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Variables that affect burnout among graduate assistant athletic trainers

Jocelyn A. Moody
San Jose State University

VARIABLES THAT AFFECT BURNOUT AMONG GRADUATE ASSISTANT ATHLETIC TRAINERS

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By

Jocelyn A. Moody, ATC

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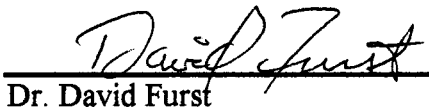
APPROVED FOR THE DEPARTMENT OF KINESIOLOGY

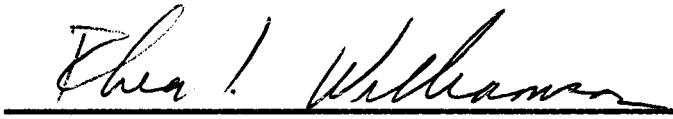
Dr. Leamor Kahanov



Dr. David Furst

Dr. Barbara Conry

APPROVED BY THE UNIVERSITY



ABSTRACT

VARIABLES THAT AFFECT BURNOUT AMONG
GRADUATE ASSISTANT ATHLETIC TRAINERS

by Jocelyn A. Moody, ATC

Burnout in athletic training can lead to high levels of emotional exhaustion and depersonalization and low levels of personal accomplishment, which leads to attrition and a decrease in quality of care. The purpose of this study is to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout. Participants included 58 graduate assistant athletic trainers (GA-ATs). Athletic training issues, hardiness, social support, perceived stress and burnout were assessed using five instruments. Results suggest that participants who had less hardiness and social support and more athletic training issues had more perceived stress, which lead to more emotional exhaustion and depersonalization and less personal accomplishment. Therefore, coping strategies should be integrated into the education of the GA-AT in order to decrease and/or support burnout among GA-ATs. This information was written into a journal article for *The Journal of Athletic Training.*

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Gratitude is expressed to the writer's parents, Dr. Jerry L. Moody and Mrs. Julie Moody, for their support. Appreciation is extended to the writer's siblings, Becky, Christy, and Josh, for all of their encouragement.

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SECTION 1

INTRODUCTION

An assistant athletic trainer for the women's department of a Division I-A university said, "college certified athletic trainers (ATCs) are over educated, over worked, and under paid" (J. Jallo, personal communication, Spring 2003). This statement typifies the attitude of many athletic trainers (Capel, 1986, 1990; Gieck, 1986; Hendrix, Acevedo, & Hebert, 2000). The sentiment that athletic trainers are over worked and under paid may be indicative of burnout encountered in the profession. According to Campbell, Miller, and Robinson (1985), approximately 40% of athletic trainers are considered burned out. Burnout in athletic training, which is high levels of emotional exhaustion and depersonalization as well as low levels of personal accomplishment, can lead to attrition and a decrease in quality of care (Capel, 1986, 1990; Freeborn, 2001; Hendrix et al., 2000; Meltzer & Huckabay, 2004; Vettor & Kosinski, 2000).

Burnout is "a response to chronic stress" (Smith, 1986, p. 39). Burnout "has physical, mental, and behavioral components, and its development represents complex interactions between environmental and personal characteristics" (Smith, 1986, p. 37). Burnout is "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach & Jackson, 1986, p. 1).

Vergamini (1981) believes that the causes of burnout that are the most applicable to athletic trainers are a negative focus, patient overload, the chronic nature of many injuries and conditions, personality conflict, unwanted roles and expectations, and reality

shock that accompanies losing one's preconceived ideals. According to Gieck, Brown, and Shank (1982), burnout is caused by overworking under stressful conditions and may be due to job stresses and anxieties combined with physical fatigue. Capel (1986, 1990) asserted that burnout in athletic trainers was caused by high role conflict, high role ambiguity, an external locus of control, poor working conditions, minimal decision-making power, greater number of hours in direct contact with athletes and greater number of athletes in the athletic trainer's direct care. Hendrix et al. (2000) states that burnout in athletic trainers is caused by low levels of hardiness and social support, as well as high levels of athletic training issues. These causes of burnout can lead to various signs and symptoms that can impact personnel attitude and ability to provide adequate health care.

Gieck et al. (1982) discussed physical, physiological, psychological, and behavioral signs and symptoms which include: physical signs and symptoms such as over-dedication, over-commitment, frustration, and exhaustion; and physiological signs and symptoms such as increased pulse rate, shortness of breath, headaches, neuromuscular disorders, gastrointestinal or cardiovascular disturbances, and fatigue. Psychological signs and symptoms may also include anxiety and depression, sleeplessness, and the inability to handle stress (Gieck et al., 1982). Behavioral signs and symptoms consist of losing job perspective, athletes becoming secondary, hypersensitivity, suspiciousness, paranoia, rigidity, resistant to change, inflexibility, and stubbornness (Gieck et al.). De Vente, Olff, Van Amsterdam, Kamphuis, and Emmelkamp (2003) found that patients with burnout had higher heart rates and cortisol levels than their healthy counterparts. In addition, burnout may be related to physical

exhaustion, insomnia, alcohol and drug use increase, and marital and family problems (Maslach & Jackson, 1986). These signs and symptoms of burnout lead to many personal and professional consequences for the athletic trainer and patients.

Burnout among athletic trainers can lead to issues for the health care person, profession, and patient. Capel (1986) and Hendrix et al. (2000) determined that burnout leads to high levels of emotional exhaustion and depersonalization, as well as low levels of personal accomplishment. Capel (1990) suggested that burnout in athletic trainers may lead to attrition. Vergamini (1981) stated that burnout leads to escape, which can by done by changing jobs, moving to an administrative position, or leaving the profession. Burnout can also result in professionals distancing themselves from their patients. Job turnover, absenteeism, and low morale may factor into burnout (Maslach & Jackson, 1986). Freeborn (2001), Maslach and Jackson, Meltzer and Huckabay (2004), and Vettor and Kosinski (2000) identified that burnout leads to a decreased quality of care. These issues may cause qualified professionals to leave the field therefore reducing the number of experienced personnel and the possible decrease in the quality of health care. These issues may affect graduate assistant athletic trainers (GA-ATs), yet they have not been examined as a specific population; therefore, the need exists to pinpoint burnout in GA-ATs.

Problem Statement

Burnout in athletic training, which is high levels of emotional exhaustion and depersonalization as well as low levels of personal accomplishment, is an important issue because it can lead to attrition and a decrease in quality of care (Capel, 1986, 1990;

Freeborn, 2001; Hendrix et al., 2000; Meltzer & Huckabay, 2004; Vettor & Kosinski, 2000). These personal issues of burnout can ultimately affect patient care (Freeborn, 2001; Meltzer & Huckabay, 2004; Vettor & Kosinski, 2000). According to the literature regarding burnout in athletic trainers, ATCs in full time and part-time positions, specific states, such as Hawaii, and colleges have been studied (Buxton et al., 1992; Campbell et al., 1985; Capel, 1986, 1990; Hendrix et al., 2000). However, burnout in GA-ATs has yet to be investigated. The graduate athletic training population is important in the growth of the profession because graduate school is generally where many ATCs have the first opportunity to work with minimal supervision. Burnout at this time in the education process of a professional may negatively influence the ATCs career, possibly leading to attrition (Capel, 1990).

GA-ATs are different from the other athletic training populations due to added stressors such as school, additional employment aside from graduate assistantships and graduate assistant (GA) work. GAs maintain the same roles as ATCs in the field, which include prevention, assessment, treatment, and rehabilitation of injuries and illnesses. If GAs are burned out, then their decision making and health care treatment of the athlete can be affected, as well as providing the profession with competent health care providers for the future. Therefore, this population will be investigated.

Purpose of the Research

The purpose of this study was to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout. Hardiness and social support are moderating variables that affect burnout. The intent of this thesis

was to study burnout in athletic training and assemble the data into an article for the *Journal of Athletic Training*. Thus, this thesis contains three chapters: Chapter 1, Introduction, Chapter 2, Article for the Journal of Athletic Training, and Chapter 3, Thesis Proposal including the first three chapters of the thesis.

Explanation of Chapter 1 Contents

Chapter 1 contains the following: Introduction, Statement of the Problem, Statement of Purpose, Explanation of Chapters 1, 2, and 3 Contents, and Summary.

Explanation of Chapter 2 Contents

Chapter 2 contains the following: Journal Article Abstract, Journal Article, and Journal Article References.

Explanation of Chapter 3 Contents

Chapter 3 contains the following: Thesis Proposal including the Introduction (Introduction, Statement of the Problem, Statement of Purpose, Research Hypothesis, Delimitations, Limitations, Definitions/Descriptions, Summary, and Project Completion), Literature Review (Burnout, Burnout in Health Professions, Burnout in Athletic Trainers, and Summary), and Methods (Subjects, Instrumentation, Procedures, Statistical Analysis, Project Completion, and Summary).

Summary

Burnout in athletic training, which is high levels of emotional exhaustion and depersonalization as well as low levels of personal accomplishment, is a problem that exists in the industry because it can lead to attrition and a decrease in quality of care (Capel, 1986, 1990; Freeborn, 2001; Hendrix et al., 2000; Meltzer & Huckabay, 2004;

Vettor & Kosinski, 2000). Previously, ATCs have been examined in high school, university, and clinical settings. However, burnout in GA-ATs has not yet been studied. Therefore, the purpose of this study was to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout.

Burnout is "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach & Jackson, 1986, p. 1). Burnout exists in other health care settings, such as physicians (Freeborn, 2001), nurses (Laschinger et al., 2001), critical care nurses (Meltzer & Huckabay, 2004), occupational therapists (Balogun et al., 1999), physical therapists (Balogun et al., 1999; Kyser-Norris & Smith, 2001), physical therapist assistants (Nienhouse & Smith, 2000), and emergency medical technicians (Vettor & Kosinski, 2000). Signs and symptoms of burnout are the same for other health care settings as it is for athletic trainers. Not as many studies exist regarding burnout among athletic trainers as among other health professionals. During the review of literature, only nine articles were found that discussed burnout among athletic trainers. Of the nine articles discussed, only seven articles directly investigated burnout among athletic trainers. Of these seven, four articles discussed burnout among athletic trainers while the other three articles merely gave information on burnout in athletic trainers. GA-ATs have yet to be examined as to the extent of burnout, how that affects their ability to provide health care and their outlook on the profession which is important since they are the next generation of ATCs. Thus, the purpose of this study was to assess burnout by

investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout.

This study investigates athletic training issues, hardiness, and social support that predict stress appraisal and burnout. Participants in the proposed study were GA-ATs from seven National Athletic Trainers' Association (NATA) accredited graduate athletic training programs. The personal and situational variables including athletic training issues, hardiness, and social support, the stress appraisal variable of perceived stress, as well as the burnout variables including emotional exhaustion, depersonalization, and personal accomplishment were assessed using five instruments: the Athletic Training Issues Survey (ATIS; Hendrix et al., 2000), the Hardiness Scale (Nowack, 1991), the six-item short form of the Social Support Questionnaire (SSQ6; Sarason, Sarason, Shearin, and Pierce, 1987), the Perceived Stress Scale (PSS; Cohen, Kamarck, and Mermelstein, 1983), and the Maslach Burnout Inventory (MBI; Maslach and Jackson, 1986). Packets were mailed to each participating institution including a cover letter that explained the study; a demographic sheet including items regarding year of student, employment setting, and number of athletic trainers in the employment setting; the ATIS; the Hardiness Scale; the SSQ6; the PSS; and the MBI. Statistical analysis included Pearson product-moment correlations and two stepwise multiple regressions. The data were then compiled into a journal article for *The Journal of Athletic Training.*

SECTION 2

JOURNAL ARTICLE

Variables that Affect Burnout among Graduate Assistant Athletic Trainers

Obective: Burnout is "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach & Jackson, 1986, p. 1). Burnout in athletic training, which is high levels of emotional exhaustion and depersonalization as well as low levels of personal accomplishment, can lead to attrition and a decrease in quality of care (Capel, 1986, 1990; Freeborn, 2001; Hendrix et al., 2000; Meltzer & Huckabay, 2004; Vettor & Kosinski, 2000). The purpose of this study was to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout.

Subjects and Instrumentation: Participants were graduate assistant athletic trainers (GA-ATs) from seven of the 13 National Athletic Trainers' Association (NATA) accredited graduate athletic training programs. The personal and situational variables including athletic training issues, hardiness, and social support, the stress appraisal variable of perceived stress, as well as the burnout variables including emotional exhaustion, depersonalization, and personal accomplishment were assessed using five instruments: the Athletic Training Issues Survey (ATIS), the Hardiness Scale, the six-item short form of the Social Support Questionnaire (SSQ6), the Perceived

Stress Scale (PSS), and the Maslach Burnout Inventory (MBI).

Procedures: Packets were mailed to each participating institution including a cover letter that explained the study; a demographic sheet including items regarding year of student, employment setting, and number of athletic trainers (AT) in the employment setting; the Hardiness Scale; the six-item short form of the SSQ6; the ATIS; the PSS; and the MBI.

Statistical Analysis: Statistical analysis included Pearson product-moment correlations and two stepwise multiple regressions.

Results: The results suggest that participants who had less hardiness and social support and more athletic training issues had more perceived stress, which lead to more emotional exhaustion and depersonalization and less personal accomplishment.

Conclusion: Therefore, coping strategies should be integrated into the education of the GA-AT in order to decrease and/or support burnout among GA-ATs.

Key Words: athletic training issues, hardiness, social support, stress appraisal, burnout

An assistant athletic trainer for the women's department of a Division I-A university said, "college certified athletic trainers (ATCs) are over educated, over worked, and under paid" (J. Jallo, oral communication, Spring 2003). This statement typifies the attitude of many athletic trainers.[1-4] The sentiment that athletic trainers are over worked and under paid may be

indicative of burnout encountered in the profession. According to Campbell, Miller, and Robinson[5], approximately 40% of athletic trainers are considered burned out. Burnout in athletic training, which is high levels of emotional exhaustion and depersonalization as well as low levels of personal accomplishment, can lead to attrition and a decrease in quality of care. [1,2,4,6-8]

Burnout is "a response to chronic stress."[9] Burnout "has physical, mental, and behavioral components, and its development represents complex interactions between environmental and personal characteristics."[9] Burnout is "a syndrome or emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind."[10]

Vergamini[11] believes that the causes of burnout that are the most applicable to athletic trainers are a negative focus, patient overload, the chronic nature of many injuries and conditions, personality conflict, unwanted roles and expectations, and reality shock that accompanies losing one's preconceived ideals. According to Gieck, Brown, and Shank[12], burnout is caused by overworking under stressful conditions and may be due to job stresses and anxieties combined with physical fatigue. Capel[1,2] asserted that burnout in athletic trainers was caused by high role conflict, high role ambiguity, an external locus of control, poor working conditions, minimal decision-making power, greater number of hours in direct contact with athletes, and greater number of athletes in the athletic trainer's direct care. Hendrix et

al.[4] states that burnout in athletic trainers is caused by low levels of hardiness and social support, as well as high levels of athletic training issues. These causes of burnout can lead to various signs and symptoms that can impact personnel attitudes and ability to provide adequate health care.

