis 3 stated that there is no significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload intensity, and teacher perception of academic workload on the levels of Personal Accomplishment in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

Categorical regression analysis with optimal scaling utilized to test null hypothesis 3 did not show a significative multiple relation between the predictor variables and the criterion variable Personal Accomplishment. Results showed a multiple correlation coefficient \( R \) of .269, \( F (7,123) = 1.390, \text{ sig.} = .215 \).

In view of these results, null hypothesis 3 was retained.
Chapter 4 has presented the statistical analysis and the results obtained in the study on the relationship between academic workload and other demographic variables on the levels of burnout in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

A total of 37 department chairs and 156 full-time faculty participated in this study, corresponding to a response rate of 41.1% and 42.7% of the sample respectively.

Almost three-fourths of the sample was male (71.2%) compared to female (28.8%). More than half of all faculty were 51 years or over. Closely following is the age category of 41-50 years which accounts for 28.8% of the sample. Only 20% of the sample belonged to 30 years and younger category.

The highest percentage of full-time faculty is professors (42.9%), followed by assistant professors (29.5%).

With regard to years of service in education, the mean is 18 years. The results show three modes, at 7 years, 10 years, and 25 years, which account for 20.4% of the sample.

Academic workload intensity measured the perception of the faculty in regard to their workload. The mean obtained was 1.33 on a scale from -3 to 3, indicating a certain level of overload.

The perception of academic workload, measured in terms of total hours per week of academic work, revealed that faculty work an average of 50 hours per week.
The three variables related to burnout levels had the following results: emotional exhaustion, a mean of 20.08, with a positively skewed distribution (.175); depersonalization, a mean of 5.71, with a positively skewed distribution (.901); and, personal accomplishment, a mean of 38.14, with a negatively skewed distribution (-.377).

Four typologies of academic workload were developed through cluster analysis. The four typologies are as follows: teaching-oriented, balanced, lighter-load, and research- and support-oriented. In the teaching-oriented typology, the main function is teaching, with much less time per week devoted to the other activities than the rest of the typologies. The balanced workload is characterized by a combination of the four activities of workload considered (i.e., teaching, university support, research, and professional development). The lighter-load typology is the one that displayed the least hours per week devoted to the four activities of workload. The research- and support-oriented workload is characterized by the highest amount of time devoted to research, support and professional development, and the least amount in teaching, compared to the other three typologies.

Fifty percent of all faculty fell under the teaching-oriented workload typology, followed by 21.8% of faculty in the lighter-load, 16.7% in the combination, and 11.5% in the one oriented towards research and support.

The null hypotheses were tested and the results were as follows. Of the three null hypotheses, two were rejected and one was retained. Null hypothesis 1 was rejected as the results showed that there is a significant multiple relation between the predictor variables and emotional exhaustion. 37.9% of the variability of emotional exhaustion was mostly explained by three of the predictor variables (academic workload intensity,
Importance=.430; academic workload typologies, Importance=.218; and years of service in education, Importance=.182).

Null hypothesis 2 was rejected as the results showed a significant multiple relation between the predictor variables and depersonalization. 14.4% of the variability of depersonalization was mostly due to one variable, Age (Importance=.924).

Null hypothesis 3 was retained as the results did not show a significant multiple relation between the predictor variables and Personal Accomplishment.
CHAPTER 5

DISCUSSION OF THE FINDINGS, CONCLUSIONS,
AND RECOMMENDATIONS

Chapter 5 presents a summary of the study, the discussion of the findings, the conclusions, and the recommendations. The summary includes the statement of the problem, a brief review of the pertinent literature and the research methodology, the description of the participants, and the findings.

Summary

Burnout has long been recognized as a reality in service-centered professions such as teaching. The demands placed on teachers are multiple and intensive. Teaching can be a profoundly rewarding experience that will result in good interpersonal relationships between teachers and students, and successful learning outcomes, or it can be emotionally draining and discouraging, with serious consequences both for the professional’s career and for the learning outcomes.

Many factors have been studied as predictors of burnout, among them, work overload. Other variables that could have a predicting impact in levels of burnout are gender, age, years of service in education, and rank of professorship.
Statement of the Problem

Considering that there is research evidence that highlights the relationship of workload and other demographic variables to faculty burnout, and that no study up to the present time had been done in Seventh-day Adventist colleges and universities at the undergraduate level in this respect, the following question guided this research:

Is there a significant relationship of academic workload typologies, gender, age, rank of professorship, years of service in education, teacher perception of academic workload intensity, and teacher perception of academic workload on the levels of the three components of burnout in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?

In order to be able to link academic workload typologies to levels of burnout, the study also focused on the objective of developing categories of academic workload for Seventh-day Adventist colleges and universities.

Brief Review of the Literature

One of the prevalent issues in today's workplace is burnout, which according to Maslach and Leiter (1997) is reaching epidemic proportions in North America. There are fundamental changes in the workplace, fueled by societal, economic, and technological shifts, that are undermining the health and results of the workplace. Teaching is a profession that is especially vulnerable to burnout.

The term burnout was first coined by Dr. Herbert Freudenberger, an American psychiatrist who worked in free clinics in New York. His original work (1974) came as a
result of his observations of the people who worked in those clinics. People started out with high ideals, a great degree of commitment, and energy. However, as time went by, Freudenberger observed that these workers experienced loss of their energy, commitment, and motivation, and exhibited a host of mental and physical symptoms.

At the same time that Freudenberger was investigating this phenomenon, Cristina Maslach (1976) was doing the same thing on the West Coast. These two seminal studies laid the foundation for further research in burnout.

