

TEXAS DENTAL HYGIENISTS' USE OF BEHAVIORAL MANAGEMENT  
TECHNIQUES FOR PATIENTS WITH DENTAL ANXIETY

A Thesis

by

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Submitted to the Office of Graduate and Professional Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of  
MASTER OF SCIENCE

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May 2015

Major Subject: Dental Hygiene

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## ABSTRACT

Purpose: Dental anxiety is a prevalent condition negatively affecting both the dental patient and the dental team. Behavioral management techniques have shown to help increase relaxation, reduce anxiety and decrease the amount of pharmaceutical agents which are known to have potentially harmful side effects. The purpose of this study was to measure the knowledge, attitudes and practices of Texas registered dental hygienists' use of behavioral management techniques for dentally anxious patients. Methods: The participants in this study were registered dental hygienists currently licensed in Texas. After pilot testing, a paper survey was sent to 300 Texas licensed dental hygienists. Ninety-four Texas registered dental hygienists completed the 27-item survey. Results: Texas dental hygienists are interested in learning more techniques to help their dentally anxious patients learn to be calmer and more relaxed. Conclusion: The prevalence of dental anxiety could be reduced if dental hygienists learned even more on the topic of the dentally anxious patient both in their dental hygiene education and throughout their careers by attending continuing education courses.

## DEDICATION

I would like to thank my committee chair, Ms. Patricia Campbell, and my committee members, Dr. Peter Buschang and Dr. Janice DeWald, for their guidance and support throughout the course of this research. Also I would like to thank my family; my parents, Bob and Genie, my siblings, Kathy and Steve and my children, Tyler, Jason and Andrew who have always encouraged me to have a dream and then realize it. All have helped me with this project in word and deed and their many talents have inspired me to continue through good times and bad.

## NOMENCLATURE

BT	Behavioral Therapy
CBT	Cognitive Behavioral Therapy
CODA	Commission on Dental Accreditation
DBS-R	Dental Belief Survey-Revised
DH	Dental Hygienist
DHBS	Dental Hygienists Belief Survey
DFS	Dental Fear Survey
MDAS	Modified Dental Anxiety Scale
RCT	Randomized Control Trial
TSBDE	Texas State Board of Dental Examiners

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## 1. INTRODUCTION AND LITERATURE REVIEW

Dental anxiety is a prevalent condition negatively affecting both the dental patient and the dental team. Dental anxiety often results in avoidance of oral healthcare which leads to poor oral health causing even more negative dental experiences and in turn increases dental anxiety [Armfield, 2013]. This spiral of lowered dental health can be effectively changed for many patients increasing not only the well-being of the patient but the working environment for the dental caregivers. Behavioral management techniques have shown to help increase relaxation, reduce anxiety and decrease the amount of pharmaceutical agents which are known to have potentially harmful side effects [Donate-Bartfield et al., 2010].

The topic of dentists' use of behavioral management techniques on patients with dental anxiety is well represented in the dental literature; however, little has been published regarding the use of behavioral techniques by dental hygienists. The purpose of this study was to assess the knowledge, attitudes and practices of Texas dental hygienists' use of behavioral management techniques.

Since the beginning of dental hygiene as a profession one hundred years ago, behavioral management has been an important aspect of practice. The first textbook for dental hygiene written by Dr. Alfred C. Fones, founder of dental hygiene, included this goal of increasing patient comfort: "There is no better application of the golden rule than in dentistry, and the operator who masters a fine sense of touch and constantly keeps in mind a sympathetic consideration for his patient, has conquered much that is productive of success" [Fones, 1916].

All accredited dental hygiene programs must meet certain standards to ensure the fulfillment of prescribed requirements. The accrediting body for dental hygiene

programs is the Commission on Dental Accreditation (CODA) which is responsible for setting program standards. “The Commission on Dental Accreditation serves the oral health care needs of the public through the development and administration of standards that foster continuous quality improvement of dental and dental related educational programs” [CODA, 2013].

These standards have been developed for the following reasons: (1) to protect the public welfare, (2) to serve as a guide for dental hygiene program development, (3) to serve as a stimulus for the improvement of established programs, and (4) to provide criteria for the evaluation of new and established programs. To be accredited by the Commission on Dental Accreditation, a dental hygiene program must meet the standards set forth in this document.

There are two standards in the CODA document that apply to management of the dentally anxious patient. One addresses pain management and the second refer to special needs patients. Standard #2-8c states, “Dental hygiene science content must include tooth morphology, head, neck and oral anatomy, oral embryology and histology, oral pathology, radiography, periodontology, pain management, and dental materials” [CODA, 2013]. Pain management can include the use of behavioral techniques for the dentally anxious patient. Standard # 2-8d states, “Dental hygiene science content must include oral health education and preventive counseling, health promotion, patient management, clinical dental hygiene, provision of services for and management of patients with special needs, community dental/oral health, medical and dental emergencies, legal and ethical aspects of dental hygiene practice, infection and hazard control management, and the provision of oral health care services to patients with blood borne infectious diseases” [CODA, 2013]. Dentally anxious patients are in the category of special needs patients. The description of the so-called “vicious cycle” of dental anxiety causing dental neglect [CODA, 2013, Armfield, 2013] illus-

trates that provision of services for and management of patients with special needs applies to the dentally anxious patients.

