BURNOUT AMONG UNDERGRADUATE ATHLETIC TRAINING STUDENTS

A THESIS

Submitted to the Faculty of the School of Graduate Studies and Research of California University of Pennsylvania in partial fulfillment of the requirements for the degree of Master of Science

by

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THESIS APPROVAL

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INTRODUCTION

Life stress leading to burnout is a common problem for professionals everywhere.\textsuperscript{1} Over the past twenty years, stress has become America’s number one health problem.\textsuperscript{2,3} Stress is an individual’s reaction to an event. It is not the event itself that is stressful, but the person’s response to that event.\textsuperscript{3,4} The stress response of the body is somewhat like an airplane preparing for take off. Virtually all systems (e.g., the heart and blood vessels, immune system, lungs, digestive system, sensory organs, and brain), are modified to meet the perceived stress.\textsuperscript{4} Extreme stress over a long period of time can lead to burnout, which is defined as a state of physical and emotional depletion resulting from high levels of stress.\textsuperscript{5,6} In virtually all health care and human-service occupations such as education, social work, and medicine, a clear link has been established among occupational stress, decrease in job satisfaction, signs and symptoms of burnout, and higher attrition rates.\textsuperscript{1,3,5-8} Life stress, in particular chronic distress, has an undesirable effect on physical and mental health which is why burnout is becoming an increasingly large problem in the professional field.\textsuperscript{7}

Burnout is caused by extreme physical and emotional stress and can lead to serious health problems. There are six
components of burnout: emotional exhaustion, depersonalization, reduced personal accomplishment, role conflict, role ambiguity, and role overload.\textsuperscript{6,8-10} A person suffering from burnout will usually show signs and symptoms of these six components through a five stage cycle: the honeymoon stage, fuel shortage stage, chronic symptoms stage, crisis stage, and hitting the wall stage, entitled the burnout cycle.\textsuperscript{6,8,10}

Stress and burnout have a negative effect on the central nervous, circulatory, and respiratory systems of the body that can cause a number of health problems including hypertension, post-traumatic stress disorder, and depression.\textsuperscript{6,11,12} A person suffering from burnout will display a variety of signs and symptoms that can be grouped into three categories: physical, psychological, and behavioral characteristics.\textsuperscript{11-13}

A person is more likely to suffer from burnout when they exhibit a number of personality traits. There are two types of personalities, type A and type B, and people with type A personalities are more likely to suffer from burnout and health problems than those with type B personalities.\textsuperscript{6,13-14} These are just a few ways of looking at stress to help researchers decide who may be suffering from burnout.

Athletic training is one particular profession that has been closely observed for burnout over the past few
An athletic trainer is a health professional who specializes in providing health care to athletes. Athletic trainers work closely with physicians, chiropractors, physical therapists, and other medical professionals to provide quality athletic medical care. A number of researchers have investigated burnout among athletic trainers and identified various sources of life stress, such as extensive time commitment, low salary, limited opportunity for career advancement, poor working conditions, job dissatisfaction, and conflicts with coworkers. One study reported that 40% of the ATCs working at the professional level suffered from stress and burnout. Burnout is not only a problem for certified athletic trainers (ATCs) working at the professional level, but it can also be a problem for college students enrolled in athletic training education programs and working at the pre-professional level.

Numerous studies have researched stress and burnout levels amongst professional ATCs, but only a select few have addressed the psychological stresses of athletic training students (ATS). Thousands of athletic trainers provide care to student athletes and the physically active on a daily basis in various athletic training curriculum sites across the United States. Recent data indicates that there are more than 1000 students enrolled in 337 Commission on Accreditation of
Allied Health Education Programs (CAAHEP)-accredited undergraduate curriculums.\textsuperscript{17} These students provide coverage for a specific collegiate team, to an entire high school’s sport program, and at rehabilitation or physical therapy clinics under direct supervision of an ATC.\textsuperscript{17} Such commitment requires the regular investment of considerable amounts of time and energy, in addition to the demands of the academic program.\textsuperscript{17}

A number of researchers have investigated the demands and stressors faced by college students alone.\textsuperscript{17-19} This population regularly reports experiencing multiple stressful academic, health-related, and personal-social challenges, such as the pressure to perform well in the classroom, excessive time demands, relationship issues, family pressures, and financial concerns.\textsuperscript{17-19} Students studying athletic training deal with these normal college pressures everyday plus a number of added stressors from the curriculum. Most undergraduate athletic training programs require their students to receive approximately 800-1200 clinical and observational hours, about 200 per semester from sophomore through senior year, on top of a demanding course schedule. A number of programs also require their students to maintain a minimum grade point average of 3.0 or higher in the required athletic training curriculum.\textsuperscript{20,21} These two factors place added time demands on
students making it nearly impossible for them to do the normal everyday activities that other college students enjoy, including hanging out with their friends and family, going to social functions, and/or working to pay for necessary items such as food and clothing.

The sources of life stress ATS face on a regular basis and the types of stress symptoms they experience over the course of an academic year have been studied in the past.\textsuperscript{17-19} Studies have also investigated the existence of possible gender differences between stress sources and symptoms and have provided suggestions for athletic training staff and helping professionals on how to assist this population.\textsuperscript{17} The researchers found that much like the collegiate student athletes that they serve, ATS are confronted with multiple, often stressful, life demands. They typically have to balance the roles of student, helping professional in the making, and developing young person.\textsuperscript{17-19} Athletic training students, like other college students, are young people in transition. Like their peers, they must work through the so-called developmental tasks of college students, such as establishing one’s life purpose, solidifying a set of personal values and standards, establishing meaningful and lasting relationships, developing feelings of competence, and establishing one’s independence. The stress associated with these tasks coupled
with the tasks of providing health care to other students creates developmental undercurrents that influence the daily functioning, growth, achievement, and satisfaction of ATS. These factors deserve further attention and study.

While previous studies have researched stress and burnout in a number of different professional fields, including athletic training and in college students studying a variety of majors, the current review of the literature revealed limited information regarding burnout among athletic training students. Psychological aspects of rehabilitation from sport injury, potential influences of stress on injury, and stress and burnout levels amongst ATCs have received considerable scholarly attention over the past few years but little attention has been paid to ATS.

The purpose of this study is to answer the following research questions: (1) Do burnout levels depend upon students’ year in the program? (2) Do burnout levels depend upon students’ gender?, and (3) Do burnout levels depend upon students’ sport assignment status (in season, out of season)?
METHODS

The following methods section will outline this research proposal. Included in this section are Research Design, Subjects, Instruments, Procedures, Hypotheses, and Data Analyses for the following descriptive research.

Research Design

This descriptive research will examine burnout levels of undergraduate athletic training students (ATS) studying at seven CAAHEP-accredited schools in western Pennsylvania. The independent variables will be year in the program, gender, and in season sport assignment status of the ATS to determine whether or not a relationship occurs between these factors and the dependent variable, burnout levels. The Maslach Burnout Inventory Human Service Survey (MBI-HSS) (Appendix C1) will be used to assess the students’ burnout levels during the academic year. The MBI-HSS will be administered to male and female students of each grade level one time during the middle of the spring semester. This study may expand previous knowledge about burnout in the different athletic training programs. Since this study is only being conducted at institutions in western Pennsylvania, the results will not be
applicable to all undergraduate athletic training education programs.

Subjects

The subjects will consist of approximately 168 ATS from seven CAAHEP-accredited undergraduate programs in western Pennsylvania, with approximately 24 students at each school. The students will be selected through stratified random sampling by year in the program (sophomore, junior, and senior), with eight students selected from each grade level of each program. The students selected will be asked if they want to participate in the study and if they agree, will complete a packet containing an informed consent form, demographic sheet, and MBI-HSS. All students will have the right not to participate in the study and subject numbers may vary according to willingness of participants.
Instruments

Each subject will be given a 4-page packet, including an informed consent form (Appendix C2), a demographic page (Appendix C3) and the Maslach Burnout Inventory Human Service Survey (MBI-HSS), to be completed. The subjects will be asked to indicate whether they are male or female, what year they are in the program, what sport assignment they are currently assigned, and if that sport is in season or not, on the demographic page, to assess the independent variables of the study.