In 1986, Maslach and Jackson developed a standardized measurement of the burnout construct, the Maslach Burnout Inventory (MBI), which up to the present time is one of the most used instruments to measure burnout. According to the MBI, burnout is composed of three dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion refers to depletion of emotional capacity, feelings of being emotionally overextended and overwhelmed by others, and a general sense of fatigue during workdays. Depersonalization refers to a negative and cynical attitude towards one’s own clients. Reduced personal accomplishment is the tendency to view one’s own work in a negative way.

Other authors have also attempted to develop other measures and conceptualizations of burnout, among them the Tedium Measure (Pines et al., 1981), the burnout phase model (Golembiewski & Munzenrider, 1988), and burnout as a process (Cherniss, 1980a).

Schaufeli and Enzmann (1998, pp. 21-24) have compiled a rather long list of cognitive, behavioral, affective, and physical signs of burnout. Two things should be kept
in mind: (a) as we are holistic in nature, the manifestation of burnout can show signs in several of these categories at the same time, and (b) burnout is not a state but a process, therefore, an individual can experience some of these signs at different times and different levels (p. 34).

Two main theoretical approaches to burnout have surfaced over the years. The first one centers on individual characteristics that are predictors of burnout. The other one emphasizes that organizational characteristics are more important than individual ones in predicting burnout. Both models have different implications for intervention programs.

Among the many possible predictors of burnout in university teachers, workload stands out as one of the principal ones (Blix et al., 1994; Chalmers, 1998; Gmelch et al., 1984; Talbot, 2000).

Traditionally, academic workload has comprised three areas: teaching, research, and service. Institutions and departments use these three main areas or a number of subareas of faculty activities, in accordance with their mission and objectives.

There is evidence that academic workload has been increasing quantitatively and qualitatively. Technology and information overload have contributed to increased demands and possibly stress and burnout (Chalmers, 1998).

Gender, age, years of service in education, and rank of professorship have been the subject of several studies that link them to burnout levels in university faculty (Goldenberg & Waddell, 1990; Poinquinette, 1991; Wageman, 1999).
Research Methodology

A non-experimental, exploratory, correlational, field-based, and cross-sectional research was conducted during the months of October-December 2002, surveying full-time undergraduate faculty in 11 Seventh-day Adventist colleges and universities in North America.

The study attempted to reach the objective of developing academic workload typologies for Seventh-day Adventist colleges and universities. The data for the typologies were collected by an objective questionnaire sent out to 90 department chairs, which were selected by a combination of stratified, purposive, and random sampling.

The study also attempted to answer the following question:

Is there a significant relationship of academic workload typologies, gender, age, rank of professorship, number of years of service, teacher perception of academic workload intensity, and teacher perception of academic workload on the levels of emotional exhaustion, depersonalization, and reduced personal accomplishment in full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002?

The data for the above-mentioned research question were gathered by a subjective, self-report instrument, that included the Maslach Burnout Inventory. It was sent to 365 full-time faculty at the 90 departments selected.

The statistical analysis was done using SPSS version 10. Cluster analysis was utilized to develop the academic workload typologies. A descriptive analysis of the demographic variables (gender, age, years of service in education, and rank of professorship), as well as the other non-demographic variables, were utilized.
The null hypotheses were tested using categorical regression with optimal scaling (CATREG).

Description of the Participants

A total of 37 department chairs (41.1% of the sample) and 156 undergraduate faculty (42.7% of the sample) participated in the study on academic workload and levels of burnout.

Approximately three-fourths of the respondents consisted of male university teachers (71.2%) compared to 28.8% of female teachers. More than 50% of the faculty are 51 years old or over; 28.8% are in the 41-50 category, and only 20% are younger than 40 years.

In regard to rank of professorship, the highest percentage corresponded to full professors, accounting for 42.9% of the respondents, followed by 29.5% of associate professors.

Eighteen years was the mean for years of service in education. The distribution of this variable showed that 20.4% of the respondents were concentrated at 7, 10, and 25 years. The rest were evenly distributed throughout the whole range of values, which went from 1-43 years of service.

Summary of Findings Regarding Non-Demographic Variables and Null Hypotheses

Four typologies of academic workload emerged from the statistical analysis: teaching-oriented, which accounted for 50% of all the respondents; balanced, with 16.7%
of the faculty; lighter-load, with 21.8% of the faculty; and research- and support-oriented, with 11.5% of the faculty.

Four workload activities (i.e., teaching, university support, research, and professional development) were found to be important discriminant variables. These areas are differently combined in the four typologies.

The variable academic workload intensity, which measured the perception of faculty in regard to the intensity of their workload, showed a mean of 1.33, on a scale from -3 to 3.

The variable academic workload perception, measured in total hours of work per week, revealed a mean of 50 hours per week.

The null hypotheses were tested and showed the following results. Null hypothesis 1 was rejected as the results found a significant relation between some of the predictor variables and emotional exhaustion. The predictor variables that explained the variance in the criterion variable were academic workload intensity, academic workload typologies, and years of service in education.

Null hypothesis 2 was rejected as one of the predictor variables, age, showed a relation between it and depersonalization, even though the explained variance was not high.

Null hypothesis 3 was retained as the results did not show a significant relation between the predictor variables and reduced personal accomplishment.
Discussion

In the following section the results presented in chapter 4 will be discussed within the theoretical framework of this research.

The question that guided this study, presented in chapter 1, considered if there was a significant relationship between seven predictor variables (academic workload typologies, gender, age, years of service in education, rank of professorship, teacher perception of academic workload intensity, and teacher perception of academic workload) on the levels of burnout among full-time faculty in Seventh-day Adventist colleges and universities in North America in 2002.