Gieck et al.[12] discussed physical, physiological, psychological, and behavioral signs and symptoms which include: physical signs and symptoms such as over-dedication, over-commitment, frustration, and exhaustion; and physiological signs and symptoms such as increased pulse rate, shortness of breath, headaches, neuromuscular disorders, gastrointestinal or cardiovascular disturbances, and fatigue. Psychological signs and symptoms may also include anxiety and depression, sleeplessness, and the inability to handle stress[12]. Behavioral signs and symptoms consist of losing job perspective, athletes becoming secondary, hypersensitivity, suspiciousness, paranoia, rigidity, resistant to change, inflexibility, and stubbornness[12]. De Vente, Olff, Van Amsterdam, Kamphuis, and Emmelkamp[13] found that patients with burnout had higher heart rates and cortisol levels than their healthy counterparts. In addition, burnout may be related to physical exhaustion, insomnia, alcohol and drug use increase, and marital and family problems[10]. These signs and symptoms of burnout lead to many personal and professional consequences for the athletic trainer and patients.

Burnout among athletic trainers can lead to issues for the health care person, profession, and patient. Capel[1]

and Hendrix et al.[4] determined that burnout leads to high levels of emotional exhaustion and depersonalization, as well as low levels of personal accomplishment. Capel[2] suggested that burnout in athletic trainers may lead to attrition. Vergamini[11] stated that burnout leads to escape, which can by done by changing jobs, moving to an administrative position, or leaving the profession. Burnout can also result in professionals distancing themselves from their patients. Job turnover, absenteeism, and low morale may factor into burnout[10]. Freeborn[6], Maslach and Jackson[10], Meltzer and Huckabay[7], and Vettor and Kosinski[8] asserted that burnout leads to a decreased quality of care. These issues may cause qualified professionals to leave the field therefore reducing the number of experienced personnel and the possible decrease in the quality of health care. These issues may affect graduate assistant athletic trainers (GA-ATs), yet they have not been examined as a specific population; therefore, the need exists to investigate burnout in GA-ATs.

GA-ATs are different from the other athletic training populations due to added stressors such as school, additional employment aside from graduate assistantships, and graduate assistant (GA) work. GAs have the same roles as ATCs in the field, which include prevention, assessment, treatment, and rehabilitation of injuries and illnesses. If GAs are burned out, then their decision making and health care treatment of the athlete can be affected, as well as providing the profession with competent health care providers for the future. Therefore, the purpose of this study was to assess

burnout by investigating athletic training issues, hardiness, and social support issues that predict stress appraisal and burnout.

METHODS

Subjects and Instrumentation

Participants were GA-ATs from seven of the 13 National Athletic Trainers' Association (NATA) accredited graduate athletic training programs. Approximately 160 students received survey packets. Fifty eight (36.25%) of the survey packets were returned and were usable.

The personal and situational variables including athletic training issues, hardiness, and social support, the stress appraisal variable of perceived stress, as well as the burnout variables including emotional exhaustion, depersonalization, and personal accomplishment were assessed using five instruments: the Athletic Training Issues Survey, the Hardiness Scale, the six-item short form of the Social Support Questionnaire, the Perceived Stress Scale, and the Maslach Burnout Inventory. The selection of instruments was derived from Hendrix et al.[4] based on Kelley's[14] model.

The Coaching Issues Survey (CIS) is a 30-item scale that is used to assess perceived stress associated with various coaching issues. The CIS consists of the following four subscales: time and role demands, winning and losing, program planning and success, and athlete concerns. Participants rate the degree of stress on each coaching issue on a 6-point Likert-type scale that ranges from *no stress* (0) to *extreme stress* (5). The internal consistency reliability is .92[14]. The Athletic Training Issues Survey (ATIS), which is a

modified version of the (CIS), is a 30-item scale that was used to assess perceived stress that is associated with various athletic training issues.[4] Participants rate the degree of stress on each athletic training issue on a 5-point Likert scale that ranges from *no stress* (1) to *extreme stress* (5). Example items include "Not having time for myself," "Injury or illness to one of my starter athletes," "Not reaching my professional goals," and "Personality conflicts with the individuals I supervise or interact with." In the present study, the ATIS was modified on the recommendation of Dr. Edmund Acevedo to change items (see below) to relate to GA-ATs. Kelley recognized the fact that only very minor modifications were going to have to be made to the ATIS in order to make it more valid to the GA athletic training population. The items that were changed include the following: from "supervise" to "supervise or interact with," from "being able to hire" to "having adequate athletic trainers," from "being unable to hire" to "not having the key personnel," and from "e.g., teaching or curriculum coordination" and "e.g., teaching, presentations, public relations for athletic training, etc." to "e.g., school." The last change caused the item "Not successfully fulfilling my responsibilities outside of my athletic training duties (e.g., teaching, presentations, public relations for athletic training, etc.)" (#29) to be eliminated. Also, "Not having enough time for interviewing and hiring of quality athletic trainers" (#27) was eliminated. Kelley also suggested that the data be entered so that total score and subscales score are analyzed. If the subscales show inadequate reliability

(less than .8), then use the total score. Alpha for the subscale score was .74, so total score was used.

Hardiness is composed of the following three components: control, commitment, and challenge[15]. Those that are hardy "are considered to possess three general characteristics: (a) the belief that they can control or influence the events of their experience, (b) an ability to feel deeply involved in or committed to the activities of their lives, and (c) the anticipation of change as an exciting challenge to further development."[15] Kelley[14] used a 50-item Hardiness Scale in her study on stress and burnout in collegiate coaches while Hendrix et al. (2000) used a 30-item Hardiness Scale in their study on stress and burnout in ATCs. In the present study, Nowack's[16] 30-item Hardiness Scale was used with the recommendation of Kelley. The Hardiness Scale, which is a component of the Stress Assessment Profile, measures attitudes and beliefs about work and life[16], and consists of the following three general dimensions: involvement (commitment), challenge, and control. Example items include "My involvement in activities and hobbies provides me with a sense and purpose," "I tend to view most work and life changes, disappointments, and setbacks as threatening, harmful, or stressful rather than challenging," and "Many times I feel that I have little or no control and influence over things that happen to me." Items are to be rated by using a 5-point Likert scale that ranges from *strongly agree* (1) to *strongly disagree* (5). In item 14, "coaching" was changed to "athletic training."

Social support was assessed through the six-item short form of the Social Support Questionnaire (SSQ6). Each item has two parts. "The first part of each item assesses the number of available others the individual feels he or she can turn to in times of need in each of a variety of situations (Number or Perceived Available score) [while] the second part of each item measures the individual's degree of satisfaction (Satisfaction score) with the perceived support available in that particular situation" (Sarason, Sarason, Shearin, and Pierce, 1987, p. 499). Satisfaction is indicated on a 6-point Likert scale from *very dissatisfied* (1) to *very satisfied* (6). An example item is "How satisfied are you with those who accept you totally, including both your worst and best points?" Like Hendrix et al.[4] and Kelley,[14] the satisfaction section was used while the number, or first, part was not used. In order to calculate the satisfaction total score, the 6-items are added together. The comparable internal reliabilities for the Number and Satisfaction ranged from 0.90 to 0.93[17].

The Perceived Stress Scale (PSS) is "a 14-item measure of the degree to which situations in one's life are appraised as stressful," and "items were designed to tap the degree to which respondents found their lives unpredictable, uncontrollable, and overloading."[18] A total score is calculated by adding the reverse scores of seven positive items with the remaining seven. Participants answer questions such as "In the last month, how often have you dealt with irritating life hassles?" by using a scale from *never* (0) to *very often* (4). Coefficient alpha reliability is .84, .85, and .86 while

test-retest correlation is .85 with an interval of two days and .55 with an interval of 6 weeks.

The Maslach Burnout Inventory (MBI) was designed to assess the three aspects of burnout, which include emotional exhaustion, depersonalization, and personal accomplishment. How often the participant experiences feelings that are related to each subscale is assessed by using a six-point, fully anchored response format ranging from *never* (0) to *every day* (6). Example items include "I feel emotionally drained at work" and "I feel frustrated by my job." The items in each of the subscales are added instead of a combined single, total score. Therefore, there are three different scores. The reliability coefficients were .90 for emotional exhaustion, .79 for depersonalization, and .71 for personal accomplishment. The test-retest reliability coefficients were .82 for emotional exhaustion, .60 for depersonalization, and .80 for personal accomplishment with an interval of 2 to 4 weeks and .60 for emotional exhaustion, .54 for depersonalization, and .57 for personal accomplishment with an interval of 1 year. Convergent validity was demonstrated through external validation of personal experience, dimensions of the job experience, and personal outcomes. Discriminant validity was also obtained[10]. All the instruments will be included as part of a mailed survey packet.

Procedures

Program directors from the 13 accredited graduate athletic training programs were e-mailed regarding participation in the study and asked to distribute the surveys to their GA-ATs.

Program directors who indicated a willingness to participate (n=7) were asked to identify the number of students in their respective program. After receiving approval from the San Jose State University Institutional Review Board, a packet of surveys was mailed to each accredited graduate athletic training program that agreed to participate near the end of the academic school year.

A separate packet with surveys for each participant was created for each participating institution based on the number of students in that particular program. Each packet included for each participant a cover letter that explained the study; a demographic sheet including items regarding year of student, assistantship setting, and number of athletic trainers in the assistantship setting; the ATIS; the Hardiness Scale; the SSQ6; the PSS; and the MBI. The cover letter and the demographic sheet were the first two items in the packet, and the remaining surveys followed in random order.

The questionnaires were color coded so that each university survey packet could be identified. In the cover letter, participants were informed that participation was strictly confidential. A self-addressed, stamped envelope was provided to each participant in hopes that response rate would be increased. About 3 weeks after the packets were mailed out, an e-mail was sent to the program directors of the participating universities reminding them to distribute any remaining surveys also to increase response rate.

Statistical Analysis

Pearson product-moment correlations were performed between the personal and situational variables of

athletic training issues, hardiness, and social support and perceived stress in order to determine the personal and situational variables that predict stress appraisal. Pearson product-moment correlations were also performed between perceived stress and the three burnout scores of emotional exhaustion, depersonalization, and personal accomplishment. Two stepwise multiple regressions were conducted to assess the relative contribution of the personal and situational variables as well as the three burnout dimensions to perceived stress.

RESULTS

The majority of participants were women (n=36; 62%). The participant's ages ranged from 22 to 31 with an average age of 24 (SD – 1.76). The participants had an average of 1.45 (SD – .96) years as an ATC. Most of the participants were in the first year of the graduate athletic training program (n=37, 63.8%). Eight participants (13.79%) attended a school that was a 1 year program. Participants were enrolled in an average of 10 credit hours and worked an average of 27.8 (SD – 8.33) hours per week at a graduate assistantship setting. Participants worked with an average of two staff ATCs, two GA/ATCs, and four non-certified/student athletic trainers. An average of 190 athletes were under the participant's care with approximately 13 athletes treated per day per participant (Table 1). Half of the participants worked in a university/college (n=29, 50%) closely followed by the high school setting (n=24, 41.4%), junior college (n=3, 5.2%), clinic (n=1, 1.7%) or clinic/high school (n=1, 1.7%) (Table 2).

Table 1. Graduate Assistant Athletic Trainer Demographics (n=58)

	n	Mean	Std. Deviation
Age	58	24.33	1.76
Years ATC	58	1.45	.96
Year Graduate	58	1.36	.48
Year Program	58	1.86	.35
Credits	58	10.24	2.12
Hours/Week	57	27.79	8.33
Staff ATC	58	2.05	2.89
GA ATC	58	2.12	3.10
Noncertified	58	4.34	8.27
Athletes	57	190.11	199.16
Athletes/Day	57	13.47	8.19
Hours/Week 2	57	5.01	7.94

The participants supervised a variety of sports; baseball and softball (n=31; 53.4%), track and field (n=29; 50%), tennis (n=20, 34.5%), soccer (n=12, 20.7%), swimming/diving (n=11, 19%), volleyball (n=9, 15.5%), badminton (n=8, 13.8%), golf (n=8, 13.8%), football (n=7, 12.1%), water polo (n=4, 6.9%), basketball (n=3, 5.2%), gymnastics (n=3, 5.2%), lacrosse (n=2, 3.4%), cross country (n=1, 1.7%), rowing (n=1, 1.7%), and wrestling (n=1, 1.7%) (Table 3).

Table 2. Participant Graduate Assistantship Employment Settings (n=58)

	Frequency	Percent	Valid Percent	Cumulative Percent
University/College	29	50.0	50.0	50.0
Junior College	3	5.2	5.2	55.2
High School	24	41.4	41.4	96.6
Clinic	1	1.7	1.7	98.3
Clinic/HS	1	1.7	1.7	100.0

Table 3. Participant Graduate Assistantship Sport Assignments (n=58)

	n	Percent
Badminton	8	13.8
Baseball	31	53.4
Basketball	3	5.2
Cross Country	1	1.7
Football	7	12.1
Golf	8	13.8
Gymnastics	3	5.2
Lacrosse	2	3.4
Rowing	1	1.7
Soccer	12	20.7
Softball	31	53.4
Swimming/Diving	11	19.0
Tennis	20	34.5
Track & Field	29	50.0
Volleyball	9	15.5
Water Polo	4	6.9
Wrestling	1	1.7

Most of the participants did not hold additional employment above GA duties (n=37, 63.8%). Additional employment beyond the GA duties included: physical therapy aide (n=4, 6.9%), athletic trainer (n=2, 3.4%), internship (n=2, 3.4%), teacher's assistant (n=2, 3.4%), retail (n=2, 3.4%), cashier (n=2, 3.4%), CPR instructor (n=1, 1.7%), lifeguard (n=1, 1.7%), substitute teacher (n=1, 1.7%), department chair (n=1, 1.7%), office assistant (n=1, 1.7%), server (n=1, 1.7%), and tour guide (n=1, 1.7%) (Table 4). Participants who held additional employment worked an average additional 5 hours per week (Table 1).

Table 4. Graduate Assistants Additional Employment Settings (n=58)

	Frequency	Percent	Valid Percent	Cumulative Percent
Athletic Trainer	2	3.4	3.4	3.4
Cashier	2	3.4	3.4	6.9
CPR Instructor	1	1.7	1.7	8.6
Department Chair	1	1.7	1.7	10.3
Intern	2	3.4	3.4	13.8
Lifeguard	1	1.7	1.7	15.5
None	37	63.8	63.8	79.3
Office Assistant	1	1.7	1.7	81.0
Physical Therapy Aide	4	6.9	6.9	87.9
Retail	2	3.4	3.4	91.4
Server	1	1.7	1.7	93.1
Substitute Teacher	1	1.7	1.7	94.8
Teacher's Assistant	2	3.4	3.4	98.3
Tour Guide	1	1.7	1.7	100.0

Pearson product-moment correlations were calculated between the personal and situational variables of athletic training issues, hardiness, and social support and perceived stress in order to determine the personal and situational variables that predict stress appraisal. A significant correlation between the Athletic Training Issues Survey (ATIS) and the Hardiness Scale (r= -.28), the ATIS and the Perceived Stress Scale (PSS; r = .42), the Hardiness Scale and the PSS (r = -.54), and the six-item short form of the Social Support Questionnaire (SSQ6) and the PSS (r = -.34) were calculated (Table 5).

