BURNOUT AMONG UNDERGRADUATE ATHLETIC TRAINING STUDENTS

A THESIS

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by
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THESIS APPROVAL

Graduate Athletic Training Education

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INTRODUCTION

Stress is a common factor in everyday life and can lead to a wide variety of physical and emotional problems. High levels of stress can have a negative effect on the immune system, making an individual more susceptible to illnesses, the autonomic nervous system, and the metabolic system, all of which can lead to cardiovascular disease. Too much stress can also lead to sleep deprivation, an increased inflammatory reaction, which may be linked to atherosclerosis in individuals who have no other predisposing factors. These reactions occur when the body tries to compensate for the added stress that is placed upon it. When the body is no longer able to adapt to the new stressors it begins to break down both physically and mentally, which can lead to the syndrome, burnout.[1]

Burnout is a negative emotional reaction to one's work.[2] This reaction has been characterized as a multidimensional syndrome consisting of the following: feelings of emotional exhaustion, depersonalization, a reduced sense of personal accomplishment, role conflict, role ambiguity, and role overload.[1-7]

All jobs and occupations come with certain levels of stress. However, the majority of early research associated

with stress and burnout has focused on health care professionals.[1,4,8] Due to constant contact with people and the associated emotional involvement with clients, individuals in healthcare professions are more apt to experience the high levels of stress that can lead to burnout.[4] Among these healthcare professionals are athletic trainers.

Some factors that may contribute to the development of burnout among athletic trainers that have been considered within previous research have been age, gender, and the amount of experience of the athletic trainer. Walter et al[9] used the Maslach Burnout Inventory (MBI) to assess the level of burnout among athletic training education program directors and to determine the relationship between burnout and various demographics related to their position. Results indicated that emotional exhaustion scores were higher for women as compared to men. However, emotional exhaustion decreased as both men and women grew older and experience levels increased. Personal accomplishment scores increased as experience increased. Additionally, those who practiced clinically more than 20 hours a week had higher depersonalization scores, but this too, decreased with age. Thus, indicating that females, those who are younger or have less experience, and those who are employed at the

collegiate level or work more than 20 hours a week tend to show greater signs of burnout.

Giacobbi,[8] also examined the differences between age, gender, and those with more or less post certification experience by using the MBI in conjunction with the Stress Appraisal Measure (SAM) to measure burnout and stress, respectively. Results indicated that female athletic trainers and athletic trainers working in the collegiate or university settings showed increased signs of emotional exhaustion, depersonalization, and personal accomplishment which are associated with burnout. Occupational stress was positively related to elements of burnout and somatic health complaints, but negatively related to occupational engagement. This means that as stress increased in the work setting, somatic health complaints also increased, conversely, as stress increased, occupational engagement decreased. Burnout affects both men and women among various settings. However, females, those who have less experience, and those who are employed at the collegiate level tended to show more elevated levels of the signs that are associated with burnout.[7-10]

The demands of the athletic training profession also transfer to the athletic training students. The purpose of this study is to identify different factors that may lead

to burnout among undergraduate athletic training students. Once these factors are identified, then burnout prevention among this population can be best addressed.

Undergraduate students are faced with a variety of stress which has not been previously published. Examples of stress for the college students include the demands of college classes, being newly independent, financial concerns, and having difficulty with time management, among other factors outside of their educational experience.[11,12] With this level of personal and academic stress, burnout is common among undergraduate students.[10-12]

A common factor that is associated with burnout among students who enter the helping professions is idealism.[12] Idealism refers to the extent to which an individual identifies with the values and goals of the profession.[12] There is a gap between idealistic expectations that students have about the profession they are entering and the realities of practice that they will soon be facing. This gap is likely a cause of emotional exhaustion.[12] Ngai et al[12] examined the effect of idealism, altruism, and career orientation on emotional exhaustion among undergraduate students in social work. Individuals who scored high on idealism had a tendency to report higher levels of emotional exhaustion. The high levels of idealism

allowed the students to feel a greater degree of disappointment. This disappointment is what contributes to emotional exhaustion; which is one of the subscales of burnout.[12]

When students first begin thinking about their desired career pathway, they have a tendency to have idealistic thoughts, regardless of their chosen field. The inability some students have to view their desired profession objectively and realistically set them up for future disappointment. They are not prepared for the challenges and demands that will be placed upon them when they get further into their educational program or when they are out on their own. These new challenges and stressors combined can build up and if they are not handled in a healthy manner, can result in burnout.

One study[13] evaluated the motivational factors among students who attended an undergraduate institution. The researchers found that students who were intrinsically motivated, that is, their motivation for enrolling in college was to experience the enjoyment of intellectual discovery,[13] had a tendency to experience lower levels of burnout. Furthermore, individuals who were extrinsically motivated, or those who were motivated by a desired outcome such as good grades or a better career, were more likely to

experience higher levels of burnout. It is difficult to change what motivates a person, or how a person is motivated. However, understanding how a person is motivated and the predispositions that are associated with it may help with finding appropriate prevention or coping techniques for job stress or disappointment as well as burnout.

Specific to undergraduate athletic training students one study[14] examined the relationship between burnout, gender, year in school, and sport assignment. The researcher found that juniors in the athletic training education program had a tendency to have higher burnout scores; however, sport assignments did not have an affect on the scores. Results also indicated, contradictory to previous research,[7-10] that gender did not have an affect on burnout scores.

This study will attempt to answer the following questions in regards to burnout in athletic training students. Is there a relationship between a student's cumulative GPA and burnout scores? Is there a difference between academic levels (junior versus senior) for burnout scores? Is there a difference between gender for burnout scores?

METHODS

The primary purpose of this study is to examine burnout among undergraduate athletic training students at accredited athletic training education programs (ATEP) in the United States. The secondary purpose of this study is to determine reliability for the survey. The researcher examined the potential causes of burnout among this population. The subsections are as follows: research design, subjects, instruments, procedures, hypotheses, and data analysis.

Research Design

The present study is a descriptive study that examined the burnout scores among undergraduate athletic training students (ATS) who are members of the National Athletic Training Association (NATA) using the Bowers Athletic Training Burnout Inventory (BATBI) (Appendix C_1). The independent variables include the students' year in school, gender, and cumulative GPA. The students' year in school has only two levels, junior or senior. This does not include the number of credits, but their status within the

ATEP. The dependent variable is burnout scores, which was measured by the BATBI with a Chronbach's alpha of .685.

Subjects

The researcher contacted the National Athletic Training Association (NATA) requesting that this survey be sent to 1,000 randomly selected athletic training students from the total number of 6,105 ATS nationwide using a Listserve. The subjects consisted of 112 junior and senior ATS from ATEP nationwide. Students that were not either a junior or senior were eliminated from the study. Informed consent was implied when the individual clicked on "agree", completed the survey, and clicked on "send". All students had the right not to participate in the study.

Instruments

The data was collected by the use of the Bowers Athletic Training Burnout Inventory (BATBI) (Appendix C1). The BATBI was a revised version of the Athletic Training Burnout Inventory (ATBI)[15] specific for athletic training students. The ATBI was developed based off of the Maslach Burnout Inventory (MBI) and was designed to assess burnout

scores among certified athletic trainers who worked at an institute with an athletic training education program. In order for the BATBI to pertain to athletic training students, the last section, consisting of items 40 through 50 were omitted because ATS would not be able to answer them properly. When creating the ATBI, each item was analyzed though an item-to-total correlation to determine the percentage of variability for each item to the specific construct.[16] The Chronbach's alpha for all constructs (emotional exhaustion/depersonalization, administrative responsibility, time commitment, and organizational support)of the original ATBI was equal to or more than .80.[15]

The BATBI consists of 42 items, there are also six demographic questions. Items in the original ATBI that addressed "athletic trainer" were changed to say "athletic training student". Items that addressed "work" were changed to say "clinical". Items 19 and 23 from the original ATBI were omitted because they pertained specifically to certified athletic trainers. Item 8 of the original ATBI was changed from "athletic training" to "athletic training education program". Item 28 of the original ATBI was revised to say "peers" instead of "coworkers". Item 29 of the revised ATBI was added using the same wording as item

28, but addressing supervisors instead of peers. Items 25, 31, 38, and 41 were added using the same wording as the original ATBI, but they addressed Approved Clinical Instructors (ACI) instead of coaches. The items that addressed coaches were kept as they were.

The BATBI is comprised of four constructs (emotional exhaustion/depersonalization, administrative responsibility, time commitment, and organizational support). The first construct, emotional exhaustion and depersonalization include items 1-14. Construct two, how the students interpret his/her administrative responsibilities was assessed by items 15-19. How the athletic training students viewed his/her time commitment to the clinical aspect of their education was construct three and was assessed by items 20-23. Finally, construct four consisted of items 24-42 assessed organizational support.

The original author of the ATBI did not identify a score indicating burnout.[16] However, higher burnout scores indicate higher burnout for that individual. The range of scores was from 42 to 252 in the BATBI. The students were instructed to check the box marked “1 never true” if they never experienced the stated feeling. If they experienced the feeling, then they were asked to mark the box that best

described that feeling by selecting the appropriate number from a six-point Likert scale, “2 mostly not true”, “3 sometimes not true”, “4 sometimes true”, “5 mostly true”, and “6 always true” for each item.[16] The majority of the items of the BATBI were changed, as required by the IRB, from having a negative connotation to a positive one to reduce any added stress to the participants. These items included 1-5, 7, 8, 10, 11, 14-16, 18-20, 22, 23, 26-33, 39-42. In order to keep the scoring consistent with the original ATBI, the items that were changed had their value reversed. For example, question one “I am comfortable performing the duties of an athletic training student” was changed from the original ATBI to have a positive connotation. When scoring this question, a “never true” response was given a value of 6 instead of 1, and an “always true” response was given a value of 1 instead of 6. A value of 2 became 5, 3 became 4, and vice versa. The participants also completed a demographic section that contained questions regarding their age, accumulative GPA, year in school, gender, and race. Once the survey was returned, an analysis was conducted to determine the reliability of the modified instrument. Construct one, emotional exhaustion and depersonalization has a Chronbach’s alpha of .661, construct two, administrative

responsibility has a Chronbach's alpha .733, time commitment, which is construct three, has a Chronbach's alpha of .778, construct four, organizational support, has a Chronbach's alpha of .594, and the total inventory has a Chronbach's alpha of .685.