Burnout, according to Maslach and Jackson (1986) who developed the instrument used in this study, is a multi-dimensional syndrome characterized by three distinct components: emotional exhaustion, depersonalization, and reduced personal accomplishment. Burnout is conceptualized as a continuous variable, ranging from low to moderate to high degrees of experienced feeling. It is not considered as a dichotomous variable, which is either present or absent (Maslach et al., 1996). Also, the scores of the three subscales are considered separately, not in combination in a single score. The categorization of the MBI scores, according to these authors, places the low scores in the lower third of the normative distribution, the average scores in the middle third, and the high scores in the upper third. Considering all of the above, three hypotheses developed from the research question, one for each component of the burnout construct.
Hypothesis 1—Emotional Exhaustion

Hypothesis 1 refers to levels of emotional exhaustion, one of the components of burnout, which are feelings of being emotionally overextended and exhausted by one's work. Initially, there is a tired and fatigued feeling that as it becomes chronic, educators find that they can no longer meet the demands of the job. In the present study, emotional exhaustion showed a mean of 20.08, with a standard deviation of 10.81 (Table 6). The mean of 20.08 scores in the middle range of experienced emotional exhaustion, according to the categorization developed by Maslach et al. (1996). These scores for postsecondary education range from 14-23, thus Seventh-day Adventist faculty are positioned in the middle range, indicating a moderate emotional exhaustion, leaning towards the higher end.

A word of caution is necessary at this point to indicate that the classification levels of burnout mentioned above are based on arbitrary statistical norms (Schaufeli et al., 1993). These cutoff points serve only as reference and “should not be used for diagnostic purposes” (Maslach et al., 1996, p. 9).

The present study seems to confirm the findings of Poinquinette (1991), who found that her sample of full-time faculty in private colleges experienced moderate to high emotional exhaustion.

On the other hand, it would seem that the Seventh-day Adventist faculty respondents had a higher score in emotional exhaustion than a general population of university teachers, whose mean was 18.57, with a standard deviation of 11.95 (Maslach et al., 1996). The same would hold true for the results found by Blix et al. (1994), who
conducted a research at the California State University system, showing a mean of 18.51 for emotional exhaustion in their sample of university teachers.

The higher emotional exhaustion score evidenced by Seventh-day Adventist faculty in contrast with state university teachers would possibly be due to institutional size and institutional philosophy, which imply greater demands of the job.

In addition to the emotional exhaustion score, the statistical analysis revealed that a significant relationship ($R = .616$, $F(7, 132) = 11.506$, sig. = .000) was found between the predictor variables and the level of emotional exhaustion. A coefficient of determination ($R^2$) of .379 indicated that 37.9% of the variability of emotional exhaustion was explained by the predictor variables. The predictor variables with the greatest contribution to this variability are, in order of importance, teacher perception of academic workload intensity (Importance = .430), academic workload typologies (Importance = .218), and years of service in education (Importance = .182). The other predictor variables (gender, age, rank of professorship, teacher perception of academic workload) contribute almost negligible amounts to the variability of emotional exhaustion (Table 11).

The predictor variable that contributed the most to the regression was the perception of academic workload intensity (Table 11). The beta coefficient for academic workload intensity equation was positive, indicating that the higher the intensity perceived, the higher the level of emotional exhaustion. It was measured on a scale from -3 to 3, -3 being underloaded and 3 being overloaded. The mean was 1.33, with a standard deviation of 1.12, indicating that the average university teacher feels a certain degree of work overload. The distribution is negatively skewed, indicating a majority of the scores are at
the right of the median. Two-thirds of the cases perceive they are overloaded (scores between 1 and 3, Figure 3).

This perception of academic workload intensity confirms, to a certain extent, the findings of the majority of the studies reviewed. Two studies done in Australian universities (Dua, 1994; Winter et al., 2000) showed that university faculty perceive heavy workload as one of their major stressors (34% and 45% respectively). The perception of academic workload intensity seems to have produced higher results in the present study (67%).

A possible explanation for these results could be explained by some of the authors reviewed in the literature. References to increases in academic workload are abundant (Cage, 1995; Soliman & Soliman, 1997; Winkler, 1992). For these researchers, the increase in academic workload is best explained by a decreasing workforce, budgetary constraints, and having to do more with fewer personnel.

For Swenson (1992) information overload and advances in technology have caused increased demands. A Faculty Survey (1999) at the University of California, Los Angeles campus, showed that 67% of faculty found that keeping up with technology was stressful.

Other possible explanations for the perception of an increase in the intensity of academic workload are presented by Harden (1999). He contends that whereas before teachers were concerned only with the content areas, now they are pressured to include new educational approaches and strategies.

The teacher now needs to grapple with issues such as reliability, validity, and standard setting and to have a familiarity with a range of methods including different forms of written assessment, performance assessment, and newer
approaches such as portfolio assessment. The need for curriculum evaluation, academic audit and quality assurance adds to the teacher’s burden. (pp. 245-247)

Harden (1999) concludes by saying that “teaching is more demanding than in the past” (p. 246).

In the emotional exhaustion regression analysis, the predictor that followed the perception of academic workload intensity in importance was academic workload typologies (Importance= .218).

This study also had the objective of developing academic workload typologies for Seventh-day Adventist colleges and universities (see chapter 1). The academic typologies are classifications based on hours per week that university faculty devote to different areas of work, according to the department chairs (see chapter 3, “Operationalization of the Variables”). Number of hours per week was used as the measure following Yuker’s (1974) suggestion that “hours constitute the best single measure of faculty workload and are the dependent variable used in most current studies of faculty activities” (p. 14).