The MBI-HSS (Appendix C1) is a survey that uses three subsections; emotional exhaustion, depersonalization, and personal accomplishment, to measure burnout levels. Each subscale has demonstrated high reliability (Emotional Exhaustion $r = 0.89$, Depersonalization $r = 0.71$, and Lack of Personal Accomplishment $r = 0.79$). The surveys will be acquired from the Consulting Psychologist Press (CPP) Incorporation. The survey is comprised of 22 different questions regarding one’s feelings about work. Each question is grouped, by subject matter, into one of the three subsections to be scored. The first section, emotional exhaustion, is comprised of nine questions that address the overwhelming and exhausting feelings of work. The second
section, depersonalization, is comprised of five questions that assess interaction with fellow co-workers. The third section, lack of personal accomplishment, consists of eight items that address feelings of success and achievement at work. The three sections are scored individually as high, moderate, or low degrees of burnout using the scoring sheets provided by the MBI author (Appendix C4). Subjects will be categorized for burnout according to their scores on the three subscales. The three subsections are to be graded separately then calculated to determine a total inventory assessment. The three sets of questions under each category are not added together to form a single numeric burnout score. Rather, scores for each of the three separate sections are considered high if they are in the upper third of the normal distribution, average if they are in the middle third, and low if they are in the lower third. For example, a subject that receives a high score on the emotional exhaustion and depersonalization subscales, but a low score on the personal accomplishment subscale is considered to be suffering from a high degree of burnout. A student that scores in the moderate range on all three subscales is considered to have an average degree of burnout. Finally, a subject that scores low on the emotional exhaustion and depersonalization subscales, and high
on the personal accomplishment subscale will have a low degree of burnout.\textsuperscript{22}

All subjects will be asked to answer the questions on the survey honestly and to the best of their ability. The subjects will not be required to write their names anywhere on the survey to secure their privacy and confidentiality. The MBI has been used in a number of different studies and has shown to have high validity in the past.\textsuperscript{9,10,22,23}

Procedures

The proposal for this study will be sent to the California University of Pennsylvania Institutional Review Board (IRB) to receive approval. After receiving IRB approval (Appendix C5), the researcher will send a cover letter (Appendix C6), explaining the study, how to distribute the material, and how to send the material back to the researcher, to the program directors of the seven undergraduate Athletic Training programs in western Pennsylvania. Along with the cover letter, the program directors will also be sent 24 packets consisting of an informed consent form, a demographic page, and an MBI-HSS. The program directors will then randomly select eight students from each grade level to participate in the study and administer the packets to each subject once
during the middle of the spring semester. Each subject that agrees to participate will then complete the packet. The subjects will be asked to answer each question honestly and to the best of their ability. After handing out the 3-page packet and explaining the directions the program director will leave the room, so that the surveys stay confidential, and will return ten minutes later to collect the completed packets. The packets will then be sealed in an envelope and mailed back to the researcher for data analysis. The MBI-HSS survey will be graded and used to measure the burnout levels of the students then further examined to determine whether a relationship exists between burnout levels and gender, year in the program, and sport assignment.
Hypotheses

The following hypotheses will be used for this study:

1) Burnout levels (high degree, average degree, low degree) will depend upon a student’s year in the program.

2) Burnout Levels (high degree, average degree, low degree) will depend upon a student’s gender.

3) Burnout levels (high degree, average degree, low degree) will depend upon a student’s sport assignment status (in season, out of season).
Data Analysis

The following statistics will be analyzed using an alpha level of $P < .05$. The data will be analyzed using the statistical computer program SPSS 12.0.

Hypothesis 1: A 3X3 Chi-Square test for Independence was used to determine if burnout levels (high degree, average degree, low degree) were dependent upon year in the program.

Hypothesis 2: A 3X2 Chi-Square test for Independence was used to determine if burnout levels (high degree, average degree, low degree) were dependent on gender.

Hypothesis 3: A 3X2 Chi-Square Test for Independence was used to determine if a student’s burnout levels (high degree, average degree, low degree) were dependent upon sport assignment status (in season, out of season).
RESULTS

The purpose of this study was to examine burnout levels (high degree, average degree, and low degree) based on the three burnout subscales (emotional exhaustion, depersonalization, and lack of personal accomplishment) of undergraduate athletic training students to determine if burnout levels are dependent on gender, year in the program, and sport assignment status (in season/out of season). Subjects were surveyed once during the middle of the spring semester to determine their burnout level.

Data collected from the subject demographic page included demographics such as gender, year in the program, current sport assignment, sport assignment status (in season or out of season), second consecutive in season sport, sports played, and division of school. The results section is divided into three sections: Demographic Data, Hypothesis Testing, and Additional Findings.
Demographic Data

The subjects in this study consisted of 124 (N = 124) undergraduate athletic training students from six accredited athletic training programs in western Pennsylvania. A total of 168 surveys were sent to students at seven schools (24 per school) with 124 returned surveys indicating a 74% response rate.

Nearly half (43.5%) of the students surveyed represented the junior class rank at their academic institution, whereas a little under one-quarter (24.2%) represented the sophomore class rank, and the remaining (32.1%) represented the senior class rank (Table 1). Females represented nearly 60% of the sample, while males represented the remaining 40% (Table 2).

<table>
<thead>
<tr>
<th>Table 1: Class Rank</th>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sophomore</td>
<td>30</td>
<td>24.2</td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td>54</td>
<td>43.5</td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>40</td>
<td>32.3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2: Gender</th>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>51</td>
<td>41.1</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>73</td>
<td>58.9</td>
<td></td>
</tr>
</tbody>
</table>
The most frequent clinical assignments reported by the subjects were at college track and field (16.9%) and surrounding high schools (14.5%), whereas the least frequent clinical assignment was with hockey and swimming, each representing 0.8%. The remaining subjects were distributed throughout 14 other sport/clinical assignments (Table 3). The majority of the subjects were assigned to sports that were currently in season (77.4%), whereas little less than one-quarter were assigned to out of season sports (Table 4). Of the 96 subjects that reported being assigned to an in season sport, 72 of the subjects reported that they were assigned to their second consecutive in season sport, representing 58.1% of the subjects (Table 5).

The majority of the subjects (83.1%) were not athletes at the time the survey was completed (Table 6) and a little less than half (48.4%) of the subjects attended Division II schools (Table 7).
<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>High School</td>
<td>18</td>
<td>14.5</td>
</tr>
<tr>
<td>Football</td>
<td>13</td>
<td>10.5</td>
</tr>
<tr>
<td>Baseball</td>
<td>13</td>
<td>10.5</td>
</tr>
<tr>
<td>Softball</td>
<td>12</td>
<td>9.7</td>
</tr>
<tr>
<td>Volleyball</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>Affiliated Site</td>
<td>5</td>
<td>4.0</td>
</tr>
<tr>
<td>Home Facility</td>
<td>11</td>
<td>8.9</td>
</tr>
<tr>
<td>Rehab Clinic</td>
<td>5</td>
<td>4.0</td>
</tr>
<tr>
<td>Track</td>
<td>21</td>
<td>16.9</td>
</tr>
<tr>
<td>Women’s Lacrosse</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>Men’s Lacrosse</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Men’s Basketball</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>Women’s Basketball</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Swimming</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Intramurals</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>Tennis</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Hockey</td>
<td>1</td>
<td>0.8</td>
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<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
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<tr>
<td>In Season</td>
<td>96</td>
<td>77.4</td>
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<tr>
<td>Out of Season</td>
<td>28</td>
<td>22.6</td>
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<table>
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<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>72</td>
<td>58.1</td>
</tr>
<tr>
<td>No</td>
<td>52</td>
<td>41.9</td>
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<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>21</td>
<td>16.9</td>
</tr>
<tr>
<td>No</td>
<td>103</td>
<td>83.1</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Division I</td>
<td>46</td>
<td>37.1</td>
</tr>
<tr>
<td>Division II</td>
<td>60</td>
<td>48.4</td>
</tr>
<tr>
<td>Division III</td>
<td>18</td>
<td>14.5</td>
</tr>
</tbody>
</table>
Hypotheses Testing

The following are the hypotheses tested for this study. All statistical tests were conducted at a significance alpha level of .05. A summary of the results for each hypothesis can be located in the table following the conclusion.

Hypotheses 1: A 3X3 Chi-Square test for Independence was used to determine if burnout levels (high degree, moderate degree, low degree) were dependent upon year in the program.