Table 5. Pearson Product-Moment Correlations between Athletic Training Issues, Hardiness, and Social Support and Perceived Stress

		ATISTOT	HSTOT	PSSTOT	SSQ6TOT
ATISTOT	Pearson Correlation	1	-.28(*)	.42(**)	-.03
	Sig. (2-tailed)	.	.03	.00	.83
	n	58	58	58	58
HSTOT	Pearson Correlation	-.28(*)	1	-.54(**)	.21
	Sig. (2-tailed)	.03	.	.00	.12
	n	58	58	58	58
PSSTOT	Pearson Correlation	.42(**)	-.54(**)	1	-.34(**)
	Sig. (2-tailed)	.00	.00	.	.01
	n	58	58	58	58
SSQ6TOT	Pearson Correlation	-.03	.21	-.34(**)	1
	Sig. (2-tailed)	.83	.12	.01	.
	n	58	58	58	58

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 6. Pearson Product-Moment Correlations between Perceived Stress and Emotional Exhaustion, Depersonalization, and Personal Accomplishment

		PSSTOT	MBIPA	MBIEE	MBIDP
PSSTOT	Pearson Correlation	1	-.51(**)	.60(**)	.40(**)
	Sig. (2-tailed)	.	.00	.00	.00
	n	58	58	58	58
MBIPA	Pearson Correlation	-.51(**)	1	-.38(**)	-.42(**)
	Sig. (2-tailed)	.00	.	.00	.00
	n	58	58	58	58
MBIEE	Pearson Correlation	.60(**)	-.38(**)	1	.71(**)
	Sig. (2-tailed)	.00	.00	.	.00
	n	58	58	58	58
MBIDP	Pearson Correlation	.40(**)	-.42(**)	.71(**)	1
	Sig. (2-tailed)	.00	.00	.00	.
	n	58	58	58	58

** Correlation is significant at the 0.01 level (2-tailed).

Pearson product-moment correlations were also performed between perceived stress and the three burnout scores of emotional exhaustion, depersonalization, and personal accomplishment. A significant correlation between the PSS and the Maslach Burnout Inventory (MBI) personal accomplishment subscale (r = -.51), the PSS and the MBI emotional exhaustion subscale (r = .60), the PSS and the MBI depersonalization subscale (r = .40), MBI personal accomplishment subscale and the MBI emotional exhaustion subscale (r = -.38), MBI personal accomplishment subscale and the MBI depersonalization subscale (r = -.42), and the MBI emotional exhaustion subscale and the MBI depersonalization subscale (r = .71) was identified (Table 6).

Crosstabs were calculated to determine item contribution to perceived stress. A high variability in the variables that contribute to burnout exists. The number of athletes a GA-AT treats has the largest contribution within the ATIS (70.4%), the Hardiness Scale (77.9%), the SSQ6 (72.6%), the PSS (77.2%), the MBI depersonalization subscale (75.5%), the MBI emotional exhaustion subscale (72.1%), and the MBI personal accomplishment subscale (66.5%). Gender had the lowest contribution on the ATIS (11.7%), the Hardiness Scale (15.2%), the SSQ6 (2.6%), the PSS (1.8%), the MBI depersonalization subscale (1.1%), the MBI emotional exhaustion subscale (1.9%), and the MBI personal accomplishment subscale (5.7%). For the ATIS, the variable and associated contribution were the number of staff ATCs (35.2%), setting (30.6%),

Table 7. Crosstabs for Athletic Training Issues, Hardiness, and Social Support of Athletic Trainers

	ATIS		Hardiness Scale		SSQ6	
	Eta squared	Pearson's R Approximate Significance	Eta squared	Pearson's R Approximate Significance	Eta squared	Pearson's R Approximate Significance
Gender	.01	.38	.02	.26	.00	.85
Age	.08	.71	.22	.79	.10	.65
Setting	.09	.69	.04	.63	.25	.13
Staff ATC	.12	.26	.04	.78	.11	.38
Athletes	.50	.56	.61	.77	.53	.76

Table 8. Crosstabs for Perceived Stress of Athletic Trainers

	Eta squared	Pearson's R Approximate Significance
Gender	.00	.89
Age	.11	.95
Setting	.09	.48
Staff ATC	.09	.83
Athletes	.60	.35

Table 9. Crosstabs for Depersonalization, Emotional Exhaustion, and Personal Accomplishment of Athletic Trainers on the Maslach Burnout Inventory

	Depersonalization		Emotional Exhaustion		Personal Accomplishment	
	Eta squared	Pearson's R Approximate Significance	Eta squared	Pearson's R Approximate Significance	Eta squared	Pearson's R Approximate Significance
Gender	.00	.93	.00	.89	.00	.67
Age	.09	.20	.03	.52	.16	.70
Setting	.16	.12	.11	.66	.08	.57
Staff ATC	.10	.61	.06	.77	.05	.88
Athletes	.57	.11	.52	.92	.44	.94

and age (28.4%). For the Hardiness Scale, the remaining contribution variable was age (47.4%), setting (20.5%), and staff ATC (19.4%). For the SSQ6, the variable and associated contributions were setting (49.8%), staff ATC (33.3%), and age (32.3%). For the PSS, the variable and associated contributions were with age (32.8%), staff ATC (30.4%), and setting (29.7%). On the MBI depersonalization subscale, the variable and associated contributions were setting (40.6%), staff (31.8%), and age (30.3%). For the MBI emotional exhaustion subscale, variables that contributed to MBI scores included setting (33.3%), staff (25.1%), and age (18.2%). Variables that contributed to the MBI personal accomplishment subscale scores included age (40%), setting (27.7%), and staff ATC (23.1%) (Tables 7, 8, and 9).

Table 10. Stepwise Multiple Regression Analysis for Athletic Training Issues, Hardiness, Social Support, Emotional Exhaustion, and Personal Accomplishment Predicting Perceived Stress

Variables	R	R squared	F
Athletic Training Issues	.97	.93	778.44*
Hardiness	.94	.89	455.57*
Social Support	.92	.84	309.17*
Emotional Exhaustion	.97	.93	385.31*
Personal Accomplishment	.92	.85	325.35*

* $P < .05$

Two stepwise multiple regressions were conducted to assess the relative contribution of the personal and situational variables as well as the three burnout dimensions to perceived stress. A high correlation was calculated for hardiness ($R^2 = .89$), athletic training issues ($R^2 = .93$), and social support ($R^2 = .84$) with perceived stress. A high correlation was also calculated of personal accomplishment ($R^2 = .85$) and emotional exhaustion ($R^2 = .93$) with perceived stress (Table 10).

Although the GA-ATs level of burnout was not investigated specifically, burnout level is interesting to note. The averages of the GA-ATs burnout scores were as follows: depersonalization was 8, emotional exhaustion was 22, and personal accomplishment was 36. Using the MBI scoring key, the GA-ATs fell in the moderate burnout category for all subscales.

DISCUSSION

Burnout is "a syndrome of emotional exhaustion, depersonalization, and personal accomplishment that can occur among individuals who do 'people work' of some kind."[10] Burnout in athletic training, which is high levels of emotional exhaustion and depersonalization as well as low levels of personal accomplishment, is an important issue because it can lead to attrition and a decrease in quality of care.[1,2,4,6-8] The personal issues of burnout can ultimately affect patient care.[6-8] According to the literature regarding burnout in athletic trainers, ATCs in full time and part-time positions, specific states, such as Hawaii, and colleges have been studied.[1,2,4,5,19] The graduate athletic training population

is important in the growth of the profession because graduate school is generally where many ATCs have the first opportunity to work with minimal supervision. Burnout at this time in the education process of a professional may negatively influence the ATC's career, possibly leading to attrition.[2]

Of the 58 participants, 21 (36.2%) held additional employment above the GA duties. Interesting to note is the different employment settings of the participants. Of these 21 participants, employment varied from tour guides and wait staff to CPR instructors and physical therapy aides (Table 4). The relationship between additional employment and burnout was not investigated specifically, but additional employment may have been needed for additional income. The additional income and potential for less monetary stress should be investigated as a potential variable for burnout.

In general, GA-ATs incurred similar percentages of burnout with similar correlating variables to Division 1-A university ATCs[4] and collegiate coaches[14]. Participants who had more hardiness (control, commitment, and challenge) had less perceived stress, which parallels research on staff ATCs.[4] Perhaps individuals who have the personality trait of hardiness do not have as much perceived stress because that personality trait predisposes them to perceive stress less than those who are not hardy.[15] On the other hand, individuals with more hardiness may interpret fewer numbers of life events as stressful. GA-ATs who had more athletic training issues (e.g., time and role demands, winning and losing, program planning and success, and

athlete concerns) had more perceived stress, which is consistent with research on staff ATCs[4] and coaches.[14] Individuals who had more social support had less perceived stress (Table 5), which is similar to staff ATCs[4] and male coaches.[14] ATCs who have a better social support system such as co-workers and individuals outside of work may be more satisfied with their personal support system causing less stress than individuals who lack a good a support system or a confidant to discuss difficult work situations.[4] In addition, GA-ATs that had more perceived stress had more emotional exhaustion, more depersonalization, and less personal accomplishment (Table 6), which is a similar finding by Hendrix et al.[4] regarding Division I-A university ATCs and Kelley[14] regarding collegiate coaches. Hendrix et al.[4] identified that as hardiness and social support increased, perceived stress decreased. However, Hendrix et al.[4] determined a moderate correlation of hardiness, athletic training issues, and social support with perceived stress and a low correlation of personal accomplishment and emotional exhaustion with perceived stress. This may be due to the difference between a young, immature individual versus an older, mature individual.

In addition, as athletic training issues increased, perceived stress increased. Finally, as perceived stress increased, emotional exhaustion, as well as depersonalization increased and personal accomplishment decreased. These findings and the results from other studies[4,14] suggest that the same may be found when studying other athletic training populations. In a parallel profession, Kelley[14] determined that

coaches who had higher coaching issues and lower hardiness had higher perceived stress, and males who had lower social support satisfaction had higher perceived stress. In addition, coaches who had higher perceived stress had higher levels of emotional exhaustion and depersonalization and lower levels of personal accomplishment.

Additional findings regarding athletic training issues, hardiness, emotional exhaustion, depersonalization, and personal accomplishment determined that a negative correlation was calculated between athletic training issues and hardiness, a positive correlation was calculated between emotional exhaustion and depersonalization, and participants who had more feelings of personal accomplishment had less emotional exhaustion and depersonalization. Perhaps those who have the personality trait of hardiness perceive fewer athletic training issues because that personality trait provides a natural positive outlook as opposed to individuals who are not hardy.[15] In addition, GA-ATs who are emotionally exhausted may not desire to socialize further reducing social support and adding to the issues associated with burnout. The link between personal outlook and emotional exhaustion and ultimately burnout was not specifically investigated, but warrants additional study. The potential for personality links between individuals pre-disposed to burnout may exist and could serve as a preventative tool.[4,15]

Environmental issues associated with burnout was similar in GA-ATs when viewed against research on staff ATCs.[10,14] The number of athletes has

the greatest bearing on burnout variables while gender has the least bearing on all of the surveys. Age, setting, and staff ATCs have moderate impact on burnout. Thus, the number of athletes that are under the GA-ATs care may cause more stress and burnout. Perhaps the number of athletes under a GA-ATs care makes a large impact on burnout factors because GA-ATs have too much responsibility and not enough time or help to care for the athletes.[10] Thus the more clients one has to deal with, the higher the MBI burnout scores.[10] Athletic training settings may need to hire more athletic trainers to accommodate the high amount of athletes. While the number of athletes under a GA-ATs care is an important factor regarding stress and burnout, gender is not. However, according to Kelley,[14] females scored significantly higher on coaching issues, perceived stress, and emotional exhaustion than males. This difference may be due to the fact that gender was a primary purpose of Kelley's[14] study, or the amount of stress placed directly on staff athletic trainers may be buffered with graduate assistance.

The GA-ATs had a moderate level of burnout, which is different from research on collegiate teacher-coaches[20] and collegiate coaches.[14] Kelley and Gill's[20] results suggest that collegiate teacher-coaches had moderate to high levels of burnout while Kelley[14] found that collegiate coaches had moderate to high levels of emotional exhaustion and low to moderate levels of depersonalization and personal accomplishment. This difference may be due to the fact that these two studies used the MBI Form Ed as opposed to the

MBI that was used in the current study. Kelley and Gill[20] explain that the MBI Form Ed may be a more sensitive measure of burnout than the original MBI.

According to Westerman, Sullivan, and Nashman,[21] coping strategies of stress and burnout include social support and relationship categories as well as cognitive management, problem-oriented behavior, self-management skills, relaxation techniques, spirituality, and balancing work and leisure. However, organizational policy changes, such as limiting ATCs working hours or paying overtime for additional hours worked, must support these coping strategies. In addition, emotional responses can be regulated through cognitive approaches (e.g., journal writing, cognitive restructuring, and creative problem solving) and behavioral approaches (e.g., time management and assertiveness training). Certified graduate athletic training students have suggested that coping responses included the following: planning, instrumental social support, adjusting to job responsibilities, positive evaluations, emotional social support, humor, wishful thinking, religion, mental or behavioral disengagement, activities outside the profession, and other outcomes.[22] The authors suggest that athletic trainers develop social support systems, engage in journaling techniques, and seek counseling when needed. Exercise may provide yet another type of intervention.

FUTURE RESEARCH

Future research should include examining burnout and examining effectiveness of various coping strategies to that level of burnout. Future studies

should also investigate which athletic training issue(s) may have more of an impact on burnout. Different personality types should be investigated to determine if those with certain personality or temperament types are predisposed to burnout. In addition, ways to increase hardiness in individuals should be investigated. Qualitative research should be conducted regarding those that are burned out in order to further define the issue of burnout so that more can be learned from it. Furthermore, other athletic training populations should be studied to determine the differing levels of burnout in order to prevent burnout in certain settings. Finally, longitudinal studies should be conducted to determine whether burnout occurs during certain times of the year.

CONCLUSION

According to data collected during the current study, participants who had more hardiness and social support had less perceived stress while those who had more athletic training issues (e.g., time and role demands, winning and losing, program planning and success, and athlete concerns) had more perceived stress.

In addition, individuals who had more perceived stress had more emotional exhaustion and depersonalization and less personal accomplishment. Thus, participants who had less hardiness and social support and more athletic training issues had more perceived stress, which lead to more emotional exhaustion and depersonalization and less personal accomplishment. These issues may cause qualified professionals to leave the

field therefore reducing experienced personnel and possible decreases in health care. If GAs are burned out, then decision making and health care treatment of the athlete can be affected, as well as providing the profession with competent health care providers for the future. Thus, coping strategies should be integrated into the education of the GA-AT in order to decrease and/or support burnout among GA-ATs.