Yuker (1974) underlined the difficulties encountered in developing categories, which were also experienced in the present study. The chairs who responded to the objective questionnaire used to develop the typologies, the Survey on Academic Workload, were sometimes confused as to the meaning and the hours allocated to each activity, as evidenced by their emails and phone calls. In general, chairs and teachers have a difficult time in remembering what they do in a typical week, simply because academics are not used to thinking in terms of the different activities they perform.
Another issue that compounds the difficulties of workload typologies is that “a problem in interpreting literature about faculty workload stems from the idiosyncratic use of workload categories” (Yuker, 1974, p. 15). Yuker predicts that the categories used in future studies will continue to be idiosyncratic and not standardized, with the inevitable consequence that the results obtained at different institutions will not be comparable. Therefore, the development of typologies for Seventh-day Adventist colleges and universities has to be used in a discretionary manner, as a preliminary effort that will open the way for more in-depth studies on workload.

Four typologies emerged from the statistical analysis based on the time allocated, in number of hours, to different activities (see chapter 4). According to Table 10, 50% of all the respondents fell under academic typology #1, which leaned the most towards teaching as the central function. The other typologies had smaller representation, especially typology #4, research- and support-oriented, with 11.5% of the respondents represented in this category.

This distribution is explained by the fact that the sample was comprised of undergraduate university faculty, who in general, devote more time to teaching than to research. In institutions where there is no specific mandate to research, teachers devote approximately 75% of their time to teaching, and the rest of the time is divided between research and service, in varying proportions (Mancing, 1994).

Considering that the variable academic workload typologies is nominal, further analysis was required to determine if there was a significant difference between the four typologies, and which typology showed a higher level of emotional exhaustion. To this
end, a one-way ANOVA and a post-hoc test (Dunnet T3) were conducted. The analysis showed that there was a significant difference between the typologies ($F_{2,149} = 4.818$, sig. = .003). Typology #4, research- and support-oriented workload, differed significantly from typology #1, teaching-oriented workload, and typology #3, lighter-load workload. Typology #1, teaching-oriented workload, displayed the highest level of emotional exhaustion, followed by typology #3, lighter-load workload. Typology #4, research- and support-oriented workload, showed the lowest level of emotional exhaustion (see Appendix D).

It would seem that university faculty who devote more time to activities other than teaching, such as university support, research, and professional development, have more control of their discretionary time to pursue projects of their choosing. This greater control plus the added rewards of doing research (i.e., tenure, promotion, salary, and recognition) could be an explanation of the lower levels of emotional exhaustion displayed by the faculty in typology #4, research- and support-oriented. This stands in contrast, though, with Manning (1990) who found that at Oklahoma State University teachers who devoted 20% or more of their time to research and had to publish three or more articles a year showed higher levels of burnout than those who devoted less time to this aspect of workload.

The fact that the two highest contributors to emotional exhaustion are both linked to workload (perception of academic workload intensity, and academic workload typologies) stresses how fundamental workload is to emotional exhaustion. This fact is
widely confirmed by numerous studies (Easthope & Easthope, 2000; Goldenberg & Waddell, 1990; Harden, 1999; Hughes, 1995).

The third predictor variable in terms of importance in the emotional exhaustion regression analysis was years of service in education (Importance= .182). The responses ranged from 1 year to 43 years of service in education. The mean was 18 years of service, with a standard deviation of 10.43. The distribution was normal.

In spite of the fact that years of service in education are linked to levels of emotional exhaustion, the literature is sparse and contradictory. The results of the present study showed a negative beta coefficient, indicating that fewer years of service in education produced higher levels of emotional exhaustion. Similar results were found in Goldenberg and Waddell (1990), and Lopez (2000) who argue that faculty with fewer years of service are the ones who experience the highest levels of emotional exhaustion. On the other hand, Hughes (1995) contends that faculty with more than 10 years of service are at a higher risk of burnout. Even though years of service would appear as an important predictor of burnout, “research findings . . . show generally little support for this notion” (Vanden Berghe & Huberman, 1999, p. 20).

**Hypothesis 2–Depersonalization**

Hypothesis 2 refers to levels of depersonalization, the second component of burnout. Depersonalization is characterized by a display of negative and cynical feelings towards students, or cold and distant attitudes, and by physically and emotionally distancing themselves from students. In the present study, depersonalization showed a
mean of 5.71, with a standard deviation of 4.41 (Table 6). The mean of 5.71 falls in the average range of experienced depersonalization, in the normative distribution developed by Maslach et al. (1996). This would place the Seventh-day Adventist faculty sample in the middle range, which for postsecondary educators ranges from 3-8, indicating a moderate level of depersonalization.

The Seventh-day Adventist faculty participants showed a very similar score (mean, 5.71; standard deviation, 4.41) as that of the general population of university faculty, whose mean was 5.57, with a standard deviation of 6.63 (Maslach et al., 1996).

However, two studies seem to contrast with the present one in depersonalization scores. A mean of 5.39 was found for the university faculty at the University of California, Los Angeles campus (Blix et al., 1994); and a mean of 3.92 with a standard deviation of 3.00 was found by Talbot (2000) in her sample of nursing faculty. In fact, this last study showed that 92.1% of the faculty reflected a low score in depersonalization.

Emotional exhaustion and depersonalization are two dimensions that are moderately correlated (Maslach et al., 1996). They are separate, but related, aspects of burnout, in accordance with the theory reviewed. Thus, it would seem that the moderate leaning to high scores in emotional exhaustion of the present sample would also influence a higher depersonalization score than what appears in other samples. The negative, distant, and/or cynical attitudes and feelings toward students could be interpreted as a coping mechanism in order to continue functioning in spite of symptoms of emotional exhaustion. Some authors contend that emotional exhaustion paves the way for depersonalization, or is one of its outcomes (Leiter, 1991). Regardless of its relationship to emotional
exhaustion, depersonalization is a crucial component to the teaching profession, where there is an “ethical and professional commitment” to a personal regard for students (Leiter, 1991, p. 550). Even though the findings placed the Seventh-day Adventist faculty in the average category for postsecondary faculty, it should be still regarded with concern, especially in the light of Seventh-day Adventist philosophy and values.

