

Stress, Burnout, and Renewal Activities of Dental Hygiene Education Administrators in Six U.S. Midwestern States

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Abstract: The purpose of this study was to explore the patterns that emerge among stress, burnout, and renewal activities of dental hygiene education administrators in six midwestern states in the United States. The study investigated the effects of stress on these administrators by identifying when stress and burnout occur, what precautions they take to prevent it, and what actions might combat stress and/or burnout once it has occurred. The administrators were asked to complete a demographic questionnaire, the Maslach Burnout Inventory (MBI)-Educators Survey, and an in-depth interview. The response rate to the demographic questionnaire and MBI-Educators Survey was 54.5 percent (30/55). Respondents were primarily Caucasian females (93 percent), at least fifty-one years of age (67 percent), employed in dental hygiene education at least twenty-one years (56 percent), and dental hygiene education administrators for less than ten years (55 percent). Almost half (43 percent) reported a moderate to high Emotional Exhaustion burnout score, one of three characteristics measured by the MBI-Educators Survey. All participants (100 percent) responded that stress had affected their personal and/or professional lives. The findings indicate that dental hygiene education administrators a) experience stress, b) experience patterns of stress, and c) use preventive strategies. Study participants felt that the stress and burnout they experienced may be altered through personal and/or professional lifestyle modifications and that additional training in stress management is needed.

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Stress is a reality of modern-day life; not only is it all around us, but eventually it affects every individual.¹ People are affected directly when they experience stress themselves and indirectly when the people they live or work with suffer from stress, making it a significant issue for individual health and economic prosperity. Stress is hard to define and difficult to manage because of its multiple forms and the unpredictability of the stressors.

Stress has been defined as a complex series of psychological and physical reactions that occur as one responds to a situation.² Each individual evaluates a situation to determine whether it will have a positive, negative, or neutral outcome, based on his or her previous experiences and personality characteristics.² The amount of control people have over the stressor and whether they feel they have a choice help determine their response.³

Generally, stressors are defined as the external demands of life or the internal attitudes and thoughts that cause one to adjust; some thus come from one's surroundings and others from inner struggles.³ Short-term responses to stress are physical, emotional, or behavioral warning signs. When stress becomes chronic and persistent, these warnings become more severe.³ Physical stressors include exercise, illness, pain, injury, exposure to pollutants, and extreme temperature changes.² Psychological stressors consist of managing extreme emotions, handling difficult social situations, and handling distressing thoughts and relationships.² Studies have found that psychological stress is associated with increased risk of the common cold, which highlights the complexity of stress and its effect on humans.⁴

Examining the significance of stress, burnout, and renewal strategies of dental hygiene education

administrators could determine if a need for a balance between professional expectations and personal renewal activities exists. The purpose of this quantitative and qualitative mixed-methods study⁵ was to explore the patterns among stress, burnout, and renewal activities of dental hygiene education administrators.

Stress in the Workplace

Historical, current, and empirical research regarding stress in the workplace and its relevance for dental hygiene education administrators was examined as background for this study. Areas of focus included stress, burnout, preventive strategies for dealing with stress and burnout, faculty, dental hygiene educators, professional balance, personal balance, role of the academic institution, and implications for intervention.

According to Kinman and Jones, stress has evolved into a significant health issue in the academic workplace in the United Kingdom.⁶ Higher education programs are finding it more and more difficult to recruit and retain quality faculty because of issues such as heavy workloads, low salaries, and shrinking budgets.⁷ Elliott suggested that when university employees experience conflict between work and family, both the employee and the mission of higher education suffer.⁸ George concluded that higher education Seventh-Day Adventist faculty members who experience prolonged stress without appropriate intervention are more vulnerable to burnout.⁹ Although stress is individualized, situational, and often self-imposed, many factors have been found to contribute to faculty stress regardless of one's institutional affiliation; these include time constraints, institutional red tape, information technology, teaching load, and committee work.^{10,11}

The impact of stress on individuals has been articulated in terms of health and well-being, quality of life, work-life balance, and stressful lifestyles.¹² Two prominent types of stress have been identified: eustress (positive stress) and distress (negative stress), both of which may be the result of positive or negative events.² Experiencing problems with one's job, family, or relationships, becoming a new parent, competing in an athletic event, getting married, graduating from college, and starting a new job are examples of factors that can cause both positive and negative stress.² What causes distress for one

individual may cause eustress for another, depending upon his or her physiology, life circumstances, and stress management strategies.