Current dental hygiene textbooks (Darby and Wilkins) continue to emphasize the importance of respecting the patient's comfort and sense of control by including topics on behavioral management of dental fear and anxiety and pain and anxiety control. The dental hygiene care plan for fearful patients should be designed to include a behavioral management component to promote a sense of control and to optimize the patient's cooperation and comfort.

The Human Needs Theory is considered to be a main pillar of dental hygiene education as it relates Maslow's hierarchy of needs to the practice of dental hygiene. The most basic level of need is physiological. The second level is safety including the need for stability, protection, structure and freedom from fear and anxiety [Darby and Walsh, 1993]. Freedom from fear and stress is the need to feel safe and to be free from emotional discomfort in the oral healthcare environment and to receive appreciation, attention, and respect from others.

### 1.1 Prevalence of Dental Anxiety

International estimates of the prevalence of dental anxiety show that 5-7% of the population rarely or never visits a dentist because of their fears, and that 50-60% of those patients have a specific fear of dental procedures [De Jongh et al., 2005]. In the United States it is estimated that 40% of the population is apprehensive about dental visits, 20% is highly fearful and 5% avoids oral health care completely due to dental anxiety [Doebbling and Rowe, 2000].

An anxious patient reports feeling more pain than a calm patient [Gatchel, 1992] so it is an important endeavor to decrease the level of each patient's anxiety. Fear of going to the dentist is one of the most widespread forms of fear in everyday

life [Coriat, 1946]. This fear is a true form of “anticipatory anxiety” because it is not motivated solely by pain or the anticipation of pain, and that it may occur even when the patient knows that an anesthetic will be used. Such a patient could have an exaggerated feeling of helplessness in the anticipated traumatic situation [Capps and Carlin, 2011].

In 2013, Wide Boman et al. conducted a systematic review of randomized controlled trials (RCTs) on the efficacy of behavioral interventions as treatment of dental anxiety/phobias. There is evidence that behavioral interventions can help adults with dental anxieties and phobias. Cognitive behavioral therapy (CBT) and behavioral therapy (BT) resulted in a significant reduction in dental anxiety [Wide Boman et al., 2013]. A high level of predictability during treatment and training patients to use coping skills are useful options for the management of anxious dental patients and helps to reduce their anxiety levels [De Jongh et al., 2005]. Considering the high number of patients with dental anxiety or phobias a better knowledge of these methods would improve dental care for the majority of these patients [Berggren, 2001]

## 1.2 Physiology of Anxiety

Factors affecting pain can include previous experiences, current expectations, distractions, current emotional states, and cognitions [Berggren, 2001]. Pain is no longer considered a sensation but is now understood to be a perception [Pawlicki, 1991]. Certain stimuli trigger dental fear so it is important to identify stimuli in anxious dental patients. Dental hygienists should be aware of a patient’s increased need for reassurance and use behavioral management techniques to reduce their anxiety [Swarthout-Roan and Singhvi, 2013]. When the oral health provider knows which stimuli produce anxiety and fear, then they can find ways to limit those

specific items and help the patient have some level of control during treatment [Brahm et al., 2013]. A positive experience will help lower negative perceptions of oral health care [Gordon et al., 2013].

In 1991, Pawlicki described pain as having three relevant characteristics that promote dental anxiety: novelty, uncertainty, and expectation. Novelty can be described as a new experience that is viewed with apprehension. People are more comfortable in familiar situations and do not like change. Uncertainty is the situation of not knowing what will happen next which causes one to feel anxious. Expectation from statements made by family, friends, or media has the effect of causing fear or anxiety before the patient arrives in the dental office [Pawlicki, 1991].

Two dimensions of stress are high demand and actual or perceived level of control. Many individuals can handle high demands but no one can handle impossible demands. When control is taken away, anxiety skyrockets [Harvey, 2005]. If patients are allowed to use a hand signal to stop the procedure, it makes the treatment a collaborative experience. Anticipatory anxiety is the worst kind and the best anxiolytic is good information [Harvey, 2005]. Breathing and relaxation techniques can help, but an informative, kind and competent oral healthcare provider can help a patient learn how to be a more relaxed dental patient [Pawlicki, 1991].

### 1.3 Benefits of Behavioral Management Techniques for Patients

There is ethical support for the use of non-pharmacological methods of managing dental anxiety [Donate-Bartfield et al., 2010]. One of the main benefits of using behavioral management techniques is that it achieves a more lasting solution to the problem of dental anxiety. This maximizes adherence to the ethical principles of beneficence and patient autonomy.

