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Stress and Anxiety Experience of Dental Hygiene Students

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Stress and Anxiety Experience of Dental Hygiene Students

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by

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ABSTRACT

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Student dental hygienists at ETSU may experience higher levels of anxiety and more stressors while completing their course work and clinical hours than they have previously experienced in general education and prerequisite courses. These increased number of stressors and higher levels of anxiety may have negative impacts on students' academic performance and success in clinical learning environments. A better understanding of the actual need for a stress reduction and anxiety management curriculum will facilitate creating and implementing this type of curriculum. A total of 44 current ETSU dental hygiene students were included in the study. Nearly all respondents reported their current stress and anxiety levels are affecting their lives (97.5%). Consistently over a third of students who completed surveys from the ETSU dental hygiene program are experiencing physical symptoms of stress and anxiety 2-3 times a week. Further research was recommended.

DEDICATION

I dedicate this work to my ever supportive and loving family and husband. Momma I would never have even dreamed of being able to go back to school if I had not seen you achieve that goal first. You have and continue to show me how to aim high and never give up. Daddy you have always been the hands to catch me when I failed and to cheer me when I succeed. Matt Robinson you have stepped in and stepped up to help me reach my goals every time even when it seemed insurmountable. Momma, Daddy, Holly, David, Lauren, John, and Camerie each of you have helped me along the way to keep going even when it seemed an impossibility. Through a plane crash, major abdominal surgery, a wedding, and moving across the country your collective love and support through these past three years has made all the difference in my capacity to succeed. I am so happy to call you mine, each of you.

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Stress and anxiety are an inevitable part of everyone's life. Some experience higher levels of stress and anxiety due to situational experiences. Individuals can have negative physical and emotional responses when they experience high levels of stress and anxiety. These reactions can impede quality of life, capacity to retain information, and individual performance.

Dental students and dental hygiene students have a very strenuous and highly difficult schooling experience which can often include high levels of stress (Al-Samadani & Al-Dharrab, 2013). Much research has been completed in order to understand the impact of this stress on dental students (Divaris et al., 2008). Some of these studies have the reoccurring report that examinations and grades, workload, patient care, and graduation requirements are often some of the main causes of stress for these students (Elani et al., 2014). Unlike dental students, dental hygiene students have not had the benefit of extensive research into their schooling experience and the stress that it can bring into their lives (Harris et al., 2017).

As the dental healthcare field continues to change more care will be provided by dental hygienists as further certifications are made available to those in the field to widen their scope of practice (Wanyonyi et al., 2015). Some experts predict that over the next ten years dental hygienists could be providing over forty percent of oral healthcare to the general public (Evans et al., 2007). Because of this shift it is especially important to identify ways to improve the quality of the dental hygienist's educational experience from the beginning of training. One of the ways this experience can be improved is to identify how to decrease the stress and anxiety levels of dental hygiene students in order to better equip them to perform as students and later as professionals (Harris et al., 2017). For this to be accomplished a better understanding of current anxiety and stress levels experienced by students is needed.

Statement of the Problem

Dental hygiene programs are very competitive and rigorous for those admitted. Students may experience higher levels of anxiety and more stressors while completing their course work and clinical hours than they have previously experienced in general education courses. These increased number of stressors and higher levels of anxiety may have negative impacts on students' academic performance and success in clinical learning environments. Currently there is not a specific area of the curriculum that teaches students in the East Tennessee State University dental hygiene program the necessary coping skills and stress management techniques. A better understanding of the actual need for a stress reduction and anxiety management curriculum would facilitate creating and implementing this type of curriculum. Students who experience unmanaged stress and anxiety during their time in the dental hygiene program may be at higher risk for continued anxiety and stress as professionals in the clinical setting.

Purpose of the Study

The purpose of this study was to establish a baseline of data in regard to current stress and anxiety levels among dental hygiene students. These data can help dental hygiene faculty and administration determine whether or not there is significant need for an educational intervention to help mitigate the effects of stress and anxiety experienced by students in the program.

Significance of the Study

High levels of stress and anxiety are common among students in dental hygiene programs (Cecchini, & Friedman,1987). Students' past expectations for perfectionism due to personality type or a high need to make certain grades in order to be accepted into dental hygiene school may be a factor in the high stress and anxiety experienced in dental hygiene programs

(Alzahem et al., 2014). This stress and anxiety may need to be managed to help students have better experiences while learning and have greater coping skills for their future as dental healthcare professionals (Cecchini & Friedman, 1987). This study sought to determine whether an educational intervention is needed to benefit students.

Research Questions

This study intended to answer the following research questions:

1. What is the current stress and anxiety level of students in the dental hygiene program at ETSU?
2. Are certain stress reduction and anxiety management techniques known and currently used by dental hygiene students?
3. Do students who currently have knowledge and skills associated with anxiety management and stress reduction have lower stress and anxiety levels?

Delimitations and Limitations

For the purposes of this study only adult students over the age of 18 who enrolled in the ETSU Dental Hygiene program were given the opportunity to participate in the survey. Students who chose to participate completed all assessments on campus.

A potential limitation of the study was the memory and honesty of the students as the assessment surveys were self-reported. Another anticipated limitation was the voluntary nature of the study. Fortunately, 44 of the 48 students participated.

Assumptions of Research

It was assumed that students would voluntarily participate in the study of their own choosing and that most of them would be present on the day of the survey. It was also assumed that students honestly answered the questions on the questionnaire.

Definition of Terms

Clinically significance: In medicine and psychology, clinical significance is the practical importance of a treatment effect—whether it has a real genuine, palpable, noticeable effect on daily life (Ryan, 2019).

Physiological Stress Response: a wide range of physical responses that occur as a direct effect of a stressor causing an upset in the homeostasis of the body. Upon immediate disruption of either psychological or physical equilibrium the body responds by stimulating the nervous, endocrine, and immune systems (Viner, 1999).

Anxiety: an abnormal and overwhelming sense of apprehension and fear often marked by physical signs (such as tension, sweating, and increased pulse rate), by doubt concerning the reality and nature of the threat, and by self-doubt about one's capacity to cope with it (Merriam-Webster, n.d.).

Stressor: a chemical or biological agent, environmental condition, external stimulus, or an event that causes stress to an organism. Psychologically speaking, a stressor can be events or environments that an individual would consider demanding, challenging, and or threaten the individual's safety (Merriam-Webster n.d.).