A limitation to address is the validity of the BATBI. After submitting the IRB application, the IRB requested that questions be changed from negative statements to positive statements to minimize stress upon the participant. The items that remained the same as the original ATBI are 6, 9, 12, 13, 17, 21, 24, 25, 34-38. Changes were made and the IRB approval was provided. A review by a panel of experts on the BATBI was not performed prior to sending to the athletic training students.

Procedures

The IRB application for this study was sent to the California University of Pennsylvania Institutional Review Board (IRB) and received approval (Appendix C2). The researcher utilized www.surveymonkey.com to create a direct link to the survey. A cover letter (Appendix C3) was sent via email, explaining the purpose of the study to the selected undergraduate athletic training students. The

researcher contacted the NATA, requesting that this survey be sent to 1000 randomly selected athletic training students across the nation. A link in the cover letter provided the athletic training students with direct access to begin the survey. The researcher determined when to send out the surveys and allowed ample time to complete the survey. After one week, a follow up email was sent by the NATA to those ATS that had been randomly selected by the Listserve.

Hypotheses

The following hypotheses were based on previous research and the researcher’s intuition based on a review of the literature.

1. There is a relationship between athletic training student's cumulative GPA and a) emotional exhaustion and depersonalization scores, b) administrative responsibility scores, c) time commitment scores, d) organizations support, and e) total burnout scores.
2. There is a difference between athletic training student's academic levels (Junior and Senior) for a) emotional exhaustion and depersonalization scores, b) administrative responsibility scores, c) time

commitment scores, d) organizations support, and e) total burnout scores.

3. There is a difference between gender for a) emotional exhaustion and depersonalization scores, b) administrative responsibility scores, c) time commitment scores, d) organizations support, and e) total burnout scores.

Data Analysis

1. A Pearson Product Moment Correlation was used to determine if there was a relationship between a Students' cumulative GPA and total burnout scores.
2. A factorial MANOVA was used to determine if there was a difference between academic levels (junior versus senior) and gender for a) emotional exhaustion and depersonalization scores, b) administrative responsibility scores, c) time commitment scores, d) organizations support, and e) total burnout scores.

RESULTS

Demographic Data

National Athletic Trainers' Association (NATA) undergraduate student members (N =112) voluntarily participated in this study. The athletic training student population was 6,105, the recommended sample size for this population was 361. Therefore, the return rate was 31%. Table 1 represents the athletic training students' year in the program. The majority of the students' who responded were seniors in the program.

Table 1. Year in the Program

Classification	**Frequency**	**Percent**
Junior	45	40.20
Senior	67	59.80

Table 2 represents the athletic training students' age and cumulative grade point average. The average age for students who responded was 21 years old, with the oldest being 28 years. The average GPA for the students was 3.44, with the lowest GPA at a 2.75.

Table 2. Demographics

Classification	**Range**	**Mean ± SD**
Age	20-28	21.49 ± 1.34
GPA	2.75-4.0	3.44 ± 0.3

Table 3 represents the students' gender. Of the students who responded to this survey, over half where female which accounted for 66.10%.

Table 3. Gender

Classification	Frequency	Percent
Male	38	33.90
Female	74	66.10

Table 4 represents the students' race. A large number of athletic training students were white who responded with 88.40%. Of the students who responded to this national survey, 11.70% were of different racial or ethnic background.

Table 4. Race

Classification	Frequency	Percent
White	99	88.40
Asian	4	3.60
Brazilian	1	0.90
Hispanic	2	1.80
Middle-Eastern	2	1.80
Multiple races	2	1.80
Black/African-American	2	1.80

Table 5 represents the mean and standard deviation for each construct. The mean of each construct was within three points of half of the total points possible for that construct, including the total burnout scores.

Table 5. Mean Construct Scores

Construct	Range	Mean ± SD
Emotional Exhaustion/ Depersonalization	31-65	40.34±6.42
Administrative Responsibility	6-25	12.38± 2.99
Time Commitment	8-22	13.82± 3.58
Organizational Support	47-86	60.53± 5.24
Total Burnout	109-190	127.06± 12.87

Table 6 represents the response frequency and percentages for each survey question.

Table 6. Survey Question Frequencies and Percentages

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Construct 1: Emotional Exhaustion/ Depersonalization	**9.3%**	**7.2%**	**9.0%**	**16.4%**	**37.8%**	**20.6%**
Q1: I am comfortable performing the duties of an athletic training student.	1 .9%	0	1 .9%	5 4.5%	70 62.5	35 30.4%
Q2: I do not feel emotionally exhausted when I leave clinical.	6 5.4	16 14.3%	19 17.0%	26 23.2%	45 40.2%	0
Q3: I do not feel fatigued when I think about facing another day of clinical.	9 8.0%	17 16.1%	23 20.5%	29 25.9%	32 27.7%	2 1.8%
Q4: I treat all of my athletes as if I care about them.	1 .9%	0	0	2 1.8%	47 42.0%	62 55.4%
Q5: Working with athletes all day has not become a strain for me.	6 4.5%	5 7.1%	4 12.5%	3 15.2%	48 41.1%	19 19.6%
Q6: I feel I have a positive influence on my athletes	1 .9%	0	3 2.7%	16 14.3%	60 53.6%	32 28.6%
Q7: I have become more sympathetic when dealing with athletes.	4 3.6%	6 5.4%	13 11.6%	27 24.1%	55 49.1%	7 6.3%

Table 6. Survey Question Frequencies and Percentages (continued)

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Q8: I do not worry that the athletic training education program is hardening me emotionally	6 6.3%	19 16.1%	15 13.4%	20 17.9%	33 30.4%	19 16.1%
Q9: I feel very energetic while working with my athletes	0	4 3.6%	13 11.6%	32 28.6%	56 50.0%	7 6.3%
Q10: I do not feel that I am at the end of my rope professionally	12 10.7%	7 4.1%	9 8.0%	11 8.9%	38 33.9%	35 31.3%
Q11: I care what happens to all of my athletes	1 .9%	0	1 .9%	5 4.5%	32 28.6	73 65.2%
Q12: Some of my athletes blame me for their injuries	91 81.3%	19 17.0%	1 .9%	1 .9%	0	0
Q13: I feel I have a positive influence on my coaches	5 4.5%	5 4.5%	9 8.0%	41 37.5%	37 32.1%	15 13.4%
Q14: I feel my workload is fine with my teams	3 2.7%	10 8.9%	20 17.9%	25 22.3%	42 37.5%	12 10.7%

Table 6. Survey Question Frequencies & Percentages (continued)

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Construct 2: Administrative Responsibility	**1.4%**	**4.5%**	**2.9%**	**21.6%**	**46.8%**	**24.1%**
Q15: I feel that I have the right amount of athletes under my direct care	1 .9%	7 6.3%	5 4.5%	27 24.1%	57 50.9%	15 13.4%
Q16: I feel I can handle the duties I am required to perform	0	1 .9%	0	13 11.6	58 51.8%	40 34.8
Q17: I wish I had more one-on-one time with my athletes	3 2.7%	14 11.6%	6 5.4%	45 43.8%	27 21.4%	17 15.2%
Q18: I can handle the amount of paperwork.	2 1.8%	1 .9%	3 3.6%	22 18.8%	57 50.9%	27 24.1%
Q19: I can handle the clinical responsibilities.	1 .9%	3 2.7%	1 .9%	11 9.8%	59 52.7%	37 33.0%
Construct 3: Time Commitment	**3.4%**	**11.0%**	**13.6%**	**26.1%**	**29.3%**	**17.0%**
Q20: I can work the weekends and holidays	3 2.7%	12 10.7%	12 10.7%	25 22.3%	41 36.6%	19 17.0%
Q21: I wish I could spend more time with my family	1 .9%	6 5.4%	4 3.6%	37 33.0%	22 19.6%	42 37.5%
Q22: I have time to get things done	5 4.5%	17 15.2%	27 24.1%	27 24.1%	34 30.4%	2 1.8%
Q23: I feel the hours I provide athletic training services are fine	5 4.5%	14 12.5%	18 16.1%	28 25.0%	34 30.4%	13 11.6%

Table 6. Survey Question Frequencies and Percentages (continued)

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Construct 4: Organizational Support	**1.4%**	**1.9%**	**5.6%**	**12.8%**	**36.8%**	**38.9%**
Q24: I have a positive professional relationship with my COACHES	1 .9%	2 1.8%	2 1.8%	18 16.1%	51 45.5%	38 33.9%
Q25: I have a positive professional relationship with my ACI	1 .9%	2 1.8%	3 2.7%	6 5.4%	33 29.5%	67 59.8%
Q26: The athletic department values the athletic training program	3 2.7%	5 4.5%	8 7.1%	24 21.4%	39 34.8%	33 29.5%
Q27: I feel my job expectation has been clearly communicated by the administration	0	5 4.5%	5 4.5%	24 21.4%	47 42.0%	31 27.7
Q28: I feel comfortable when I ask a PEER(s) a question	1 .9%	1 .9%	2 1.8%	12 10.7%	44 39.3%	52 46.4%
Q29: I feel comfortable when I ask a SUPERVISOR(s) a question	1 .9%	2 1.8%	3 2.7%	13 11.6%	55 49.1%	38 33.9%
Q30: I feel COACHES always have realistic expectations of my clinical responsibilities	1 .9%	6 5.4%	23 20.5%	37 33.0%	34 30.4%	11 9.8%

Table 6. Survey Question Frequencies and Percentages (continued)