Conclusion: A 3X3 Chi-Square test of Independence was computed comparing burnout levels (high degree, moderate degree, low degree) and student’s year in the program. A significant interaction was found ($\chi^2 (2) = 10.998$, $P < .05$) (Table 8). This indicated that three times as many juniors ($n = 12$) scored a high degree of burnout compared to sophomores ($n =4$) and seniors ($n = 4$).

Table 8: Chi-Square for Burnout Levels and Year in the Program

<table>
<thead>
<tr>
<th>Burnout Level</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
<th>$\chi^2$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Degree</td>
<td>4</td>
<td>12</td>
<td>4</td>
<td>10.998</td>
<td>0.027*</td>
</tr>
<tr>
<td>Average Degree</td>
<td>14</td>
<td>30</td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Degree</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hypothesis 2: A 3X2 Chi-Square test for Independence was used to determine if burnout levels (high degree, average degree, low degree) were dependent on gender.

Conclusion: A 3X2 Chi-Square test for Independence was computed comparing burnout levels (high degree, average degree, low degree) and gender. No significance was found ($\chi^2_{(2)} = 2.697, P > .05$). Burnout levels were not dependent on gender (Table 9).

<table>
<thead>
<tr>
<th>Burnout Level</th>
<th>Male</th>
<th>Female</th>
<th>$\chi^2$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Degree</td>
<td>5</td>
<td>15</td>
<td>2.697</td>
<td>.260</td>
</tr>
<tr>
<td>Average Degree</td>
<td>34</td>
<td>41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Degree</td>
<td>12</td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis 3: A 3X2 Chi-Square Test for Independence was used to determine if a student’s burnout levels (high degree, average degree, low degree) were dependent upon in season status assignment.

Conclusion: A 3X2 Chi-Square Test for Independence was computed comparing burnout levels (high degree, average degree, low degree) and sport assignment status (in season, out of Season). No significance was found ($\chi^2_{(2)} = 3.198, P > .05$). Burnout levels were not dependent on sport assignment status (Table 10).
Table 10: Chi-Square for Burnout Levels and Sport Assignment Status

<table>
<thead>
<tr>
<th>Burnout Level</th>
<th>In Season</th>
<th>Out Season</th>
<th>$\chi^2$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Degree</td>
<td>17</td>
<td>3</td>
<td>3.198</td>
<td>.202</td>
</tr>
<tr>
<td>Average Degree</td>
<td>54</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Degree</td>
<td>25</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional Findings

After testing the hypotheses, further statistical testing was conducted to determine if burnout levels were dependent upon the remaining demographic information including second consecutive in season sport, sports played, and division of school. A Chi-Square test for Independence was computed for each additional demographic.

A Chi-Square test for Independence was computed comparing burnout levels and second consecutive in season sport in a row, and revealed that burnout levels were not dependent on the subject being assigned to two in season sports in a row ($\chi^2_{(2)} = 1.665, P > .05$).

A Chi-Square test for Independence was computed comparing burnout levels and sports played and revealed that burnout levels were not dependent on the subject being an athlete ($\chi^2_{(2)} = .064, P > .05$).
A Chi-Square test for Independence was computed comparing burnout levels and division of school and revealed that burnout levels were not dependent on the division of the school the subject attends. \((\chi^2_{(2)} = 6.531, P > .05)\).

Additional statistical tests were also conducted for gender comparison of each subscale. Independent Sample t-tests were conducted for comparison of gender scores on each of the three subscales: emotional exhaustion, depersonalization, and lack of personal accomplishment.

An Independent Sample t-test was computed comparing male and female scores for the emotional exhaustion subscale. This test revealed that no significant difference was found between the mean emotional exhaustion scores for males (22.78 + 7.946) and the mean emotional exhaustion scores for females (24.08 + 9.124).

An Independent Sample t-test was computed comparing male and female scores for the depersonalization subscale. This test revealed that there was no significant difference between the mean depersonalization scores for males (5.49 + 4.460) and the mean depersonalization scores for females (5.42 + 3.767).

An Independent Sample t-test was computed comparing male and female scores for the lack of personal accomplishment subscale. This test revealed that there was no significant difference between the mean lack of personal accomplishment
scores for males \((35.78 \pm 5.640)\) and the mean lack of personal accomplishment scores for females \((37.25 \pm 5.612)\).

DISCUSSION

The following discussion section consists of three subsections: discussion of results, conclusions, and recommendations.

Discussion of Results

The purpose of this study was to examine burnout levels of undergraduate athletic training students studying at CAAHEP-accredited programs in western Pennsylvania to determine if burnout levels were dependent upon a student’s year in the program, gender, and sport assignment status (in season, out of season).

It was initially hypothesized that burnout levels (high degree, average degree, and low degree) would depend upon students’ year in the program. Statistical analysis demonstrated that burnout levels do depend upon the students’ year in the program. Students in the junior year of the program reported a high degree of burnout three times more
likely than sophomores or seniors. This indicates that the junior year of the undergraduate athletic training program at the five schools surveyed may be the toughest. This could be for a number of different reasons including academics, clinical responsibilities, and program requirements. Also, one of the responding programs reported that sophomores are not included as part of their program. Therefore, only juniors and seniors completed the surveys from that school. The juniors at that institution are in their first year of the athletic training program which can be added as another reason that the junior year of the program may be the most difficult. This could account for the larger number of juniors in the study and also help explain why some of the juniors would be suffering from a higher degree of burnout.

Another find, that was not significant but interesting, is that the largest number of subjects (n = 75) with 14 sophomores, 30 juniors, and 31 seniors, over 60% of the sample reported having an average degree of burnout. This means that these subjects scored moderately on all three subscales or that they scored in one category (high, moderate, or low) for each subscale and an average of the three was taken to categorize their burnout levels. This helps support the theory that athletic training students have the potential to suffer from a high degree of burnout.
It was also originally hypothesized that burnout levels (high degree, average degree, and low degree) would depend upon students’ gender. This assumption was made based on previous research that supported significant differences existed between genders.\textsuperscript{7,8,17,18} Though, statistical analysis for this study showed no significance to support that burnout levels are dependent on gender for undergraduate athletic training students. Additional analysis on the three individual subscales of the survey comparing gender scores indicated that the scores for each were not significantly different between males and females. This also contradicts recent studies that a difference exists between genders.\textsuperscript{7,8,17,18}

The final hypothesis was that burnout levels (high degree, average degree, and low degree) would be dependent on sport assignment in season status. A recent study, conducted by Stilger et al, dealing with life stress sources of athletic training students over the course of an academic year, found results supporting this study.\textsuperscript{17} Statistical analysis for this study showed no significance to support that burnout levels are dependent on sport assignment status for undergraduate athletic training students.

There could be several reasons that the results of this study were not as expected. It was difficult to control for subject randomization due to the number of students in each
year of each program. Also the program director may not have seen enough students each day to randomly select from.

It is also possible that the sample size was too small and not a proper representation of the students studying athletic training in Pennsylvania. A larger sample size spanning a wider range of students studying at undergraduate athletic training education programs across the nation may have showed more significant results. The results from this study may indicate the students enrolled in programs in western Pennsylvania do not have high levels of burnout.

Also, the subjects were asked by the undergraduate athletic training program directors to complete a survey for a research study on burnout. They were instructed to answer the questions honestly and to the best of their ability. It is possible that the subjects did not do this because they were concerned with what their program directors would think about their responses. This could have swayed the results.