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SECTION 3

EXTENDED SUPPORT MATERIAL

THESIS PROPOSAL

CHAPTER I

INTRODUCTION

An assistant athletic trainer for the women's department of a Division I-A university said, "college certified athletic trainers (ATCs) are over educated, over worked, and under paid" (J. Jallo, personal communication, Spring 2003). This statement typifies the attitude of many athletic trainers (Capel, 1986, 1990; Gieck, 1986; Hendrix, Acevedo, & Hebert, 2000). The sentiment that athletic trainers are over worked and under paid may be indicative of burnout encountered in the profession. According to Campbell, Miller, and Robinson (1985), approximately 40% of athletic trainers are considered burned out. Burnout in athletic training, which is high levels of emotional exhaustion and depersonalization as well as low levels of personal accomplishment, can lead to attrition and a decrease in quality of care (Capel, 1986, 1990; Freeborn, 2001; Hendrix et al., 2000; Meltzer & Huckabay, 2004; Vettor & Kosinski, 2000).

Burnout is "a response to chronic stress" (Smith, 1986, p. 39). Burnout "has physical, mental, and behavioral components, and its development represents complex interactions between environmental and personal characteristics" (Smith, 1986, p. 37). Burnout is "a syndrome or emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach & Jackson, 1986, p. 1).

Vergamini (1981) believes that the causes of burnout that are the most applicable to athletic trainers are a negative focus, patient overload, the chronic nature of many injuries and conditions, personality conflict, unwanted roles and expectations, and reality

shock that accompanies losing one's preconceived ideals. According to Gieck, Brown, and Shank (1982), burnout is caused by overworking under stressful conditions and may be due to job stresses and anxieties combined with physical fatigue. Capel (1986, 1990) asserted that burnout in athletic trainers was caused by high role conflict, high role ambiguity, an external locus of control, poor working conditions, minimal decision-making power, greater number of hours in direct contact with athletes, and greater number of athletes in the athletic trainer's direct care. Hendrix et al. (2000) states that burnout in athletic trainers is caused by low levels of hardiness and social support, as well as high levels of athletic training issues. These causes of burnout can lead to various signs and symptoms that can impact personnel attitude and ability to provide adequate health care.

Gieck et al. (1982) discussed physical, physiological, psychological, and behavioral signs and symptoms which include: physical signs and symptoms such as over-dedication, over-commitment, frustration, and exhaustion; and physiological signs and symptoms such as increased pulse rate, shortness of breath, headaches, neuromuscular disorders, gastrointestinal or cardiovascular disturbances, and fatigue. Psychological signs and symptoms may also include anxiety and depression, sleeplessness, and the inability to handle stress (Gieck et al., 1982). Behavioral signs and symptoms consist of losing job perspective, athletes becoming secondary, hypersensitivity, suspiciousness, paranoia, rigidity, resistant to change, inflexibility, and stubbornness (Gieck et al.). De Vente, Olff, Van Amsterdam, Kamphuis, and Emmelkamp (2003) found that patients with burnout had higher heart rates and cortisol

levels than their healthy counterparts. In addition, burnout may be related to physical exhaustion, insomnia, alcohol and drug use increase, and marital and family problems (Maslach & Jackson, 1986). These signs and symptoms of burnout lead to many personal and professional consequences for the athletic trainer and patients.

Burnout among athletic trainers can lead to issues for the health care person, profession, and patient. Capel (1986) and Hendrix et al. (2000) determined that burnout leads to high levels of emotional exhaustion and depersonalization, as well as low levels of personal accomplishment. Capel (1990) suggested that burnout in athletic trainers may lead to attrition. Vergamini (1981) stated that burnout leads to escape, which can by done by changing jobs, moving to an administrative position, or leaving the profession. Burnout can also result in professionals distancing themselves from their patients. Job turnover, absenteeism, and low morale may factor into burnout (Maslach & Jackson, 1986). Freeborn (2001), Maslach and Jackson, Meltzer and Huckabay (2004), and Vettor and Kosinski (2000) identified that burnout leads to a decreased quality of care. These issues may cause qualified professionals to leave the field therefore reducing the number of experienced personnel and the possible decrease in the quality of health care. These issues may affect graduate assistant athletic trainers (GA-ATs), yet they have not been examined as a specific population; therefore, the need exists to pinpoint burnout in GA-ATs.

Statement of the Problem

Burnout is "a syndrome of emotional exhaustion, depersonalization, and personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach & Jackson, 1986, p. 1). Burnout in athletic training, which is high levels of emotional exhaustion and depersonalization as well as low levels of personal accomplishment, is an important issue because it can lead to attrition and a decrease in quality of care (Capel, 1986, 1990; Freeborn, 2001; Hendrix et al., 2000; Meltzer & Huckabay, 2004; Vettor & Kosinski, 2000). The personal issues of burnout can ultimately affect patient care (Freeborn, 2001; Meltzer & Huckabay, 2004; Vettor & Kosinski, 2000). According to the literature regarding burnout in athletic trainers, ATCs in full time and part-time positions, specific states, such as Hawaii, and colleges have been studied (Buxton et al., 1992; Campbell et al., 1985; Capel, 1986, 1990; Hendrix et al., 2000). However, burnout in GA-ATs has yet to be investigated. The graduate athletic training population is important in the growth of the profession because graduate school is generally where many ATCs have the first opportunity to work with minimal supervision. Burnout at this time in the education process of a professional may negatively influence the ATCs career, possibly leading to attrition (Capel, 1990).

GA-ATs are different from the other athletic training populations due to added stressors such as school, additional employment aside from graduate assistantships, and graduate assistant (GA) work. GAs maintain the same roles as ATCs in the field, which include prevention, assessment, treatment, and rehabilitation of injuries and illnesses. If GAs are burned out, then their decision making and health care treatment of the athlete

can be affected, as well as providing the profession with competent health care providers for the future. Therefore, this population was investigated.

Statement of Purpose

The purpose of this study was to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout.

Research Hypothesis

It was hypothesized that the current study would find that 1) GA-ATs who had lower levels of hardiness and social support and higher levels of athletic training issues would have higher levels of perceived stress, and 2) GA-ATs who had higher levels of perceived stress would also have higher levels of emotional exhaustion and depersonalization and lower levels of personal accomplishment.

Delimitations

GA-ATs from seven of the 13 National Athletic Trainers' Association (NATA) accredited graduate athletic training programs were asked to participate. Instrumentation included: a demographic sheet including items regarding year of student, employment setting, and number of athletic trainers in the employment setting; the Hardiness Scale; the six-item short form of the Social Support Questionnaire; the Athletic Training Issues Survey; the Perceived Stress Scale; and the Maslach Burnout Inventory. The selection of instruments was derived from Hendrix et al. (2000) based on Kelley's (1994) model.

Limitations

Limitations of the study included honest responses on the different forms by the athletic trainers and correct recollection by the athletic trainers regarding responses to the

questions on the different forms. In addition, generalizing the surveyed group of GA-ATs to all GA-ATs may be limited because graduate athletic trainers from NATA accredited graduate athletic training programs may be different than graduate athletic trainers from non-NATA accredited graduate athletic training programs. Also, those who returned the forms may skew the data to the low side of burnout and return rate because those that were burned out may not have participated in the study (Meltzer & Huckabay, 2004; Vettor & Kosinski, 2000). Furthermore, sending the packet near the end of the school year because that time of the year may have been less stressful than others. The assessment of burnout may have been a snapshot in time and therefore yielding more moderate reliability of the instruments.

Definitions/Descriptions

Athletic training issues: Time and role demands, winning and losing, program planning and success, and athlete concerns (Kelley, 1994).

Burnout: "A syndrome of emotional exhaustion, depersonalization, and personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach & Jackson, 1986, p. 1).

Certified athletic trainers (ATCs): "Unique health care providers who specialize in the prevention, assessment, treatment, and rehabilitation of injuries and illnesses that occur to athletes and the physically active" and have passed the National Athletic Trainers' Association Board of Certification exam (NATA, 2003).

Commission on Accreditation of Allied Health Education Programs (CAAHEP): "The largest programmatic/specialized accreditor in the health sciences field" (CAAHEP,

2003). "In collaboration with its Committees on Accreditation, CAAHEP reviews and accredits more than 2000 educational programs in twenty-one (21) health science occupations across the United States and Canada" (CAAHEP, 2003).

Depersonalization: "An unfeeling and impersonal response towards recipients of one's service, care, treatment, or instruction" (Maslach & Jackson, 1986, p. 2).

Emotional exhaustion: "Feelings of being emotionally overextended and exhausted by work" (Maslach & Jackson, 1986, p. 2).

Graduate Assistant (GA): One who attends graduate school while working as an athletic trainer.

Hardiness: Hardiness is composed of the following three components: control, commitment, and challenge (Kobasa, 1979). Those that are hardy "are considered to possess three general characteristics: (a) the belief that they can control or influence the events of their experience, (b) an ability to feel deeply involved in or committed to the activities of their lives, and (c) the anticipation of change as an exciting challenge to further development" (Kobasa, 1979, p. 3).

National Athletic Trainers' Association (NATA) approved graduate education program: Approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Perceived stress: "The degree to which situations in one's life are appraised as stressful" (Cohen, Kamarck, and Mermelstein, 1983, p. 387).

Personal accomplishment: "Feelings of competence and successful achievement in one's work with people" (Maslach & Jackson, 1986, p. 2).

Social support: "The number of available others the individual feels he or she can turn to in times of need...[and]...the individual's degree of satisfaction with the perceived support available" (Sarason et al., 1987, p. 499).

Summary

Burnout in athletic training, which is high levels of emotional exhaustion and depersonalization as well as low levels of personal accomplishment, is a problem that exists in the industry because it can lead to attrition and a decrease in quality of care (Capel, 1986, 1990; Freeborn, 2001; Hendrix et al., 2000; Meltzer & Huckabay, 2004; Vettor & Kosinski, 2000). Previously, ATCs have been examined in high school, university, and clinical settings. However, burnout in GA-ATs has not yet been studied. Therefore, the purpose of this study was to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout.

Project Completion

Data from this study will be compiled into an article for the *Journal of Athletic Training* according to the *Author's Guide* (see Appendix A). The article will be submitted upon completion.

CHAPTER II

LITERATURE REVIEW

The purpose of this study was to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout. The literature review is intended to provide a history of burnout in the health care industry and specifically athletic trainers. The review of literature will be discussed in three sections: 1) burnout, 2) burnout in health professions, and 3) burnout in athletic trainers. The purpose of this literature review is to create an awareness of the research that has been conducted regarding burnout in general, in helping professions, and in athletic training.

Burnout

In 1986, Smith proposed a conceptual model that identified the relationships between stress and burnout. The upper portion of the model asserts that personality and motivational factors influence or affect the following four components: situational factors, cognitive appraisal, physiologic responses, and behavioral responses (Smith, 1986). The lower portion of the model asserts that these four components of stress manifest into burnout. Figure 1 depicts Smith's model.

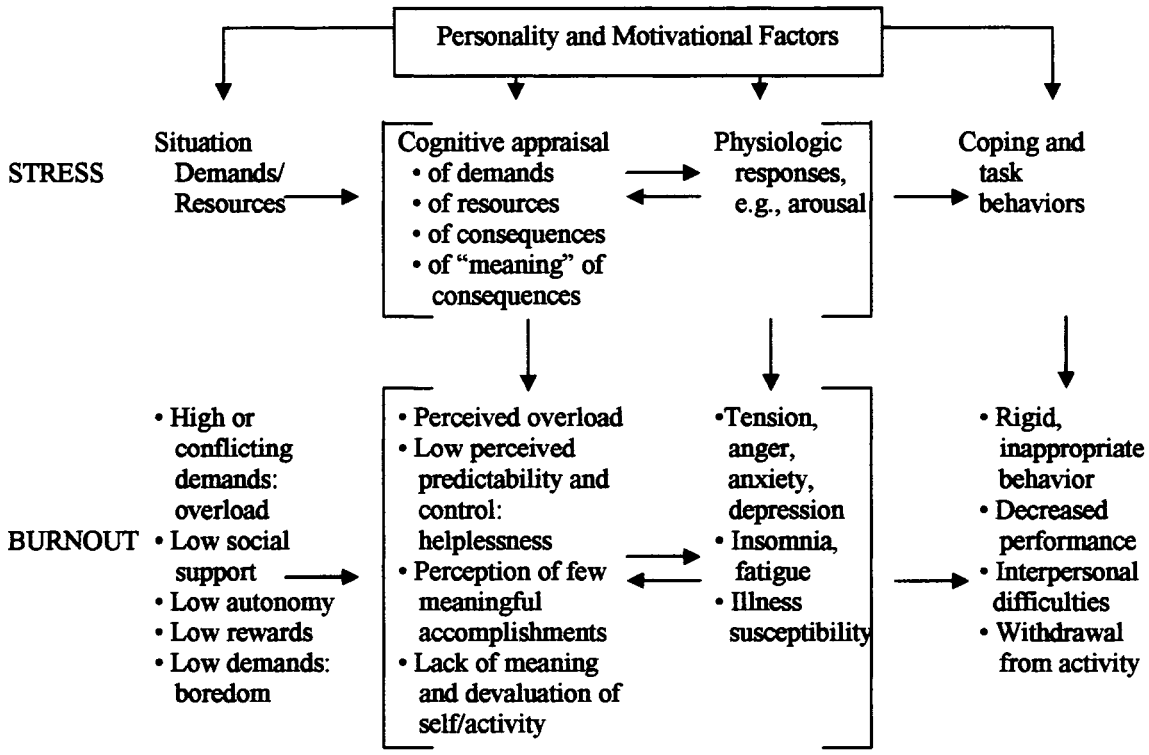

Figure 1. Smith's (1986) model.

In 1993, Kelley and Gill presented a representation of Smith's (1986) model in dual role teacher-coaches. In Kelley and Gill's proposed model, personal/situational variables predict stress appraisal, which predicts burnout. Personal/situational variables include social support, gender, and teacher/coach experience. The stress appraisal variables include perceived stress, coaching issues, and coaching problems. Burnout variables include emotional exhaustion, depersonalization, and personal accomplishment. Figure 2 depicts Kelley and Gill's proposed model of stress and burnout in collegiate coaches.

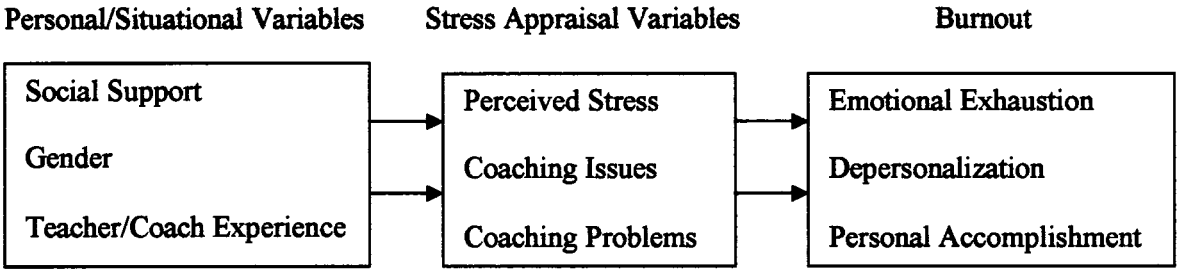

Figure 2. Kelley and Gill's (1993) model.

In 1994, Kelley presented a representation of Smith's (1986) model in collegiate coaching. In Kelley's proposed model, personal/situational variables predict stress appraisal, which predicts burnout. Personal/situational variables include the following: coaching issues, social support, gender, hardiness, and winning percentage. The stress appraisal variable is perceived stress. Burnout variables include the following: emotional exhaustion, depersonalization, and personal accomplishment. Figure 3 shows Kelley's proposed model of stress and burnout in collegiate coaches.