Guided Imagery: the use of relaxation and mental visualization to improve mood and/or physical well-being (Ford-Martin, 2015).

Conscious Breathing: The term conscious breathing refers to a number of breathing techniques. In some instances, particular types of breath are prescribed for the breather. In others, one is simply encouraged to breathe more deeply and fully and more quickly in a sustained manner until an altered state of consciousness occurs. Breathwork is a self-regulated controlled process that allows access to an altered state of consciousness (Young et al., 2010).

Chapter 2. Literature Review

Overview

Stress and anxiety are an inevitable part of everyone's life. Some experience higher levels of stress and anxiety due to situational experiences. Individuals can have negative physical and emotional responses when they experience high levels of stress and anxiety. These reactions can impede quality of life, capacity to retain information, and individual performance. All individuals experience varying degrees of stress and anxiety. Certain situational experiences increase the likelihood to which individuals will experience high degrees of stress and anxiety. Many of the potential triggers for increased stress and anxiety are found in the typical lifestyle of college students. Some of these factors may include unhealthy diet, poor sleep habits, feeling pressure to perform, financial concerns, and adjustments to living away from home on their own (Cabas-Hoyos et al., 2015).

Dental hygiene students may have additional stressors unique to their field of study. These may include competitive admission requirements, heavy emphasis in science and math, rigorous expectation of clinical performance, high standards of patient interaction, and demanding licensure procedures (Cecchini & Friedman, 1986).

Evidence based interventions may mitigate the negative effects of the increased stress and anxiety that dental hygiene students experience. Given the appropriate tools to improve their management of these stressors dental hygiene students may have a greater ability to perform in a way that demonstrates their full potential (Alzahem et al., 2015).

Overall Effects of Stress and Anxiety

When individuals experience stress and anxiety there are physical and emotional reactions in their bodies. Individuals' nervous systems release chemical mediators to engage the

body in a fight or flight response. Some of these chemical mediators are hormones such as adrenaline and cortisol (Ratanasiripong et al., 2012). According to Cabas-Hoyos et al. (2015) the body's natural response for survival can initiate a chain reaction in the body which can increase the heart rate, cause blood pressure to rise, clinch the muscles, and cause an impulse to flee a situation. This is a natural response to keep an individual alive. The response is involuntary and intended to remove a person quickly from a situation the brain has perceived as dangerous (Ratanasiripong et al., 2012).

How does Stress Affect Students in Health Care Professions?

Students participating in various health care programs have stressors specific to their programs of study; however, across the board students within the healthcare fields experience greater levels of stress (Barbosa et al., 2013). There are much data about how higher stress levels are experienced by students in the healthcare professions because of rigorous coursework, clinical patient experiences, and students attempting to maintain social connections during their time of study (Rosenzweig et al., 2003). These students experience greater anxiety, depression, burnout, and decreases in their levels of empathy due to these stressors (Barbosa et al., 2013). When students do not have the coping skills and resilience factors to overcome or manage stress their patient care suffers. Medical errors and poor patient outcomes are more likely to happen when students are overwhelmed and experiencing burnout (West et al., 2006).

Stress Specific to Dental Hygiene Students

Dental hygiene students are exposed to higher levels of stress than the general student population (Harris et al., 2017). The high level of performance which is required for admission can lead to students beginning dental hygiene programs with existing high levels of stress and anxiety (Cecchini & Friedman, 1987). According to Dziegielewski et al. (2004) students do not

always have the protective factors which may have helped them cope with stress and anxiety in the past. Many are far away from family or even in a different country. There are many factors which effect the level of resilience a student has when faced with stress and anxiety. Most specific to dental hygiene is the high requirements of the licensure board exam and national board exam. These exams include physical performances of clinical capacity. Without stress and anxiety management skills many students are not able to perform to their highest capacity while in school and during board exams (Harris et al., 2017).

Strategies to Reduce Stress and Anxiety

There has been a significant amount of research on the topic of stress and anxiety reduction with students (Patterson, 2016). Certain strategies have become evidence based as they have been tested and found to make significant differences in individual's capacity to overcome stress and anxiety. Cognitive behavioral therapy is one of the most utilized tools to help increase coping capacity with stress and anxiety (Dobson & Dobson, 2018).Other strategies which have been found to decrease stress and anxiety levels include mindfulness, yoga, proper diet and nutrition, guiding imagery, breathing, exercise, and grounding (Lothes et al., 2019).

Cognitive and Behavioral Therapy

Cognitive Behavioral Therapy is arguably the most widely studied form of psychotherapy (Hoffman et al. 2012). CBT is a form of psychotherapy where the patient becomes an active part of the process to diminish symptoms, improve current capacity for functioning, and treat mental health disorders. This is done through guided therapy sessions where maladaptive thoughts are confronted and challenged. Maladaptive behavior patterns are also addressed. CBT is a multifaceted approach of interventions which attempts to treat cognitive, behavioral, and emotional maladaptation. Even though there is a great emphasis on the cognitive factors which

affect disorders such as stress, anxiety, or depression other factors are examined such as physiological, emotional, and behavioral components (Hoffman et al. 2012). CBT can be an effective method for all individuals suffering from stress and anxiety to gain coping skills to manage their symptoms. CBT attempts to target dysfunctional core beliefs individuals have about themselves, the world around them, and their future.

Mindfulness

Mindfulness is a practice of thought derived from ancient Buddhist and Yoga traditions (Sun, 2014). It is often described as a state of thought which focuses on a high amount of focus on the present moment experienced while encouraging openness, curiosity, and acceptance. This skill can be learned through practice and has to be integrated in different clinical approaches (Bondolfi, 2013).

Mindfulness-Based Stress Reduction (MBSR) is a program created in order to lessen the effects of symptoms related to physical, psychosomatic, and psychiatric disorders. MBSR uses mindfulness meditation to help one regulate their emotions in response to stress (Bishop, 2002). Mindfulness takes training and practice in order for this skill to be used successfully at relieving stress and anxiety. The capacity for one to meditate regularly will directly affect the effectiveness of mindfulness. Research has shown a strong correlation between MBSR and a higher capacity to manage stress and a positive state of mind (Chang, 2004).