Charlesworth identified the following categories of stressors: emotional—struggles with fears and anxieties; family—interactions with family members; social—interactions with others; chemical—pesticides, sweeteners, caffeine, nicotine, or chemical additives in food and water; change—times when anything important in one's life is altered; work—tensions and pressures experienced in the workplace; decision—both personal and professional decision making; commuting—distance from work; phobic—exaggerated fears of animals, places, objects, or situations; physical—demands that change the state of one's body; disease—the result of short- or long-term disorders; pain—the result of new or old injuries, accidents, or diseases; environmental—aspects of one's surroundings such as noise, smoke-filled rooms, cramped offices, exhaust fumes, sun glare, summer heat, and winter cold; media—print, auditory, and visual news; and terrorism—threats to national safety and security.³

The symptoms of stress have been said to cost the United States \$200 billion dollars a year.^{13,14} Stress causes people to do things they should not: it places an infatuated, heartbroken husband behind the wheel of a car; pushes an honest business owner into racketeering; or makes parents snap at their children.^{13,14} Stress was functional for prehistoric people when life was filled with stressors such as hunting animals and defending one's shelter. As civilization developed and became more complex, life became less physically dangerous, but the mental and emotional challenges increased and became common stressors.¹⁵ Drawing on over two decades of observations in the field of stress, Posen concluded that most stress is self-generated; people have more control than they think but often fail to use it; relieving stress has no quick fix, since to manage stress, one has to change; and stress management is not only a state of mind, but also a strategy involving knowing that whatever happens, one will be able to handle it.¹⁶

The majority of people spend half their waking lives at work, and the effects of stress in the workplace have been called a worldwide epidemic.¹²⁻¹⁴ Job stress research began in the 1950s, recognizing the need to investigate the consequences of work-related stress. The early history of job stress was dominated by the concepts of role conflict, ambiguity, and overload.¹² Then as now, it was recognized that few individuals

define the concept of stress in the same way: the businessperson thinks of stress as frustration or emotional tension; the air traffic controller as a problem in concentration; the biochemist or endocrinologist as a chemical event; and the athlete as muscular tension.⁴

The research of the 1960s led to the self-help years, with the recognition of techniques such as exercise, relaxation, meditation, biofeedback, and a philosophy of life aimed at developing an inner sense of energy and well-being—tools one could deploy to develop a better capacity for dealing with and building resistance to stressful encounters.¹² The 1970s saw research that increased understanding of the array of work stressors with the identification of four major facets: job demands and task characteristics, role demands or expectations, organizational characteristics and conditions, and an organization's external demands and conditions.¹² In the 1970s, additional research by Cooper and Dewe identified six major categories of job-related stressors: factors intrinsic to the job, role in the organization, career development, organizational structure and climate, relationships at work, and extraorganizational sources. Their work reinforced the concept that to understand the debilitating nature of job-related stress, one must first understand what causes it and move toward prevention and treatment.¹²

Many people consider their career their primary function in life and discover that one of the most difficult things to tolerate is being forced into inactivity such as during prolonged hospitalization or retirement.⁴ Just as the body's muscles degenerate if not used, the brain also slips into chaos and confusion unless constantly used for meaningful work.⁴ The challenge many individuals face is finding the appropriate balance between a successful career and monotony or boredom.

Research has discovered a relationship among stress, the immune system, health, and illness. Job-related stress is not a new phenomenon, but two essential components were necessary for job-related stress to become a subdiscipline: the founding work of Dunbar in the field of psychosomatic medicine and the pioneering work of Selye on stress and the general adaptation syndrome. Other critical events included the passage of the Occupational Safety and Health Act of 1970, creating the Occupational Safety and Health Administration (OSHA) and the National Institute of Occupational Safety and Health (NIOSH) in 1971.⁴

Goldberger and Breznitz identified the following *objective* types of occupational stress: physical properties of the working environment (e.g., physical hazards, pollution, extreme heat or cold, and noise); time variables (e.g., time zone changes, length of workday, shift work, deadlines, and time pressure); social and organizational properties of work (e.g., red tape, workload, overload, responsibility load, monotony, and intrinsic/extrinsic awards); and changes in job (e.g., unemployment, demotion, overpromotion, and transfer). They identified *subjective* types of occupational stress as related to roles (e.g., role ambiguity versus clarity, role conflict, role strain); degree of control over work processes; responsibility for people and things; participation and feedback; and communication problems. Off-job stressors included distressed life pattern of various stressors, stressful life events, and demands of spouse and children.⁴

The concept of burnout was introduced into the scientific literature in the 1970s by Herbert Freudenberger, a clinical psychologist, and Christina Maslach, a social psychologist, and it quickly became sensationalized by the media. Although definitions vary, common themes include the physical, emotional, and mental exhaustion that results in highly motivated and committed individuals' losing their spirit.⁴

A Bowling Green State University faculty study found that faculty members report experiencing stress because of time constraints, institutional red tape, information technology, teaching load, and committee work.¹⁷ Faculty burnout is very destructive to employees and their institutions. Maslach and Jackson identified three key outcomes of employee burnout: emotional exhaustion, depersonalization, and lack of personal accomplishment.¹⁸ Although faculty stress is individualized, situational, and often self-imposed, many factors contribute to it, especially since faculty members' success in teaching, research, and service requires meeting the expectations of their administration, colleagues, and students, as suggested in a study of nursing educators.¹⁹