This study helps add to the limited existing research on undergraduate athletic training students and will hopefully contribute to the entire profession of Athletic Training.
Conclusions

Based on the results of this study it can be concluded that burnout levels of undergraduate athletic training students depend upon their year in the program. The results help support the research that the junior year in the CAAHEP-accredited athletic training education programs may be the most difficult year for the students. The results of this study also support recent research that clear links can be established between burnout levels and year in the athletic training education programs. Results also show that burnout levels do not depend on gender or sport assignment status of the students. Though the results were not exactly as expected and contradict other research on burnout, this study helps add to the limited existing research on undergraduate athletic training students. This study points out possible problems that future athletic training students could face, helping those looking to enter the profession and those already teaching athletic training.
Recommendations

Based on the results of the study burnout levels were high among athletic training students enrolled in athletic training education programs at the junior level. However, the results of this particular study did not find conclusive evidence of factors that may be associated with burnout (i.e. in season assignment status, second consecutive in season sport, athletic status, and division of school). Conversely, curricular hours, courses enrolled, first or second time experience as an athletic training student, number of hours working at the clinic, and outside work experiences may need to be considered. This may help relieve the stress athletic training students are experiencing. The program requirements may need to be better distributed throughout the professional phase of the athletic training education programs. Also, the program directors may want to consider keeping the clinical hours for each student down to a maximum of 20 hours per week. This would help make the experience more productive and allow time for the students to spend in the classroom, studying, socializing, and participating in curricular activities.
REFERENCES


APPENDICES
APPENDIX A

Review of the Literature
Introduction

Stress and burnout are recurring problems for professionals everywhere. Both occur frequently in a wide range of professions, specifically those that are considered human service professions. Stress leading to burnout is not only a common problem for professionals but it is also potentially a problem for pre-professional phase undergraduate college students. Burnout is observed in college students studying a number of different majors but the most frequent cases are observed in students studying medical and human service professions such as Athletic Training. Previous research studies have reviewed burnout in Certified Athletic Trainers (ATCs) at the professional level, but few have taken a close look at burnout in collegiate Athletic Training Students (ATS). This literature review will examine:

1. What Burnout is
2. The Effects of Burnout on the Body
3. Burnout in the Pre-Professional Stage
4. Summarize Burnout and its Affects on Athletic Training Students at the College Level.
Burnout

While burnout can be defined as a state of physical and emotional depletion resulting from high levels of stress, the word actually has a number of different definitions.\textsuperscript{1-3} The majority of these definitions have the same recurring theme, which indicates that burnout is caused by physical, emotional, and behavioral stress. Burnout occurs when an individual is not able to meet the stressful demands of their life, causing them frustration and energy depletion.\textsuperscript{1,2} Stress itself is defined as an individual’s reaction to an event.\textsuperscript{3} In most cases, it is not the event that is stressful, but the response to that event. Stressors occur everyday that can not always be helped. They can be internally imposed, by holding such high expectations of one's self, or externally imposed, by family, work, or society.\textsuperscript{3} Over the past twenty years stress has become America’s number one health problem and has previously been referred to as America’s newest epidemic.\textsuperscript{4,5} If stress goes unnoticed and untreated, it can develop into burnout. Since stress is directly linked to work, burnout is becoming a frequent problem in today’s society.\textsuperscript{2-4}

When stress is leading to burnout for an individual they will show a number of signs and symptoms that can be observed. The easiest way to characterize these signs and symptoms are
to break them down into components and then, into stages. Six components of burnout have been: emotional exhaustion, depersonalization, reduced personal accomplishment, role conflict, role ambiguity, and role overload.5-8

Components of Burnout

Emotional exhaustion is one of the body’s initial responses to stress. A person suffers from emotional exhaustion when they are extremely overwhelmed by the demands of their lives and emotionally drained.6-8 They begin to shy away from family, friends, and co-workers and find it difficult to accomplish normal every day tasks. Emotional exhaustion can lead to major problems for professionals everywhere.

Depersonalization is a natural human response to emotional and physical stress.6,8 Individuals dealing with stress in the extreme form will begin to isolate themselves from the important people in their lives. They want to be alone the majority of the time because they feel that they are letting the people around them down. A person suffering from depersonalization believes that they aren’t doing as much as they can to contribute to the task at hand, and that no one else wants to be around them.6,7 Later stages of depersonalization can lead to the feeling of reduced personal
accomplishment. At this point the person suffering from burnout feels that their contribution to the job is no longer important or significant. They start to feel that they can’t do anything right and develop the attitude why even bother. These negative feelings associated with depersonalization tend to lead to low self-esteem and depression, which can hinder one’s performance as a professional.

The roles a person must portray in society can contribute to stress levels that can eventually lead to burnout. Role conflict occurs when an individual is unable to set priorities. They try to divide their time equally between a number of different tasks instead of placing emphasis on those that are the most important. Attempting to do everything at once causes them fatigue and exhaustion. Role ambiguity occurs when an individual doesn’t understand what is expected of them causing them to feel that their job isn’t worthwhile. Role conflict and role ambiguity can then lead to role overload, which occurs when a person has a large amount of work to accomplish but keeps adding more tasks to their list because they have difficulty saying no to people. All six components of burnout are serious problems for people under extreme stress.

A person suffering from burnout will exhibit some if not all of the six components mentioned above through Veninga and
Spradely’s five stage method entitled the burnout cycle. The five phases of the burnout cycle are the honeymoon stage, fuel shortage stage, chronic symptoms stage, and hitting the wall stage. Not everyone suffering from signs and symptoms or components that link to burnout will go through every stage of the cycle. Burnout can be treated if it is noticed during one of the first stages, thus preventing further complications.

**Stages of the Burnout Cycle**

The first level of the burnout cycle, the honeymoon stage, is characterized by lack of energy, lack of enthusiasm, and loss of job satisfaction. This stage of burnout is very common in people who are out in the work force every day. It is not always easy to see this response from the start and sometimes this stage goes undetected for a long period of time, leading to further complications of burnout.

In the second level of the burnout cycle, the fuel shortage stage, the person suffering from burnout will begin to search for alternative ways to deal with their stress. They may turn to drugs, cigarettes, or alcohol to try to escape the stress in their lives. A person in this stage will show signs of fatigue, suffer from sleepless nights, and avoid everyday activities of choice such as watching
television or spending time with loved ones.\textsuperscript{5,6} Burnout starts to become increasingly obvious during this stage.

In the third level, or chronic symptom stage, the person suffering from burnout will begin to completely loose interest in work and things that were previously important to them. They begin to miss work due to chronic exhaustion and physical illness caused by stress that is starting to weaken the immune system.\textsuperscript{6,8} Anger and depression may also be signs that a person is suffering from this stage of burnout.\textsuperscript{5,8} This stage is normally very noticeable and should be acted on immediately to prevent serious problems or illness such as chronic fatigue.

In the fourth level, the crisis stage, the person suffering from burnout misses work frequently and begins to act out their anger and depression on their family, friends, and coworkers.\textsuperscript{6,8} They will also suffer from continued illness and possible injury if this stage of burnout isn’t acted upon.\textsuperscript{8} As its name states, a person suffering from this stage of burnout is in serious trouble.

The fifth and final level of the burnout cycle is termed hitting the wall, or the enmeshment stage. In this phase the individual is seen as professionally incompetent and suffers from physical and psychological dysfunction.\textsuperscript{6,8} They frequently miss work due to illness and are unable to complete
basic tasks when they are at work, which can lead to job
termination. A person in this stage will often become very
depressed and can be very dangerous to themselves and others.
At this point the person is suffering from full burnout and
needs to get professional help to prevent further problems.

Burnout is a syndrome of emotional exhaustion,
depersonalization, and reduced personal accomplishment that
can occur among individuals who work with people.\textsuperscript{1,2,6,8,9}
Burnout isn’t a neat diagnostic category that one can find in
the psychiatry books but it is becoming a serious problem for
people in today’s society due to the high levels of stress
present in everyday life.\textsuperscript{8} Like the flu or a common cold,
burnout is considered a sickness that anyone has a chance to
suffer from.\textsuperscript{1,5}

The Effects of Burnout on the Body

The stressful effects of burnout not only put strain on a
person’s emotional state, but also on their physical being.\textsuperscript{6,9}
Extreme stress will affect the human body in a variety of ways
causing the person dealing with that stress to react
differently to certain situations. Stress will cause either an
increase or decrease in the body’s normal physiology. The
central nervous system (CNS), circulation system, and
respiratory system are the three main body systems affected by stress. Each system’s physiological function is altered by high levels of stress and the physiological responses of these systems to stress are key elements leading to burnout.

Central Nervous System Changes

The sympathetic branch of the CNS, comprised of the brain and spinal cord, is the first system of the body to respond. Stress activates a part of the brain called the hypothalamic-pituitary-adrenal (HPA) system. The HPA system triggers the production and release of steroid hormones, glucocorticoids, including the primary stress hormone, cortisol, that helps to control the important systems of the body such as the circulatory and respiratory systems. The over-production of cortisol prevents the healing process from occurring, causing a fatigued individual to be more prone to injury and less likely to recover quickly. The HPA system also releases neurotransmitters (chemical messengers) called catecholamines. These catecholamines, dopamine, epinephrine (adrenaline), and norepinephrine, activate the amygdala in the brain, this triggers an emotional response to a stressful event. Neurotransmitters then signal the hippocampus to
store the emotionally loaded experience in long-term memory. During stressful events, the catecholamines also suppress activity in areas at the front of the brain concerned with short-term memory, concentration, inhibition, and rational thought allowing a person to quickly react to stress. The brain’s quick response to stress causes a few outward signs of the body’s reaction. The pupils will begin to dilate, salivation will begin to slow, and the sweat glands will start to process body waste causing profuse sweating. Also, bladder function becomes less efficient and digestive functions are slowed. The sympathetic branch of the CNS then directs other physiological events to occur.