The statistical analysis performed to test Hypothesis 2 revealed a coefficient of correlation ($R$) of .380, a coefficient of determination of .144, and an adjusted coefficient of determination of .099, $F(7,133) = 3.197$, sig.=.004. This indicates that there is a significant relationship between the predictor variables and depersonalization, and that 14.4% of the variability of depersonalization is explained by the predictor variables.

Recently published studies on coefficients of determination state that when $R^2$ is .25 or less there is a great probability that it lacks importance even though it shows significance (depending on sample size) (Alf & Graf, 2002). In this strict scenario, depersonalization with a coefficient of determination of .144 and a significance of .004 would not be a valuable index. However, in the present study, even though the coefficient is small it will still be assumed valid to help explain the explanatory power of the regression equation, especially because there is one predictor variable that almost explains by itself the impact on the variability of depersonalization, age (Importance=.924). The other predictor variables have almost negligent importance scores.

The Seventh-day Adventist university faculty accounted for 50.6% of faculty in the age category of 51 and over. Those faculty between 41 and 50 accounted for 28.8% of the respondents. These figures are higher than the results of the National Norms for the
1998 Higher Education Research Institute Faculty Survey, drawn from a national sample of 33,785 university faculty members nationwide, where nearly one-third were 55 or older, compared with one-fourth a decade ago. Confirming these figures, Kezar (2000) mentions in her studies of faculty trends that, as an example, the University of Wisconsin over the next decade will face a projected massive retirement close to 40% of their faculty. The “graying” of the American college and university faculty poses many challenges in the near future.

The beta coefficient for age was negative, showing an inverse correlation between age and depersonalization. In other words, the higher the age, the lower the levels of depersonalization. Contrary to the results displayed by this research, several studies found that age is not related to depersonalization levels (Byrne, 1991; Manning, 1990). Lopez (2000) found that older faculty show higher levels of depersonalization, and Wageman (1999) showed that university faculty between 40 and 49 years of age showed higher depersonalization levels than those faculty 50 and over.

**Hypothesis 3—Personal Accomplishment**

Hypothesis 3 refers to the third dimension of burnout, levels of reduced personal accomplishment. The personal accomplishment subscale measures feelings of competence and successful achievement in one’s work. In contrast to the other two scales, a lower mean score in personal accomplishment corresponds to higher degrees of burnout.

The mean score obtained for personal accomplishment by the Seventh-day Adventist faculty was 38.14 with a standard deviation of 6.00. Maslach et al.’s normative
distribution (1996) for personal accomplishment ranges from 42 to 36 in the moderate range, where the mean of 38.14 is positioned. A similar finding was presented by Blix et al. (1994) who reported a score of 37.03 for personal accomplishment and considered that the majority of the teachers in their sample evidenced a strong sense of this dimension. It would seem that the relatively strong score of the Seventh-day Adventist faculty in levels of personal accomplishment reflects the ideals of the teaching profession and of the Seventh-day Adventist value system.

In terms of the regression analysis, no significant multiple relationship was found between the predictor variables and the criterion variable. It did not meet the test of significance, therefore, the null hypothesis was retained.

Final Considerations

The findings of the present study, especially the testing of the hypotheses, underline the fact that emotional exhaustion is the most critical and defining dimension of burnout (Grajales, 2000, as cited in Quinteros, 2000; Koeske & Koeske, 1989; Leiter, 1991; Shirom, 1989). For Cox et al. (1993) there is ample evidence that emotional exhaustion is central to the burnout concept and it is what determines, to a certain point, the dimension of depersonalization. Personal accomplishment seems to be uncorrelated and independent of the other two scales.

Despite the fact that gender, rank of professorship, and teacher perception of academic workload expressed in total hours of work per week were not deemed important
predictor variables for levels of burnout, they still merit a discussion of how the variables in the study performed.

Seventh-day Adventist male faculty in this study comprised 71.2%, compared to 28.8% of female faculty. This percentage stands in contrast with the 1998 faculty survey conducted nationwide, which reported 64% for males and 36% for females (Higher Education Research Institute, 1998). The national trend has shown a more balanced percentage, comparing 73% of males in 1988 (Russell et al., 1990) and 64% in the 1998 report mentioned above. The Seventh-day Adventist university faculty apparently show a more gradual change in gender balance.

Gender relationship with burnout is sparse and contradictory.

With regard to rank of professorship, 72.4% of the respondents were comprised by the ranks of full professor (42.9%) and associate professor (29.5%). The most recent study found in regard to rank of professorship showed 33% of full professors, and 24% of associate professors nationwide. This study was done in 1988 (Russell et al., 1990) and it would seem probable that more than 10 years later these figures would have had a considerable increase. There is a scarcity of studies that include rank of professorship as a predictor variable on levels of burnout. Wageman, in 1999, found that associate professors score higher in depersonalization than full professors, while Richard and Krieshok (1989, cited in Guglielmi & Tatrow, 1998) showed that stress decreases as faculty rank increases.

Finally, the predictor teacher perception of academic workload, in terms of total hours per week, showed a mean of 50 hours of work, with a standard deviation of 11.16, and displayed an almost normal distribution. The mean of 50 hours per week is quite
similar to several studies. Jordan and Layzell (1992) reported that teachers in Arizona worked between 50 and 60 hours per week. Winkler (1992) showed 52 hours as the average work week for university faculty in Virginia. The American Association of University Professors (1994) stated that since 1977 workload increased by about 10 hours, from 42-44 to 52-44 nationally. These studies seem to confirm the results of the present research.