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Q31: I feel my ACI always has realistic expectations of my clinical responsibilities	2 1.8%	1 .9%	8 7.1%	12 10.7%	50 44.6 %	39 34.8%
Q32: I am not afraid of making mistakes while performing my athletic training duties	3 2.7%	20 17.9%	16 14.3%	23 20.5%	41 36.6%	9 8.0%
Q33: I am allowed to utilize all of my knowledge while treating an athlete	2 1.8%	2 1.8%	10 8.9%	12 10.7%	42 37.5%	44 39.3%
Q34: I clearly understand the level of responsibility I have regarding the treatment of an athlete	0	2 1.8%	3 2.7%	8 7.1%	40 35.7%	59 52.7%
Q35: My supervisor(s) communicate changes in our policies and procedures	0	1 .9%	6 5.4%	20 17.9%	35 31.3%	50 44.6%
Q36: The athletic training department communicates to me any changes in the treatment protocol of athletes.	1 .9%	2 1.8%	5 4.5%	15 13.4%	51 45.5%	38 33.9%

Table 6. Survey Question Frequency and Percentages (continued)

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Q37: My COACH(es) respect my decisions	1 .9%	3 2.7%	9 8.0%	29 25.9%	54 48.2%	16 14.3%
Q38: My ACI respects my decisions	0	3 2.7%	3 2.7%	9 8.0%	63 56.3%	34 30.4%
Q39: Coaches reinforce the importance of treatment when athletes become non-compliant	3 2.7%	3 2.7%	8 7.1%	28 25.0%	48 42.9%	22 19.6%
Q40: My coach(es) never blame me for my athletes' injuries	3 2.7%	2 1.8%	2 1.2%	10 8.9%	26 23.2%	69 61.6%
Q41: My ACI never blames me for my athletes' injuries	3 2.7%	0	1 .9%	2 1.8%	11 9.8%	95 84.8%
Q42: I am expected to report new injuries to the head athletic trainer	4 3.6%	1 .9%	2 1.8%	3 2.7%	18 16.1%	84 75.0%
Total Burnout	**3.9%**	**6.4%**	**7.8%**	**12.7%**	**37.7%**	**25.2%**

Hypothesis Testing

All hypotheses were tested at an alpha level of .05.

Hypothesis 1: There is a relationship between athletic training student's cumulative GPA and a) emotional exhaustion and depersonalization scores, b) administrative responsibility scores, c) time commitment scores, d) organizations support, and e) total burnout scores.

A Pearson correlation coefficient was calculated for the relationship between the students' cumulative GPA and emotional exhaustion and depersonalization scores, administrative responsibility scores, time commitment scores, organizations support, and total burnout scores. a) A significant correlation was not found between GPA and the students' emotional exhaustion and depersonalization scores ($r(110)=.102, P>.05$). Emotional exhaustion and depersonalization is not related to GPA (Table 7).

Table 7. Pearson-Product Moment Correlation Between The Students' Cumulative GPA and Emotional Exhaustion and Depersonalization Scores

Variable	**n**	***r***	**P**
GPA & Emotional Exhaustion/ Depersonalization Scores	112	.102	.285

b) A significant correlation was not found between GPA and the students' administrative responsibility ($r(110)=-.122, P>.05$). Administrative responsibility is not related to GPA (Table 8).

Table 8. Pearson-Product Moment Correlation Between The Students' Cumulative GPA and Administration Responsibility Scores

Variable	**n**	***r***	**P**
GPA & Administrative Responsibility Scores	112	.122	.201

c) A significant correlation was not found between GPA and the students' time commitment scores ($r(110)=.038, P>.05$). Time commitment is not related to GPA (Table 9).

Table 9. Pearson-Product Moment Correlation Between The Students' Cumulative GPA and Time Commitment Scores

Variable	**n**	***r***	**P**
GPA & Time Commitment Scores	112	.038	.694

d) A significant correlation was not found between GPA and the students' organizational support ($r(110)=.159, P>.05$). Organizational support is not related to the students' GPA (Table 10).

Table 10. Pearson-Product Moment Correlation Between The Students' Cumulative GPA and Organizational Support Scores

Variable	**n**	***r***	**P**
GPA & Organizational Support Scores	112	.159	.094

e) A significant correlation was not found between GPA and the students' total burnout scores ($r(110)=.098, P>.05$). Total burnout scores are not related to the students' GPA (Table 11).

Table 11. Pearson-Product Moment Correlation Between The Students' Cumulative GPA and Their Total Burnout Scores

Variable	**n**	***r***	**P**
GPA & Total Burnout Scores	112	.098	.306

Hypothesis 2: There is a difference between athletic training student's academic levels (Junior and Senior) for a) emotional exhaustion and depersonalization scores, b) administrative responsibility scores, c) time commitment scores, d) organizations support, and e) total burnout scores.

Hypothesis 3: There is a difference between athletic training students' gender for a) emotional exhaustion and depersonalization scores, b) administrative responsibility scores, c) time commitment scores, d) organizations support, and e) total burnout scores.

A 2 (Academic Level) x 2 (Gender) between-subjects factorial MANOVA was calculated comparing a) emotional exhaustion and depersonalization scores, b) administrative responsibility scores, c) time commitment scores, d) organizations support, and e) total burnout scores for academic levels of the students' (junior or senior) and their gender. The main effect of academic levels on emotional exhaustion and depersonalization scores was not significant (F(1,108)=.391,P>.05). The main effect of gender on emotional exhaustion and depersonalization scores was not significant (F(1,108)=.278,P>.05). The interaction between gender and academic level on emotional exhaustion and depersonalization scores was not significant (F(1,108)=.006,P>.05) (Table 12).

Table 12. A 2 (Academic Level) x 2 (Gender) between-subjects factorial MANOVA for Emotional Exhaustion and Depersonalization

Source	Type II Sum of Squares	df	MS	F	P
Year	16.465	1	16.465	.391	.533
Gender	11.686	1	11.686	.278	.599
Year x Gender	.271	1	.271	.006	.936
Error	4543.469	108	42.069		

b) The main effect of academic level on administrative responsibility was not significant (F(1,108)=1.54,P>.05). The main effect of gender on administrative responsibility was not significant (F(1,108)=.729,P>.05). The interaction

between gender and academic level on administrative responsibility was not significant (F(1,108)=1.12,P>.05) (Table 13).

Table 13. A 2 (Academic Level) x 2 (Gender) between-subjects factorial MANOVA for Administrative Responsibility

Source	Type II Sum of Squares	df	MS	F	P
Year	13.883	1	13.883	1.544	.217
Gender	6.557	1	6.557	.729	.395
Year x Gender	10.076	1	10.076	1.120	.292
Error	971.224	108	8.993		

c) The main effect of academic level on time commitment was not significant (F(1,108)=.003,P>.05). The main effect of gender on time commitment was not significant (F(1,108)=.012,P>.05). The interaction between gender and academic level on time commitment was not significant (F(1,108)=.032,P>.05) (Table 14).

Table 14. A 2 (Academic Level) x 2 (Gender) between-subjects factorial MANOVA for Time Commitment

Source	Type II Sum of Squares	df	MS	F	P
Year	.036	1	.036	.036	.958
Gender	.154	1	.154	.012	.914
Year x Gender	.423	1	.423	.032	.858
Error	1423.695	108	13.182		

d) The main effect of academic level on organizational support was not significant (F(1,108)=.481,P>.05). The main effect of gender on organizational support was not significant (F(1,108)=.05,P>.05). The interaction between

gender and academic level on organizational support was not significant (F(1,108)=.117,P>.05) (Table 15).

Table 15. A 2 (Academic Level) x 2 (Gender) between-subjects factorial MANOVA for Organizational Support

Source	Type II Sum of Squares	df	MS	F	P
Year	13.480	1	13.480	.481	.490
Gender	1.391	1	1.391	.050	.824
Year x Gender	3.269	1	3.269	.117	.733
Error	3028.853	108	28.045		

The main effect of the academic level was not significant on total burnout scores (F(1,108)=.058,P>.05) The main effect for gender was also not significant on total burnout scores(F(1,108)=.159,P>.05) (Table 16). Finally, the interaction between gender and academic level on total burnout scores was not significant (F(1,108)=.139,P>.05). Thus, it appears that neither academic year nor gender has any significant effect on burnout scores.

Table 16. A 2 (Academic Level) x 2 (Gender) between-subjects factorial MANOVA for Total Burnout

Source	Type II Sum of Squares	df	MS	F	P
Year	9.920	1	9.920	.058	.809
Gender	26.958	1	26.958	.159	.691
Year x Gender	23.545	1	23.545	.139	.710
Error	18343.553	108	169.848		

Additional Findings

The secondary purpose of this study was to determine the reliability of the BATBI. A Chronbach's alpha analysis was performed to measure the internal consistency of the BATBI. Chronbach's alpha comprises a number of items that make up a scale designed to measure a single construct (e.g. stress), and it determines the degree to which all items are measuring the same construct. A Chronbach's alpha analysis was performed on each construct and the total score. The first construct measured the student's emotional exhaustion combined with depersonalization and had a reliability of .661. The second construct measured the students' administrative responsibilities and had a reliability of .733. The third construct measured the students' time commitment and had a reliability of .778. The fourth construct measured organizational support and had a reliability of .594. The reliability for the total burnout score had a reliability of .685. The total score and all constructs except the organizational support had moderate reliability (Table 17).

Table 17. Reliability for each Construct

Construct	Chronbach's Alpha
Emotional Exhaustion/ Depersonalization	.661
Administrative Responsibilities	.733
Time Commitment	.778
Organizational Support	.594
Total	.685

DISCUSSION

The following discussion section consists of three subsections: discussion of results, implications to the profession, recommendations, and conclusions.

Discussion of Results

The purpose of this study was to examine burnout scores among undergraduate athletic training students who are a member of the National Athletic Trainers' Association (NATA) to determine if burnout was dependent upon a student's GPA, year in the program (junior or senior), or gender.