**Adaptations of the Circulatory System**

In stressful situations, blood flow increases 300-400% priming the brain, lungs, and muscles for added demands. Adrenaline, released by the adrenal glands, causes the spleen to discharge red and white blood cells, in turn allowing the blood to transport more oxygen to the body. Adrenaline also causes dilation of the heart’s blood vessels and increases in heart rate, blood pressure, glucose levels, and red blood cell counts. The stress hormone, cortisol, is also released by the adrenal glands into the blood stream resulting in an
increase in metabolism, a decrease in white blood cells, and a decrease in the body’s ability to produce antibodies.\textsuperscript{5,6,8} These affects cause the immune system to start to deteriorate and the body to lose homeostasis, the normal functions of the body.

**Alterations in the Respiratory System**

The respiratory system, consisting of the nose, mouth, trachea, and lungs, is another major body system that is affected by stress. In a stressful situation, fluids are diverted from the mouth causing dryness and difficulty in talking and breathing.\textsuperscript{8} The windpipe (trachea) will also expand causing the lungs to take in more oxygen and breathing to become more rapid.\textsuperscript{6} In addition to these reactions, stress can cause the throat muscles to spasm making it difficult to swallow.\textsuperscript{8} If these symptoms persist, hyperventilation can occur, causing a more serious health risk.

In some cases, large amounts of stress can cause the body to react this way to every situation whether it is stressful or not. In most instances though, once the stressful situation has passed, the body will return to normal homeostatic function. This normalizing effect is entitled the relaxation response.\textsuperscript{8} The body’s hormone levels will begin to decrease,
in turn causing the body symptoms to return to normal physiological function. Extreme stress has a very negative effect on the human body, and needs to be considered as a leading cause of a number of health related problems.4

The Signs and Symptoms of Burnout

A person suffering from high levels of stress will exhibit many signs and symptoms that can be characterized as burnout.10 These signs and symptoms can be further discussed as physical, psychological, and behavioral characteristics.11,12

Other physical complications of stress include: stomach ulcers, exhaustion, headaches, migraines, head colds, flu, weight loss or gain, high cholesterol, coronary disease, and sexual dysfunction.5,6,11 All of which can be caused by high levels of stress and can be potentially serious health problems.

Burnout is also associated with a multitude of negative psychological signs and symptoms. Loss of apathy, negativism, rigidity to change, boredom, staleness, low morale, low self-esteem, uncontrolled frustration, and loss of emotional control are just a few of the negative aspects of psychological burnout.5,11-13 Other psychological problems
include emotional disturbances such as anger, depression, bitterness, resentment and disgust.\textsuperscript{5,6,11,13}  

Behavioral characteristics, such as decreased communication, low job performance, poor concentration, high job turnover, lack of focus on the job, paranoia, work holism, and increases in absenteeism, drug abuse, alcohol use, and complaints about one’s job can also occur in the later stages of burnout.\textsuperscript{5,6,8}

Other Health-Related Problems of Burnout

A number of serious health problems can occur if burnout goes undetected for a long period of time. The longer an individual suffers from the stressful effects of burnout the greater the chance that they will develop a serious health problem.\textsuperscript{5,6-8} One of the most common problems for those suffering from burnout is Post-Traumatic Stress Disorder (PTSD). This is when a person witnesses or goes through a psychologically distressing event and then responds to that event in a negative way.\textsuperscript{12} People who suffer through a disturbing experience will avoid all stimuli associated with that traumatic event and “numb” themselves from responding properly to the world around them.\textsuperscript{6,12} Repressing one’s
feelings for a period of time can then lead to PTSD which can hinder one’s health and job performance.

Hypertension, chronic high blood pressure, is also a health risk associated with burnout.6,8,12 Untreated, high blood pressure can lead to heart attack, stroke, and cardiovascular disease. All of which are serious life-threatening problems. A person suffering from hypertension may exhibit a lot of signs and symptoms including anxiety, making it easy to detect a problem. They should see a physician on a regular basis to try to regulate the condition before it escalates into a serious health risk.6,8,12

Depression is also a serious health risk that is a very common sign that an individual is under a lot of stress and headed for burnout.12 Depression can take on many different forms and ranges from mild to severe.6,8,12 In mild cases, a person will shy away from family and friends and will want to be alone a majority of the time. In the more severe cases, an individual may show signs of anger and frustration towards others and may even contemplate suicide. Depression is a serious situation that can be treated if noticed early enough.12 Since burnout can lead to serious health problems, it is very important to be aware of who could potentially suffer from it.
Burnout in the Pre-Professional Stage

Burnout is a common problem for professionals everywhere. In virtually all health care and human-service occupations a clear link has been established among occupational stress, decreases in job satisfaction, signs and symptoms of burnout, and higher attrition rates.\textsuperscript{14} Burnout is not only a problem for professionals everywhere, but it is now also a problem for students studying and working at the pre-professional level.\textsuperscript{1-3} College students are a prime example of people operating at a pre-professional stage. A majority of these students work stressful jobs in addition to attending classes and keeping their grades up. Numerous researchers have investigated the demands and stressors faced by college students.\textsuperscript{15-18} This population regularly reports experiencing multiple stressful academic, health-related, and personal-social challenges, such as the pressure to perform well in the classroom, excessive time demands, relationship issues, family pressures, and financial concerns.\textsuperscript{15,18,19} Like the professionals mentioned above college students studying those occupations dealing with health care and human-services tend to be under a lot of pressure and often display signs and symptoms of burnout.
Burnout Among Collegiate Athletic Training Students

Athletic Training has become an increasingly popular profession over the past few years. An athletic trainer is a health professional who specializes in providing health care to athletes. Athletic trainers work closely with physicians, chiropractors, physical therapists, and other medical professionals to provide quality athletic medical care. Recent data indicates that there are more than 1000 students enrolled in 337 Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredited undergraduate curriculums. These athletic training students provide coverage for a collegiate team or to an entire high school’s sport program under direct supervision of an ATC. Such commitment requires the regular investment of considerable amounts of time and energy, in addition to the demands of the academic program.

Athletic training students (ATS) often required to be the first to arrive at a sporting event and the last one to leave that event. This commitment causes the ATS to miss out on many school functions and important proceedings in their life. Most undergraduate Athletic Training Programs require their students to receive approximately 800-1200 clinical and observational hours, about 200 per semester from sophomore through senior year, on top of a demanding course schedule.
A number of the athletic training programs also require their athletic training students to keep a grade point average of 3.0 or higher in the required athletic training curriculum. These two factors place added time demands on students making it nearly impossible for them to do the normal every day activities that other college students enjoy including hanging out with their friends and family, going to social functions, and working a job for money to pay for necessary items such as food and clothing. With all of the extra time and energy that athletic training students devote to their schooling and sport assignments is it any wonder that athletic training is a leading major observed for burnout candidates?

Researchers looking for burnout at the college level found that there are a number of different ways to decide if a student is currently suffering from burnout, or will suffer from burnout in the future. One of the best indications they noticed was that students most likely to suffer from burnout were those that exhibited a number of personality traits. These personality traits are then grouped further into two different types of personalities.
Personality Types and Burnout

Type A and type B are two general personality types. An individual with a type A personality is driven by ambition, self-demanding, aggressive, competitive, impatient, and has a strong sense of time urgency. They also tend to have low levels of hardiness and a poor self-esteem. Another characteristic associated with a type A personality is an external locus of control. A person with an external locus of control attributes events and achievements to others or to chance and takes no responsibility for their own actions.

People with type A personalities are more likely to suffer from stress and burnout in their lives due to their demanding lifestyles. They are also seven times more likely to suffer from illness such as heart attack or stroke.