Conclusions

The following conclusions can be drawn from the present study:

A selective demographic profile for the Seventh-day Adventist full-time undergraduate faculty showed that 71.2% are male, 79.4% are 40 years or over, with an average of 18 years of work in education, and 72.4% hold the rank of associate or full professor.

The non-demographic profile revealed that two-thirds of the Seventh-day Adventist full-time faculty perceive a certain degree of work overload; 75% fall under the teaching-oriented workload typology; and teach an average of 50 hours per week.

The three burnout subscales showed the following scores for the participants of this study: moderate leaning on high levels of emotional exhaustion, moderate levels of depersonalization, and moderate levels of personal accomplishment.

Four academic workload typologies emerged from the database, as follows:
Typology #1—labeled Teaching-oriented workload—represents an academic workload where the main function is teaching, with little time devoted per week to university support, research, and professional development.

Typology #2—labeled Balanced workload—represents an academic workload characterized by a combination of teaching, university support, research, and professional development.

Typology #3—labeled Lighter-load workload—represents an academic workload with a lighter load in all of the four activities considered.

Typology #4—labeled Research- and support-oriented workload—represents an academic workload characterized by a fewer amount of time devoted to teaching than the other typologies, and more time devoted to university support, research, and professional development.

The testing of the hypotheses showed that there was a significant relationship ($R^2=.379$) of the predictor variables and levels of emotional exhaustion in full-time faculty at Seventh-day Adventist colleges and universities in North America. The predictor variables that contributed the most to the levels of emotional exhaustion were teacher perception of academic workload intensity, academic workload typologies, and years of service in education.

A significant, although weak, relationship ($R^2=.144$) was found between the predictor variables and levels of depersonalization in full-time faculty at Seventh-day Adventist colleges and universities in North America. In spite of the weak relationship, the
interesting finding was that the major contributor (Importance = .924) to depersonalization was age.

No significant relationship was found between the predictor variables and levels of personal accomplishment.

Recommendations

Considering the findings and conclusions of this study, the following recommendations are proposed for practice and further research.

For Practice

1. The academic workloads of college and university faculty could be revised so that there will be a sustainable workload that will enable educators to remain active, healthy, and committed for the long haul.

2. The department could allow flexibility in distributing academic workload, focusing on the strengths of each particular teacher, within the possibilities of the department, and the mission and the values of the institution.

3. Academic workloads could be allocated in such a way as to prevent burnout and foster a balanced life.

4. The institution could conduct organizational audits to determine the areas that cause burnout, and adopt the necessary changes and interventions.
For Further Research

1. Further studies could be conducted with the predictor variables to gain more in-depth knowledge of their performance in relation to burnout levels.

2. Further studies could be conducted on academic workload, following this exploratory study and this attempt to develop academic workload typologies.

3. A replication of this study could be conducted among full-time graduate faculty at Seventh-day Adventist universities.

4. Longitudinal studies could be conducted to study the relationship of the predictor variables on levels of burnout over time.

5. Other predictor variables such as decision latitude, value conflicts, organizational trust, and perception of organizational fairness, could be incorporated into the burnout studies based on theory and the comments of faculty.

6. Qualitative studies on burnout could be conducted to be integrated with the knowledge obtained by the quantitative approaches.
APPENDICES
APPENDIX A

LETTERS
October 10, 2002

Dear Chair:

Does the term burnout sound familiar, especially at this time of the school year? Research shows that burnout is a widespread phenomenon among teachers and could lead to serious implications for the individual and the educational institutions. Workload has been detected as having an important impact on burnout levels.

As part of my doctoral dissertation, I am conducting a study that will serve two purposes: 1) to investigate academic workload typologies for the Seventh-day Adventist colleges and universities in North America, and 2) to correlate those typologies and other selected demographic variables with levels of burnout in full-time undergraduate faculty.

Your department has been selected to be part of this study. I need your help. In the first place, I am requesting a statement, on letterhead paper from your department, showing the willingness of your department to participate in this study. Attached you will find a sample letter.

In the second place, I need your response to the attached questionnaire. Your participation is voluntary and confidential. Although initially I will be able to identify your response it will be kept in the strictest confidence. Your response will be pooled with all the other responses and will not be identifiable during the data analysis process. There are no risks or hazards associated with completing this questionnaire which can be accomplished in approximately ten minutes. Completion of the questionnaire is an indication of your consent to participate in the study. You will see a code number in one of the corners of the questionnaire. This is for tabulation purposes only and in no way is linked to your name.

Attached you will also find envelopes for the full-time teachers in your department. Kindly distribute them among your faculty so they can participate in this study.

Please return the letter stating the willingness of your department to participate (on your letterhead) and the completed questionnaire in the stamped envelope. If you have any questions, or if I can be of assistance please email me at sylviag@andrews.edu or contact my doctoral advisor, Dr. Hinsdale Bernard. If you have any questions concerning your rights as a research subject, please contact Andrews University Institutional Review Board at (269) 471-6361.

I would appreciate it if you could return the letter and the questionnaire to me within seven (7) calendar days after receiving it. If you would like a summary of the findings I will be glad to provide them for you upon request.

Thank you so much for being an important part of this study on workload and burnout.

Sincerely,

Sylvia Gonzalez
Ph.D. candidate
sylviag@andrews.edu

Hinsdale Bernard, Ph.D.
Dissertation Committee Chair
(269) 471-6702
SAMPLE LETTER OF WILLINGNESS TO PARTICIPATE IN THE RESEARCH

Date

Dr. Michael D. Pearson
Office of Scholarly Research
Andrews University
Berrien Springs, MI 49104

The .................. ........(name of your department) at ......................... (name of your institution) has received an invitation to participate in a study on academic workload and burnout conducted by Sylvia Gonzalez, doctoral candidate from Andrews University’s School of Education.

Our department expresses its willingness to participate. We understand participation is voluntary and anonymous.