It was initially hypothesized that burnout scores would be related to the athletic training students' GPA. This assumption was based on previous research that suggested individuals who are extrinsically motivated, or are motivated by outside factors are more likely to experience burnout than individuals who are intrinsically motivated.[13] Being concerned with obtaining and maintaining a good GPA would be an extrinsic motivational factor. The stress associated with maintaining a good GPA would suggest a higher risk for burnout and individuals who had a higher

GPA would be more likely to experience burnout on one or more of the subscales of burnout. Statistical analysis for this study did not find a significant relationship between total burnout scores and GPA for undergraduate athletic training students, which is contradictory to previous research.[13] There was also no significance between the students' GPA and any of the individual constructs within the survey.

It was also originally hypothesized that burnout scores would depend on the students' year in the program (junior or senior). This was based on previous research that supported higher burnout in younger and less experienced individuals.[7-10] One researcher had found that juniors reported a high degree of burnout three times more likely than sophomores and seniors.[14] However, statistical analysis for this study did not present a significant relationship between academic level and total burnout scores, contradictory to the previous research.[14]

The final hypothesis was that burnout scores would be dependent on the students' gender. This assumption was based upon previous research that supported that there was a significant difference between males and females.[7-10] Statistical analysis for this study did not support burnout scores being dependent on the students' gender. However,

there was another researcher, Addis,[14] who specifically examined burnout among undergraduate athletic training students. The results of Addis' study also indicated that gender did not have an effect on burnout.[14] It is possible that the gender differences among athletic trainers that affect burnout arise later in life as was found in the study of program directors.[9]

In addition to examining the results, it is important to understand the data and how the respondents reflect the profession. An interesting component that was reported in the demographic section that was specific to gender indicated that almost two thirds of the respondents were female in what used to be considered a male dominated profession. The national membership is almost 50/50 in regards to gender. This could mean that women are becoming more prevalent in the athletic training profession, that females are more likely to take a survey, or are more likely to be a member of the NATA.

The mean scores for each construct of the BATBI as well as the mean total burnout score were all within three points of half of the highest possible score for that construct. The burnout scores included emotional exhaustion and depersonalization(40.34±6.42), administrative responsibility (12.38±2.99), time commitment scores

(13.82±3.58), organizational support (60.53± 5.24) and total burnout scores (127.06±12.87). This indicates that on average, junior and senior undergraduate athletic training students have a moderate risk for experiencing burnout.

There could be several reasons why the results of this study were not as expected. One of the reasons may have been because the survey questions were changed to avoid any additional emotional stress to the participants, which may have decreased the reliability of the survey. Also, the validity of the survey was not determined prior to sending it to the participants, which could be a concern.

It is also possible that many students who had a lower GPA did not respond to the survey or could have been embarrassed to put their true GPA. Also, many programs have a minimum GPA requirement to stay in the athletic training education program. There were very few GPAs reported that were on the lower side so it is difficult to determine if there would be a relationship between burnout and GPA.

The differences that were found between this study and Addis[14] could be attributed to a few factors. Addis' study was conducted at schools only in Pennsylvania, where this study was nationally represented. Also, it was not until after 2006 that a rule was put in place where undergraduate ATS are limited to 20 hours of clinical. This would allow

students to have more time for their academic studies or more time to spend how they wanted, which can help relieve some stress. Another change that occurred between 2006 and this study, is the role of the ATS and their required supervision. Athletic training students used to be allowed to travel with their assigned teams without the supervision of their ACI and only needed to be in walky-talky distance of their ACI while covering practices and events at their home field. Athletic training students are now not allowed to do those things and have to be insight of their ACI while performing the duties of an ATS regardless of their year in the program. The policy changes that were made regarding the role of ATS and the weekly limit of hours they are allowed to put in seem to have positive effects on the students' stress levels when comparing this study with Addis. Strides in this direction should be continually made.

A strength of this study is that it is a nationwide study; therefore it would not only pertain to athletic training students in one geographical area, but across the country. A limitation to address is the validity of the BATBI. After submitting the IRB application, the IRB requested that questions be changed from negative statements to positive statements to minimize stress upon

the participant. The items that remained the same as the original ATBI are 6, 9, 12, 13, 17, 21, 24, 25, 34-38. Changes were made and the IRB approval was provided. A review by a panel of experts on the BATBI was not performed prior to sending to the athletic training students.

Implications to the Profession

The findings of this study demonstrate that all junior and senior athletic training students, regardless of age or gender show some signs of burnout. Some measures could be taken by program directors to try to help with further prevention of burnout among undergraduate students. A preventative program that could be introduced would be a mentorship program, where underclassmen, i.e. freshman and sophomores, are assigned to a junior or senior. This will help the underclassmen feel more comfortable in the athletic training setting and encourage them to ask questions and get involved. Developing the confidence to ask questions early on will allow them to carry this throughout their educational experience and may reduce their stress level and signs of burnout.

Recommendations

Based on the results of this study burnout scores were not dependent on gender. This is also supported in previous research that examined the undergraduate athletic training population.[14] However, it is refuted by research that examined certified athletic trainers, which suggests that females tend to have higher burnout scores. Further research should be conducted examining burnout scores among female undergraduate athletic training students and female certified athletic trainers. There could be extrinsic factors that come into play once a female hits a certain point in her life, such as having a family and the work-family conflict that can potentially arise, or simply being certified versus being a student may place different kinds of stress on them. Also, once a person graduates and becomes certified, they lose that close network of fellow athletic trainers and their support system decreases at the same time other or responsibilities increase.

Another recommendation would be to modify the tool that was used to measure burnout scores among this population. Individual questions with low correlations could be deleted to strengthen the reliability numbers, have a panel of experts in the field review the instrument, and determine

the validity. Once these revisions are made, it is recommended to perform this same study and compare results.

Conclusions

Based on the results of this study it cannot be concluded that GPA, year in the program (junior or senior), or gender has an affect on burnout scores among undergraduate athletic training students. However, it can be concluded that on average, undergraduate athletic training students show signs of burnout regardless of their GPA, academic level, or gender.

While the results of this study were not as expected, it adds to the current literature on burnout among undergraduate athletic training students, as well as address some potential areas athletic training education programs could improve to decrease unnecessary stress to the ATS. This study also provided the beginning of an instrument to measure burnout of undergraduate athletic training students.

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APPENDICES

APPENDIX A

Review of Literature

REVIEW OF LITERATURE

Stress is a common factor in everyday life. The term stress does not always imply a threatening change; it could also be associated with intense pleasure.[1] Without stress there would be very little constructive activity or positive change.[1] In order to maintain a healthy life one must have a balance of stress. Too little stress can cause a "rusting out", where the individual is not being challenged which results in feelings of stagnation and boredom.[1,2] Too much stress can cause an individual to feel overwhelmed by the demands placed upon them.[1-3] When the amount of stress that is perceived exceeds an individual's ability to cope for an extended period of time, then the body begins to break down both physically and mentally.[1-3] One specific emotional concern is burnout.[3]

Burnout is a syndrome related to physical and emotional exhaustion that leads to a negative self-concept, negative job or sport attitudes, and a loss of concern for the feelings of others.[1] An inability to manage or effectively cope with large amounts of negative stressors is what ultimately leads to burnout. The stressors that the person experiences are a result of an imbalance between a person's demands and resources.[2,3] Demands that a person is

faced with can be internal or external. Internal demands typically come in the form of desired goals, personal standards, or unconscious motives, among others.[3] External demands can result from athletic competition, external conflict, or demands from the employment setting.

Burnout can be seen in various occupations and professions. It can be very detrimental to an individual's performance at work as well as their overall health. Dealing with stress in a positive way may help reduce that risk of burnout and potentially increase quality of life for a person.[1]

Certified Athletic Trainers are subjected to large amounts of stress for an extended period of time. Burnout has been an increasing problem in the athletic training profession in various settings.[4-8] Burnout has also been reported among undergraduate athletic training students.[7,8] Previous research that examined the causes of burnout has found that personal characteristics, motivational factors, and work-family conflict, among others, may all be predispositions to a person experiencing burnout.[2,3] However there has been little research to examine potential prevention techniques among undergraduate athletic training students. This literature review will examine: (1) Burnout; which will examine the signs and symptoms and potential

causes of burnout, (2) Burnout in healthcare professionals; which also covers burnout in athletic training and burnout in students, (3) Burnout coping strategies, and (4) Instruments used to measure burnout. A summary of the review will also be provided.

Burnout

The human body has a particular response pattern to stress. This response is known as General Adaptation Syndrome (GAS) and it is to help ensure that a state of homeostasis will be maintained when stress is placed upon it.[9] There are three stages in GAS, the alarm reaction, resistance development, and the exhaustion phase.