It has been reported that as many as 25 percent of K-12 teachers leave the profession by the end of their first year and only 50 percent remain in the field after five years.²⁰ Another study reported that K-12 teachers are challenged today with new demands resulting from technical, social, and moral changes that redefine their traditional roles.²¹ A study of secondary school teachers in Ireland found that the main sources

of stress were poorly motivated students, maintaining discipline, time pressures and workload, coping with change, being evaluated by others, dealing with colleagues, self-esteem and status, administration and management, role conflict and ambiguity, poor working conditions, classes with a wide ability range, trying to maintain values and standards, and demands of state examination system.²²

Educators who experience emotional exhaustion—the tired and fatigued feeling that develops as emotional energies are drained—find they can no longer give of themselves to students as they once could. Educators experience depersonalization when they no longer have positive feelings about their students. Educators who no longer feel that they are contributing to students' development and are vulnerable to experiencing profound disappointment experience a feeling of low personal accomplishment.²³ The principal organizational variables found to be associated with educator burnout are role conflict, role ambiguity, participation in decision making, reward systems, need deficiency, freedom and autonomy, and social support networks. Among educators, research has found that burnout is related to feelings of hopelessness, irritability, impatience, alcohol and drug abuse, absenteeism, increased turnover, overreliance on rules, and decreased job performance.²³

There is limited information regarding the impact of stress and burnout specifically for dental hygiene education administrators. Like many academic administrators, especially those in the health professions, these individuals work in governance systems that are politically charged. Dental hygiene programs must deal with issues of accreditation, licensure, and health and safety that are affected or even determined by such external groups as the American Dental Association's Commission on Dental Accreditation, the U.S. Centers for Disease Control and Prevention, and the American Dental Hygienists' Association. Dental hygiene education administrators also experience high levels of stress from internal sources, especially conflict-mediating factors.²⁴ They are involved with work functions that primarily reflect task-oriented behaviors such as planning and organizing. Holt noted that dental hygiene education administrators become more task-oriented as years of experience increase and thus recommended that institutions pay close attention to those administrators since high levels of task-oriented responsibilities can lead to stress, job dissatisfaction, and eventually burnout. Holt suggested that sharing stress and burnout infor-

mation with these administrators might lead them to develop intervention strategies that would help them control stressful environments and give them coping strategies that would encourage continued professional commitment and institutional dedication while enhancing faculty development activities.²⁴

Holt's further recommendations include the following: provide administrators with ample support and encourage the delegation of responsibilities when appropriate; encourage them to maintain a balance with administrative responsibilities; and provide opportunities such as workshops and retreats that help prevent burnout and support professional rejuvenation. Holt also recommended that dental hygiene educational institutions periodically evaluate the stress levels of their administrators and offer stress reduction activities, support and assistance to balance administrative responsibilities, and self-assessment tools that will encourage the development of personalized action plans for stress identification and reduction.²⁴

The review of the literature found a very limited amount of literature on stress, burnout, and renewal activities for dental hygiene education administrators. However, dental hygiene programs are currently facing a shortage of educators that is expected to grow in the future, considering projected faculty departures and increasing need for additional personnel.⁷ The lack of research on stress, burnout, and renewal activities in the administrators who are responsible for these programs provided the rationale for the current study.

Even though there has been considerable progress in job stress research over the last several decades, additional research is warranted. One such area is the exploration of potential motives for organizations to incorporate stress management programs including determining how concerned administrators are about work stress.¹² Research should continue to study the culture and its correlation with stress in an attempt to understand the connection between stress and illness. An enhanced understanding of the stress process and its effects on the human body will enable the development of intervention strategies to help reduce the disorders associated with stress-induced illnesses. Additional in-depth studies should be conducted to further identify stress factors in the dental hygiene education environment.

Upon examination of the literature and the multiple perspectives of dental hygiene education administrators, the following questions arose: Do

stress and burnout affect dental hygiene education administrators? What conditions lead to stress and/or burnout for dental hygiene education administrators? What are the patterns of experiences of stress and/or burnout for dental hygiene education administrators? What stress management strategies are used by dental hygiene education administrators? This study sought to answer these questions by questioning administrators in the states of Illinois, Indiana, Kentucky, Michigan, Ohio, and Wisconsin.

Methodology/Design

A quantitative and qualitative mixed-methods design was used. The literature review formed the basis for a demographic questionnaire and interview questions developed by the lead author (KJH) and pilot-tested with seven volunteers who were former allied dental educators. The reviewers suggested modifications to improve the clarity of questions. The revisions were incorporated, and a six-step data collection process began. First, we identified participants based on a mixed-methods convenience sampling process. Second, we mailed an informed consent form, the demographic questionnaire, and the Maslach Burnout Inventory (MBI)-Educators Survey to the entire population of dental hygiene education administrators in six midwestern states (total of fifty-five): Illinois (thirteen), Indiana (five), Kentucky (five), Michigan (twelve), Ohio (twelve), and Wisconsin (eight). From the total population, thirty responded. Third, the respondents who met the criteria of being full-time dental hygiene education administrators for at least one year and potentially experiencing the phenomenon of stress leading to burnout based on their MBI-Educators Survey score were invited to participate in an in-depth interview. All thirty respondents were invited, and twenty scheduled appointments. Fourth, the in-depth interview was conducted via telephone, and the responses were audiotaped to provide an accurate record of the conversations. Fifth, brief notes were taken during the interview in the event the tape recorder malfunctioned. Sixth, the responses were transcribed and coded for potential themes using NVivo7 software, a qualitative analysis software that provides text-based information by analyzing, classifying, sorting, and arranging information.