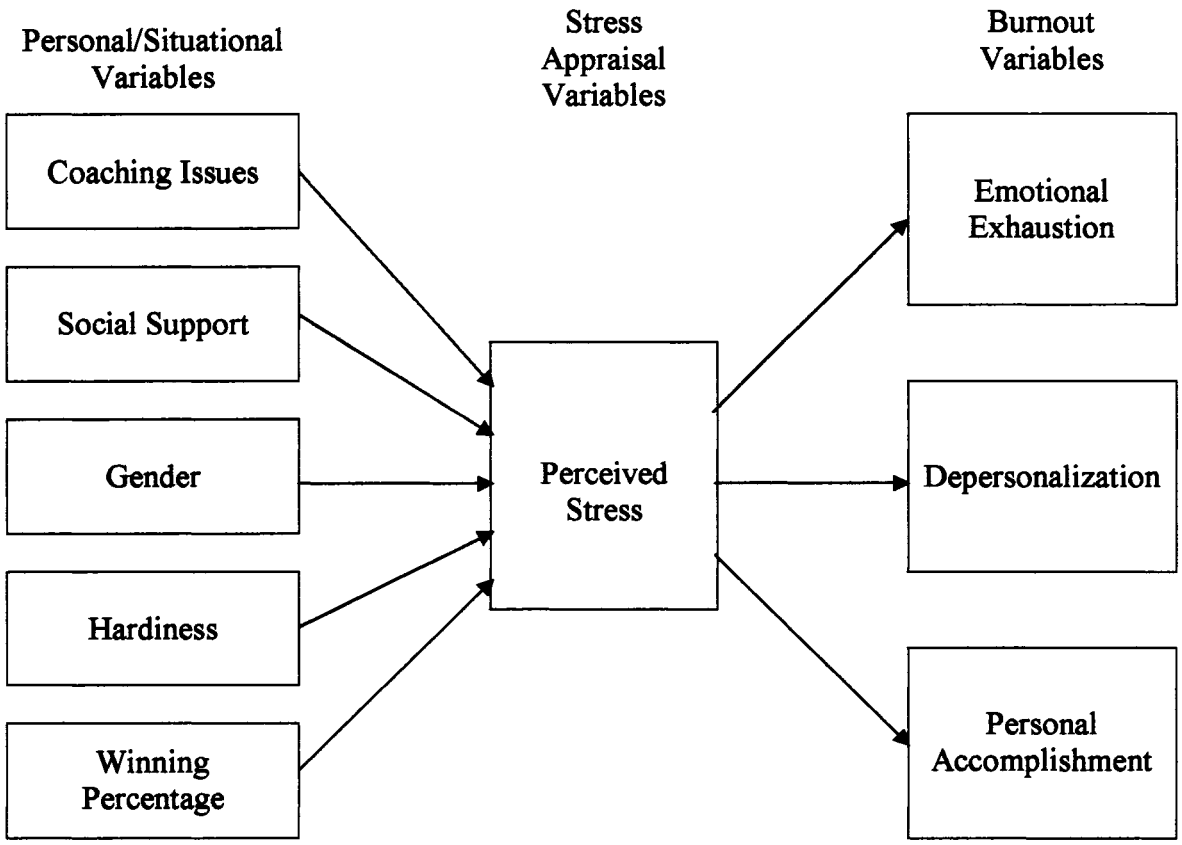

Figure 3. Kelley's (1994) model.

In 2000, Hendrix et al. used a similar model. Hendrix et al.'s model also included personal/situation variables, a stress appraisal variable, and burnout variables. Personal/situational variables include the following: hardiness, social support, and athletic training issues. The stress appraisal variable is perceived stress. Burnout variables include the following: emotional exhaustion, depersonalization, and personal accomplishment. Figure 4 shows Hendrix et al.'s (2000) model of factors that influence burnout in athletic trainers.

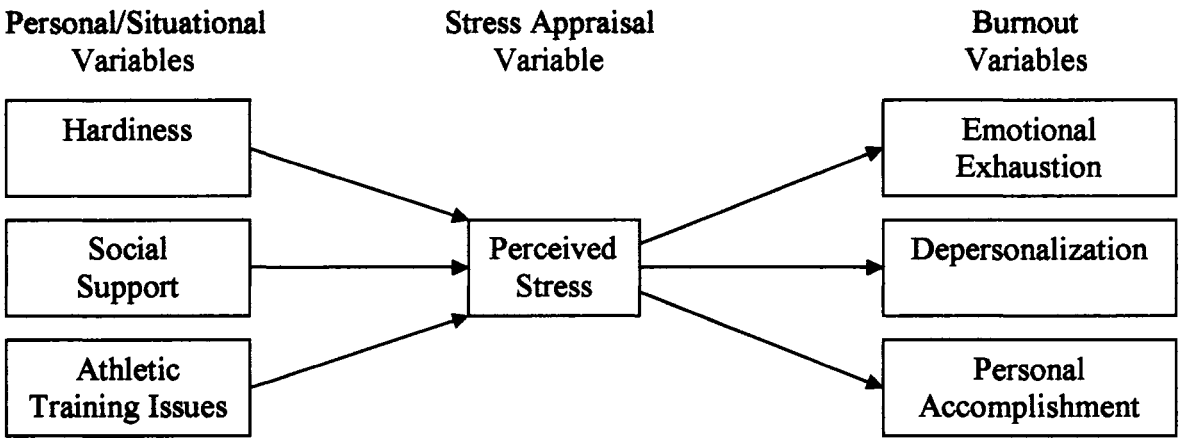

Figure 4. Hendrix et al.'s (2000) model.

Burnout has been defined many different ways (Campbell et al., 1985; Capel, 1986, 1990; Merriam-Webster, 2001). According to an online dictionary by Merriam-Webster (2001), burnout is defined as "exhaustion of physical or emotional strength or motivation usually as a result of prolonged stress or frustration." Campbell et al. (1985) used the following definition of burnout in their study on burnout in athletic trainers: "a 'syndrome of inappropriate attitudes towards clients and towards self...' which is usually associated with social, physical, and emotional symptoms 'ranging from exhaustion and insomnia to migraine and ulcer'" (p. 110). Capel (1986) defined burnout in her study on burnout in athletic trainers: "a reaction to job-related stress that varies in nature with the intensity and duration of the stress itself" (p. 322). Capel (1990) defined burnout in her study on attrition of athletic trainers: "a crystallized set of attitudes and feelings about work, which tend to be manifested as emotional exhaustion; the tendency to treat clients in a detached, mechanical fashion; and feeling a low sense of personal accomplishment" (p. 38). When collapsing all these definitions, the contexts that are the same are the

causes (stress), signs and symptoms (exhaustion), and results of burnout (emotional exhaustion and low personal accomplishment).

Burnout is "a response to chronic stress" (Smith, 1986, p. 39). Burnout "has physical, mental, and behavioral components, and its development represents complex interactions between environmental and personal characteristics" (Smith, 1986, p. 37). Burnout is "conceptually defined as emotional exhaustion, depersonalization, and personal accomplishment" (Hendrix et al., 2000, p. 140). For the purpose of this paper, the definition that will be used is that burnout is "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach & Jackson, 1986, p. 1).

All of the definitions provided vary from each other, with the exception of the first definition. This may be due to the fact that each study uses a different definition to comply with the researcher's specific focus. What these definitions do have in common is that stress is the catalyst for burnout, and the signs and symptoms of exhaustion generally lead to low personal accomplishment and emotional exhaustion. The effects of burnout on health care personnel, specifically the athletic trainer, can affect the quality of health care given to patients as well as advancement of the profession.

Burnout in Health Professions

Many articles detail burnout among health professionals such as physicians (Freeborn, 2001), nurses (Laschinger, Shamian, & Thomson, 2001), critical care nurses (Meltzer & Huckabay, 2004), occupational therapists (Balogun, J., Titiloye, Oyeyemi, Balogun, A., & Zuccaro, 1999), physical therapists (Balogun et al., 1999; Kyser-Norris &

Smith, 2001), physical therapist assistants (Nienhouse & Smith, 2000), and emergency medical technicians (Vettor & Kosinski, 2000). Several common themes exist among these professions, which include, age, job and family demands, a lack of religion and social support, and decrease in quality of health care. The purpose of this section is to create an awareness of the research that has been conducted regarding burnout in health professions.

One common factor among health care personnel is age. Age is a predicting factor of burnout for physicians (Freeborn, 2001), critical care nurses (Meltzer & Huckabay, 2004), and physical therapist assistants (Nienhouse & Smith, 2000). "Burnout scores were lower for younger (30- to 36-year-old) physicians and for older [older than 48] physicians (when compared with physicians in the 2 middle-age categories [37- to 41-year-old and 42- to 47-year-old])" (Freeborn, 2001, p. 15). The results of Meltzer and Huckabay (2004) "indicated that nurses 18 to 30 years old scored significantly higher on the depersonalization subscale than did nurses 46 to 60 years old" (p. 205). While Freeborn (2001) discusses all three subscales of burnout with relation to age, Meltzer and Huckabay (2004) only discuss the depersonalization subscale. Also, the nurses that are 18 to 30 years old in Meltzer and Huckabay's (2004) study may score higher on the depersonalization subscale because of being less personable due to less experience. According to Nienhouse and Smith (2000), there was a significant negative correlation between physical therapist assistants' age and depersonalization score. Even though the literature states that age is a common factor among health care personnel, number of years of experience or number of years in the position may be contributing factors. For

each of these articles, different ages are predictors for burnout. Therefore, each of these health professions have different age issues related to burnout making a specific delineation of age related to burnout among all health professions difficult to conclude.

Job demands also appear to be a predicting factor of burnout for physicians (Freeborn, 2001), critical care nurses (Meltzer & Huckabay, 2004), and physical therapist assistants (Nienhouse & Smith, 2000). "Physicians who felt their job demands were too high had...significantly higher burnout scores than physicians who felt their job demands were about right or too low" (Freeborn, 2001, p. 15). An occupational source of stress "affecting critical care nurses that may lead to burnout include a difficult workload" (Meltzer & Huckabay, 2004, p. 203). In Nienhouse and Smith's (2000) study on physical therapist assistants, a significant positive correlation existed between the number of hours worked per week and depersonalization score. Job demands appear to be predicting factors for burnout.

Family demands and a lack of religion were also predicting factors for critical care nurses (Meltzer & Huckabay, 2004) and occupational and physical therapists (Balogun et al., 1999). A personal factor that has been related to feelings of burnout among critical care nurses is family demands (Meltzer & Huckabay, 2004). Number of children was a sociodemographic variable that was a viable predictor of emotional exhaustion for occupational and physical therapists (Balogun et al., 1999). According to Meltzer and Huckabay (2004), "nurses who considered religion to have no importance in their lives had significantly higher scores on the MBI emotional exhaustion subscale than did those who reported that religion was very important in their lives" (p. 206). Balogun

et al. (1999) found that religious affiliation was a sociodemographic variable that was a viable predictor of emotional exhaustion for occupational and physical therapists. Increased family demands and a lack of religious affiliation correlate with burnout.

A lack of social support is a predicting factor of burnout among physicians (Freeborn, 2001), nurses (Laschinger et al., 2001), critical care nurses (Meltzer & Huckabay, 2004), and occupational and physical therapists (Balogun et al., 1999). Social support significantly related to burnout among physicians; as social support increased, burnout decreased (Freeborn, 2001). Among nurses, low supervisory support, a lack of managerial and co-worker support, and a non-supportive social environment leads to burnout (Laschinger et al., 2001). A personal factor that has been related to feelings of burnout among critical care nurses is a lack of social support (Meltzer & Huckabay, 2004). Level of support from supervisor was a viable predictor of emotional exhaustion while level of support from colleagues was a viable predictor of depersonalization and personal achievement (Balogun et al., 1999). The commonality among these articles is that as social support increases, burnout decreases.

A decrease in quality of care is a result of burnout among physicians (Freeborn, 2001), critical care nurses (Meltzer & Huckabay, 2004), and emergency medical technicians (Vettor & Kosinski, 2000). "The few existing studies suggest that burned-out physicians have problems relating to patients. Their quality of care may also suffer" (Freeborn, 2001. p. 17). Experiencing feelings of emotional exhaustion among critical care nurses can lead to decreased productivity and compromising patient's care (Meltzer & Huckabay, 2004). "An accumulation of stress can lead to burnout, resulting in the

deterioration of the quality of care provided" by emergency medical technicians (Vettor & Kosinski, 2000, p. 217-218). Burnout leads to a decreased quality of care.

Burnout scores among health professions such as nurses (Laschinger et al., 2001), occupational and physical therapists (Balogun et al., 1999), and physical therapist assistants (Nienhouse & Smith, 2000) varied. "Nurse burnout scores were within the average burnout category according to Maslach and Jackson's (1986) norms for medical personnel" (Laschinger et al., 2001, p. 215). Occupational and physical therapists' emotional exhaustion, depersonalization, and personal accomplishment scores were higher than the norms reported for other human service professionals (Balogun et al., 1999). Physical therapist assistants' emotional exhaustion, depersonalization, and personal accomplishment scores were low to medium (Nienhouse & Smith, 2000). Nurses, occupational and physical therapists, and physical therapist assistants show different levels of burnout, which is an interesting examination of the different demands on allied health care personnel.

Emotional exhaustion, depersonalization, and personal accomplishment scores varied among occupational and physical therapists (Balogun et al., 1999; Kyser-Norris & Smith, 2001) and physical therapist assistants (Nienhouse & Smith, 2000). According to Balogun et al. (1999), occupational and physical therapists scored high on emotional exhaustion and depersonalization while scoring low on personal accomplishment. According to Kyser-Norris and Smith (2001), physical therapists scored moderate on emotional exhaustion and depersonalization while scoring low on personal accomplishment. According to Nienhouse and Smith (2000), physical therapist assistants

scored low on depersonalization and personal accomplishment while scoring medium for emotional exhaustion. All three articles indicate different scores on the subscales of burnout which again signifies the different stressors and levels of burnout among varied allied health care professionals.

One limitation to studying burnout is to know whether individuals with burnout are participating in the study. According to Meltzer and Huckabay (2004), their "findings may reflect a particular response bias because nurses experiencing high levels of burnout may have lacked motivation to participate in the study" (p. 207). According to Vettor and Kosinski (2000), "it is unlikely that a potential EMT would want to endorse items on a burnout inventory that would identify him or her as either burned out or susceptible to burnout" (p. 225). The desire is that those who participate in studies are representative of the population being studied; however, since apathy can be an effect of burnout, burned out individuals may not respond to questionnaires.