Yoga

Yoga is a mind–body practice which can include physical postures, breathwork, mindfulness, and meditation (Cook-Cottone, 2015). Currently there is evidence to support the claim that the practice of yoga may potentially have benefits on one's mental and physical health. The mechanism of action by which this occurs involves the down-regulation of the

hypothalamic-pituitary-adrenal axis and the sympathetic nervous system (Ross & Thomas, 2010). Pascoe and Bauer (2015) found evidence indicating practicing yoga may lead to better capacity for regulation of the sympathetic nervous system and hypothalamic-pituitary-adrenal system. In addition, Pasco & Bauer proposed regular yoga practice could decrease an individual's depressive and anxious symptoms independent of age, gender, or other demographics. Riley and Park (2015) determined positive affect, self-compassion, inhibition of the posterior hypothalamus and salivary cortisol were all shown to mediate the relationship between yoga and stress.

Michalsen et al. (2005) found that women suffering from mental distress who participated in a 3-month Iyengar yoga class were able to show significant improvements on measures of stress and psychological outcomes. Future research into how yoga can be used as a preventative and treatment for stress related disease would benefit all students whether in dental hygiene or other healthcare programs of study. Yoga has been practiced in India for thousands of years and recently become more popular in western countries (Li & Goldsmith, 2012). The practice of yoga includes positions or postures called Asanas along with conscious breathing exercises. Multiple studies have documented the positive effects of yoga on cortisol levels within the body. Cortisol is the hormone the body produces when stress is felt (Granath et al., 2006). De Bruin (2010) found that the practice of yoga can aid in relaxation and sleep, decreasing muscle tension and counteract musculoskeletal disorders, boosts immune functioning, regulate blood pressure, heart and metabolic rate, increases strength and physical flexibility, and eases somatic complaints.

Diet and Nutrition

Over time the western diet has become increasingly comprised of processed foods high in saturated fats. Anderson et al. (2001) determined a diet rich in fatty foods decreases hippocampus volume, impairs cognitive function including memory, psychomotor efficiency, attention in humans, and, more importantly, increases the vulnerability to depression and anxiety. Mental and physical health cannot be separated. There is a systemic effect which one's diet has on all the body's processes. Proper diet and nutrition may have positive effects on one's capacity to manage stress and anxiety symptoms. Dutheil et al. (2016) conducted research on how a high fat diet can cause behavioral deficits similar to those observed in chronic stress models of depression, including increased anxiety. These deficits were found to be linked to symptomology commonly associated with individuals under high stress and high anxiety even when these were not factors in subjects reported lives (Dutheil et al., 2016).

Proper diet and nutrition can have positive effects on the body's capacity to regulate chemical mediators which aid in proper mental health. Obrenovich et al. (2017) explored how the gut microbiota affect the development and regulation of the hypothalamic--pituitary--adrenal axis and neurochemistry from mental health and behavioral health to memory, depression, mood, anxiety, obesity, and the development of the blood--brain barrier.

Guided Imagery

Guided imagery is the practice of using one's imagination to provide settings that promote mental and physical wellbeing. The practice can be led by a therapist or self-directed. Guided imagery can be self-directed, where the individual puts himself or herself into a relaxed state and creates their own image from their own mind and imagination. When directed by

others, an individual listens to a therapist, video, or audiotaped exercise that leads them through a relaxation and imagery exercise.

Guided imagery has multiple parts to it. Initially the individual needs to relax their body and muscles by breathing and relaxation exercises. Once the individual is relaxed they can then focus on their breathing and deepen their level of relaxation. Once the proper level of relaxation is achieved the next part is the guided imagery. Guided imagery is only limited by an individual's own imagination. Several different types of guided imagery address specific needs. Some commonly used types include relaxation imagery, healing imagery, pain control imagery, and mental rehearsal (Ford-Martin, 2015).

Practice of Conscious Breathing

Breathing techniques and patterns are regularly advocated for relaxation, stress management, control of psycho physiological states and to improve organ function (Ritz & Roth, 2003). Becoming aware of your breathing decreases your body's muscle tension, your brain's racing thoughts, and allows your mind to focus on the present moment (NurrieStearns & NurrieStearns, 2010). Conscious breathing when practiced regularly can allow individuals to enter non ordinary states of consciousness (Taylor, 1994). These states of consciousness allow individuals to experience cognitive, emotional, physical, and spiritual healing (Young et al., 2010). Conscious breathing can be practiced with the aid of a therapist or on one's own during times of need. Once individuals begin training in order to practice conscious breathing they are able to recognize the great inconsistencies in their day to day breathing patterns (Novotny & Kravitz, 2000).

Exercise

Regular exercise has been studied as a means for decreasing anxiety and stress symptoms (De Bruin et al., 2016). Other benefits of regular exercise include countering an overly responsive stress response and rumination (Hassmen et al., 2000), promotion of higher quality of sleep and capacity to relax (DiLorenzo et at., 1999), increasing the body's immune functions (LaPerriere et al., 1990) and improving executive thought processing and cognitive functioning (Reed & Buck, 2009).

Regular physical exercise has been determined to be an aspect of keeping a healthy physical and mental well-being. Regular physical exercise has recently been studied as part of a preventative measure to fight the effects of stress and anxiety. Beside preventive effects, exercise may strengthen other personal and social resources, which in their turn have the potential to influence the stress-health relationship (Gerber & Puhse, 2009).

Summary

Although there has been research in a general way concerning students and stress, a more comprehensive body of research on student hygienists and how they handle stress and anxiety is less common. More research is needed in this area. Dental hygiene students experience higher levels of stress and anxiety when compared with students in non-health science degree programs (Welch et al., 2015). These heightened levels of stress can negatively influence students' performance during the program and on board exams. There are coping skills which can be taught to students which may give them a greater capacity to manage and reduce stress and anxiety. These skills will not only help them as students but will be helpful in their professional life (Meyer & Larson, 2018).

Chapter 3. Methodology

Overview

My project sought to determine if there is a need for a stress reduction and anxiety management intervention which can be taught to students at the beginning of their dental hygiene curriculum and reinforced throughout their program. I determined current levels of stress and anxiety experienced by students in the ETSU Dental Hygiene program.

Research Questions

1. What is the current stress and anxiety level of students in the dental hygiene program at ETSU?
2. Are certain stress reduction and anxiety management techniques known and currently used by dental hygiene students?
3. Do students who currently have knowledge and skills associated with anxiety management and stress reduction have lower stress and anxiety levels?