The demographic questionnaire contained twenty-four questions regarding the personal and

academic characteristics of the respondents (see Appendix A). Five questions requested information regarding personal characteristics (e.g., gender, age, marital status). Four questions asked the length of time the respondent had been a licensed health care professional, educator, and administrator. Six questions requested information about academic affiliation, rank, and tenure. The remaining nine questions requested information about teaching, research, and service requirements.

The MBI-Educators Survey, recognized as the leading measure of burnout, assesses three aspects of educator (teachers, aides, and administrators) burnout.^{4,23} The survey is a short questionnaire, with confirmation of adequate reliability and validity based on numerous analytic studies.²⁵ The twenty-two-item survey, which requires approximately fifteen minutes to complete, measures three aspects of burnout: Emotional Exhaustion (EE), Depersonalization (DP), and reduced Personal Accomplishment (PA). Respondents rate each of the items on a seven-point scale ranging from never (0) to every day (6), regarding how frequently they experience each feeling. The EE subscale (nine items) assesses feelings of being emotionally overextended and exhausted by one's work (e.g., I feel emotionally drained from my work). The DP subscale (five items) measures unfeeling and impersonal responses toward recipients of one's instruction (e.g., I feel I treat some students as if they were impersonal objects). The PA subscale (eight items) assesses feelings of competence and successful achievement in one's work with people (e.g., I feel exhilarated after working closely with my students).

Scores on the three subscales, calculated collectively, indicate the respondent's extent of burnout.¹⁸ High scores on the EE and DP subscales and low scores on the PA subscale reflect a high degree of burnout. Average scores on the three subscales reflect an average degree of burnout. Low scores on the EE and DP subscales and high scores on the PA subscale reflect a low degree of burnout.²³

A phenomenological interview was structured to explore the relationship among respondents' stress, burnout, and renewal activities. In-depth interviews were conducted for the twenty respondents who met the criteria of being a full-time dental hygiene administrator for at least one year and potentially experiencing stress leading to burnout. The interviews, averaging thirty minutes in length, asked eleven open-ended questions (see Appendix B) and

encouraged participants to describe their experiences balancing professional roles and responsibilities in administration, teaching, research, and service with personal roles and responsibilities.

Results

The response rate to the demographic questionnaire and MBI-Educators Survey was 54.5 percent (30/55). To ensure confidentiality, all data were reported using summaries; no information identified specific respondents or programs by name. The responses were coded according to question number and response. Gender was coded as 1 for male and 2 for female. This system was repeated with each subsequent question coding in accordance with the respective question number. Data were compiled in a spreadsheet.

Quantitative data analyses included applying statistical techniques for the demographic questionnaire and scoring the MBI-Educators Survey as recommended by the survey's creators. Data from the demographic questionnaire were analyzed using t-tests and Levene's test for equality of variances to determine the statistical significance between stress and burnout of administrators who use stress management strategies and those who do not. SPSS statistics software was used to calculate a t-test, a t-test for equality of means, and a Levene's test to measure the means of responses to the MBI-Educators Survey and the stress management strategies of the participants.

Demographic Questionnaire

Respondents said they were primarily married (70 percent), Caucasian females (93 percent), at least fifty-one years of age (67 percent), employed in dental hygiene education at least twenty-one years (56 percent), and dental hygiene education administrators for less than ten years (55 percent). The average number of family members for whom respondents were the primary caregiver was 2.87. Thirty-three percent said they worked forty-one to fifty hours per week in their jobs.

These administrators reported an average of fifty-three students enrolled per program. Fifty percent of the respondents were from community colleges as opposed to a university or technical college. Eight-seven percent were administrators for dental hygiene programs that award associate degrees. The respondents reported academic ranks of instructor

(20 percent), assistant professor (23 percent), associate professor (23 percent), professor (23 percent), and other (10 percent). They reported tenure status as achieved tenure (53 percent), pursuing tenure (3 percent), and not pursuing tenure (43 percent).

Survey respondents reported teaching loads per semester/quarter as zero to ten hours (30 percent), eleven to twenty hours (53 percent), twenty-one to thirty hours (13 percent), and more than thirty hours (4 percent). The quantity of research publications required per academic year/tenure cycle was reported as zero (77 percent), one to two (20 percent), and three or more (3 percent). Service requirements (in hours) per academic year were reported as zero to ten (50 percent), eleven to twenty (47 percent), and twenty-one to thirty-five (3 percent). The average number of hours per week spent teaching was reported in three categories: didactic—zero to five (73 percent), six to ten (17 percent), and eleven to fifteen (10 percent); laboratory—zero to five (70 percent), six to ten (27 percent), and eleven to fifteen (3 percent); and clinical—zero to five (50 percent), six to ten (40 percent), and sixteen to twenty (10 percent).