Age, job demands, family demands, and a lack of religious affiliation and social support may be predicting factors of burnout. In other health professions, different ages are predictors for burnout. In athletic training, age may also be a predicting factor. However, an evaluation of burnout among athletic trainers has not encompassed graduate assistants and therefore may not be considered complete. Job demands appear to be predicting factors for burnout which may transcend across to athletic trainers given that athletic trainers work many hours. Since increased family demands and a lack of religious affiliation correlate with burnout in other health professions, the same may hold true for athletic trainers. The commonality among other health profession articles is that

as social support increases, burnout decreases, which may also be the case with athletic trainers. Burnout in other health professions may lead to a decreased quality of care. Although no studies with GA-ATs have been conducted, maintaining treatment and health care standards is of utmost importance in ensuring the health of the patients or athletes. Burnout levels vary among and within health professions; therefore investigating GA-ATs is necessary to gauge burnout among that health care provider population.

Burnout in Athletic Trainers

Much research has been conducted regarding burnout in athletic trainers (Baker, 2004; Buxton et al., 1992; Campbell et al., 1985; Capel, 1986, 1990; Gieck, 1984, 1986; Gieck et al., 1982; Hendrix et al., 2000; Tanaka, 2000; Vergamini, 1981). The purpose of this section is to create an awareness of the research that has been conducted regarding burnout in athletic trainers both directly and indirectly.

Hendrix et al. (2000) explored "the utility of Smith's model to predict stress appraisal and burnout in ATCs in the National Collegiate Athletic Association (NCAA) Division I-A intercollegiate setting" (p. 140). One hundred and eighteen athletic trainers (as described above) working in university sponsored football completed the following: a demographic data sheet that included information regarding years of service and workload, the Hardiness Scale, the six-item short form of the Social Support Questionnaire, the Athletic Training Issues Survey, the Perceived Stress Scale, and the Maslach Burnout Inventory. The authors' conclusions supported their version of Smith's model that hardiness, social support, and athletic training issues predict stress appraisal,

which predicts burnout. Athletic trainers who had lower levels of hardiness and social support and higher levels with athletic training issues were more likely to have a higher level of perceived stress. Also, athletic trainers who had a higher level of perceived stress were more likely to have higher levels of emotional exhaustion and depersonalization and lower levels of personal accomplishment. Investigating GA-ATs is important to assess their levels of burnout, which will be accomplished by nearly replicating this study.

Buxton et al. (1992) investigated motivational congruency and discrepancy among athletic trainers. Twenty Hawaiian ATCs from the high school, university, and clinic settings completed the Neal-Priest Inventory for Motivational Congruency or Discrepancy. Through this study, the authors came to three major conclusions. One, motivational schemes are important to Hawaiian athletic trainers with little variation regarding the setting in which he/she is employed. Two, important intrinsic motivational factors include importance of work, job growth, and achieving work-related goals. Three, important extrinsic motivational factors include good benefits and wages, good work conditions, and getting along with others. "Satisfaction of the motivators will permit an athletic trainer to grow and develop in a mature way...decreasing factors that may lead to burnout" (Buxton et al., 1992, p. 333).

Capel (1990) determined "why athletic trainers were no longer employed in the profession" (p. 34). Eighty-two ATCs who either had left the athletic training profession entirely or were not practicing as an athletic trainer completed a questionnaire, which was designed to determine why he/she was no longer in the profession of athletic training.

Factors that led the athletic trainer to leave the profession included the following: interest in another occupation, desire to get more education, long hours, limited opportunity to advance as an athletic trainer, desire to spend more time with family, and low salary. Understanding what factors lead to attrition may lead to an understanding of what factors lead to burnout.

Capel (1986) investigated "the relationship of five selected psychological and organizational variables with burnout in athletic trainers" (p. 322). These five variables include role conflict, role ambiguity, locus of control, number of hours in direct contact with the athletes, and number of athletes in the athletic trainer's direct care. Of the 332 full-time and part-time ATCs who completed the Athletic Trainers Questionnaire, Capel (1986) made two major conclusions. One, athletic trainers generally have a low level of burnout. Two, role conflict, role ambiguity, locus of control, number of hours in direct contact with the athletes, and number of athletes in the athletic trainer's direct care significantly related to the following: total burnout, burnout frequency and intensity, as well as emotional exhaustion, depersonalization, and personal accomplishment subscales. GA-ATs should also be investigated regarding burnout because there is no current data to assess this specific population.

Gieck (1986) conducted a case study of burnout of an athletic trainer who had 25 years of athletic training experience, 16.5 at his present institution. The athletic trainer explained 55 examples of an athletic trainer who is burned out, some of which included the following: neglecting his own stress management, not being in control of his job, having feelings of isolation, not delegating authority, and becoming aggressive,

withdrawn, sarcastic, and anxious. These are just a few classic examples that Gieck, Brown, and Shank (1982) and Gieck (1984) discussed in their previous articles. According to Gieck (1986), "it is hoped that athletic trainers will gain further insight into stress management by this case study" (p. 43). Since this athletic trainer experienced many examples of burnout, it is necessary to investigate whether GA-ATs experience these same examples.

Campbell et al. (1985) assessed the extent of stress and burnout among athletic trainers by means of a questionnaire that was distributed at the 1984 National Association of Athletic Trainer's (NATA) Clinical Symposium. The three-part questionnaire was designed to assess the level of stress of the athletic trainer, retrieve demographic information about the athletic trainer and have the athletic trainer identify whether or not he/she had experienced any of 12 medical conditions since he/she has been in his/her current job. Out of the 221 usable questionnaires, the authors made eight conclusions. One, the questionnaire is both reliable and valid. Two, approximately 40% of athletic trainers are considered burned out. Three, the identification of a large variety of medical conditions among this young group of athletic trainers was not expected. Four, male athletic trainers are more likely to be burned out than female athletic trainers. Five, burned out athletic trainers are slightly younger than those athletic trainers who are not. Six, athletic trainers that are not burned out currently have children while athletic trainers that are burned out do not have children. Seven, the burned out athletic trainer is more likely to be the head athletic trainer while the athletic trainer that is not is likely to be an associate or assistant athletic trainer. Eight, the athletic trainer who is burned out is more

likely to be working with at least one other athletic trainer. Whether or not GA-ATs with burnout incur the same type of symptoms in the same demographic breakdown is important to know.

Gieck (1984) stated that "most stress comes not from the science of athletic training, but from the art" (p. 115). Factors leading to stress and burnout in the athletic trainer include not having an athlete ready to compete in time, being over dedicated and over committed, and feeling isolated in an athletic department in which there are no other athletic trainers. Behavioral changes that occur in the athletic trainer due to stress and burnout include: complaining constantly about being overworked; becoming rigid, inflexible, and resistant to change; delegating activities to other people; developing a sarcastic and pessimistic personality; criticizing constantly about everything; experiencing paranoia; becoming hypersensitive and suspicious; and changing personal habits. These symptoms can affect the person's overall health and their ability to treat others. Techniques that can be used to manage stress include exercising, eating properly, sleeping, doing relaxation techniques, setting priorities, delegating authority, considering a job change, examining stressful events, and reexamining attitudes and goals. Understanding causes and signs and symptoms of burnout may lead to an understanding of burnout in athletic training.

Gieck et al. (1982) investigated "the causes, effects, and the use of modifiers to reduce the effects of stress for health professionals" (p. 36). Even though there are physical signs and symptoms of burnout (frustration and exhaustion), the physiological (headaches and fatigue), psychological (anxiety and depression), and behavioral

(inflexible and stubborn) signs and symptoms of burnout are more indicative of the burnout syndrome. An individual with burnout may either become aggressively controlling or withdrawn. Modifiers that can be used to reduce stress include the following: restructuring behavior, analyzing job stress, reexamining occupational goals, having an active outside life, continuing education, having flexibility in the job, having a positive self-perception, controlling one's job environment, having proper physical health habits, making time for leisure, and having values.

Vergamini (1981) discussed causes, signs and symptoms, coping mechanisms, and prevention of burnout among athletic trainers. The causes of burnout that are the most applicable to athletic trainers are a negative focus, patient overload, the chronic nature of many injuries and conditions, personality conflict, unwanted roles and expectations, and reality shock that accompanies losing one's preconceived ideals. There are many signs and symptoms of burnout. "The principle symptom is a feeling of unease in the professional" (Vergamini, 1981, p. 198). Other signs and symptoms include insomnia, ulcers, hypertension, mental or emotional fatigue, and exhaustion. Behavioral changes include a difference in attitude, cynicism, depression, paranoia, and inflexible thinking. Coping mechanisms of burnout include escape, which can be done by changing jobs, moving to an administrative position, or leaving the profession, as well as professionals distancing themselves from their patients. Prevention of burnout includes knowing one's limits, communicating one's needs, "time outs," and professional support groups. Knowledge of the signs and symptoms, as well as how to reduce burnout is

important in maintaining professional standards of health care, reducing athletic trainer attrition, and maintaining athletic trainer personal health.

Summary

Burnout is "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach & Jackson, 1986, p. 1). Burnout exists in other health care settings, such as physicians (Freeborn, 2001), nurses (Laschinger et al., 2001), critical care nurses (Meltzer & Huckabay, 2004), occupational therapists (Balogun et al., 1999), physical therapists (Balogun et al., 1999; Kyser-Norris & Smith, 2001), physical therapist assistants (Nienhouse & Smith, 2000), and emergency medical technicians (Vettor & Kosinski, 2000). Signs and symptoms of burnout are the same for other health care settings as it is for athletic trainers. Not as many studies exist regarding burnout among athletic trainers as among other health professionals. During the review of literature, only nine articles were found that discussed burnout among athletic trainers. Of the nine articles discussed, only seven articles directly investigated burnout among athletic trainers. Of these seven, four articles discussed burnout among athletic trainers while the other three articles merely gave information on burnout in athletic trainers. GA-ATs have yet to be examined as to the extent of burnout, how that affects their ability to provide health care, and their outlook on the profession which is important since they are the next generation of ATCs. Thus, the purpose of this study was to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout.

CHAPTER III

METHODS

The purpose of this study was to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout. This chapter will be presented in four sections: subjects, instrumentation, procedures, and statistical analysis.

Subjects

Participants were GA-ATs from seven of the 13 National Athletic Trainers' Association (NATA) accredited graduate athletic training programs (see Appendix B). Approximately 160 students received survey packets. Fifty eight (36.25%) of the survey packets were returned and were usable.

Instrumentation

The personal and situational variables including athletic training issues, hardiness, and social support, the stress appraisal variable of perceived stress, as well as the burnout variables including emotional exhaustion, depersonalization, and personal accomplishment were assessed using five instruments: the Athletic Training Issues Survey, the Hardiness Scale, the six-item short form of the Social Support Questionnaire, the Perceived Stress Scale, and the Maslach Burnout Inventory. The selection of instruments was derived from Hendrix et al. (2000) based on Kelley's (1994) model.

The Coaching Issues Survey (CIS) is a 30-item scale that is used to assess perceived stress associated with various coaching issues. The CIS consists of the following four subscales: time and role demands, winning and losing, program planning

and success, and athlete concerns. Participants rate the degree of stress on each coaching issue on a 6-point Likert-type scale that ranges from *no stress* (0) to *extreme stress* (5). The internal consistency reliability is .92 (Kelley, 1994). The Athletic Training Issues Survey (ATIS), which is a modified version of the (CIS), is a 30-item scale that was used to assess perceived stress that is associated with various athletic training issues (Hendrix et al., 2000). Participants rate the degree of stress on each athletic training issue on a 5-point Likert scale that ranges from *no stress* (1) to *extreme stress* (5). Example items include "Not having time for myself," "Injury or illness to one of my starter athletes," "Not reaching my professional goals," and "Personality conflicts with the individuals I supervise or interact with." In the present study, the ATIS was changed with the recommendation of Dr. Edmund Acevedo to change items (see below) to relate to GA-ATs. Kelley recognized the fact that only very minor modifications were going to have to be made to the ATIS in order to make it more valid to the GA athletic training population. The items that were changed include the following: from "supervise" to "supervise or interact with," from "being able to hire" to "having adequate athletic trainers," from "being unable to hire" to "not having the key personnel," and from "e.g., teaching or curriculum coordination" and "e.g., teaching, presentations, public relations for athletic training, etc." to "e.g., school." The last change caused the item "Not successfully fulfilling my responsibilities outside of my athletic training duties (e.g., teaching, presentations, public relations for athletic training, etc.)" (#29) to be eliminated. Also, "Not having enough time for interviewing and hiring of quality athletic trainers" (#27) was eliminated. Kelley also suggested that the data be entered so that total score

and subscales score are analyzed. If the subscales show inadequate reliability (less than .8), then use the total score. Alpha for the subscale score was .74, so total score was used.

Hardiness is composed of the following three components: control, commitment, and challenge (Kobasa, 1979). Those that are hardy "are considered to possess three general characteristics: (a) the belief that they can control or influence the events of their experience, (b) an ability to feel deeply involved in or committed to the activities of their lives, and (c) the anticipation of change as an exciting challenge to further development" (Kobasa, 1979, p. 3). Kelley (1994) used a 50-item Hardiness Scale in her study on stress and burnout in collegiate coaches while Hendrix et al. (2000) used a 30-item Hardiness Scale in their study on stress and burnout in ATCs. In the present study, Nowack's (1991) 30-item Hardiness Scale was used with the recommendation of Kelley. The Hardiness Scale, which is a component of the Stress Assessment Profile, measures attitudes and beliefs about work and life (Nowack, 1991), and consists of the following three general dimensions: involvement (commitment), challenge, and control. Example items include "My involvement in activities and hobbies provides me with a sense and purpose," "I tend to view most work and life changes, disappointments, and setbacks as threatening, harmful, or stressful rather than challenging," and "Many times I feel that I have little or no control and influence over things that happen to me." Items are to be rated by using a 5-point Likert scale that ranges from *strongly agree* (1) to *strongly disagree* (5). In item 14, "coaching" was changed to "athletic training."

Social support was assessed through the six-item short form of the Social Support Questionnaire (SSQ6). Each item has two parts. "The first part of each item assesses the number of available others the individual feels he or she can turn to in times of need in each of a variety of situations (Number or Perceived Available score) [while] the second part of each item measures the individual's degree of satisfaction (Satisfaction score) with the perceived support available in that particular situation" (Sarason et al., 1987, p. 499). Satisfaction is indicated on a 6-point Likert scale from *very dissatisfied* (1) to *very satisfied* (6). An example item is "How satisfied are you with those who accept you totally, including both your worst and best points?" Like Hendrix et al. (2000) and Kelley (1994), the satisfaction part was used while the number, or first, part was not used. In order to calculate the satisfaction total score, the 6-items are added together. The comparable internal reliabilities for the Number and Satisfaction ranged from 0.90 to 0.93 (Sarason et al., 1987).

The Perceived Stress Scale (PSS) is "a 14-item measure of the degree to which situations in one's life are appraised as stressful," and "items were designed to tap the degree to which respondents found their lives unpredictable, uncontrollable, and overloading" (Cohen et al., 1983, p. 387). A total score is calculated by adding the reverse scores of seven positive items with the remaining seven. Participants answer questions such as "In the last month, how often have you dealt with irritating life hassles?" by using a scale from *never* (0) to *very often* (4). Coefficient alpha reliability is .84, .85, and .86 while test-retest correlation is .85 with an interval of two days and .55 with an interval of 6 weeks.