Research Design

This study used a non-experimental, cross sectional quantitative design (Cottrell & McKenzie, 2011) . This type of study design allowed me to gather information about my population at a single point in time. This design allowed me to provide an overall snapshot of the levels of anxiety and stress among students enrolled in the dental hygiene program. The results of this study will provide a foundation for future research opportunities. One disadvantage of using this study type include the inability to isolate specific incidence of stress or anxiety.

Survey Instrument

I used a survey instrument that I created to measure student's perception of their stress levels, coping mechanisms they currently use, and frequency of symptoms related to stress and

anxiety (Appendix A). This survey was a twenty multiple choice questions with one short answer and two scale questions which was completed in person by 44 of the 48 students currently enrolled in the ETSU Dental Hygiene Program. I pre-tested the survey for readability with a group of former dental hygiene students prior to administering it to the test population. They did not have any suggestions for changes to the survey.

Study Population

This study utilized a convenience population of dental hygiene students at one university. Only currently enrolled junior and senior students over the age of 18 in the ETSU Dental Hygiene Program were given the opportunity to participate in the study. Each senior and junior class has the potential for 24 students for a total population of 48 students. At the time of the survey senior students were in their next to last semester and junior students were in their first of five semesters in the dental hygiene program. This may allow me to compare data and possibly determine when a future educational intervention should be worked into the curriculum for maximum effect on stress and anxiety levels.

Informed Consent

Informed consent was obtained from each participant using a letter of informed consent.

Survey Instrument Development

The study's survey was informed by the review of five former dental hygiene students. All five students graduated from the ETSU dental hygiene program within the past two years. The previous graduates were emailed a copy of the questionnaire (Appendix A) and the study questionnaire feedback form (Appendix C). None of the graduates had any suggestions for revision of the survey.

Data Collection

Students from both the junior and senior classes were notified via their professors a week prior to conducting the study as to when and in which classes the study would be conducted. On the day of the study students were given an informed consent packet which explained the nature, process, risks, and benefits of participation in the study. Students were then given as much time as they needed to review informed consent and determine if they are willing to participate in the study. Students who chose to participate stayed for study questionnaire completion. Study participants were then asked to fill out questionnaires in the classroom. Participants were asked not to write any identifying information such as name on the questionnaire in order to keep their answers private. Participants were given 30 minutes to complete the survey. As students turned in questionnaires they will be given a packet of information about on campus mental health resources and allowed to leave classroom. Students had the same privacy for completing the survey that they have during an exam. Questionnaires were turned in by placing them on a table face down as students completed them. I immediately collected questionnaires and put them in a large envelope when everyone is finished. No participants (nor faculty members) were able to see anyone else's answered surveys.

Data Analysis Procedures

My findings are reported using descriptive statistics.

Chapter 4. Results: Presentation and Analysis of the Data

Introduction

Dental hygiene students are exposed to higher levels of stress than the general student population (Harris et al., 2017). Although there has been general research concerning students and stress, a more comprehensive body of research on student dental hygienists and how they handle stress and anxiety is less common. The purpose of this study was to determine a baseline of data regarding current stress and anxiety levels among dental hygiene students. This data can help dental hygiene faculty and administrators determine whether or not there is significant need for an educational intervention to help mitigate the effects of stress and anxiety experienced by students in the program. The following questions guided this study:

1. What is the current stress and anxiety level of students in the dental hygiene program at ETSU?
2. Are certain stress reduction and anxiety management techniques known and currently used by dental hygiene students?
3. Do students who currently have knowledge and skills associated with anxiety management and stress reduction have lower stress and anxiety levels?

To address these questions, the study's survey was divided into the following domains: knowledge or skills related to stress reduction and anxiety management, current perceived stress and anxiety levels, physical symptoms, emotional symptoms, and stress or anxiety reactions.

Respondents

The inclusion criterion required all respondents to be a current ETSU dental hygiene student. Twenty-four were part of the junior class and twenty were from the senior class. All respondents were female and over the age of 18.

Response Rate

A total of 48 students were invited to participate in the survey, and 44 chose to participate and completed the survey. None of the respondents were excluded because they all met the inclusion criteria. A total of 44 respondents' data were collected and used for analysis, giving a response rate of 91.6%.

Current Knowledge or Skills

Only eleven respondents (25%) reported having knowledge or skills associated with stress reduction or anxiety management and thirty-three respondents (75%) reported no known skills or knowledge related to stress reduction or anxiety management. Four respondents (36%) who reported having skills also reported they acquired them from a therapist or counselor. Six respondents (54%) mentioned specific skills they use to manage anxiety and stress.

Perceived Stress and Anxiety Levels

Nearly all respondents reported that their current stress and anxiety levels are affecting their lives (97.5%) with only one respondent reporting they were not affected by their stress and anxiety levels (2.5%). Almost half of all respondent’s reported their stress level as an 8 (43.9%) out of 10 with 10 defined as “I can only think of my stress and anxiety”. Just under a fourth (21.9%) reported a value of 7. The next most common value was a 9 (17.07%) and lastly was a value of 10 (9.76%). One respondent (2.3%) chose not to answer this question.