The average number of hours per week administrators spent interacting with students was reported as zero to five (21 percent), six to ten (27 percent), eleven to fifteen (7 percent), sixteen to twenty (14 percent), and more than twenty (31 percent). The average number of hours per week spent interacting with colleagues was reported as zero to five (40 percent), six to ten (27 percent), eleven to fifteen (7 percent), sixteen to twenty (10 percent), and more than twenty (16 percent). The average number of hours per week spent interacting with patients was reported as zero to five (50 percent), six to ten (36 percent), eleven to fifteen (7 percent), and sixteen to twenty (7 percent). The average number of hours respondents' educational institutions granted for release time was reported as zero to five (46 percent), six to ten (40 percent), eleven to fifteen (7 percent), and sixteen to twenty (3 percent).

MBI-Educators Survey and In-Depth Interviews

The MBI-Educators Survey measured three aspects of burnout:

1. Emotional Exhaustion described a feeling of being emotionally overextended and exhausted by one's work (e.g., "Working with people all day is really a strain for me"). A frequency of several

times a month or more indicated high burnout. A score of 27 or above indicated high burnout; 17 to 26 indicated moderate burnout; and 0 to 16 indicated low burnout.

2. Depersonalization described an unfeeling and impersonal response toward recipients of one's service (e.g., "I've become callous toward people since I took this job"). A frequency of once a month or more indicated high burnout. A score of 14 and above indicated high burnout; 9 to 13 indicated moderate burnout; and 0 to 8 indicated low burnout.
3. Reduced Personal Accomplishment described feelings of competence and successful achievement in one's work with people (e.g., "I feel I'm positively influencing other people's lives through my work"). A frequency of less than once a week indicated high burnout. A score of 0 to 30 indicated high burnout; 31 to 36 indicated moderate burnout; and 37 and above indicated low burnout. Personal accomplishment is scored in the opposite direction of emotional exhaustion and depersonalization.^{4,20}

Each respondent's survey form was scored using the scoring key, which contained directions for scoring each subscale. Each score was then coded as low, moderate, or high using the numerical cutoff points listed on the scoring key and compared to the normative data located in the MBI manual. Respondents reported Emotional Exhaustion scores as low (57 percent), moderate (13 percent), and high (30 percent). Respondents reported Depersonalization scores as low (93 percent), moderate (3 percent), and high (3 percent). Respondents reported Personal Accomplishment scores as low (70 percent), moderate (13 percent), and high (17 percent).

The in-depth interviews led to a better understanding and depiction through narrative of the experiences of individuals who balance their professional roles and responsibilities in administration, teaching, research, and service with their personal roles and responsibilities. The interviews collected data for each of the four research questions, summaries of which are presented in Tables 1 through 11.

Reducing the accumulated interview data to a manageable size, developing summaries, looking for patterns, and applying statistical techniques were the strategies for the qualitative data analysis component of the study. NVivo7 software was used to organize and classify the data, assign labels or codes, search the data, and export data to create visual representations. Representing and visualizing the data presented

a narrative of the perceived experiences of the administrators. The goal was to reduce the responses to a description that exemplified the experiences of the study participants.

The first research question focused on stress and burnout. One hundred percent of the participants responded on question number one in the in-depth interviews that stress had affected them either personally or professionally. The MBI-Educators Survey scores reported a moderate to high Emotional Exhaustion burnout score for 43 percent of the respondents, a low Depersonalization burnout score for 93 percent, and a low Personal Achievement burnout score for 70 percent. The statistical analyses reported no significant difference between the stress and burnout experienced by dental hygiene education administrators who used preventive stress management strategies and those who did not.

The second research question focused on the factors that cause stress and burnout. The in-depth interviews generated qualitative data through questions one and two (Tables 1 and 2). The participants reported experiencing personal and professional stress from factors such as family; administration, faculty, staff, and students; educational, institutional, and clinical requirements; accreditation; time constraints; heavy teaching loads; limited resources; personal health issues; and the constraints of being a middle manager. Participants reported that experiencing personal and professional stress generated several outcomes: forced them to change, affected performance or production, led to a feeling of powerlessness, affected personal life, created health issues, and affected interaction with others.

The third research question focused on patterns of stress and burnout experienced. The in-depth interviews generated qualitative data through question three (Table 3). Participants said they experienced stress at the beginning and end of the semester and at the end of the academic year and graduation, as well as regarding national and clinical board exams, accreditation visits and development of self-study documents, and the need to meet educational, institutional, and clinical requirements.