On the other hand, a person with a type B personality is characterized as less competitive, less rushed and more patient, genuinely more easygoing, not aggravated easily, and is able to separate work from play and handle many tasks at one time. They also tend to have a good sense of competence and a high self-esteem. Another characteristic of a type B personality is high communal orientation. A person that possesses this characteristic is more likely to help and desires to give and receive benefits in response to the needs of and out of concern for others. People with type B
personalities are less likely to suffer burnout from extremely stressful situations.\textsuperscript{6,8} It is better to have a type B personality when working in a helping or human-service profession. It is also possible to have characteristics of both types of personalities though, and people with good qualities of each type often handle stress well.

**Ways to Measure Burnout**

The most popular methods used to measure burnout are questionnaires and surveys that are completed by subjects, and then returned to the researcher for data analysis. The most frequently used measure of burnout is the Maslach Burnout Inventory (MBI).\textsuperscript{1,6,7,24} The MBI asks a number of different questions to categorize stress under three categories: emotional exhaustion, depersonalization, and personal accomplishment, which are the most commonly observed components of burnout. It then measures burnout from those three categories. The MBI was originally created to measure burnout levels amongst human service professionals and those working in health care professions. This form of the survey is referred to as the MBI-Human Services Survey (MBI-HSS). A second form of the survey was then developed for those working in educational settings and is called the MBI-Educators Survey (MBI-ES). Due to an increasing interest in burnout in all
professions a third form of the MBI was created, entitled the MBI-General Survey (MBI-GS), which can be used for a variety of different professions including those that are not necessarily people-oriented. The MBI was one of the first methods developed to measure burnout and is currently the most commonly used.

Coping with Burnout

Burnout is a major problem for professionals and pre-professionals today, but it can be prevented and treated. The best way to prevent burnout from happening is to keep a positive outlook on life and a good self-esteem. It is important to deal with stress as it comes along instead of keeping it all bottled up inside. It is also important to set reasonable goals and write them down to make sure that they get accomplished. A few things to keep in mind when dealing with stress are to make time during a busy day for relaxation, try to eat healthy and exercise daily, communicate with friends and family, ask for help when needed, and most importantly know your own limitations. Keeping these few guidelines in mind is the first step of dealing with stressful situations and preventing burnout from occurring.

A big way of preventing and treating burnout is time management. It is important to realize that there are only
so many hours in the day to get things accomplished. Take time to plan each day and if something is due for school or work don’t procrastinate. Plan on getting things done a little at a time. Always remember two helpful little words “no” and “help”. They will help along the way to good time management skills. Dealing with stress in the above ways are the best ways to cope with burnout.

Summary

Burnout is a leading problem for many professionals today. It is not only a problem for professionals, but also for students studying and working at the pre-professional level. College students studying a number of different health and medical majors, especially Athletic Training, are leading candidates for burnout. Burnout is caused by extreme physical and emotional stress and can lead to serious health problems. There are six components of burnout: emotional exhaustion, depersonalization, reduced personal accomplishment, role conflict, role ambiguity, and role overload. These six components are then categorized into five stages: the honeymoon stage, fuel shortage stage, chronic symptoms stage, crisis stage, and hitting the wall stage,
entitled the burnout cycle. Stress and burnout have a negative effect on the central nervous, circulatory, and respiratory systems of the body that can cause a number of health problems including hypertension, PTSD, and depression. A person suffering from burnout will display a variety of signs and symptoms that can be grouped into three categories: physical, psychological, and behavioral characteristics. There are two types of personalities, type A and type B, and people with type A personalities are more likely to suffer from burnout and health problems than those with type B personalities. The three most common methods of measuring burnout are the Maslach Burnout Inventory Human Service Survey (MBI-HSS), Educators Survey (MBI-ES), and the General Survey (MBI-GS). There is a multitude of ways to deal with stress, and burnout can be prevented and treated.

Undergraduate athletic training students are at serious risk of suffering from burnout before they even get out into the professional field. Athletic training professors need to pay close attention to their students that are under extreme amounts of stress to help prevent these students from burning out at a young age and to keep them from losing interest in an otherwise very exciting profession.
APPENDIX B

The Problem
Statement of the Problem

In the past twenty years stress has become America’s number one health problem. Extreme physical and emotional stress can lead to burnout, which is becoming a major problem in a growing number of professions. Burnout is especially prevalent in a number of health service professions, including athletic training. Several studies have researched burnout levels amongst certified athletic trainers, but only a few have taken a look at burnout levels in the college students preparing to become athletic trainers. The purpose of this study is to evaluate a number of stress factors including gender, grade level, and sport assignment that could potentially lead to burnout amongst undergraduate athletic training students studying at CAAHEP-accredited programs across western Pennsylvania.
**Definition of Terms**

The following section contains operationally defined terms that will be addressed throughout the study:

1) **Burnout** - a state of physical and emotional depletion resulting from high levels of stress that is commonly characterized by emotional exhaustion, depersonalization and reduced personal accomplishment.\(^1,^3,^8\)

2) **Burnout Cycle** - a cycle of five stages that a person suffering from burnout may go through.\(^5^ - ^8\)

3) **Depersonalization** - isolation caused by feelings that one is not doing as much as they should to contribute to a task and letting the people around them down.\(^6^ - ^8\)

4) **Emotional Exhaustion** - the sense of being overwhelmed by the emotions and feelings associated with work resulting in emotional drainage.\(^6^ - ^8\)

5) **Maslach Burnout Inventory (MBI)** - a survey created to measure burnout levels of people working in a number of different professions using three subscales: emotional exhaustion, depersonalization and reduced personal accomplishment.\(^6,^7,^24\)

6) **Reduced Personal Accomplishment** - feeling that one’s contribution to their job is no longer important or significant leading to the attitude why even bother.\(^6^ - ^8\)
7) Role Ambiguity- when an individual doesn’t understand what is expected of them causing them to feel that their job is not worthwhile.⁶⁻⁸

8) Role Conflict- when a person takes on many tasks at one time and is unable to prioritize causing them to feel that they need to do everything at once.⁶⁻⁸

9) Role Overload- when a person has a large amount of work to accomplish but keeps adding more tasks to their list because they have difficulty saying no to people.⁶⁻⁸

Basic Assumptions

The following are basic assumptions of this research study:

1) The surveys that are sent to the ATS will be valid and reliable.

2) The surveys will be completed by the ATS honestly and to the best of their ability.

3) The program directors will randomly select 8 students from each grade level to complete the survey.
Limitations of the Study

The following is a limitation for this research study:
1) There may not be a sufficient number of students in each grade level from all of the undergraduate programs being researched to represent the total population.

Significance of the Study

Stress leading to burnout is becoming a large problem for professionals everywhere. Research indicates that burnout is prevalent in a number of different health service professions, including athletic training.\textsuperscript{1,3-6,24} Thousands of certified athletic trainers work in a variety of settings all across the country. While this population has been studied in the past, very few studies have taken a close look at burnout amongst college students studying to become professional athletic trainers.\textsuperscript{14-19}

College students are under an enormous amount of pressure on a regular basis, no matter what major they are pursuing. They have to deal with every day stressful situations while attending class, studying, and in some cases working. In addition to the normal stress of college life, ATS have to deal with added time demands for sports events and a rather
rigorous academic schedule. These students are under extreme amounts of stress on a daily basis.

There are currently more than 1000 students enrolled in 337 Commission on Accreditation of Allied Health Education Programs (CAAHEP)-accredited undergraduate curriculums. A number of studies have observed this population in the past looking at curriculum and time restraints but very few have researched stress levels, in particular burnout in these students.

This study intends to evaluate the common stress factors of athletic training students including: gender, year in the program, and sport assignment status to see if they correlate with burnout levels of these students. Knowing what types of stress could potentially lead to burnout for students entering the field of athletic training would be very beneficial for the students interested in pursuing the profession and for the certified athletic trainers that teach in the profession.
APPENDIX C

Additional Methods
APPENDIX C1

Sample of Maslach Burnout Inventory Human Service Survey (MBI-HSS)
SAMPLE ITEMS FOR THE

MASLACH BURNOUT INVENTORY
"Human Services Survey"

by Christina Maslach and Susan E. Jackson

Directions: The purpose of this survey is to discover how various persons in the human services or helping professions view their jobs and the people with whom they work closely. Because persons in a wide variety of occupations will answer this survey, it uses the term "recipients" to refer to the people for whom you provide your service, care, treatment, or instruction. When you answer this survey please think of these people as recipients of the service you provide, even though you may use another term in your work.

Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, write a "0" (zero) before the statement. If you have had this feeling, indicate how often you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way.

<table>
<thead>
<tr>
<th>How Often:</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>A few times a month or less</td>
<td>A few times a week</td>
<td>Once a week</td>
<td>Once a month</td>
<td>A few times a month</td>
<td>Every day</td>
<td></td>
</tr>
</tbody>
</table>

I. Depersonalization

5. I feel I treat some recipients as if they were impersonal objects.

II. Personal Accomplishment

9. I feel I'm positively influencing other people's lives through my work.

III. Emotional Exhaustion

20. I feel like I'm at the end of my rope.

From the *Maslach Burnout Inventory - Human Services Survey* by Christina Maslach and Susan E. Jackson. Copyright 1988 by CPP, Inc. All rights reserved. Further reproduction is prohibited without the Publisher's consent.

You may change the format of these items to fit your needs, but the wording may not be altered. Please do not present these items to your readers as any kind of "mini-test," but rather as an illustrative sample of items from this instrument. We have provided these items as samples so that we may maintain control over which items appear in published media. This avoids an entire instrument appearing at once or in segments which may be pieced together to form a working instrument, protecting the validity and reliability of the test. Thank you for your cooperation. CPP, Inc., Licensing Department.
APPENDIX C2

Informed Consent
1. Robin Addis, who is a graduate assistant at California University of Pennsylvania, has requested my participation in a research study at this institution. The title of the research is *Burnout Among Undergraduate Athletic Training Students*.

2. I have been informed that the purpose of the research is to examine the burnout levels of undergraduate athletic training students from seven CAAHEP-accredited schools in Western Pennsylvania. The study will help determine if a difference exists between burnout levels and a students’ grade level in the program, gender, and sport assignment. The subjects will consist of 168 athletic training students, with 24 students selected from each program.

3. My participation will involve completing a three-page packet, including an informed consent form, a demographic sheet, and a Maslach Burnout Inventory Human Service Survey, one time during the spring semester. The packet will take approximately 10 minutes to complete.

4. There are no foreseeable risks or discomforts by participating in this study.

5. There are no feasible alternative procedures available for this study.

6. I understand that the possible benefits of my participation in the research are to contribute to existing research on the topic of burnout and to provide undergraduate students and faculty members with new research on burnout among undergraduate students.

7. I understand that the results of the research study may be published but that my name or identity will not be revealed. Each subject will be assigned a number, and in case of publication only the number will be listed. In order to maintain confidentiality of my records, Robin Addis, will maintain all documents in a secure filing cabinet in her home, in which only the student researcher and research advisor will have access to.

8. I have been informed that I will not be compensated for my participation in this research study.

9. I have been informed that any questions I have concerning the research study or my participation in it, before or after my consent, will be answered by Robin Addis, add7373@cup.edu, 1779 Rte. 519 South, Canonsburg, PA 15317, (724) 825-8123 and/or Dr. Joni Cramer Roh, roh@cup.edu, 250 University Ave., California, PA 15419, (724) 938-4562.

10. I understand that written responses may be used in quotations for publication but my identity will remain anonymous.

11. I have read the above information. The nature, demands, risks, and benefits of the project have been explained to me. I knowingly assume the risks involved, and understand that I may withdraw my consent and discontinue participation at any time without penalty or loss of benefit to myself. In signing this consent form, I am not waiving any legal claims, rights, or remedies. A copy of this consent form will be given to me upon request.”

Subject's signature__________________________________________ Date ______________

Other signature (if appropriate)_______________________________ Date ______________
12. I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participation in this research study, have answered any questions that have been raised, and have witnessed the above signature.

13. I have provided the subject/participant a copy of this signed consent document if requested.

Investigator’s signature___________________________________________________Date________________

Approved by the California University of Pennsylvania IRB
APPENDIX C3

Demographic Page
Please complete the following:

1. Circle your gender:
   Male     Female

2. Circle which year of the Athletic Training Program you are currently in:
   Sophomore   Junior   Senior

3. List your current clinical assignment:

4. Circle if that sport is currently in or out of season:
   In Season     Out of Season

5. Indicate whether this is your second consecutive sport that is In Season in a row:
   Yes      No

6. Do you currently play sports?
   Yes      No

7. Circle the division of your school:
   I     II     III
APPENDIX C4

MBI-HSS Scoring Sheet
MBI Scoring Key

Personal
Accomplishment
Subscale (PA)

Directions: Line up the item numbers on this key with the same numbers on the survey form. Looking at the unshaded items only, add the scores in the "How Often" column and enter the total in the "PA" space at the bottom of the form.

HOW OFTEN
0 - 6

1. ______
2. ______
3. ______

4. ______
5. ______
6. ______
7. ______
8. ______
9. ______
10. ______
11. ______
12. ______
13. ______
14. ______
15. ______
16. ______
17. ______
18. ______
19. ______
20. ______
21. ______
22. ______

Form Ed
Cut-Off Points

Categorization (Form Ed): Emotional Exhaustion

Frequency
High 27 or over
Moderate 17 - 26
Low 0 - 16

Categorization (Form Ed): Depersonalization

Frequency
High 14 or over
Moderate 9 - 13
Low 0 - 8

Categorization: Personal Accomplishment*

Frequency
High 0 - 31
Moderate 32 - 39
Low 39 or over

*Categorization: Personal Accomplishment* Scored in opposite direction from EE and DP.
MBI Scoring Key

Personal
Accomplishment
Subscale (PA)

Directions: Line up the item numbers on this key with the same numbers on the survey form. Looking at the unshaded items only, add the scores in the "How Often" column and enter the total in the "PA" space at the bottom of the form.

HOW OFTEN
0 - 6

1. _______
2. _______
3. _______
4. _______
5. _______
6. _______
7. _______
8. _______
9. _______
10. _______
11. _______
12. _______
13. _______
14. _______
15. _______
16. _______
17. _______
18. _______
19. _______
20. _______
21. _______
22. _______

Form Ed
Cut-Off Points

Categorization (Form Ed): Emotional Exhaustion

<table>
<thead>
<tr>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>High: 27 or over</td>
</tr>
<tr>
<td>Moderate: 17 - 26</td>
</tr>
<tr>
<td>Low: 0 - 16</td>
</tr>
</tbody>
</table>

Categorization (Form Ed): Depersonalization

<table>
<thead>
<tr>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>High: 14 or over</td>
</tr>
<tr>
<td>Moderate: 9 - 13</td>
</tr>
<tr>
<td>Low: 0 - 8</td>
</tr>
</tbody>
</table>

Categorization: Personal Accomplishment*

<table>
<thead>
<tr>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>High: 0 - 31</td>
</tr>
<tr>
<td>Moderate: 32 - 38</td>
</tr>
<tr>
<td>Low: 39 or over</td>
</tr>
</tbody>
</table>

*Scored in opposite direction from EE and DP.
APPENDIX C5

IRB Approval Form
PROTOCOL for Research Involving Human Subjects

Institutional Review Board (IRB) approval is required before beginning any research and/or data collection involving human subjects

(Reference IRB Policies and Procedures for clarification)

Project Title: Burnout Among Collegiate Undergraduate Athletic Training Students
Researcher/Project Director: Robin Addis
Phone #: (724) 745-0727  E-mail Address: add7373@cup.edu
Faculty Sponsor (if required): Dr. Joni Roh
Department: Health Science and Sports Studies
Project Dates: Spring of 2006 to May of 2006
Sponsoring Agent (if applicable):
Project to be Conducted at: Mail Based Survey
Project Purpose: ☑ Thesis  ☐ Research  ☐ Class Project  ☐ Other

Keep a copy of this form for your records.

Required IRB Training
The training requirement can be satisfied by completing the online training session at http://ime.nci.nih.gov/. A copy of your certification of training must be attached to this IRB Protocol. If you have completed the training at an earlier date and have already provided documentation to the California University of Pennsylvania Grants Office, please provide the following:

Previous Project Title: ________________________________
Date of Previous IRB Protocol: ________________________

Draft, April 7, 2005
Please attach a typed, detailed summary of your project AND complete items 2 through 6.

1. Provide an overview of your project-proposal describing what you plan to do and how you will go about doing it. Include any hypothesis(es) or research questions that might be involved and explain how the information you gather will be analyzed. For a complete list of what should be included in your summary, please refer to Appendix B of the IRB Policies and Procedures Manual.