The alarm reaction phase is the body's initial response to the stressor. It is the beginning of the cycle and activates the body's protective processes. Initially, the body is very inefficient reacting to the demands placed on it, and results in a general decline in resistance.[9,10] As the body starts to adapt to the stressor, it begins to increase its functional capacity above normal. This is known as resistance development. The body is increasing its ability to meet the new demands that are being placed on it. If the body remains under continual exposure to the

stressor then its ability to resist will decline below normal levels and a state of exhaustion will occur.[9,10] Exhaustion can have a variety of negative physical and emotional consequences.[1] When the body is subjected to large amounts of stress it responds in the way previously described, but when the stress is not removed, then the body begins to break down, both physically and emotionally, one emotional concern is burnout.[1]

All jobs and occupations come with certain levels of stress. When there is a high level of stress for an extended period of time, burnout can occur. Burnout can result from a negative emotional reaction to one's work.[6] Burnout has been characterized as a multidimensional syndrome consisting of three areas which include: feelings of emotional exhaustion, depersonalization, a reduced sense of personal accomplishment.[4,11,12] Central features of burnout are often a loss of interest or withdrawal in previously enjoyable activities and a loss of motivation.[2,3,13,14] Burnout is also highly associated with physical fatigue and cognitive weariness, which refers to feelings of slow thinking and reduced mental agility.[5]

Signs and Symptoms

Burnout has a variety of signs and symptoms associated with it. Each case of burnout is different because each individual is different and the responses in various cases are not always the same. However, the cardinal feature of burnout is a psychological and emotional withdrawal from a formally sought after or enjoyable activity.[2,3,14] The individual may experience feelings of depression, helplessness, and anger. These feelings may transpire into other aspects of the person's life and they may feel resentment towards anyone who tries to make demands.[2,3]

Burnout has been characterized as a multidimensional syndrome consisting of six areas which include: emotional exhaustion, depersonalization, a reduced sense of personal accomplishment, role conflict, role ambiguity, and role overload. Emotional exhaustion occurs when an individual feels extremely overwhelmed by the demands of their life.[15] The person's physical and emotional recourses are depleted and they feel like they are unable to engage in their personal or professional life, and it becomes difficult for them to complete tasks.[8,11,15,16]

Depersonalization is an indifferent or negative attitude toward one's clients or work.[8,11] The indifference will cause the person to not put forth as much effort into

tasks, as a result they will start to isolate themselves and pull away from the important people in their life out of fear of letting them down.[8] Depersonalization can lead to feelings of reduced personal accomplishment. Reduced personal accomplishment is a tendency to evaluate oneself negatively, especially with regard to one's work with patients.[8,11] The individual will start thinking that their contribution is no longer important or significant and will start to develop a "why bother" attitude.[8]

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 things that are more important.[15] Attempting to do everything at once causes them to feel fatigued and exhausted.[8] Role ambiguity arises when an individual does not understand what is expected of them, which causes them to feel that their job is not meaningful.[15] Role conflict and role ambiguity can then lead to role overload. Role overload takes place when a person has a large amount of work to accomplish but keeps adding more tasks to their list due to their inability of saying no to people.[15] Individuals can experience all six of the components of burnout, or only a few of them. A person does not have to experience all of the symptoms previously described to be

suffering from burnout. These components can lead to more physical and emotional health problems if not properly addressed.

Some of the more serious symptoms include sleep deprivation, an increased inflammatory reaction, potential impairment to reproductive systems, and cardiovascular disease. Sleep deprivation can occur because a person experiencing burnout usually has difficulty “winding down” at the end of the day and due to that they have trouble falling asleep and the quality of their sleep is also diminished.[5] Sleep deprivation in and of itself has its own negative health consequences. An increased inflammatory reaction may be linked to atherosclerosis in individuals who do not have any other predisposing factors. Burnout can also lead to cardiovascular disease because of its negative effect on the autonomic nervous system, the metabolic system, and the immune system.

Potential Causes of Burnout

Just as burnout has a variety of signs and symptoms, it also has a variety of potential causes. When a person is faced with a particular demand, resources are mobilized to meet it. However, when there is an imbalance between the level of demands and the availability of resources, stress

occurs.[2,3,14] Many times when demands are not met, guilt and anxiety, self-derogation, or loss of self-esteem can occur.[2,3] If this level of stress continues for an extended period of time, burnout is often the result.

There are two types of factors, personal and environmental, that have been linked to burnout. Personal factors include personality traits and perceived stress levels. Each person reacts to similar situations in different ways. It is a person's perception of the balance or imbalance between demands and resources, that determines the level of stress a person experiences.[2,3] Other personal factors that contribute to a predisposition to experiencing burnout include irrational beliefs concerning the meaning and importance of success, individual differences in personality, and motivation.[2,3]

Those who are more intrinsically motivated or are self-determined tend to experience lower levels of burnout.[3,17] Most people who partake in an activity do so because they find it interesting, enjoyable, and satisfying.[17] Individuals who are motivated by external factors or are motivated primarily because they want to avoid disappointment or negative outcomes tend to experience higher levels of burnout.[3,17]

Situational or environmental factors that may predispose people to burnout are low personal autonomy, low levels of social support, overload, injustice, inequity, under rewarded, and job complexity among others.[3,5,18,19] Social support often acts like a buffer against high levels of stress.[3,18,19] Work-family conflict is also a big factor that may lead to burnout. The inability to have an appropriate balance of a one's personal and professional life can be very detrimental and lead to a large amount of stress that can eventually lead to burnout if it is not resolved.

Burnout in Healthcare Professionals

Healthcare professionals are faced with many stressors that are unique to their profession. One particular stressor is being faced with ethical difficulties. These difficulties can be associated with a troubled conscience.[20] When working with an elder population, depending on the occupational role, nurses are faced with situations where the right answer is not always clear cut. This "grey area" may lead to a negative effect on one's conscience.

Juthberg et al[20] surveyed 50 registered nurses (RNs) and 96 nurse assistants (NAs) to examine a pattern of

perception of conscience and burnout in relation to occupational belonging. They found that the majority of NAs viewed their conscience as a "guide" for difficult decisions, and was therefore an asset. However, if a RN or NA was experiencing stress of conscience (stress that is related to a troubled conscience) they seemed to also be experiencing high levels of emotional exhaustion.

One study compared individual differences in social comparison orientation (SCO) to determine if SCO can predict the development of burnout in nurses over one year period.[21] Social comparison refers to the process of evaluating one's own characteristics by relating them to the characteristics of others. A person can make upward or downward comparisons. Upward comparisons are when comparisons are made with others who are performing better than oneself, while downward comparisons are with those who are performing worse than one's self. There were 93 nurses that completed the same survey twice. What the researchers found was that upward comparisons were reported more often the first time they took the survey and it evoked a positive emotion. This showed to decrease burnout levels the second time they completed the survey. Those who made upward comparisons, but a negative emotion was evoked showed to increase the level of burnout by the second time

they took the survey. According to their findings, the data suggests that it is not necessarily the SCO that predicts the level of burnout in nurses, but the emotions that are evoked by the upward or downward comparisons.

Healthcare professionals are exposed to a variety of stressors that non-healthcare professionals do not experience, as well as many that are not seen in many other professions. Comparing performance with others has been something that people have done since a young age. However, once they get older and their career depends on out performing others, the level of stress increases. This is seen in every profession. What is unique with healthcare is that a bad performance will not only have a negative affect on a person's career, but potentially a negative affect on someone else's life.

Burnout in Athletic Training

Athletic training is a very demanding profession with consistently high levels of stress from various aspects of the job. Some examples of stressors that an athletic trainer has to deal with on almost a daily basis are being pressured by a coach to clear an athlete for participation, limited personal and financial resources, and long work days, just to name a few. Athletic training is still a

profession that is not fully understood by the general public, or even understood by coaches and athletes. Due to this lack of understanding athletic trainers are often unrecognized and unappreciated for the effort and care they provide. This makes athletic trainers more susceptible to burnout.[4]

Due to the high incidence of burnout among athletic trainers there has been a variety of research studies conducted to try to determine the specific causes of burnout. Kania et al[12] used a cross-sectional survey to examine the relationship between personal and environmental characteristics and burnout among ATCs at NCAA institutions. They found that of the personal characteristics, stress level was predictive of emotional exhaustion, depersonalization, and personal accomplishment, the three subscales of burnout; while leisure time was only predictive of personal accomplishment. The environmental characteristics they examined were pressure from the coaches, injury type and frequency, and the number of sports covered by the athletic trainer. Pressure from the coach to medically clear an athlete was the only environmental characteristic that is predictive of the three subscales. Injury-type and frequency was predictive of emotional exhaustion, the number of sports the athletic

trainer was responsible for was predictive of depersonalization, and the number of athletes that they were responsible for was predictive of personal achievement.

Other factors that have been considered within previous research have been age, gender, and the amount of experience an athletic trainer has. Walter et al[6] wanted to assess the level of burnout in athletic training education program directors and to determine the relationship between burnout and various demographics related to their position. They found that emotional exhaustion scores were higher for women than for men. However, emotional exhaustion decreased as they grow older and experience levels increased. Personal accomplishment scores increased as experience increased. They also found that those who worked more than 20 hours a week had higher depersonalization scores, but this too, decreased with age.

The purpose of the study conducted by Giacobbi[5] was to assess the prevalence of occupational burnout, engagement, and somatic health complaints of athletic trainers in various employment settings. The researcher also wanted to examine the differences between men and women, those with more or less post certification experience, and their age. The author concluded that female athletic trainers and

athletic trainers working in the collegiate or university settings showed more signs of burnout. Occupational stress was positively related to elements of burnout and somatic health complaints, but negatively related to occupational engagement.

Burnout affects both men and women among various settings. However, females, those who have less experience, and those who are employed at the collegiate level tend to show more severe signs of burnout.[5,6]

Burnout in Students

Undergraduate students are faced with a variety of new kinds of stress that many have never experienced before such as the demands of college classes, being newly independent, financial concerns, and having difficulty with time management, among other things.[22,23] Granted, these are not concerns for all undergraduate students, but they are rather common. With this high level of personal and academic stress, burnout is common among undergraduate students, in general.

Additional to these concerns, idealism is a common factor that is associated with burnout among students who enter helping professions.[24] Idealism refers to the extent to which an individual identifies with the values and goals

of the profession. There is a gap between idealistic expectations that students have about the profession they are entering and the realities of practice that they will soon be facing, this gap is a likely cause of emotional exhaustion.[24] Ngai et al[24] examined the effect of idealism, altruism, and career orientation on emotional exhaustion among social work undergraduates. Individuals who scored high on idealism had a propensity to report higher levels of emotional exhaustion. The high levels of idealism allowed the students to feel a greater degree of disappointment; which is what contributes to emotional exhaustion. Positive career orientation was defined as a combination of career attitudes that incorporates favorable perceptions of one's ability to express oneself in the world of work through a successful career in one's chosen profession.[24] This research showed that positive career orientation is negatively related to emotional exhaustion. That is, those who have a positive career orientation or a realistic view of their desired profession has been shown to experience lower levels of emotional exhaustion.