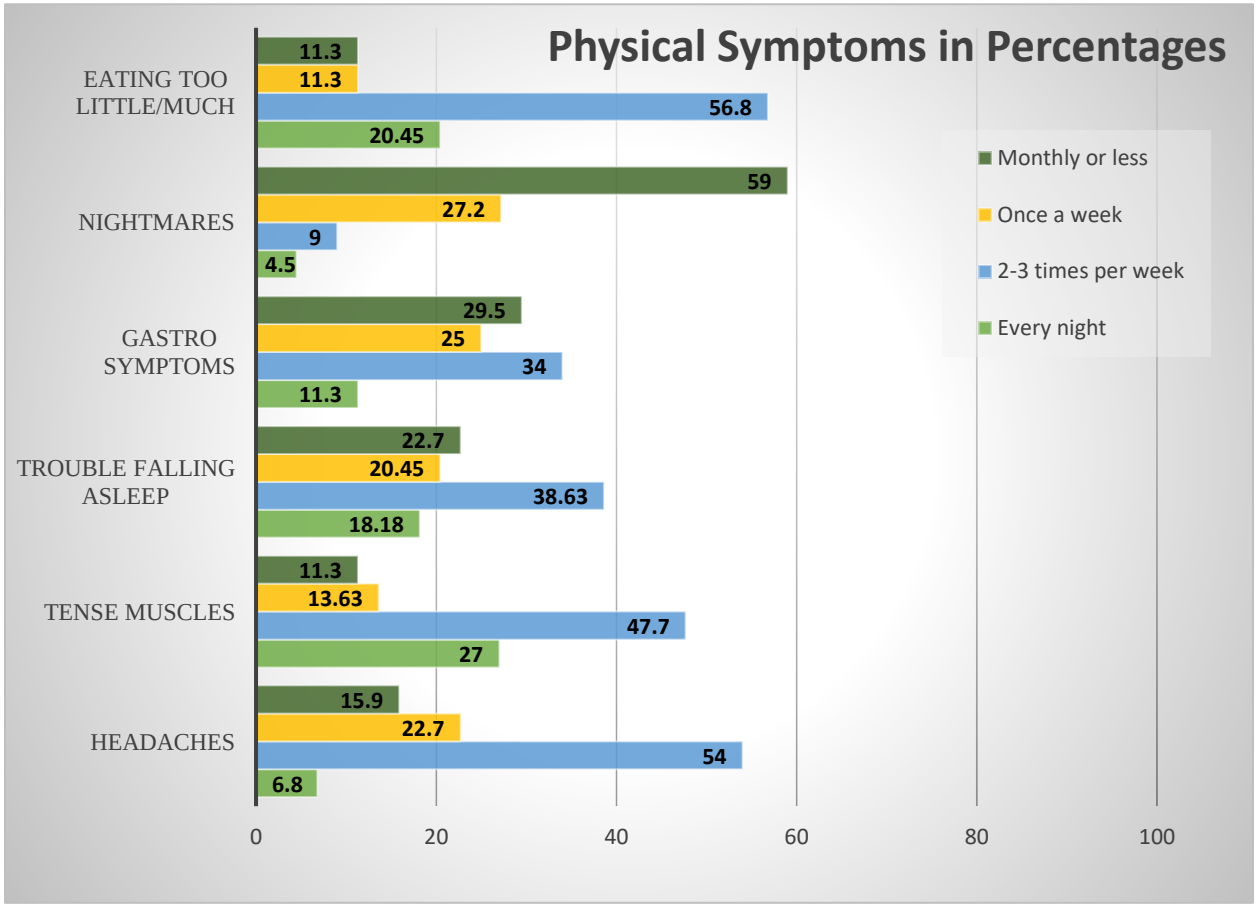
Physical Symptoms

The survey included six questions dealing with frequency of physical stress and anxiety symptoms. Over half of all respondents (54%) reported experiencing headaches 2-3 times a week. Less than a fourth (22.7%) reported experiencing headaches once a week and seven students (15.9%) reported experiencing headaches monthly or less. Tense muscles, or sore neck

or back were experienced 2-3 times a week by almost half (47.7%) of all respondents. Twelve students (27%) reported daily tense muscles, or sore neck or back. Difficulty falling asleep 2-3 times a week was reported by seventeen students (39%). Weekly diarrhea, cramps, gas, or constipation was reported by a fourth (25%) of respondents. These same symptoms were found to be experienced 2-3 times a week by over a third (34%) of respondents. Lastly, weekly nightmares were reported by just under a third (27%) of respondents. Fifty-nine percent (59%) reported experiencing nightmares monthly or less. Over half (56.8%) of respondents reported eating too much or too little 2-3 times per week with 20% reporting eating too little or too much daily (Figure 1).

Figure 1

Physical Symptoms

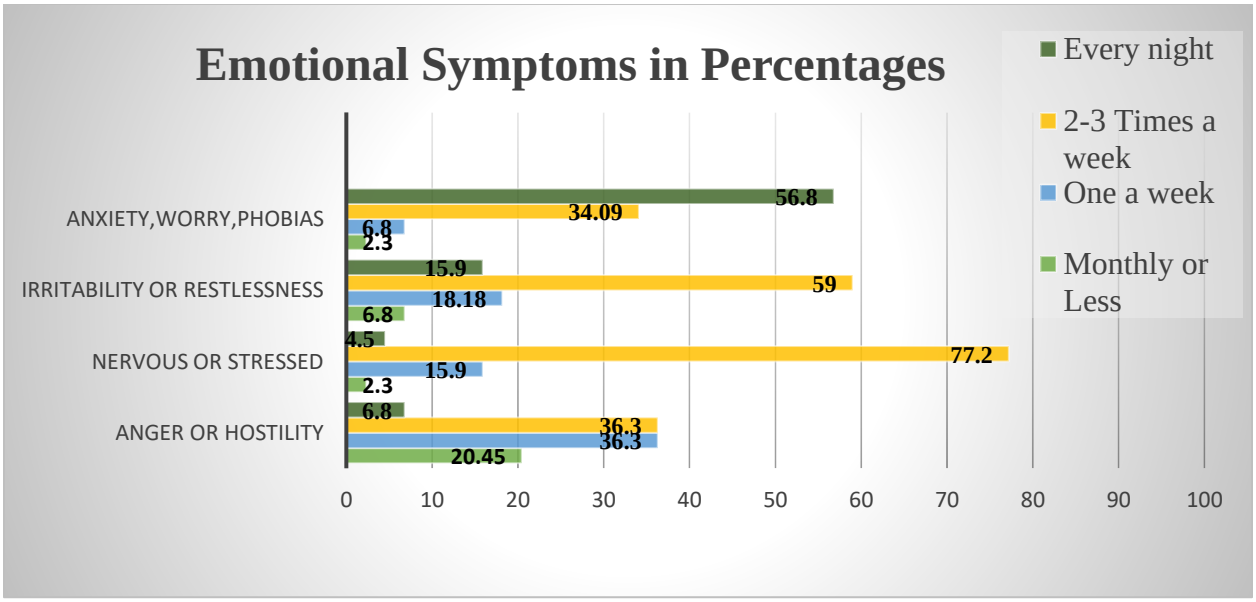


Emotional Symptoms

Seven questions were used to gauge the frequency of emotional symptoms related to stress and anxiety among respondents. Over half of all respondents (56.8%) reported experiencing anxiety, worry or phobias every night or day, and over a third (34%) reported these symptoms 2-3 times a week. Only one respondent reported experiencing anxiety, worry or phobias monthly or less. Irritability or restlessness was experienced 2-3 times a week by over half (59%) of the respondents. Less than a fourth (18.2%) of respondents felt this way once a week. While only three respondents (6.8%) experienced irritability or restlessness monthly or less. Feelings of being nervous or stressed were experienced very often by over three fourths (77%) of the respondents. Less than a tenth (6.8%) of the respondents reported feeling nervous or stressed almost never or never. Anger or hostility was experienced 2-3 times a week and once weekly by over a third (36.3%) of respondents. Just over twenty percent (20.45%) of respondents experienced bouts of anger or hostility only monthly or less.