The Maslach Burnout Inventory (MBI) was designed to assess the three aspects of burnout, which include emotional exhaustion, depersonalization, and personal accomplishment. How often the participant experiences feelings that are related to each subscale is assessed by using a six-point, fully anchored response format ranging from *never* (0) to *every day* (6). Example items include "I feel emotionally drained at work" and "I feel frustrated by my job." The items in each of the subscales are added instead of a combined single, total score. Therefore, there are three different scores. The reliability coefficients were .90 for emotional exhaustion, .79 for depersonalization, and .71 for personal accomplishment. The test-retest reliability coefficients were .82 for emotional exhaustion, .60 for depersonalization, and .80 for personal accomplishment with an interval of 2 to 4 weeks and .60 for emotional exhaustion, .54 for depersonalization, and .57 for personal accomplishment with an interval of 1 year. Convergent validity was demonstrated through external validation of personal experience, dimensions of the job experience, and personal outcomes. Discriminant validity was also obtained (Maslach & Jackson, 1986). All the instruments will be included as part of a mailed survey packet.

Procedures

Program directors from the 13 accredited graduate athletic training programs were e-mailed regarding participation in the study and asked to distribute the surveys to their GA-ATs. Program directors who indicated a willingness to participate (N=7) were asked to identify the number of students in their respective program. After receiving approval from the San Jose State University Institutional Review Board (see Appendix C), a packet of surveys was mailed to each accredited graduate athletic training program that

agreed to participate near the end of the academic school year. Sending the packet near the end of the school year hopefully increased participation because that time of the year may be less stressful than others, and the GA-ATs may have had more free time to respond to the research instruments.

A separate packet with surveys for each participant was created for each participating institution based on the number of students in that particular program. Each packet included for each participant a cover letter that explained the study; a demographic sheet including items regarding year of student, assistantship setting, and number of athletic trainers in the assistantship setting; the ATIS; the Hardiness Scale; the SSQ6; the PSS; and the MBI (see Appendix D). The cover letter and the demographic sheet were the first two items in the packet, and the remaining surveys followed in random order. Completion of the packet of surveys takes approximately 15 minutes.

The questionnaires were color coded so that each university survey packet could be identified. In the cover letter (see Appendix D), participants were informed that participation was strictly confidential. A self-addressed, stamped envelope was provided to each participant in hopes that response rate would be increased. About 3 weeks after the packets were mailed out, an e-mail was sent to the program directors of the participating universities reminding them to distribute any remaining surveys also to increase response rate.

Statistical Analysis

Pearson product-moment correlations were performed between the personal and situational variables of athletic training issues, hardiness, and social support and

perceived stress in order to determine the personal and situational variables that predict stress appraisal. Pearson product-moment correlations were also performed between perceived stress and the three burnout scores of emotional exhaustion, depersonalization, and personal accomplishment. Two stepwise multiple regressions were conducted to assess the relative contribution of the personal and situational variables as well as the three burnout dimensions to perceived stress.

Project Completion

Data from this study will be compiled into an article for the *Journal of Athletic Training* according to the *Author's Guide* (see Appendix A). The article will be submitted upon completion.

Summary

The purpose of this study was to assess burnout by investigating athletic training issues, hardiness, and social support that predict stress appraisal and burnout. Participants in the proposed study were GA-ATs from 7 National Athletic Trainers' Association (NATA) accredited graduate athletic training programs. The personal and situational variables including athletic training issues, hardiness, and social support, the stress appraisal variable of perceived stress, as well as the burnout variables including emotional exhaustion, depersonalization, and personal accomplishment were assessed using five instruments: the Athletic Training Issues Survey (ATIS), the Hardiness Scale, the six-item short form of the Social Support Questionnaire (SSQ6), the Perceived Stress Scale (PSS), and the Maslach Burnout Inventory (MBI). Packets were mailed to each participating institution including a cover letter that explains the study; a demographic

sheet including items regarding year of student, employment setting, and number of athletic trainers in the employment setting; the ATIS; the Hardiness Scale; the SSQ6; the PSS; and the MBI. Statistical analysis included Pearson product-moment correlations and two stepwise multiple regressions.

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Appendix A

Authors' Guide for the Journal of Athletic Training

Journal of Athletic Training

Official Publication of the National Athletic Trainers' Association

Authors' Guide

(Revised January 2006)
The mission of the *Journal of Athletic Training* is to advance the science and clinical practice of athletic training.

SUBMISSION POLICIES

1. Submit online at http://jat.msubmit.net
2. The following forms (available at the *JAT* Website: www.nata.org/jat) should be either scanned and uploaded with the manuscript or faxed to the Editorial Office (706-494-3348):
   a. Copyright form. A letter signed by each author must contain the following statements: "This manuscript 1) contains original unpublished material that has been submitted solely to the *Journal of Athletic Training*, 2) is not under simultaneous review by any other publication, and 3) will not be submitted elsewhere until a decision has been made concerning its suitability for publication by the *Journal of Athletic Training*. In consideration of the NATA's taking action in reviewing and editing my submission, I the undersigned author hereby transfer, assign, or otherwise convey all copyright ownership to the NATA, in the event that such work is published by the NATA. Further, I verify that I have contributed substantially to this manuscript as outlined in item #2 of the current Authors' Guide." By signing the letter, the authors agree to comply with all statements. Manuscripts that are not accompanied by such a letter will not be reviewed. Accepted manuscripts become the property of the NATA. Authors agree to accept any minor corrections of the manuscript made by the editors.
   b. Authorship form. The *Journal of AthleticTraining* conforms to the International Committee of Medical Journal Editors' Uniform Requirements for Manuscripts Submitted to Biomedical Journals. Each author must be specifically identified in the published manuscript, in accordance with the Uniform Requirements for Manuscripts Submitted to Biomedical Journals: "Authorship credit should be based only on 1) substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) drafting the article or revising it critically for important intellectual content; and 3) final approval of the version to be published. Conditions 1, 2, and 3 must all be met. Acquisition of funding, the collection of data, or general supervision of the research group, by themselves, do not constitute authorship." (Categories borrowed with the permission of the *Annals of Internal Medicine.*) Contributors to the manuscript who do not qualify for authorship should be thanked in the Acknowledgments section.
   c. Signed releases are required to verify permission for the *Journal of Athletic Training* to 1) reproduce materials taken from other sources, including text,

figures, or tables; 2) reproduce photographs of individuals; and 3) publish a Case Report. A Case Report cannot be reviewed without a release signed by the individual being discussed in the Case Report.

3. Financial support or provision of supplies used in the study must be acknowledged. Grant or contract numbers should be included whenever possible. The complete name of the funding institution or agency should be given, along with the city and state in which it is located. If individual authors were the recipients of funds, their names should be listed parenthetically.
4. Authors must specify whether they have any commercial or proprietary interest in any device, equipment, instrument, or drug that is the subject of the article in question. Authors must also reveal if they have any financial interest (as a consultant, reviewer, or evaluator) in a drug or device described in the article.
5. For experimental investigations of human or animal subjects, state in the Methods section of the manuscript that an appropriate institutional review board approved the project. For those investigators who do not have formal ethics review committees (institutional or regional), the principles outlined in the Declaration of Helsinki should be followed (41st World Medical Assembly. Declaration of Helsinki: recommendations guiding physicians in biomedical research involving human subjects. *Bull Pan Am Health Organ.* 1990;24:606–609). For investigations of human subjects, state in the Methods section the manner in which informed consent was obtained from the subjects. (Reprinted with permission of *JAMA* 1997;278:68, copyright 1997, American Medical Association.) If informed consent was not required because the study was exempt, provide the reason for the exemption.
6. The *Journal of Athletic Training* uses a double-blind review process. Authors and institutions should not be identified in any way except on the title page.
7. Manuscripts are edited to improve the effectiveness of communication between author and readers and to aid the author in presenting a work that is compatible with the style policies found in the *AMA Manual of Style,* 9th ed. (Williams & Wilkins), 1998. Page proofs are sent to the author as PDFs for proofreading, and any changes must be returned within 48 hours. Important changes are permitted, but authors will be charged for excessive alterations.

STYLE POLICIES

8. Each page must be formatted for 8½-by-11-inch paper, double spaced, with 1-inch margins in a font no smaller than 10 points. Include line counts on each page to facilitate the review process. Do not right justify pages.
9. Manuscripts should contain the following, organized in the listed order, with each section beginning on a separate page:
   a. Abstract and Key Words (first numbered page)
   b. Text (body of manuscript)
   c. References
   d. Legends to figures

The title page and acknowledgments should be submitted online as supplemental materials.

Tables should be submitted in a separate file, as should figures; neither should be included in the manuscript.

10. Begin numbering the pages of your manuscript with the abstract page as #1; then, consecutively number all successive pages.
11. Units of measurement shall be recorded as SI units, as specified in the *AMA Manual of Style,* except for angular displacement, which should be measured in degrees rather than radians. Examples include mass in kilograms (kg), height in centimeters (cm), velocity in meters per second (m · s21 or m/s), angular velocity in degrees per second (8 · s21), force in Newtons (N), and complex rates (mL/kg per minute).
12. Titles should be brief within descriptive limits (a 16-word maximum is recommended). If a technique is the principal reason for the report, it should be named in the title. If a disability is relevant, it should be named in the title.
13. The title page should also include the name, title, affiliation, and e-mail address of each author, and the name, address, phone number, fax number, and e-mail address of the author to whom correspondence is to be directed. No more than 4 credentials should be listed for each author. The "ATC" credential is under the copyright protection of the NATA Board of Certification. Therefore, the proper listing of an additional state credential is "LAT, ATC" or "ATR, LAT."
14. A structured abstract of no more than 300 words must accompany all manuscripts. Type the complete title (but not the authors' names) at the top, skip 2 lines, and begin the abstract. Items that are needed differ by type of article.

    Quantitative Original Research articles: Context, Objective, Design, Setting, Patients or Other Participants, Intervention(s), Main Outcome Measure(s), Results, Conclusions, and Key Words.

    Qualitative Original Research articles: Context, Objective, Design, Setting, Patients or Other Participants, Data Collection and Analysis, Results, Conclusions, and Key Words.

    Meta-Analysis and **Systematic Review** articles: Objective, Data Sources, Study Selection, Data Extraction, Data Synthesis, and Key Words.

    Case Reports: Objective, Background, Differential Diagnosis, Treatment, Uniqueness, Conclusions, and Key Words.

    Clinical Techniques: Objective, Background, Description, Clinical Advantages, and Key Words.

    Evidence-Based Practice: Reference/Citation, Clinical Question, Data Sources, Study

    Selection, Data Extraction, Main Results, Conclusions, Key Words, and Commentary.

    Literature Reviews: An author who wishes to submit a literature review is advised to contact the Editorial Office for instructions.
15. Begin the text of the manuscript with an introductory paragraph or two in which the purpose or hypothesis of the article is clearly stated and developed. Tell why the

study needed to be done or the article written, and end with a statement of the problem (or controversy). Highlights of the most prominent works of others as related to your subject are often appropriate for the introduction, but a detailed review of the literature should be reserved for the Discussion section. In a 1- to 2-paragraph review of the literature, identify and develop the magnitude and significance of the controversy, pointing out differences among others' results, conclusions, and/or opinions. The Introduction is not the place for great detail; state the facts in *brief,* specific statements and reference them. The detail belongs in the Discussion. Also, an overview of the manuscript is part of the abstract, not the introduction. Writing should be in the active voice (for example, instead of "Subjects were selected," use "We selected subjects") and in the first person (for example, instead of "The results of this study showed," use "Our results showed").

16. The body or main part of the manuscript varies according to the type of article (examples follow); however, the body should include a Discussion section in which the importance of the material presented is discussed and related to other pertinent literature. When appropriate, a subheading on the clinical relevance of the findings is recommended. Liberal use of headings and subheadings, charts, graphs, and figures is recommended.
    a. The body of an **Original Research** or a **Meta-Analysis** or **Systematic Review** article consists of a Methods section, a presentation of the Results, and a Discussion of the results. The Methods section should contain sufficient detail concerning the methods, procedures, and apparatus employed so that others can reproduce the results. The Results should be summarized using descriptive and inferential statistics and a few well-planned and carefully constructed illustrations. For more information on preparing research manuscripts, authors are advised to consult the MOOSE and QUORUM statements, which are available through the *JAT* Web site.
    b. The body of a **Case Report** should include the following components: personal data (age and sex and, when relevant, race, marital status, and occupation but not name or initials), chief complaint, history of present complaint (including symptoms); results of physical examination (example: "Physical findings relevant to the rehabilitation program were . . . "); medical history (surgery, laboratory results, examination, etc); diagnosis, treatment and clinical course (rehabilitation until and after return to competition); criteria for return to competition; and deviation from expectations (what makes this case unique).
    c. The body of a **Clinical Techniques** article should include both the *how* and *why* of the technique: a step-by-step explanation of how to perform the technique, supplemented by photographs or illustrations, and an explanation of why the technique should be used. The Discussion concerning the *why* of the technique should review similar techniques, point out how the new technique differs, and explain the advantages and disadvantages of the technique in comparison with other techniques.

d. The body of an **Evidence-Based Practice** article provides a short review of current scientific literature and applies the findings to clinical athletic training practice. All articles submitted for this section should be concise reviews of published systematic reviews or meta-analyses on topics relevant to the 7 domains of athletic training (Prevention, Assessment/Evaluation, First Aid/Treatment, Rehabilitation, Organization/Administration, Counseling, and Education). Reviews of individual, large, controlled clinical trials will also be considered. The review must begin with the complete article title and reference and a statement of the clinical question the review addresses. The rest of the review consists of a summary of the article and must include the following sections: data sources and search terms used; study selection (inclusion and exclusion) criteria; the methods used to extract and review data, including a list of the primary outcome measures; results of the search strategy; and primary outcome measures and conclusions. A separate commentary section should address the application of the information to the clinical athletic training setting. Authors may use supplementary scientific literature (up to a maximum of 5 references) to support the commentary.

17. Percentages should be accompanied by the numbers used to calculate them. When reporting nonsignificant results, a power analysis, including confidence or effect size, should be provided.
18. **Communications** articles, including official Position Statements and Policy Statements from the NATA Pronouncements Committee; Technical Notes on such topics as research design and statistics; and articles on other professional issues of interest to the readership are solicited by the *Journal.* An author who has a suggestion for such a paper is advised to contact the Editorial Office for instructions.
19. The manuscript should not have a separate summary section—the abstract serves as a summary. It is appropriate, however, to tie the article together with a list of conclusions at the end of the Discussion section or in a summary paragraph.
20. References should be numbered consecutively, using superscripted arabic numerals, in the order in which they are cited in the text. No more than 30 references should be cited in Original Research manuscripts. References should be used liberally. It is unethical to present others' ideas as your own. Also, use references so that readers who desire further information on the topic can benefit from your scholarship.
21. References to articles or books, published or accepted for publication, or to papers presented at professional meetings are listed in numerical order at the end of the manuscript. Journal title abbreviations conform to *Index Medicus* style. Examples of references are illustrated below. See the *AMA Manual of Style* for other examples.
    Journals:
    1. Pitney WA, Ehlers GG. A grounded theory study of the mentoring process involved with undergraduate athletic training students. *J Athl Train.* 2004;39:344–351.
    2. White LM, Miniaci A. Cruciate and posterolateral corner injuries in the athlete: clinical and magnetic resonance imaging features. *Semin Musculoskelet Radiol.* 2004;8:111–131.