The following proposal involves a descriptive research study that will examine burnout levels of undergraduate Athletic Training students from seven CAAHEP-accredited undergraduate Athletic Training programs across western Pennsylvania. The study will help determine if a difference exists between burnout levels and a student's grade level in the program, gender, and sport assignment. The Maslach Burnout Inventory Human Service Survey (MBI-HSS) will be used to measure burnout levels of the students. A demographic page will also be used to assess the independent variables of the study. An envelope containing a cover letter along with 24 three-page packets, consisting of an informed consent form, a demographic page, and MBI-HSS form, will be mailed to the 7 undergraduate program directors of each school. The program director will then randomly select 8 students from each grade level (sophomore, junior, and senior) to participate in the study. The subjects will complete the packet one time during the middle of the spring semester. After the packets are completed they will be returned to the researcher via mail, for data analysis. The study intends to answer three important research questions: Does grade level in the program relate to students’ burnout levels? Does gender relate to student’s burnout levels? and Do burnout levels depend upon students’ sport assignment (in season/out of season)?

2. Section 46.11 of the Federal Regulations state that research proposals involving human subjects must satisfy certain requirements before the IRB can grant approval. You should describe in detail how the following requirements will be satisfied. Be sure to address each area separately.

   a. How will you insure that any risks to subjects are minimized? If there are potential risks, describe what will be done to minimize these risks. If there are risks, describe why the risks to participants are reasonable in relation to the anticipated benefits.

   There are no risks involved for the subjects of this research study due to the fact that the study is descriptive in nature and involves no physical interaction, just the completion of a survey.

   b. How will you insure that the selection of subjects is equitable? Take into account your purpose(s). Be sure you address research problems involving vulnerable populations such as children, prisoners, pregnant women, mentally disabled persons, and economically or educationally disadvantaged persons. If this is an in-class project describe how you will minimize the possibility that students will feel coerced.

   The subjects will be picked through stratified random sampling to guarantee that everyone has an equal opportunity to be selected to participate in the study.

   c. How will you obtain informed consent from each participant or the subject’s legally authorized representative and ensure that all consent forms are appropriately documented? Be sure to attach a copy of your consent form to the project summary.

   The subjects that agree to participate will be provided with an informed consent form that will fully explain the study. Subjects will be required to complete the informed consent form before completing the survey.

Draft, April 7, 2005
d. Show that the research plan makes provisions to monitor the data collected to insure the safety of all subjects. This includes the privacy of subjects’ responses and provisions for maintaining the security and confidentiality of the data.

The forms will be mailed by the undergraduate program directors of each school to the researcher. The completed surveys will be analyzed and kept by the researcher where only the researcher and the research advisor will have access to them. The safety of the subjects is guaranteed since there are no foreseeable risks of the study. Subjects will not be required to write their names anywhere on their surveys, and to ensure confidentiality the researcher will not be present when the surveys are completed. All of the subjects will be legal, able-minded adults that will not need any special safeguards.

3. Check the appropriate box(es) that describe the subjects you plan to use.

☐ Adult volunteers
☐ CAL University Students
☐ Other Students
☐ Prisoners
☐ Pregnant Women
☐ Physically Handicapped People
☐ Mentally Disabled People
☐ Economically Disadvantaged People
☐ Educationally Disadvantaged People
☐ Fetuses or fetal material
☐ Children Under 18
☐ Neonates

4. Is remuneration involved in your project? ☐ Yes or ☑ No. If yes, explain here.

5. Is this project part of a grant? ☑ Yes or ☐ No. If yes, provide the following information:

Title of the Grant Proposal: Burnout Among Collegiate Undergraduate Athletic Training Students
Name of the Funding Agency: Jesse B. Guttman Grant (Submitted fall of 2005)
Dates of the Project Period: Spring of 2006 to May of 2006

6. Does your project involve the debriefing of those who participated? ☐ Yes or ☑ No

If yes, explain the debriefing process here.

7. If your project involves a questionnaire interview, ensure that it meets the requirements of Appendix ___ in the Policies and Procedures Manual.
Project Director's Certification
Program Involving HUMAN SUBJECTS

The proposed investigation involves the use of human subjects and I am submitting the complete application form and project description to the Institutional Review Board for Research Involving Human Subjects.

I understand that Institutional Review Board (IRB) approval is required before beginning any research and/or data collection involving human subjects. If the Board grants approval of this application, I agree to:

1. Abide by any conditions or changes in the project required by the Board.
2. Report to the Board any change in the research plan that affects the method of using human subjects before such change is instituted.
3. Report to the Board any problems that arise in connection with the use of human subjects.
4. Seek advice of the Board whenever I believe such advice is necessary or would be helpful.
5. Secure the informed, written consent of all human subjects participating in the project.
6. Cooperate with the Board in its effort to provide a continuing review after investigations have been initiated.

I have reviewed the Federal and State regulations concerning the use of human subjects in research and training programs and the guidelines. I agree to abide by the regulations and guidelines aforementioned and will adhere to policies and procedures described in my application. I understand that changes to the research must be approved by the IRB before they are implemented.

Professional Research

Project Director’s Signature ____________________________  Department Chairperson’s Signature ____________________________

Student or Class Research

Student Researcher's Signature ____________________________  Supervisor’s Signature ____________________________  Department Chairperson’s Signature ____________________________

Supervising Faculty Member’s Signature if required

ACTION OF REVIEW BOARD (IRB use only)

The Institutional Review Board for Research Involving Human Subjects has reviewed this application to ascertain whether or not the proposed project:

1. provides adequate safeguards of the rights and welfare of human subjects involved in the investigations;
2. uses appropriate methods to obtain informed, written consent;
3. indicates that the potential benefits of the investigation substantially outweigh the risk involved.
4. provides adequate debriefing of human participants.
5. provides adequate follow-up services to participants who may have incurred physical, mental, or emotional harm.

☐ Approved  ☐ Disapproved

Chairperson, Institutional Review Board ____________________________  Date ______________

Draft, April 7, 2005
APPENDIX C6

Cover Letter to Program Director
Dear Undergraduate Program Director,

I am currently a graduate student at California University of Pennsylvania. I am writing my thesis on **Burnout Among Undergraduate Athletic Training Students** studying at CAAHEP-accredited programs across western Pennsylvania. The focus of the study is to evaluate burnout levels among undergraduate athletic training education program students. A second aim is to evaluate the differences in burnout levels of male and female students. Burnout will be measured using the Maslach Burnout Inventory Human Service Survey (MBI-HSS). I have included 24 packets, each consisting of a demographic page and MBI-HSS, for you to randomly give 8 students from each grade level (sophomore, junior, and senior) to complete. The survey takes approximately 10 minutes to complete and should not take a large amount of time away from the students. The students will not be asked to write their names on the packets or be identified to ensure their responses are confidential.

Upon completion, please return completed packets in the self-addressed stamped envelope within 1 week from mailing. If you have any questions or concerns please feel free to contact me via e-mail at add7373@cup.edu or my research advisor Dr. Joni L. Cramer Roh at roh@cup.edu. Thank you sincerely for your time and effort.

Sincerely,

Robin S. Addis, ATC, EMTB  
California University of Pennsylvania  
Add7373@cup.edu
REFERENCES


10. Golembiewski RT. Public sector change and burnout: phases as antecedents, limiting condition, and common consequences. Public Productivity and Management


Abstract

Title: BURNOUT AMONG UNDERGRADUATE ATHLETIC TRAINING STUDENTS

Researcher: Robin S. Addis, ATC, EMTB

Advisor: Dr. Joni Cramer Roh

Purpose: The purpose of this study was to examine burnout levels of undergraduate athletic training students to determine if burnout levels were dependent upon student’s year in the program, gender, and in-season sport assignment status.

Methods: A descriptive research study was conducted using the Maslach Burnout Inventory Human Service Survey (MBI-HSS). Subjects consisted of 124 undergraduate athletic training students studying at six CAAHEP-accredited schools in western Pennsylvania, that completed the MBI-HSS survey one time during the middle of the spring semester.

Findings: Burnout levels were found to be dependent on year in the program. Burnout levels were not found to be dependent on gender or sport assignment status. Additional tests found no further significance.

Conclusions: Students in the junior year of the program are three times more likely to suffer from a high degree of burnout. The results from this study suggest that the junior year of the program is the most stressful.