Sincerely,

(Name and signature of department chair)
October 10, 2002

Dear colleague:

Throughout your career as a faculty member, and while carrying out your multiple tasks and duties, have you ever felt emotionally drained, fatigued or distanced from your students? Research evidence shows that these could be some of the signs of burnout. Work overload has been identified as one of the sources of burnout.

As part of my doctoral dissertation, I am conducting a study that will look at academic workload typologies and other demographic variables and their impact on burnout levels in Seventh-day Adventist colleges and universities in North America. The findings will be beneficial not only to assess the current situation but also to be the first step in creating intervention strategies that will reduce burnout and enhance the teaching experience.

You have been selected to be part of this study. I need your help. Attached you will find a questionnaire. Please be assured that your participation is voluntary and anonymous. There are no risks or hazards associated with completing this questionnaire which can be accomplished in approximately ten minutes. Completion of the questionnaire is an indication of your consent to participate in the study. You will see a code number in one of the corners of the questionnaire. This is for tabulation purposes only and in no way is linked to your name.

When you are finished filling out the questionnaire, please return it to me in the stamped envelope. If you have any questions or if I can be of assistance please email me at sylviag@andrews.edu or contact my doctoral advisor, Dr. Hinsdale Bernard. If you have any questions concerning your rights as a research subject, please contact Andrews University Institutional Review Board at (269) 471-6361.

I would appreciate it if you could return the questionnaire to me within seven (7) calendar days after receiving it. If you would like a summary of the findings I will be glad to provide them for you upon request.

Thank you so much for being a vital part of this study on workload and burnout.

Sincerely,

Sylvia Gonzalez
Ph.D. candidate
sylviag@andrews.edu

Hinsdale Bernard, Ph.D.
Dissertation Committee Chair
(269) 471-6702
APPENDIX B

INSTRUMENTS
ANDREWS UNIVERSITY
School of Education
Dept. of Educational Administration and Leadership

Survey on Academic Workload

The purpose of this survey is to obtain data on the academic workload set up by your department. Your department has been chosen by a purposive and randomized sample to be part of a study on the impact of academic workload typologies and levels of burnout in Seventh-day Adventist college and university full-time undergraduate faculty.

After filling out this short questionnaire please send it in the stamped envelope. Thank you.

University __________________________

Department __________________________________________

Number of teachers in your department ____

According to the academic workload policy of your department, please indicate the total number of hours that your department would normally assign to the following activities of an undergraduate level faculty member during a typical week:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching (includes class preparation time)</td>
<td></td>
</tr>
<tr>
<td>General advising</td>
<td></td>
</tr>
<tr>
<td>University support (committee work, faculty meetings)</td>
<td></td>
</tr>
<tr>
<td>Community service (committees in church, boards in the community)</td>
<td></td>
</tr>
<tr>
<td>Field-based programs or trips to affiliated schools</td>
<td></td>
</tr>
<tr>
<td>Supervision of independent studies, internships</td>
<td></td>
</tr>
<tr>
<td>Professional development to stay current</td>
<td></td>
</tr>
<tr>
<td>Research and scholarship</td>
<td></td>
</tr>
</tbody>
</table>

Total number of hours per week

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ANDREWS UNIVERSITY
School of Education
Dept. of Educational Administration and Leadership

Educators Survey on
Academic Workload and Burnout Levels

The purpose of this survey is to obtain data on your academic workload and your feelings about your job and the people with whom you work closely. Please follow the instructions in each section, and return the questionnaire in the pre-stamped envelope. Thank you.

Section I - Demographic data (please answer the following questions)

Gender: □ Male □ Female

Age: □ under 30 □ 31-40 □ 41-50 □ 51 or over

Years of service in education: ___ years

Rank of professorship: □ instructor □ assistant professor □ associate professor □ professor

Section II - Academic Workload

1. Mark on the following scale your perception of your present academic workload intensity:

Underloaded _______ _______ _______ _______ _______ _______ Overloaded

-3 -2 -1 0 1 2 3

2. Indicate the total number of hours that you assign to the following activities during a typical week:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching (includes class preparation time)</td>
<td></td>
</tr>
<tr>
<td>General advising</td>
<td></td>
</tr>
<tr>
<td>University support (committee work, faculty meetings)</td>
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<tr>
<td>Community service (committees in church, boards in the community)</td>
<td></td>
</tr>
<tr>
<td>Field-based programs or trips to affiliated schools</td>
<td></td>
</tr>
<tr>
<td>Supervision of independent studies, internships</td>
<td></td>
</tr>
<tr>
<td>Professional development to stay current</td>
<td></td>
</tr>
<tr>
<td>Research and scholarship</td>
<td></td>
</tr>
</tbody>
</table>

Total number of hours per week

(continues on the other side)
Section III. The following are 22 statements of job-related feelings. Please read each statement carefully and decide if you feel this way about your job. If you have never had this feeling, write a "0" (zero) in the space before the statement. If you have had this feeling, indicate how often you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way.