The researchers conducting this study defined altruism as an enduring tendency to think about the welfare of others, to feel concern and empathy for them, and to act in such a way that benefits others. Individuals who think in

this way have a tendency to cope well with stressors as well as regard challenges as learning and development opportunities.[25] This research showed that altruism displayed a negative relationship with emotional exhaustion, but it did not seem to produce a unique effect due to its high correlation with career orientation.[24] This research shows the need for students to develop a combination of more realistic views with a positive career orientation, as well as a healthy desire to want to help other individuals.

One study[17] looked at the motivational factors among students who attend an undergraduate institution. The researchers found that students who were intrinsically motivated, that is, their motivation for enrolling in college was to experience the enjoyment of intellectual discovery,[17] had a tendency to experience lower levels of burnout. They also found those individuals who were extrinsically motivated, or those who were motivated by a desired outcome such as good grades or a better career, were more likely to experience higher levels of burnout. How a person is motivated is difficult to change. However, if more is understood about their motives and the predispositions that are associated with it, it may help with finding the proper prevention or coping techniques.

When students first begin thinking about their desired career pathway, they have a tendency to have idealistic thoughts, regardless of their chosen field. The inability some students have to view their desired profession objectively and realistically set them up for future disappointment. They are not prepared for the challenges and demands that will be placed upon them when they get further into their educational program or when they are out on their own. These new challenges and stressors can build up and if they are not handled in a healthy manner, it can result in burnout.

Another researcher[14] examined burnout scores among undergraduate athletic training students. The researcher examined the relationship between burnout and the students' year in the program, gender, and sport assignments by using the MBI-Human Service Survey (MBI-HSS). Results indicated that the students' year in the program did have an affect on burnout scores. Those who were in their junior year in the program had higher burnout scores. The results also showed that burnout scores did not depend on the student's sport assignment or their gender, which is contradictory to previous research.

Burnout Coping Strategies

Burnout has affected many individuals from athletic trainers, to hotel supervisors, and students. Because of the vast amount of people that are affected by burnout, there have been numerous studies to determine effective ways to cope with burnout.[18,19,26,27] Some of the most common coping strategies include direct action, avoidance, and adaptive avoidance coping. [18,19,26,27]

Direct action or approach coping means that the individual attempts to deal with the stressful situation by either making an effort to alter the stressful situation or their relationship to it.[26,27] There are a variety of techniques to do this. Examples of this include appraisal-focused (which means that the person takes a positive acceptance of their role), seeking emotional support, planning to resolve the stressor, and seeking information.[18,19]

Research has determined the effectiveness of these techniques. The studies that were examined had contradictory findings. In two of the studies, direct action or approach coping showed to have a positive effect, that is, reduced burnout in the long run.[19,26] One study showed that this coping strategy reduced stress only part

of the time.[19] The research has also showed that the effectiveness of seeking social support depends on quality of the support provided.[18] A negative response can increase the symptoms of burnout.

Avoidance-oriented coping strategies were also considered in previous research studies. Avoidance is when an individual will partake in activities or make cognitive changes to avoid stress. This can include social diversion, denial, behavioral and mental disengagement, as well as seeking rewards from other activities.[18,19,26,27] Some of the researchers did not have results that showed either a positive or negative effect of this coping strategy. However, there are studies that have shown that the avoidance coping was maladaptive and has a negative effect on emotional exhaustion, depersonalization, and personal accomplishment.[18,18,27] This means that it was related to higher levels of stress and burnout and is not an effective coping technique for long term stress.[17,26,27]

Adaptive-avoidance is a technique that has not been researched as much as other strategies, but is worth mentioning. Adaptive-avoidance is a behavioral, not an emotional, effort to avoid becoming too involved in the stressful situation in order to secure their personal life and health.[19] This often includes diversion or

compartmentalizing one's life. Individuals utilizing this strategy would take time away from the stressful situation for themselves. The results of this study showed that adaptive-avoidance did reduce the levels of burnout in the short term.

The results of some of the studies that have been conducted have shown that approach coping has beneficial effects in the long term. However, research has also shown that burnout has suppressed the adoption of a direct approach coping strategy.[19]

The results within the research were inconsistent with one another. Avoidance can lead to self-distraction, which indicates that usual activities or interests are no longer challenging or satisfying.[18] This coping technique may lead to a temporary fix, at least that might be what an individual believes. However, when subjected to prolonged periods of high level stress, burnout is likely to occur if the stressor is not addressed. One study showed that diversion, which is a form of adaptive-avoidance, has a beneficial effect on mental health.[19] This same study suggested that burnout suppressed the adoption of an approach coping strategy. This might suggest that direct or approach coping might be more beneficial to more individuals if they adopted that approach before stress

levels become too high. With this thought in mind, avoidance may be beneficial for a short period of time, using it only long enough to adopt a more direct coping method.

Coping strategy utilization varies depending on personality traits as well as a person's occupation. The effectiveness of coping techniques also depends on a number of different variables. The inconsistency in results among previous research suggests that more research is needed to more accurately determine what technique is more effective among different occupations and personality traits.

Instruments Used to Measure Burnout

The most popular instrument used to measure burnout is the Maslach Burnout Inventory (MBI).[16,28] Three versions of the MBI have been developed which are as follows: the MBI-Humans Services Survey (MBI-HSS), MBI- Educators Survey (MBI-ES), and the MBI- General Survey (MBI-GS).[16,28] The MBI-HSS was developed to assess burnout among those in human service professions. The MBI-ES was developed to assess those working in educational settings. The MBI-GS allows for the assessment of burnout among professionals who do not have direct client contact.[16,28] All three versions of

the MBI measure three components of burnout, emotional exhaustion, depersonalization, and personal accomplishment.[16,28]

Another tool, the Athletic Training Burnout Inventory (ATBI) was evolved from the MBI to assess burnout among athletic trainers.[7,29] The ATBI measures emotional exhaustion and depersonalization. Additionally, the ATBI measures organizational support, time commitment, and administrative responsibilities.[7] Athletic training has many aspects that are unique to the profession. The purpose for the development of the ATBI was to assess burnout among certified athletic trainers as well as for further development of an instrument that will specifically test athletic trainers in any setting.[7]

Summary

The understanding of burnout and ways to cope with high levels of stress is important because it does not only affect a person's emotion, but their physical health and wellbeing. When a person is unable to cope with the demands placed upon them, then they may break down physically and mentally. The cardinal sign of a person who is experiencing burnout is withdrawal from previously enjoyable

activities.[2,3,13,14] They also tend to experience feelings of depression, helplessness, anger, and resentment towards anyone who tries to make demands.[2,3] Burnout can also affect a person's physical health. If it is not resolved, it can lead to other health risks later on in a person's life.

Due to the fact that no two people are the same, people can experience the same situation, but react in completely different ways. It is a perception that the individual has of the imbalance between the demands placed on them and the resources that are needed to meet those demands that leads to high levels of stress and ultimately burnout.[2,3]

Athletic training is a very demanding profession with consistently high levels of stress from various aspects of the job. It is still a profession that is not fully understood by the general public or even by coaches and athletes. Due to this lack of understanding athletic trainers are often unrecognized and unappreciated for the effort and the care they provide. This makes athletic trainers more susceptible to burnout.[4] Burnout affects both men and women among various settings. However, it is females, those who are younger or have less experience, and those who are employed at the collegiate level or work more

than 20 hours a week, that tend to show greater signs of burnout.[5,6,14]

Students also tend to experience significantly high levels of stress. When students first begin thinking about their desired career pathway, they have a tendency to have idealistic thoughts. The inability some students have to view their desired profession objectively and realistically makes it difficult for them to prepare for the challenges and demands that will be placed upon them. These new challenges and stressors can build up and if they are not handled in a healthy manner, it can result in burnout.

Healthcare professionals are faced with many stressors that are unique to their profession. One particular stressor is being faced with ethical difficulties that may lead to a troubled conscience.[20] Some of the situations they encounter do not have a clear cut correct answer. What is unique with healthcare is that a bad performance will not only have a negative effect on a person’s career, but potentially a negative effect on someone’s life.

Due to the vast amount of people that are affected by burnout, there have been numerous studies to determine effective ways to cope with burnout.[18,19,26,27] Coping strategies utilization varies depending on personality traits as well as a person’s occupation. The effectiveness

of coping techniques also depends on a number of different variables. By understanding what burnout is, what causes or predisposes a person to experiencing it, and the other various aspects that are associated with it, will help determine effective ways to prevent burnout.

APPENDIX B

The Problem

THE PROBLEM

Statement of the Problem

Stress is a common factor in everyday life and can lead to a wide variety of physical and emotional problems. Health care professionals are more apt to experience the high levels of stress that can lead to burnout. Among these healthcare professionals are athletic trainers. The demands of the athletic training profession also transpire down to the athletic training students as well. The purpose of this study is to identify different factors that may lead to burnout among undergraduate athletic training students. The secondary purpose of this study is to determine reliability for the survey. Once these factors are identified, then burnout prevention among this population can be addressed.

Definition of Terms

The following definitions of terms will be defined for this study:

1) Burnout- a multidimensional syndrome consisting of three subscales: feelings of emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment.[11,12]

2) Depersonalization- An indifferent or negative attitude toward one's clients or work.[11,16]

3) Emotional Exhaustion- an overextension and depletion of one's physical and emotional resources and feel like they are unable to engage in their work.[11,16]

4) Reduced Personal Accomplishment- is a tendency to evaluate oneself negatively, especially with regard to one's work with patients.[11,16]

5) Role Conflict- When an individual is unable to prioritize while taking on many tasks at once, causing them to feel the need to accomplish them at the same time.[8,15]

6) Role Ambiguity- is when an individual does not understand what is expected of them causing them to feel that their job is not meaningful.[15]

7) Role Overload-occurs when a person has a large amount of work to accomplish and continues to add more tasks to their list because they have difficulty saying no to others.[15]

Basic Assumptions

The following are basic assumptions of this study:

1) The participants will complete the survey honestly and to the best of their ability.
2) The survey has reliability.
3) Only junior and senior students in an undergraduate athletic training education programs will answer the inventory.