The fourth research question focused on preventive stress management strategies. The in-depth interviews generated qualitative data through questions 4 through 11. Four of the twenty interviewees reported that they do not use preventive stress management strategies because they believe they do not have the time to do so or they are not sure

Table 1. Responses to question 1: [if you feel stress or burnout], what factors do you perceive as causing stress or burnout for you? (N=20)

Factors	Frequency	Percent
Family issues (illnesses, children in military, aging parents, marital strain)	13	65%
Administration	7	35%
Faculty and staff	7	35%
Production requirements (educational, clinic treated as a small business)	5	25%
Student problems	4	20%
Personal expectations/time commitment	4	20%
Accreditation	4	20%
Time constraints	3	15%
Heavy teaching load	2	15%
Limited resources	2	15%
Personal health issues	2	15%
Middle manager constraints	2	15%

Table 2. Responses to question 2: [if you feel stress or burnout], how has it affected your performance? (N=20)

Effects on Performance	Frequency	Percent
Forced me to change	5	25%
Affected personal performance and/or production	4	20%
Felt powerless	3	15%
Affected personal life	3	15%
Created health issues	3	15%
Affected interaction with others	2	10%
Made me question my career choice	1	5%

Table 3. Responses to question 3: patterns of stress experienced by those who experienced stress (N=20)

Patterns of Stress	Frequency	Percent
End of semester/academic year	10	50%
National and clinical boards	5	25%
Accreditation	5	25%
Beginning of semester	5	25%
Requirements (educational, institutional, clinical)	4	20%
Graduation	3	15%
Faculty issues/problems	2	10%
Admission deadlines	1	5%

what to use (Table 4). The remaining interviewees articulated various stress management strategies they use—some of which were personal strategies, others were programs offered or recommended by their educational institutions, and others were support resources they found or developed (Tables 5, 6, and 7). Interviewees reported that opportunities provided by their educational institutions to support faculty and staff health included health and wellness programs, exercise facilities, and others (Table 8). When asked

to suggest strategies that might reduce the incidence of stress or burnout dental hygiene education administrators experience, their recommendations included health and wellness activities, development of time management skills, establishment of relationships with colleagues, and other strategies (Table 9). Policy changes such as reducing teaching load or increasing release time were suggested to reduce the incidence of stress inherent to their position (Table 10). A final question provided an opportunity for interviewees to

Table 4. Responses to question 5: if you do not employ preventive stress management strategies, why not? (N=20)

Reasons	Frequency	Percent
Do not have time	3	15%
Not sure what to use	1	5%

Table 5. Responses to question 4: [if you use stress management strategies], what types? (N=20)

Stress Management Strategies	Frequency	Percent
Exercise	13	65%
Attend national meetings (DH program directors/ADEA/Leadership Institute)	7	35%
Outside interests (piano, garden, golf, music, stress ball)	4	20%
Support groups/talk to others	3	15%
Spiritual faith	2	10%
Quiet time	2	10%
Sleep more	1	5%
Organize	1	5%
Do not bring work home	1	5%
Humor	1	5%
Teach clinical courses (no preparation)	1	5%

Table 6. Responses to question 6: [if you have support resources], what types? (N=20)

Types of Support	Frequency	Percent
Family (parents, children, siblings)	11	55%
Colleagues	8	40%
Husband/significant other	8	40%
Friends	7	35%
Other dental hygiene education administrators	3	15%
Pet	1	5%
Spiritual beliefs/faith	1	5%

Table 7. Responses to question 7: [if your educational institution provides stress management opportunities], what types? (N=20)

Stress Management Opportunities	Frequency	Percent
Counseling/psychologist	11	55%
Exercise facility or classes	7	35%
Professional development opportunities	4	20%
Support groups	3	15%
Employee assistance program	2	10%
Health and wellness fairs	2	10%
Release time for wellness activities	1	5%

add comments not covered in the previous questions (Table 11). Limitations to this study prevented the collection of additional data that may have influenced the results of the research.

Discussion

The research questions of this study addressed the relationship among stress, burnout, and renewal

Table 8. Responses to question 8: what opportunities are available at your educational institution to support faculty and staff health and well-being? (N=20)

Support Opportunities	Frequency	Percent
Health and wellness programs	7	35%
Exercise facilities or classes	4	20%
Medical insurance that supports wellness programs	2	10%
Financial incentives with medical insurance to participate in wellness activities	2	10%
Spirituality program	1	5%
Support groups	1	5%

Table 9. Responses to question 9: what suggestions do you have that might reduce the stress and burnout some dental hygiene education administrators may experience? (N=20)

Suggestions to Reduce Stress/Burnout	Frequency	Percent
Stay healthy/take care of yourself/health and wellness activities/take time for yourself	9	45%
Learn time management/organization	7	35%
Obtain training	4	20%
Establish relationships with other colleagues and support groups (e.g., national meetings)	3	15%
Hire good faculty	3	15%
Delegate responsibilities	2	10%
Have outside personal interests	2	10%
Find a mentor	1	5%
Learn about other academic health programs	1	5%
Limit work hours	1	5%
Use appropriate amount of release time	1	5%
Separate yourself from faculty	1	5%

Table 10. Responses to question 10: what policy changes, if any, would you make administratively to your position to reduce the incidence of stress? (N=20)

Policy Changes	Frequency	Percent
Reduce teaching load/increase release time	10	50%
Increase support staff	4	20%
Increase compensation for administrative responsibilities	3	15%
Increase participation in supervision of support staff	2	10%
Obtain training	2	10%
Obtain mentor	2	10%
Draft policy that others will follow	1	5%
Increase financial resources for program	1	5%
Institute 12-month contracts for dental hygiene education administrators	1	5%
Work from home part-time	1	5%
Increase compensation for adjunct faculty to reduce turnover	1	5%
Do less micromanaging: internal and external to program	1	5%

activities in dental hygiene education administrators in Illinois, Indiana, Kentucky, Michigan, Ohio, and Wisconsin. The study found no significant difference as measured by the MBI-Educators Survey between the stress and burnout experienced by dental hygiene

education administrators who practice preventive stress management strategies and those who do not.