<table>
<thead>
<tr>
<th>HOW OFTEN:</th>
<th>0</th>
<th>1</th>
<th>2</th>
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1. ____ I feel emotionally drained from my work.
2. ____ I feel used up at the end of the workday.
3. ____ I feel fatigued when I get up in the morning and have to face another day on the job.
4. ____ I can easily understand how my students feel about things.
5. ____ I feel I treat some students as if they were impersonal objects.
6. ____ Working with people all day is really a strain on me.
7. ____ I deal very effectively with the problems of my students.
8. ____ I feel burned out from my work.
9. ____ I feel I’m positively influencing other people’s lives through my work.
10. ____ I’ve become more callous toward people since I took this job.
11. ____ I worry that this job is hardening me emotionally.
12. ____ I feel very energetic.
13. ____ I feel frustrated by my job.
14. ____ I feel I’m working too hard on my job.
15. ____ I don’t really care what happens to some students.
16. ____ Working with people directly puts too much stress on me.
17. ____ I can easily create a relaxed atmosphere with my students.
18. ____ I feel exhilarated after working closely with my students.
19. ____ I have accomplished many worthwhile things in this job.
20. ____ I feel like I’m at the end of my rope.
21. ____ In my work, I deal with emotional problems very calmly.
22. ____ I feel students blame me for some of their problems.
APPENDIX C

SAMPLE SELECTION
Table 13

Matrix of Universities, Departments
and Number of Teachers by Departments

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Total Number of Departments 179
Total Number of Teachers 826

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### Table 15

*Cluster Analysis - Agglomeration Schedule (Average Linkage)*

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Figure 8. Cluster Analysis. Dendogram (Average Linkage).
Table 16

*Discriminant Analysis of Four Academic Workload Activities*  
*Wilks' Lambda, F ratio and Significance*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wilks' Lambda</th>
<th>$F$</th>
<th>Significance</th>
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<td>Teaching</td>
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<td>Research</td>
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<td>5.2247</td>
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<td>University Support</td>
<td>.57436</td>
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<td>Professional Development</td>
<td>.80081</td>
<td>2.6532</td>
<td>.0653</td>
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Table 17

*Discriminant Analysis of Four Academic Workload Activities*  
*Classification Results*

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Cases</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>
| Group 1  
Teaching-oriented    | 10    | 9     | 1     | 0     | 0     |
|                      |       | 90%   | 10%   | 0%    | 0%    |
| Group 2  
Balanced           | 10    | 0     | 10    | 0     | 0     |
|                      |       | 0%    | 100%  | 0%    | 0%    |
| Group 3  
Lighter-load        | 8     | 0     | 0     | 8     | 0     |
|                      |       | 0%    | 0%    | 100%  | 0%    |
| Group 4  
Research- and support-oriented | 8     | 0     | 0     | 2     | 6     |
|                      |       | 0%    | 0%    | 25%   | 75%   |
| Ungrouped cases      | 1     | 1     | 0     | 0     | 0     |
|                      |       | 100%  | 0%    | 0%    | 0%    |

Percentage of “grouped” cases correctly classified: 91.67%
Table 18

*Categorical Regression Analysis with Optimal Scaling*

*Emotional Exhaustion*

**Model Summary**

<table>
<thead>
<tr>
<th>Multiple R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
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<tbody>
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<td>.616</td>
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**ANOVA**

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<th>Mean Square</th>
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<th>Sig.</th>
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**Coefficients**

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<th>Correlations</th>
<th>Tolerance</th>
<th>Before Transformation</th>
<th>After Transformation</th>
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</thead>
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<td>Zero-Order</td>
<td>Partial</td>
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Table 19

Categorical Regression with Optimal Scaling
Depersonalization

Model Summary

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ANOVA

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Coefficients

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Table 20

*Categorical Regression with Optimal Scaling*

*Personal Accomplishment*

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### ANOVA

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### Coefficients

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**Table 21**

One-Way Anova - Academic Workload Typologies

**ANOVA**

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<th>Sig.</th>
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<td>523.459</td>
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**Multiple Comparisons**

Dependent Variable: emotional exhaustion

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<th>(J) academic workload typology</th>
<th>Mean Difference (J-J)</th>
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<th>Sig.</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
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<td>.724</td>
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<td>-10.1340</td>
<td>3.6356</td>
</tr>
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<td>1 teaching-oriented workload</td>
<td>3 lighter workload</td>
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<td>2.155</td>
<td>.718</td>
<td>-3.0671</td>
<td>-8.8806</td>
<td>8.8806</td>
</tr>
<tr>
<td>1 teaching-oriented workload</td>
<td>4 research-oriented workload</td>
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<td>2.372</td>
<td>.724</td>
<td>-10.1340</td>
<td>3.6356</td>
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</tr>
<tr>
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<td>3 lighter workload</td>
<td>-2.6918</td>
<td>2.155</td>
<td>.718</td>
<td>-3.0671</td>
<td>-8.8806</td>
<td>8.8806</td>
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<td>1 teaching-oriented workload</td>
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<td>2.155</td>
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<td>3 lighter workload</td>
<td>4 research-oriented workload</td>
<td>-3.6958</td>
<td>3.038</td>
<td>.049</td>
<td>-14.7039</td>
<td>15.0350</td>
<td></td>
</tr>
</tbody>
</table>

* The mean difference is significant at the .05 level.

**Means for groups in homogeneous subsets are displayed.**

- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
REFERENCE LIST


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EDUCATION


1990  Bachelor of Science in Business Administration. Indiana Wesleyan University, Marion, Indiana.

1984  Degree in Translation English-Spanish-English. Instituto Cultural Anglo-Uruguayo, extension of Cambridge University, Montevideo, Uruguay, South America.

EMPLOYMENT HISTORY

Teaching


1974-1985  High School Teacher. English as a Second Language. Instituto Adventista del Uruguay, Canelones, Uruguay, South America

Administrative

1994-1996  Director, Office of Planning and Educational Marketing. Montemorelos University, Nuevo Leon, Mexico. Developed marketing and recruitment plans for the university.


1974-1987 Accountant and Head Cashier. Instituto Adventista del Uruguay, Canelones, Uruguay, South America.

Translation


SKILLS

Excellent communication and organizational skills
Proficient in English and Spanish
Experience in working and living in different cultures
Excellent rapport with colleagues and students
Experience in Microsoft Word, WordPerfect, Excel and Powerpoint
Positive attitude for constant learning

MEMBERSHIP

Society for Human Resource Management
American Translators Association