Figure 2

Emotional Symptoms



Stress or Anxiety Reactions

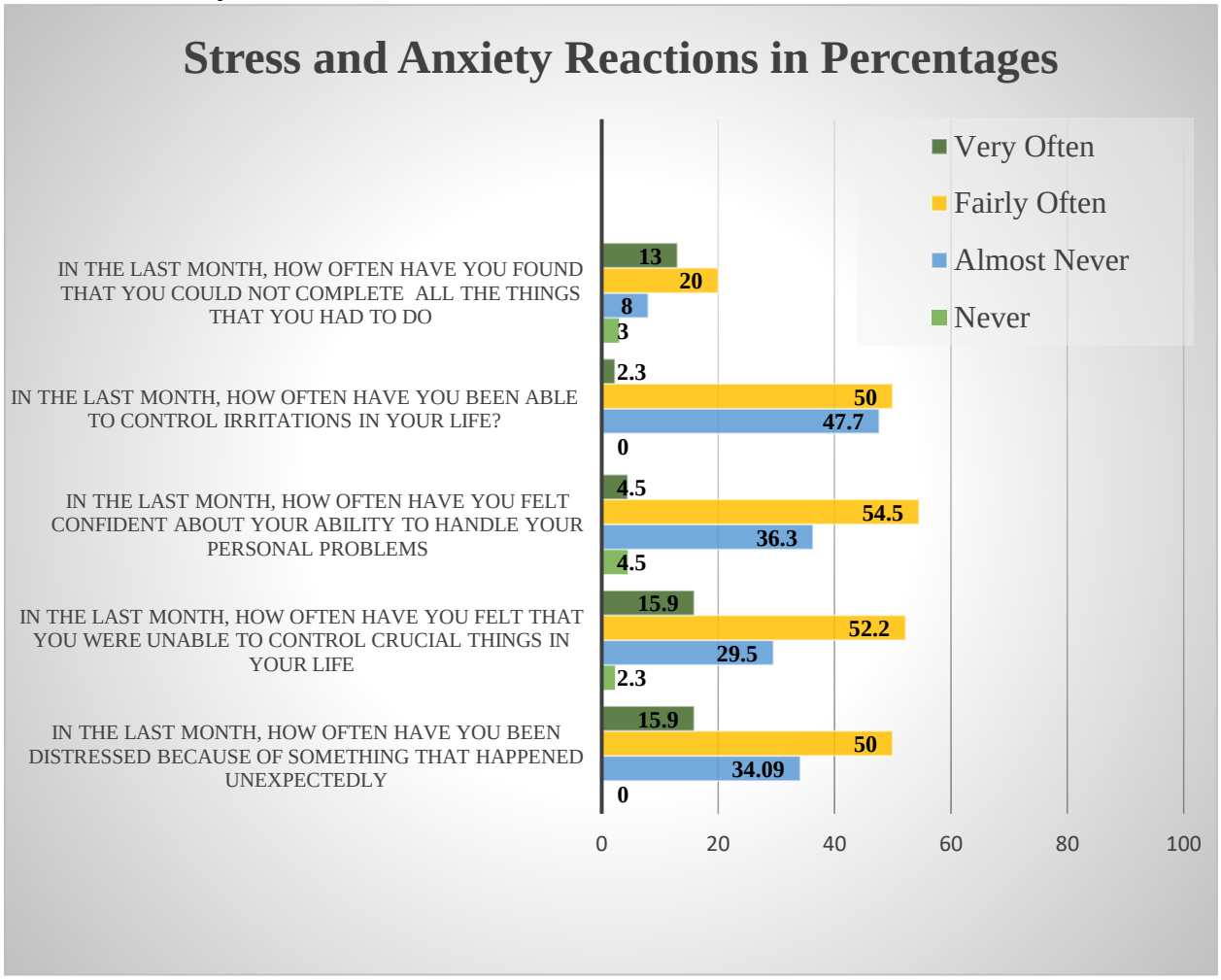
Seven questions were used to assess types and frequency of reactions to stressful or anxiety inducing feelings. Exactly half (50%) of all respondents reported being fairly often distressed because of something that happened unexpectedly while over a third (34%) reported almost never being distressed because of something that happened unexpectedly. Under a fourth of respondents (16%) reported this reaction happening very often. No respondents (0%) reported never being distressed because of something that happened unexpectedly. Over half (52.2%) of respondents reported they were unable to control crucial things in your life fairly often and 16% of all respondents reported this happening very often. Only one respondent (2.3%) reported never feeling they were unable to control crucial things in their lives. Over half (54.5%) of respondents felt that fairly often they were confident about their ability to handle their personal problems while 36% felt they were almost never confident in their ability to do so. Two respondents (4.5%) felt they never were able to handle their personal problems and the exact same amount (4.5%) felt they very often could. Controlling irritations in their lives were something half (50%) of respondents felt they did fairly often while just under half (47.7%) felt they almost never could. One respondent (2.3%) reported being able to control irritations in their life very often. When considering the last month almost half (45.4%) of respondents found they could not complete all the things that they had to do and almost a third (29.5%) of respondents found this to be true very often. However, 6.8% reported never having this experience with almost twenty percent (18.2%) reporting almost never experiencing inability to complete all the things they had to do.

The last two questions in the survey asked about specific reactions to specific stressful situations. When asked “How confident are you of being able to control your emotions in

stressful situations?" over sixty percent (61.3%) of respondents felt they sometimes let their emotions run away from them. Only one respondent (2.3%) reported never letting their emotions run away from them and 16% reported seldom having this happen. Over half (56.8%) of respondents reported feeling capable of changing their thinking to calm down when highly stressed. Three respondents (6.8%) felt very capable to do this and five (11.3%) felt very incapable to change thinking to calm down when highly stressed. A quarter (25%) of respondents reported feeling incapable of this skill to regulate thinking to calm down. See Figure 3.