This quantitative and qualitative mixed-methods study collected demographic data in a questionnaire, determined burnout scores through the

Table 11. Responses to question 11, asking for additional comments (N=0)

Additional Comments	Frequency	Percent
Attend national meetings to obtain national perspective (e.g., dental hygiene directors' meeting)/accreditation consultant to obtain national perspective on other dental hygiene programs.	7	35%
Seek faculty development and training opportunities.	3	15%
Supportive administration is important; administration that establishes trust and respect.	3	15%
Find a good mentor.	2	10%
Increase compensation for administrative responsibilities.	1	5%
Communication with all stakeholders is important.	1	5%
Plan your program, and involve all stakeholders.	1	5%
Time on the job helps you understand the university cycles.	1	5%
Personal growth is good.	1	5%
Keep a sense of humor.	1	5%
Relax; take one day at a time.	1	5%
Seek renewal opportunities (e.g., sabbatical).	1	5%

MBI-Educators Survey, and asked eleven open-ended questions for participants to articulate their experiences of stress, burnout, and renewal activities as dental hygiene education administrators responsible for the day-to-day administration of dental hygiene programs in six midwestern states. Themes that emerged indicate that these administrators experience stress and burnout both personally and professionally, experience patterns of stress and burnout, use preventive stress management strategies, and need additional training in stress management as well as opportunities to pursue training within their institutions. Participants acknowledged experiencing stress regarding family (marital relationships, responsibilities with children, illnesses, and aging parents), administration (perceived as unsupportive or oblivious about dentistry), faculty (conflicts and misperceptions), staff (lack of staff or inability to supervise them), and students (academically struggling students and legal challenges), plus being overwhelmed by accreditation procedures, heavy teaching loads, and limited resources. Some participants felt stress affected their job performance at times, which carried over into their personal life, and others felt stress forced them to change personally and/or professionally.

The interviews provided examples that illustrate the themes. One participant who reported being asked to resign after twenty-five years of service because of administrative politics said that the situation felt like a runaway train she could not stop. Another participant reported being promoted to the position of assistant dean, serving in that position for four years, and then learning that the administration had

decided to follow a different administrative model and eliminated all dean and assistant dean positions. Two participants reported developing life-threatening illnesses, which both believed were related to the stress they experienced in their jobs. One participant commented, "We have a different relationship with our students than [in] other college programs; we are their mentors, advisors, and parents; our students are always in our office." Another participant commented, "The accreditation stress pattern is a huge stress for everybody in the dental hygiene program, but more so the chair because ultimately it is their responsibility." All twenty participants said they felt stress had impacted them professionally and/or personally, and seventeen said that the stress affected their health and personal life.

Conclusions, Implications, and Recommendations

The recruitment and retention of quality educators and administrators are important for all higher education institutions. The current and projected shortage of dental hygiene educators provides an opportunity to develop enhanced recruitment and retention strategies, reevaluate dental hygiene education administrator roles and responsibilities, and recognize the value of providing stress management training throughout the institution. Preventive stress management strategies might include training in time management, financial planning, relaxation, health, nutrition, spiritual renewal, or stress management.

Augmented research on stress and burnout experienced by dental hygiene education administrators can potentially identify contributors to turnover, which may lead to changes in their roles, responsibilities, and academic environments and thus improve retention rates.⁶⁻⁹ In this study, 56 percent of the administrators had been in dental hygiene education for twenty years or more; however, 50 percent had been dental hygiene education administrators for ten years or less, and only 16 percent had been for twenty years or more.

The findings from this study are as follows: dental hygiene education administrators reported 1) stress and burnout in both their personal and professional lives; 2) experiencing patterns of stress (e.g., connected with academic year schedules, academic activities, administrative roles and responsibilities, and lack of academic support); 3) using preventive stress management strategies; 4) a need for further training in stress management as well as opportunities to follow that training within their institutions; and 5) feeling that educational institutions could reduce the stress and burnout experienced by dental hygiene education administrators through the modification of assigned roles and responsibilities. Deliberation on these findings could impact dental hygiene education administrators, their educational institutions, and the consumers served by the dental hygiene profession. This study provided information that can be used to develop enhanced recruitment and retention strategies, influence the determination of dental hygiene education administrator roles and responsibilities, and recognize the value of providing training in stress management strategies to higher education administrators throughout the institution.