Books:

1. Magee DJ. *Orthopedic Physical Assessment.* Philadelphia, PA: WB Saunders Co; 2002:45–56.
2. Robertson G, Caldwell G, Hamill J, Kamen G, Whittlesey S. *Research Methods in Biomechanics.* Champaign, IL: Human Kinetics; 2004:128–136.

Presentations:

1. Layton JA, Thigpen CA, Padua DA, Karas SG. Reliability of scapula protraction strength measures. Presented at: 55th Annual Meeting and Clinical Symposia of the National Athletic Trainers' Association; June 17, 2004; Baltimore, MD.

Videos:

1. *Spine Injury Management* [videotape]. Champaign, IL: Human Kinetics; 2001.

Software:

1. *SPSS Base for Windows* [computer program]. Version 13.0. Chicago, IL: SPSS Inc; 2005.

Internet Sources:

1. National Athletic Trainers' Association position statement: management of sport related concussion. Available at: http://www.nata.org/publicinformation/files/concussion.pdf. Accessed January 3, 2005.
2. ACSM guidelines for healthy aerobic activity. Available at: http://www.acsm.org/pdf/Guidelines.pdf. Accessed January 3, 2005.

22. Personal communications are cited in the text as follows: ". . . (J.A. Smith, written communication, January 2005)." The written or oral nature of the communication is stated, and the communication does not appear in the reference list. Authors must provide written permission from each personal-communication source. A form is available on the *JAT* Web site and from the Editorial Office.
23. Table Style: 1) Title is bold; body and column headings are roman type; 2) units are set above rules in parentheses; 3) numbers are aligned in columns by decimal; 4) footnotes are indicated by symbols (order of symbols: *, †, ‡, §, ¶, \ ); 5) capitalize the first letter of each major word in titles; for each column or row entry, capitalize the first word only. See a current issue of *JAT* for examples.
24. Figures should conform to the requirements as described on the *JAT* Web site. Line art should be of good quality and should be clearly presented on white paper with black ink, sans serif typeface, and no box. Figures that require reduction for publication must remain readable at their final size (either 1 column or 2 columns wide). The resolution for line art and photographs must be at least 200 dpi for adequate reproduction. Authors wishing color reproduction should request same in a cover letter with the submitted manuscript. Authors will be notified of the additional cost of color reproduction and must confirm acceptance of the charges in writing.
25. Legends to figures are numbered with Arabic numerals in order of appearance in the text. Legends should be printed on separate pages at the end of the manuscript.
26. The *Journal of Athletic Training* follows the redundant publication guidelines of the Council of Science Editors, Inc (*CBE Views.* 1996; 19:76–77; also available on the

JAT Web site). Authors in violation of redundant publication will have sanctions invoked by the Journal Committee of the National Athletic Trainers' Association, Inc.

PUBLICATION POLICIES

27. Original Research manuscripts will be categorized under the following table of contents subheadings: clinical studies, basic science, educational studies, epidemiologic studies, and observational/informational studies.
28. Only Case Reports and Clinical Techniques that define and establish the optimal standard of care or the practice of athletic training will be considered for publication in *JAT*. Case Reports and Clinical Techniques that do not profoundly affect the standard of care but that contain potentially useful information for athletic trainers will be considered for publication in the *NATA News*.
29. Media Reviews will appear in the *NATA News*.

Appendix B

National Athletic Trainers' Association Accredited Graduate Athletic Training Programs

National Athletic Trainers' Association Accredited Graduate Athletic Training Programs

1. Arizona School of Health Sciences*
2. California University of Pennsylvania
3. Indiana State University*
4. Indiana University*
5. Old Dominion University
6. San Jose State University*
7. Temple University
8. University of Illinois
9. University of North Carolina – Chapel Hill
10. University of Oregon*
11. University of Tennessee – Chattanooga*
12. University of Virginia
13. Western Michigan University*

* Denotes the participating National Athletic Trainers' Association Accredited Graduate Athletic Training Programs.

Appendix C

San Jose State University Human Subjects-Institutional Review Board Approval Letter

San José State
UNIVERSITY

Office of the Academic Vice President
Academic Vice President Graduate Studies and Research
One Washington Square
San José, CA 95192-0025
Voice: 408-283-7500
Fax: 408-924-2477
E-mail: gradstudies@sjsu.edu
http://www.sjsu.edu

To: Jocelyn Moody
877 Heatherstone Way #213
Mountain View, CA 94040

From: Pam Stacks,
Interim AVP, Graduate Studies & Research

Date: April 8, 2005

The Human Subjects-Institutional Review Board has approved your request to use human subjects in the study entitled:

"Burnout in Graduate Assistant Athletic Trainers."

This approval is contingent upon the subjects participating in your research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research project, and with regard to all data that may be collected from the subjects. The approval includes continued monitoring of your research by the Board to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Pam Stacks, Ph.D. immediately. Injury includes but is not limited to bodily harm, psychological trauma, and release of potentially damaging personal information. This approval for the human subjects portion of your project is in effect for one year, and data collection beyond April 8, 2006 requires an extension request.

Please also be advised that all subjects need to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate, or withdrawal will not affect any services that the subject is receiving or will receive at the institution in which the research is being conducted.

If you have any questions, please contact me at (408) 924-2480.

cc: Dr. Leamor Kahanov

Appendix D

Cover Letter, Demographic Sheet, the Hardiness Scale, the six-item short form of the Social Support Questionnaire (SSQ6), the Athletic Training Issues Survey (ATIS), the Perceived Stress Scale (PSS), and the Maslach Burnout Inventory (MBI)

Spring 2005

Dear Participant,

You have been invited to participate in a research study intended to assess hardiness and social support, under the direction of Jocelyn A. Moody, ATC. By answering and returning the included surveys, it is assumed that you consent to participate in the study.

Completion of the surveys takes approximately 15 minutes to complete. There is no anticipated or foreseeable risk involved by participating in this research study. In addition, there are no discernable direct benefits expected from participating in this research, however, the indirect benefit of reward from being of help to the research is possible.

Your participation is strictly confidential. Although, the results of this research study may be published in a peer-reviewed journal, no information that could identify you will be included. Additionally, surveys will be color coded to identify the university only.

Your consent is being given voluntarily. You may refuse to participate in the entire study or in any part of the study. If you choose to participate, you are free to withdraw at any time in its duration without any negative effect with your graduate athletic training program. No service of any kind, to which you are otherwise entitled, will be lost or jeopardized if you choose not to participate in the proposed study.

At the time of consent, a copy of the consent form will be given to each participant. Any questions regarding this research may be addressed to myself, or the Graduate Athletic Training Coordinator at San Jose State University, Dr. Leamor Kahanov at (408) 924-3040. For questions or complaints about this research study please contact Dr. Pamela Stacks, Interim AVP of Graduate Studies and Research, at (408) 924-2480.

Sincerely,

Jocelyn A. Moody
Graduate Assistant Athletic Trainer
San Jose State University
(650) 964-4119

Demographic Sheet

Male □ Female □

Age _____

Number of Years as an ATC _____

Year in Graduate AT Program: □ Year One
□ Year Two

Your Program is a: □ One Year Program
□ Two Year Program

How many credit hours are you taking in school this semester? _____

What type of setting is your graduate assistantship placement? □ University/College
□ Junior College
□ High School
□ Clinic
□ Clinic/HS

On average, how many hours per week do you work at your graduate assistantship setting? ____

How many athletic trainers are with you at your graduate assistantship setting?
Staff ATC _____
GA ATC _____
Student/non-certified _____

How many athletes are under your care? _____

On average, how many athletes do you treat per day? _____

What sports are you covering right now? _____
_____

Do you have another job in addition to your GA duties? □ Yes
□ No

If yes, what is it? _____

How many hours per week do you work there? _____

Hardiness Scale

Directions: Below is a list of common beliefs people hold. How strongly do you agree or disagree with each statement? 1 = Strongly Agree, 2 = Agree, 3 = Neither Agree nor Disagree, 4 = Disagree, 5 = Strongly Disagree

1. _____ My involvement in activities and hobbies provides me with a sense and purpose.
2. _____ By taking an active part in political and social affairs, people can strongly influence world events and politics.
3. _____ When all else appears bleak, I can always turn to my family and friends for help and support.
4. _____ I prefer to do things that are risky, exciting, and adventuresome rather than adhere to the same comfortable routine and lifestyle.
5. _____ Becoming a success is mostly a matter of working hard; luck plays little or no role.
6. _____ There are relatively few areas about myself in which I feel insecure, highly self-conscious, or lacking in confidence.
7. _____ In general, I tend to be a bit critical, pessimistic, and cynical about most things in work and life.
8. _____ It would take very little change in my present circumstances at work to cause me to leave my present job.
9. _____ I do not feel satisfied with my current involvement in the day-to-day activities and well-being of my family and friends.
10. _____ In general, I would prefer to have things well planned out in advance rather than deal with the unknown.
11. _____ Most of life is wasted in meaningless activity.
12. _____ I often feel awkward, uncomfortable, or insecure interacting with others socially.
13. _____ I rarely find myself saying out loud or thinking that I'm not good enough or capable of accomplishing something.
14. _____ I am committed to athletic training, my job and/or other activities that I am currently pursuing.
15. _____ I tend to view most work and life changes, disappointments, and setbacks as threatening, harmful, or stressful rather than challenging.
16. _____ Just for variety's sake, I often explore new and different routes to places that I travel to regularly (e.g., home, school).
17. _____ Others will act according to their own self-interests no matter what I attempt to say or do to influence them.
18. _____ If I get a change to see how others have done something or get the opportunity to be taught what to do, I am confident that I can be successful at most anything.
19. _____ I expect some things to go wrong now and then, but there is little doubt in my mind that I can effectively cope with just about anything that comes my way.
20. _____ Overall, most of the things that I am involved in (e.g., work, social relationships) are not very enjoyable, stimulating, and rewarding.
21. _____ I am likely to get frustrated and upset if my plans do not unfold as I hoped, or if things do not happen the way I really want them to.
22. _____ There is a direct relationship between how hard I work and the success and respect that I will have.
23. _____ I don't feel that I have accomplished much lately that is really important or meaningful with respect to my future goals and objectives in life.
24. _____ I often think that I am inadequate, incompetent, or less important than others with whom I work and that I know.
25. _____ Many times I feel that I have little or no control and influence over things that happen to me.
26. _____ If anything else changes or goes wrong in my life right now, I feel that I might not be able to effectively cope with it.
27. _____ When change occurs at home or work I often find myself thinking that the worst is going to happen.
28. _____ At the moment, things with my work and at home are fairly predictable and any more changes would just be too much to handle.
29. _____ You can't really trust many people because most individuals are looking for ways to improve their welfare and happiness at your expense.
30. _____ Most of the meaning in life come from internal, rather than external, definitions of success, achievement, and self-satisfaction.

Social Support Questionnaire

The following questions ask about people in your environment who provide you with help or support. For each question, think of all the people you know, excluding yourself, whom you can count on for help or support in the manner described. How 'satisfied' are you with the overall support you have? If you have no support for a question, still rate your level of satisfaction.
1 = Very Dissatisfied, 2 = Dissatisfied, 3 = Somewhat Dissatisfied, 4 = Somewhat Satisfied, 5 = Satisfied, 6 = Very Satisfied

1. _____ How satisfied are you with those whom you can really count on to distract you from your worries when you feel under stress?
2. _____ How satisfied are you with those whom you can really count on to help you feel more relaxed when you are under pressure or tense?
3. _____ How satisfied are you with those who accept you totally, including both your worst and best points?
4. _____ How satisfied are you with those whom you can really count on to care about you, regardless of what is happening to you?
5. _____ How satisfied are you with those whom you can really count on to help you feel better when you are feeling generally down-in-the-dumps?
6. _____ How satisfied are you with those whom you can count on to console you when you are very upset?

Athletic Training Issues Survey

Please rate the degree to which each issue described below causes or produces stress in your athletic training environment. All responses will be kept confidential.

1	2	3	4	5
No Stress	Low Stress	Moderate Stress	High Stress	Extreme Stress

1. _____ Understanding the emotional responses and motivations of the individuals I supervise or interact with.
2. _____ Not having enough time to devote to my responsibilities as an athletic trainer.
3. _____ Budget limitations hampering improvements, growth, and development.
4. _____ Negative media coverage, as it relates to athletic training at my institution.
5. _____ Other school events conflicting with our team's use of facilities.
6. _____ Personality conflicts with the individuals I supervise or interact with.
7. _____ Not successfully fulfilling my responsibilities outside of my athletic training duties (e.g., school).
8. _____ Not having adequate athletic trainers and support staff.
9. _____ Not having time for myself.
10. _____ Inadequate travel budget for professional development.
11. _____ Being a "role model" for the individuals I supervise or interact with.
12. _____ Making decisions which are not popular with the individuals I supervise or interact with.
13. _____ My career as an athletic trainer is interfering with family and/or social life.
14. _____ Not reaching my professional goals.
15. _____ Not knowing the criteria by which I will be evaluated.
16. _____ Injury or illness to one of my starter athletes.
17. _____ Placing pressure on myself to rehabilitate athletes safely and quickly as possible.
18. _____ Not having the key personnel that my athletic training program needs to be successful.
19. _____ Staff (e.g., full-time assistants, graduate assistants, student athletic trainers) inconsistency in executing the fundamental responsibilities of their positions.
20. _____ The traveling required to attend athletic contests and to properly supervise.
21. _____ Being concerned that some support staff (e.g., assistants, graduate assistants, student athletic trainers) might not return to school for the following season and/or school year.
22. _____ Altercations as a result of unsafe judgement calls during the contest by hired officials.
23. _____ Being able to help the individuals I supervise or interact with to grow personally, as professionals in the field and as people.
24. _____ Momentum turning against our school teams in a contest.
25. _____ Handling defeat when our teams lose.
26. _____ Competing against other school conferences with higher pay scales for quality athletic trainers and/or health care services.
27. _____ Substantial number of hours spent working in a day.
28. _____ Being a source of help to the individual I supervise or interact with.

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate *how often* you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question choose from the following alternatives:

0. never
1. almost never
2. sometimes
3. fairly often
4. very often

1. _____ In the last month, how often have you been upset because of something that happened unexpectedly?
2. _____ In the last month, how often have you felt that you were unable to control the important things in your life?
3. _____ In the last month, how often have you felt nervous and "stressed"?
4. _____ In the last month, how often have you dealt successfully with irritating life hassles?
5. _____ In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
6. _____ In the last month, how often have you felt confident about your ability to handle your personal problems?
7. _____ In the last month, how often have you felt that things were going your way?
8. _____ In the last month, how often have you found that you could not cope with all the things that you had to do?
9. _____ In the last month, how often have you been able to control irritations in your life?
10. _____ In the last month, how often have you felt that you were on top of things?
11. _____ In the last month, how often have you been angered because of things that happened that were outside of your control?
12. _____ In the last month, how often have you found yourself thinking about things that you have to accomplish?
13. _____ In the last month, how often have you been able to control the way you spend your time?
14. _____ In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Maslach Burnout Inventory

0 Never
1
2
3
4
5
6 Every day

_____ I feel depressed at work.