Figure 3

Stress and Anxiety Reactions



Summary

The data of this study show high levels of stress are experienced by ETSU dental hygiene students and high frequency of physical and emotional symptoms are experienced by this same population. The findings of this research indicated more research is needed to determine what type of educational intervention would aid students the most in managing and reducing stress and anxiety.

Chapter 5. Summary, Discussion, Conclusions and Recommendations

Summary

This study was conducted to determine if there is a need for a stress reduction and anxiety management intervention which can be taught to students at the beginning of their dental hygiene curriculum and reinforced throughout their program. The findings of this study indicate there currently is a high need for an educational intervention to aid students with skills and coping mechanisms to manage the high levels of stress and anxiety which were reported.

Discussion

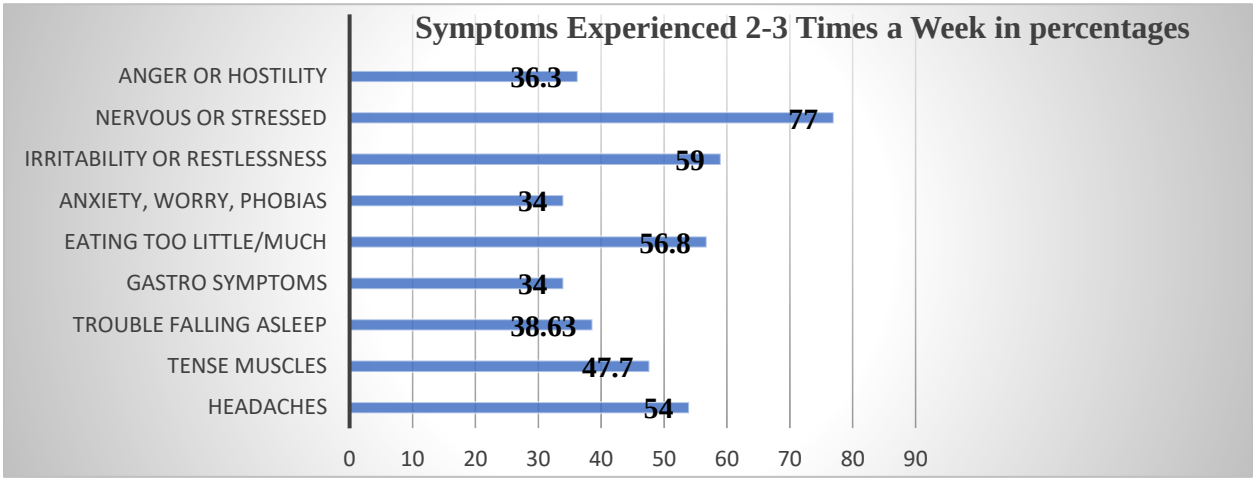
The results found in this research provide insights into the three main guiding questions:

What is the current stress and anxiety level of students in the dental hygiene program at ETSU?

Nearly all respondents reported their current stress and anxiety levels are affecting their lives (97.5%). Consistently over a third of students who completed surveys from the ETSU dental hygiene program are experiencing physical symptoms of stress and anxiety including headaches, gastrointestinal distress, trouble sleeping, eating too much or too little daily, tense muscles, worry or phobias, anger or hostility, irritability or hostility, and nervousness 2-3 times a week (Figure 4). This indicates there currently is a need for skills, coping mechanisms, resource knowledge, and symptom relief. The average stress level of the 44 ETSU dental hygiene students reported on a 1-10 scale was a 7.65. Nearly half (40%) of all ETSU dental hygiene students currently enrolled reported their stress level as 8 out of 10 with 10 defined as "I can only think of my stress and anxiety". These results demonstrate that stress and anxiety levels are high for ETSU dental hygiene students currently enrolled in the program.

Figure 4

Symptoms Experienced 2-3 Times a Week



Are certain stress reduction and anxiety management techniques known and currently used by ETSU dental hygiene students?

Only eleven students (25%) reported having skills or knowledge to manage their stress or anxiety. Over half (69%) of currently enrolled ETSU dental hygiene students have no skills or knowledge on how to manage the stress and anxiety they experience. This demonstrates the high need for an educational intervention to aid students in this area. Of the eleven students (25%) who reported skills or knowledge, only four (9%) reported accessing care from a mental health professional meaning less than ten percent (8.3%) of the 48 currently enrolled ETSU dental hygiene students reported accessing care from a mental health professional. This demonstrates the need for students to be made aware of and helped in accessing on campus or community mental health resources.

Do students who currently have knowledge and skills associated with anxiety management and stress reduction have lower stress and anxiety levels?

When only stress and anxiety levels from the 1-10 scale are compared, the students who report having skills or knowledge have a higher average stress level of 8.27 and the students who did not report having skills or knowledge have a lower average stress level of 7.63. One factor in this may be size of sample for these two variables. There are 33 (75%) students who did not report any skills or knowledge of stress management and anxiety reduction while there are only 11 (25%) who reported having skills or knowledge. However, when the frequency of physical and emotional symptoms is compared those students who reported having skills or knowledge associated with anxiety management and stress reduction experienced less frequent symptoms overall.

Conclusion

Currently there is a high level of stress and anxiety experienced by students in the ETSU dental hygiene program with very limited skills and knowledge of how to manage the physical and emotional symptoms associated with these levels of stress and anxiety. Some of the factors affecting their stress and anxiety levels may include unhealthy diet, poor sleep habits, feeling pressure to perform, financial concerns, and adjustments to living away from home on their own (Cabas-Hoyos et al., 2015). The physical and emotional symptoms experienced by these students may be influencing their performance with patients and didactic classes. Further research will be needed to determine this. At this time an educational intervention to teach students needed stress reduction and anxiety management skills is needed.