Future research should expand the sample size and geographic location of this study, which was limited to fifty-five administrators in six states. Conducting studies in other geographic locations across the United States will capture a national perspective. Future research should also investigate in more detail the patterns of stress experienced by dental hygiene education administrators. For example, the current study collected data at the end of the academic year, but data collection at various times throughout the academic year might yield different results. In addition, future research should explore the training component of preventive stress management strategies and the use of standardized, preventive stress management training to determine its impact on stress and burnout experienced by these administra-

tors. Finally, future research should explore stress, burnout, and renewal activities in other higher education health care administrators.

Higher education institutions have a responsibility to provide opportunities for dental hygiene education administrators to reduce the stress experienced because of their roles and responsibilities. Development of strategies that enhance recruitment strategies and reduce attrition rates will not only benefit the educational institutions but future dental hygiene students, educators, and administrators. Generating lasting and meaningful resolutions to stress and burnout will require action at local and national levels by investigating innovative solutions firmly grounded in research.

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APPENDIX A

Demographic Questions

- 1) Please circle the statement that identifies you:
 - a. Male
 - b. Female

- 2) Please circle the statement that identifies you:
 - a. African American
 - b. American Indian or Alaska Native
 - c. Asian or Pacific Islander
 - d. Caucasian
 - e. Hispanic
 - f. Other (please specify: _____)

- 3) Please circle the statement that identifies your age range:
 - a. 20-25
 - b. 26-30
 - c. 31-35
 - d. 36-40
 - e. 41-45
 - f. 46-50
 - g. 51-55
 - h. 56-60
 - i. more than 60

- 4) Please circle the statement that identifies your marital status:
 - a. Single
 - b. Relationship with significant other
 - c. Married
 - d. Separated
 - e. Divorced
 - f. Widowed

- 5) Please indicate the number of family members for whom you currently bear responsibility: _____

- 6) Please indicate the total number of years you have been licensed as a dental hygienist/dentist/health care professional: _____

- 7) Please indicate the total number of years you have worked in dental hygiene education: _____

- 8) Please indicate the total number of years you have been a dental hygiene education administrator: _____

- 9) Please indicate the number of years you have been with your current educational institution: _____

- 10) Please indicate the average number of hours you work per week as a dental hygiene education administrator: _____

- 11) Please indicate the average number of students per year typically enrolled in your program: _____

- 12) Please circle the statement that best identifies the type of institution in which your program is affiliated.
- College or school of dentistry (public)
 - College or school of dentistry (private)
 - University, not in a dental school or college (public)
 - University, not in a dental school or college (private)
 - Community college
 - Technical institute or college (public)
 - Technical institute or college (private)
- 13) Please circle the statement that describes the degree(s) your undergraduate program awards for the program identified in question #12:
- Certificate
 - Associate degree
 - Bachelor degree
 - Other (please identify) _____
- 14) Please circle your academic rank:
- Instructor
 - Assistant Professor
 - Associate Professor
 - Professor
 - Other (please identify) _____
- 15) Please circle the statement that best identifies the tenure options at your institution:
- Tenure track is offered and required.
 - Tenure track is offered, but not required.
 - Tenure track is offered, but discouraged.
 - Tenure track is not an option.
- 16) Please circle your tenure status:
- Achieved tenure
 - Pursuing tenure
 - Not pursuing tenure
 - Denied tenure
- 17) Briefly describe the teaching, research, and service requirements required by your educational institution:
- Teaching load requirement per semester or quarter:
 - Service requirements per academic year:
 - Research requirements per academic year/tenure cycle:
- 18) Please indicate the average number of hours per week you spend teaching didactic courses: _____
- 19) Please indicate the average number of hours per week you spend teaching laboratory courses: _____
- 20) Please indicate the average number of hours per week you spend teaching clinical courses: _____
- 21) Please indicate the average number of hours per week you spend interacting with students: _____
- 22) Please indicate the average number of hours per week you spend interacting with colleagues: _____
- 23) Please indicate the average number of hours per week you spend interacting with patients: _____
- 24) Please indicate the average number of hours per week your institution grants for release time (e.g., clinical practice and/or professional development): _____

APPENDIX B

Interview Questions

- 1) From your life experiences, has stress affected you personally or professionally? If yes, what factors do you perceive as causing stress or burnout for you?
- 2) Has stress or burnout affected your job performance? If yes, how has it affected your performance?
- 3) Have you experienced any patterns with which stress occurs, such as regarding time, tasks, people, or activities?
- 4) Do you use any preventive stress management strategies? If so, what types?
- 5) If you do not employ preventive stress management strategies, why not?
- 6) Do you have any support resources (family, spouse, support groups, etc.)? If so, what types?
- 7) Does your educational institution provide any stress management opportunities? If so, what types?
- 8) What opportunities are available at your educational institution to support faculty and staff health and well-being?
- 9) What suggestions do you have that might reduce the stress and burnout some dental hygiene education administrators may experience?
- 10) What policy changes, if any, would you make administratively to your position to reduce the incidence of stress?
- 11) Additional comments?