Limitations of the Study

The following are possible limitations of the study:

1) The sample is limited to junior and senior athletic training students.
2) Not having correct email addresses for completing the survey.
3) The NATA will send the survey out to 1000 registered ATEP students which include Freshman, Sophomore, Junior, and Senior students.
4) The survey was amended to accommodate the California University of Pennsylvania Institutional Review Board. A panel of experts did not review the survey to ensure the validity of the Bowers Athletic Training Burnout Inventory prior to it being sent to the participants.

Significance of the Study

Different occupations are associated with various levels of job stress. Increased stress for a prolonged period can lead to burnout. This is especially seen in health care professionals including athletic training.[4] Previous research has been conducted to examine burnout among undergraduate students as well as undergraduate athletic training students (ATS). This study will examine the burnout among undergraduate ATS in accredited athletic training education programs and factors that may predispose them to burnout. This study is significant because once the potential causes of burnout for ATS are determined, then ways to prevent burnout can be examined. This may make it possible for undergraduate ATS to avoid burnout all together and will help the profession of athletic training continue to expand.

APPENDIX C

Additional Methods

APPENDIX C1

Bowers Athletic Training Burnout Inventory

Bowers Athletic Training Burnout Inventory

Are you 18 years or older?

Yes No

What year are you in the Athletic training Education Program?

Freshman

Sophomore

Junior

Senior

What is your age?

What is your gender?

Male Female

What is your race?

White

Black or African American

American Indian or Alaskan Native

Asian

Native Hawaiian or other Pacific Islander

From multiple races

Some other race (please specify)

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Q1: I am comfortable performing the duties of an athletic training student.						
Q2: I do not feel emotionally exhausted when I leave clinical.						
Q3: I do not feel fatigued when I think about facing another day of clinical.						
Q4: I treat all of my athletes as if I care about them.						
Q5: Working with athletes all day has not become a strain for me						
Q6: I feel I have a positive influence on my athletes						
Q7: I have become more sympathetic when dealing with athletes.						
Q8: I do not worry that the athletic training education program is hardening me emotionally						
Q9: I feel very energetic while working with my athletes						
Q10: I do not feel that I am at the end of my rope professionally						
Q11: I care what happens to all of my athletes						
Q12: Some of my athletes blame me for their injuries						

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Q13: I feel I have a positive influence on my coaches						
Q14: I feel my workload is fine with my teams						
Q15: I feel that I have the right amount of athletes under my direct care						
Q16: I feel I can handle the duties I am required to perform						
Q17: I wish I had more one-on-one time with my athletes						
Q18: I can handle the amount of paperwork.						
Q19: I can handle the clinical responsibilities.						
Q20: I can work the weekends and holidays						
Q21: I wish I could spend more time with my family						
Q22: I have time to get things done						
Q23: I feel the hours I provide athletic training services are fine						
Q24: I have a positive professional relationship with my COACHES						
Q25: I have a positive professional relationship with my ACI						

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Q26: The athletic department values the athletic training program						
Q27: I feel my job expectation has been clearly communicated by the administration						
Q28: I feel comfortable when I ask a PEER(s) a question						
Q29: I feel comfortable when I ask a SUPERVISOR(s) a question						
Q30: I feel COACHES always have realistic expectations of my clinical responsibilities						
Q31: I feel my ACI always has realistic expectations of my clinical responsibilities						
Q32: I am not afraid of making mistakes while performing my athletic training duties						
Q33: I am allowed to utilize all of my knowledge while treating an athlete						
Q34: I clearly understand the level of responsibility I have regarding the treatment of an athlete						
Q35: My supervisor(s) communicate changes in our policies and procedures						

Question	Never True	Mostly not True	Sometimes Not True	Sometimes True	Mostly True	Always True
Q36: The athletic training department communicates to me any changes in the treatment protocol of athletes.						
Q37: My COACH(es) respect my decisions						
Q38: My ACI respects my decisions						
Q39: Coaches reinforce the importance of treatment when athletes become non-compliant						
Q40: My coach(es) never blame me for my athletes' injuries						
Q41: My ACI never blames me for my athletes' injuries						
Q42: I am expected to report new injuries to the head athletic trainer						

Approved by California University of Pennsylvania Institutional Review Board. The IRB approval dates for this project are from 02-06-2012 to 02-05-2013.

APPENDIX C2

Institutional Review Board –

California University of Pennsylvania

Proposal Number

_____

California University of Pennsylvania

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 Undergraduate Athletic Trainging Students***

Researcher/Project Director ***Michelle L. Bowers***

Phone # ***1-207-794-5396*** ***E-mail Address*** ***BOW9158@calu.edu***

Faculty Sponsor (if required) ***Carol Biddington***

Department ***Health Science***

Project Dates ***January 1, 2012*** ***to*** ***December 1, 2012***

Sponsoring Agent (if applicable) ***N/A***

Project to be Conducted at *California University of Pennsylvania via internet*

Project Purpose: ☒ ***Thesis*** ☐ ***Research*** ☐ ***Class Project*** ☐ ***Other***

Keep a copy of this form for your records.

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(ses)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 study that will examine the burnout levels among undergraduate athletic training students (ATS) at accredited athletic training education programs (ATEP), who are a member of the National Athletic Training Association (NATA). The researcher will utilize surveymonkey.com to create a direct link to the survey. A cover letter (Appendix C3) will be sent via email, explaining the purpose of the study to the selected undergraduate athletic training students (ATS). A link in the cover letter will provide the ATS with direct access to begin the survey. The researcher will contact the NATA, requesting that this survey be sent to 1000 randomly selected ATS across the nation. The researcher will determine when to send out the surveys and allow ample time to complete the survey. After one week, a follow up email will be sent by the NATA to the selected ATS.

   Hypotheses:

   1. There will be a relationship between a Student's cumulative GPA and the level of burnout.

   2. There will be a difference between academic levels (junior versus senior) for burnout scores.

   3. There will be a difference between gender for burnout scores.

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 is a risk that the participants personal information might become public and/or one of their answers might become public. In order to reduce this risk, their name and school affiliation will not be asked. The surveys are completed online and they are returned with out a name. Once the survey is returned, it will be downloaded and will be password protected.

      The possibility that one of the participants questions may become public is a minimal risk considering the rewards. Determining potential factors that may predispose an athletic training student to burnout will lead to finding ways to minimize burnout among ATS.

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 National Athletic Training Association will randomly select 1,000 athletic training students nationwide. The demographic section will be presented first, which will include a question about age. If the student is not 18 or older they will not have access to the survey and will be sent to a separate page thanking them for their participation. There will also be a breif discription prior to the survey, stating that participation may be discontinued at any time without penalty and the information will be discarded.

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.*

Consent is implied when the individual completes and returns the survey.

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 surveys are completed online and they are returned with out a name. Once the survey is returned, it will be downloaded and will be password protected to ensure the privacy of the participants.

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

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

Name of the Funding Agency _____

Dates of the Project Period _____

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.*

California University of Pennsylvania Institutional Review Board
Survey/Interview/Questionnaire Consent Checklist (v021209)

This form MUST accompany all IRB review requests

Does your research involve ONLY a survey, interview or questionnaire?

☒ **YES**—Complete this form

☐ **NO**—You MUST complete the "Informed Consent Checklist"—skip the remainder of this form

Does your survey/interview/questionnaire cover letter or explanatory statement include:

☒ (1) Statement about the general nature of the survey and how the data will be used?

☒ (2) Statement as to who the primary researcher is, including name, phone, and email address?

☒ (3) FOR ALL STUDENTS: Is the faculty advisor's name and contact information provided?

☒ (4) Statement that participation is voluntary?

☒ (5) Statement that participation may be discontinued at any time without penalty and all data discarded?

☒ (6) Statement that the results are confidential?

☒ (7) Statement that results are anonymous?

☒ (8) Statement as to level of risk anticipated or that minimal risk is anticipated? (NOTE: If more than minimal risk is anticipated, a full consent form is required—and the Informed Consent Checklist must be completed)

☒ (9) Statement that returning the survey is an indication of consent to use the data?

☒ (10) Who to contact regarding the project and how to contact this person?

☒ (11) Statement as to where the results will be housed and how maintained? (unless otherwise approved by the IRB, must be a secure location on University premises)

☒ (12) Is there text equivalent to: "Approved by the California University of Pennsylvania Institutional Review Board. This approval is effective nn/nn/nn and expires mm/mm/mm"? (the actual dates will be specified in the approval notice from the IRB)?

☒ (13) FOR ELECTRONIC/WEBSITE SURVEYS: Does the text of the cover letter or explanatory statement appear before any data is requested from the participant?

☒ (14) FOR ELECTONIC/WEBSITE SURVEYS: Can the participant discontinue participation at any point in the process and all data is immediately discarded?

California University of Pennsylvania Institutional Review Board
Informed Consent Checklist (v021209)

This form MUST accompany all IRB review requests

Does your research involve ONLY a survey, interview, or questionnaire?
☒ **YES**—DO NOT complete this form. You MUST complete the "Survey/Interview/Questionnaire Consent Checklist" instead.
☐ **NO**—Complete the remainder of this form.

1. Introduction (check each)
- ☐ (1.1) Is there a statement that the study involves research?
- ☐ (1.2) Is there an explanation of the purpose of the research?

2. Is the participant. (check each)
- ☐ (2.1) Given an invitation to participate?
- ☐ (2.2) Told why he/she was selected.
- ☐ (2.3) Told the expected duration of the participation.
- ☐ (2.4) Informed that participation is voluntary?
- ☐ (2.5) Informed that all records are confidential?
- ☐ (2.6) Told that he/she may withdraw from the research at any time without penalty or loss of benefits?
- ☐ (2.7) 18 years of age or older? (if not, see Section #9, Special Considerations below)

3. Procedures (check each).
- ☐ (3.1) Are the procedures identified and explained?
- ☐ (3.2) Are the procedures that are being investigated clearly identified?
- ☐ (3.3) Are treatment conditions identified?