Recommendations

There is a large body of research on the topic of stress and anxiety reduction with students (Patterson, 2016). Although all higher education students experience stress and anxiety, student dental hygienists may experience stress and anxiety at higher levels. Dental hygiene students may have additional stressors unique to their field of study which cause this higher stress and anxiety level. These may include competitive admission requirements, heavy emphasis in science and math, rigorous expectation of clinical performance, high standards of patient interaction, and demanding licensure procedures (Cecchini & Friedman, 1986). Due to the current pandemic environment in which students are learning clinical skills and didactic knowledge it appears that an awareness of mental health needs is at its greatest. This study has shown the high levels of stress experienced by student dental hygienists at ETSU and the need for an all-encompassing educational intervention to address physical, emotional, and reactive symptoms of stress and anxiety. Knowledge or skills to manage stress and anxiety did not yield a lower overall stress level instead it decreased frequency of symptoms associated with the higher levels of stress and anxiety. These finding highlight the need for an educational intervention to teach students skills and improve their knowledge of coping mechanisms to help student dental hygienists better manage the inevitable stress and anxiety they will face in school and in the profession. This intervention would be a great way to continue research in this area for these students. Without stress and anxiety management skills many students are not able to perform to their highest capacity while in school and during board exams (Harris et al., 2017). More research should be completed to help better understand the mental health needs of student dental hygienists at ETSU to better prepare them for the professional world of dental hygiene and the licensure process.

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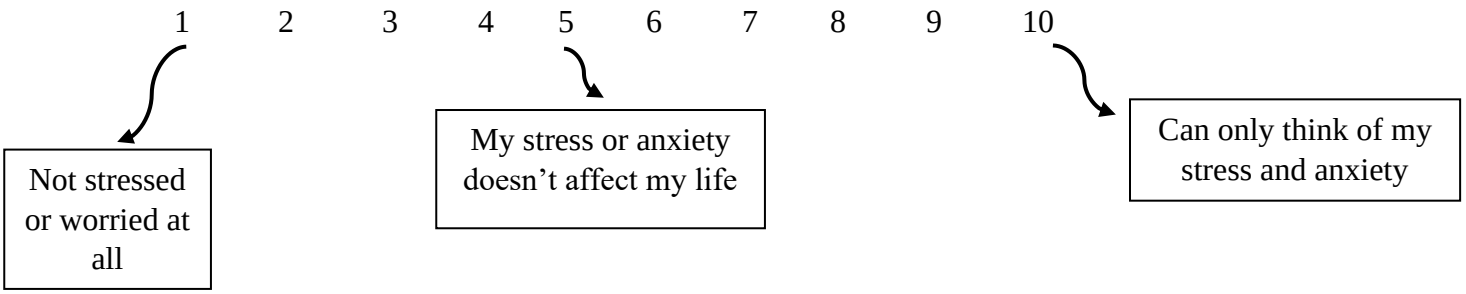
APPENDICES

Appendix A: Stress Symptoms and Management Skills Questionnaire

If you currently have knowledge and or skills associated with anxiety management and stress reduction techniques where did you learn them? If you do not have this knowledge or skills, please do not answer this question.

_____
_____
_____

What is your current stress and anxiety level? Circle the number that accurately describes you?



1. How often do you experience headaches?

   a. Every night or day
   b. 2-3 times per week
   c. Once a week
   d. Monthly or less

2. How often do you experience tense muscles, or a sore neck or back ?

   a. Every night or day
   b. 2-3 times per week
   c. Once a week
   d. Monthly or less

3. How often do you experience anxiety, or worry, or phobias?

   a. Every night or day
   b. 2-3 times per week
   c. Once a week
   d. Monthly or less

4. How often do you experience difficulty falling asleep?

    a. Every night or day
    b. 2-3 times per week
    c. Once a week
    d. Monthly or less

5. How often do you experience irritability or restlessness?

    a. Every night or day
    b. 2-3 times per week
    c. Once a week
    d. Monthly or less

6. In the last month, how often have you been distressed because of something that happened unexpectedly?

    a. Never
    b. Almost never
    c. Fairly often
    d. Very often

7. In the last month, how often have you felt that you were unable to control crucial things in your life?

    a. Never
    b. Almost never
    c. Fairly often
    d. Very often

8. In the last month, how often have you felt nervous or stressed?

    a. Never
    b. Almost never
    c. Fairly often
    d. Very often

9. In the last month, how often have you felt confident about your ability to handle your personal problems?

    a. Never
    b. Almost never
    c. Fairly often
    d. Very often

10. How often do you experience diarrhea, cramps, gas, or constipation ?

a. Every night or day
b. 2-3 times per week
c. Once a week
d. Monthly or less

11. How often do you experience eating too much or too little?

a. Every night or day
b. 2-3 times per week
c. Once a week
d. Monthly or less

12. How often do you experience bouts of anger or hostility?

a. Every night or day
b. 2-3 times per week
c. Once a week
d. Monthly or less

13. How often do you experience nightmares?

a. Every night or day
b. 2-3 times per week
c. Once a week
d. Monthly or less

14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

a. Never
b. Almost never
c. Fairly often
d. Very often

15. In the last month, how often have you felt that you were on top of things?

a. Never
b. Almost never
c. Fairly often
d. Very often

16. In the last month, how often have you been able to control irritations in your life?

a. Never
b. Almost never
c. Fairly often
d. Very often

17. In the last month, how often have you found that you could not complete all the things that you had to do?

a. Never
b. Almost Never
c. Fairly often
d. Very often

18. How confident are you of being able to control your emotions in stressful situations?

a. I never let my emotions run away me.
b. I seldom let my emotions run away with me.
c. I sometimes let my emotions run away with me.
d. I often let my emotions run away with me.

19. When highly stressed, how capable are you of changing your thinking to calm down?

a. very capable
b. capable
c. incapable
d. very incapable

Appendix B: Study Questionnaire Feedback Form

After completing the questionnaire portion of the survey please review these questions and respond as honestly as possible. Your responses will be used to adjust and ensure the success of this study so that it can truly impact the stress and anxiety management of future classes of dental hygienist here at ETSU. I greatly appreciate your participation!

1. Were the questions easy to understand and answer? If not, what was unclear or needed more explanation?
   _____
   _____
   _____
   _____
2. How long did it take to complete the questionnaire?
   _____
   _____
   _____
   _____
3. Do you believe that there are any questions that should be added?_____
   _____
   _____
   _____
   _____
4. Are there any questions that you did not feel were needed? If so which ones?_____
   _____
   _____
   _____
5. Do you have any additional feedback?
   _____
   _____
   _____
   _____
6. Were there any questions you didn't feel comfortable answering?
   _____
   _____
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   _____

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