4. Risks and discomforts. (check each)
- ☐ (4.1) Are foreseeable risks or discomforts identified?
- ☐ (4.2) Is the likelihood of any risks or discomforts identified?
- ☐ (4.3) Is there a description of the steps that will be taken to minimize any risks or discomforts?
- ☐ (4.4) Is there an acknowledgement of potentially unforeseeable risks?
- ☐ (4.5) Is the participant informed about what treatment or follow up courses of action are available should there be some physical, emotional, or psychological harm?
- ☐ (4.6) Is there a description of the benefits, if any, to the participant or to others that may be reasonably expected from the research and an estimate of the likelihood of these benefits?
- ☐ (4.7) Is there a disclosure of any appropriate alternative procedures or courses of treatment that might be advantageous to the participant?

5. Records and documentation. (check each)

☐ (5.1) Is there a statement describing how records will be kept confidential?
☐ (5.2) Is there a statement as to where the records will be kept and that this is a secure location?
☐ (5.3) Is there a statement as to who will have access to the records?

6. For research involving more than minimal risk (check each),
☐ (6.1) Is there an explanation and description of any compensation and other medical or counseling treatments that are available if the participants are injured through participation?
☐ (6.2) Is there a statement where further information can be obtained regarding the treatments?
☐ (6.3) Is there information regarding who to contact in the event of research-related injury?

7. Contacts.(check each)
☐ (7.1) Is the participant given a list of contacts for answers to questions about the research and the participant's rights?
☐ (7.2) Is the principal researcher identified with name and phone number and email address?
☐ (7.3) FOR ALL STUDENTS: Is the faculty advisor's name and contact information provided?

8. General Considerations (check each)
☐ (8.1) Is there a statement indicating that the participant is making a decision whether or not to participate, and that his/her signature indicates that he/she has decided to participate having read and discussed the information in the informed consent?
☐ (8.2) Are all technical terms fully explained to the participant?
☐ (8.3) Is the informed consent written at a level that the participant can understand?
☐ (8.4) Is there text equivalent to: "Approved by the California University of Pennsylvania Institutional Review Board. This approval is effective nn/nn/nn and expires mm/mm/mm"? (the actual dates will be specified in the approval notice from the IRB)

9. Specific Considerations (check as appropriate)
☐ (9.1) If the participant is or may become pregnant is there a statement that the particular treatment or procedure may involve risks, foreseeable or currently unforeseeable, to the participant or to the embryo or fetus?
☐ (9.2) Is there a statement specifying the circumstances in which the participation may be terminated by the investigator without the participant's consent?
☐ (9.3) Are any costs to the participant clearly spelled out?
☐ (9.4) If the participant desires to withdraw from the research, are procedures for orderly termination spelled out?

☐ (9.5) Is there a statement that the Principal Investigator will inform the participant or any significant new findings developed during the research that may affect them and influence their willingness to continue participation?

☐ (9.6) Is the participant is less than 18 years of age? If so, a parent or guardian must sign the consent form and assent must be obtained from the child

- ☐ Is the consent form written in such a manner that it is clear that the parent/guardian is giving permission for their child to participate?
- ☐ Is a child assent form being used?
- ☐ Does the assent form (if used) clearly indicate that the child can freely refuse to participate or discontinue participation at any time without penalty or coercion?

☐ (9.7) Are all consent and assent forms written at a level that the intended participant can understand? (generally, 8th grade level for adults, age-appropriate for children)

California University of Pennsylvania Institutional Review Board
Review Request Checklist (v021209)

This form MUST accompany all IRB review requests.
Unless otherwise specified, ALL items must be present in your review request.

Have you:

☒ (1.0) FOR ALL STUDIES: Completed ALL items on the Review Request Form? Pay particular attention to:

☒ (1.1) Names and email addresses of all investigators

☒ (1.1.1) FOR ALL STUDENTS: use only your CalU email address)

☒ (1.1.2) FOR ALL STUDENTS: Name and email address of your faculty research advisor

☒ (1.2) Project dates (must be in the future—no studies will be approved which have already begun or scheduled to begin before final IRB approval—NO EXCEPTIONS)

☒ (1.3) Answered completely and in detail, the questions in items 2a through 2d?

☒2a: NOTE: No studies can have zero risk, the lowest risk is "minimal risk". If more than minimal risk is involved you MUST:

☐ i. Delineate all anticipated risks in detail;

☐ ii. Explain in detail how these risks will be minimized;

☐ iii. Detail the procedures for dealing with adverse outcomes due to these risks.

☐ iv. Cite peer reviewed references in support of your explanation.

☒ 2b. Complete all items.

☒ 2c. Describe informed consent procedures in detail.

☒ 2d. NOTE: to maintain security and confidentiality of data, all study records must be housed in a secure (locked) location ON UNIVERSITY PREMISES. The actual location (department, office, etc.) must be specified in your explanation and be listed on any consent forms or cover letters.

☐ (1.4) Checked all appropriate boxes in Section 3? If participants under the age of 18 years are to be included (regardless of what the study involves) you MUST:

☐ (1.4.1) Obtain informed consent from the parent or guardian—consent forms must be written so that it is clear that the parent/guardian is giving permission for their child to participate.

☐ (1.4.2) Document how you will obtain assent from the child—This must be done in an age-appropriate manner. Regardless of whether the parent/guardian has given permission, a child is completely free to refuse to participate, so the investigator must document how the child indicated agreement to participate ("assent").

☐ (1.5) Included all grant information in section 5?
☐ (1.6) Included ALL signatures?

☐ (2.0) FOR STUDIES INVOLVING MORE THAN JUST SURVEYS, INTERVIEWS, OR QUESTIONNAIRES:
☐ (2.1) Attached a copy of all consent form(s)?
☐ (2.2) FOR STUDIES INVOLVING INDIVIDUALS LESS THAN 18 YEARS OF AGE: attached a copy of all assent forms (if such a form is used)?
☐ (2.3) Completed and attached a copy of the Consent Form Checklist? (as appropriate—see that checklist for instructions)
☐ (3.0) FOR STUDIES INVOLVING ONLY SURVEYS, INTERVIEWS, OR QUESTIONNAIRES:
☐ (3.1) Attached a copy of the cover letter/information sheet?
☐ (3.2) Completed and attached a copy of the Survey/Interview/Questionnaire Consent Checklist? (see that checklist for instructions)
☐ (3.3) Attached a copy of the actual survey, interview, or questionnaire questions in their final form?

☐ (4.0) FOR ALL STUDENTS: Has your faculty research advisor:
☐ (4.1) Thoroughly reviewed and approved your study?
☐ (4.2) Thoroughly reviewed and approved your IRB paperwork? including:
☐ (4.2.1) Review request form,
☐ (4.2.2) All consent forms, (if used)
☐ (4.2.3) All assent forms (if used)
☐ (4.2.4) All Survey/Interview/Questionnaire cover letters (if used)
☐ (4.2.5) All checklists
☐ (4.3) IMPORTANT NOTE: Your advisor's signature on the review request form indicates that they have thoroughly reviewed your proposal and verified that it meets all IRB and University requirements.
☐ (5.0) Have you retained a copy of all submitted documentation for your records?

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

Supervising Faculty Member's Signature if required	Department Chairperson's Signature

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;

Appendix C3

Cover Letter

California University of Pennsylvania

Date

Dear Fellow Athletic Training Student:

My name is Michelle L. Bowers, ATC and I am currently a graduate student at California University of Pennsylvania pursing a Master of Science in Athletic Training. Part of the graduate study curriculum is to complete a research thesis through conducting research. I am conducting survey research to examine the levels of burnout among undergraduate athletic training students at accredited athletic training education programs.

Undergraduate athletic training students who are enrolled in an accredited athletic training program and are a member of the National Athletic Training Association (NATA) are being asked to participate in this research; however, your participation is voluntary and you do have the right to choose not to participate. You also have the right to discontinue participation at any time during the survey completion process at which time your data will be discarded. The California University of Pennsylvania Institutional Review Board has reviewed and approved this project. The approval is effective 02/06/12 and expires 02/05/13.

All survey responses are anonymous and will be kept confidential, and informed consent to use the data collected will be assumed upon return of the survey. Aggregate survey responses will be housed in a password protected file on the CalU campus. Minimal risk is posed by participating as a subject in this study. I ask that you please take this survey at your earliest convenience as it will take approximately 20 minutes to complete. If you have any questions regarding this project, please feel free to contact the primary researcher, Michelle L. Bowers, ATC at bow9158@calu.edu. You can also contact the faculty advisor for this research Carol M. Biddington, EdD by fax (724.938.4454) or email (biddington@calu.edu). Thank you in advance for your participation. Please click the following link to access the survey (https://www.surveymonkey.com/s/ZR7FZZQ).

Thank you for taking the time to take part in my thesis research. I greatly appreciate your time and effort to help educate our fellow student and certified athletic trainers.

Sincerely,

Michelle L. Bowers, ATC
Primary Researcher
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ABSTRACT

Title: BURNOUT AMONG UNDERGRADUATE ATHLETIC TRAINING STUDENTS

Researcher: Michelle L. Bowers, ATC

Advisor: Dr. Carol M. Biddington

Purpose: The purpose of this study was to examine burnout scores of undergraduate athletic training students to determine if burnout scores were dependent upon students' GPA, academic level, and gender. The secondary purpose of this study was to determine the reliability of the Bowers Athletic Training Burnout Inventory.

Methods: A descriptive research study was conducted using the BATBI. Subjects consisted of 112 junior and senior undergraduate athletic training students from accredited athletic training education programs (ATEP) nationwide, who were a member of the National Athletic Trainers' Association (NATA). The survey was sent to the ATS via email using the NATA's Listserve.

Findings: There was no significant correlation between GPA and the students' total burnout scores. There were no differences between junior and senior athletic training students and gender for burnout scores. The BATBI was found to have moderate reliability with a Chronbach alpha of .685.

Conclusion: After reviewing the results of this study it cannot be concluded that GPA, academic level, or gender has an effect on Undergraduate ATS' burnout scores.