It can be argued that pharmacological interventions are overused. Pharmaco-

logical agents only work on the pain perception in the somatic dimension yet pain includes cognitive and affective dimensions providing even more reason to use non-pharmacological techniques. Behavioral management techniques are potentially effective in all three dimensions. Since exposure to certain stimuli triggers dental fear, it is important to identify anxious oral healthcare patients and their triggers, so that oral health care providers can be sensitive to the patient's fear. Providing a positive experience will help to lower negative perceptions of oral health care. If particular stimuli produce anxiety and fear, then ways to limit exposure to them is necessary [Doebbling and Rowe, 2000].

The use of behavior therapy for dental phobia was examined by [Forbes et al., 2012] to determine how patients rate the acceptability of behavioral therapy. Behavioral therapy was rated as more acceptable than intravenous sedation by the patients and a previous history of intravenous sedation was associated with a decreased perception that it is possible to overcome dental fear [Forbes et al., 2012]. Behavioral techniques can teach patients how to cope with anxiety and tension while undergoing dental procedures. Practitioners need to know which technique best fits each patient [Gatchel, 1992].

Gordon, Heimberg, Tellez, and Ismail reviewed twenty-two randomized treatment trials published in peer-reviewed journals between 1974 and 2012 aimed at reducing dental anxiety and avoidance in adults. Cognitive-behavioral therapy (CBT), relaxation training, benzodiazepine premedication, music distraction, hypnotherapy, acupuncture, nitrous oxide sedation, and the use of lavender oil scent were reviewed for their efficacy when treating dental anxiety in adults [Gordon et al., 2013]. CBT showed the most evidence for its efficacy. [Kvale et al., 2004] found cognitive techniques, relaxation and techniques to increase the patients' sense of control were also shown to be effective but performed best when combined with repeated, graduated

exposure.

Children with dental anxiety have been treated with success by using different modalities. In 1988, Greenbaum and Melamed researched the technique of pretreatment modeling as a preventive measure used with children who have had no prior exposure to dental treatment. One effective method of this modeling is the use of media in the waiting room portraying well behaved children receiving dental treatment. Based on the assumption that much of adult dental avoidance results from dental fears acquired during childhood this technique could have a positive effect on the individual's tendency to seek out dental healthcare throughout his or her lifespan [Greenbaum and Melamed, 1988].

There are also long and short-term benefits for dentists who treat anxious pediatric patients. Dental management of the child is a prerequisite to providing good dental care. Pediatric dentists recognize that behavioral management of the child cannot be separated from the quality of the dentist's work. Dentists consider the fearful, disruptive child to be among the most troublesome problems in their clinical practice. By reducing the disruptive behavior of the anxious child patient such as crying, screaming, flailing about and hitting the clinician or equipment, the most dangerous part of pediatric dentistry can be minimized, the treatment time can be shortened and the quality of work increased [Greenbaum and Melamed, 1988].

#### 1.4 Dentist's Viewpoint of Treating the Dentally Anxious Patient

Dentists' perceived stress and its relation to perceptions about anxious patients has been the topic of research for many years. Dentists rated the five most intense stressors as: running behind schedule, causing pain, heavy work load, late patients and anxious patients. Nearly all dentists' main treatment strategy has been talking with their anxious patients to help the patients cope. Some dentists appeared to

require additional knowledge about dental anxiety and managing their own stress [Moore, 2001].

Dentists' skills with fearful patients can be attributed to the amount of education they have received in treating this patient population [Brahm et al., 2013, Moore, 2001]. Competency in the use of anxiety-reducing techniques is associated with self-efficacy. When integrating the dental phobic patient into the general dental practice, the central issue is the development of a one-on-one relationship with the dentist [Kaplan and Fishbein, 1988]. A caring attitude should be communicated from the dental office at the time of the first phone call. The treatment of these patients requires extra time, patience, and energy on the part of the practitioner and staff but the successfully treated dental phobic can be among the most rewarding patients in the private practice of dentistry. The relationship between a dental professional and the patient is integral to the practice thriving and patients returning. Most patients trust the staff member and establish a "dental home" in which they feel cared for and safe. For some people, a history of personal trauma, anxiety, or substance use can paralyze them during a dental appointment. Awareness of potential stressors that provoke these behaviors, including the neurobiological responses to trauma, can help dental professionals provide optimum service with empathy and compassion [Swarthout-Roan and Singhvi, 2013].

### 1.5 Dental Hygienists View of Treating Patients with Dental Anxiety

The emotional demands of dental hygienists when interacting with anxious patients can be referred to as emotional labor. Dental hygienists appear to experience the professional stressor of wanting to provide high quality oral prevention services yet having to impose mild pain or discomfort on their patients during the course of treatment. Occupational stress represents a cause of attrition from the field of dental



hygiene. Some of the stressors include the style of leadership of the dental practice and the concept of emotional labor [Sanders and Turcotte, 2010].

In 2000, Grandey developed the Model of Emotional Labor in order to examine the causes and effects of emotional labor on workers and organizations. The two types of emotional labor are deep acting and surface acting [Grandey, 2000]. Deep acting refers to changing one's perception of an event (cognitive reappraisal) or diverting one's attention to positive thoughts (positive refocus) which can change the underlying emotions [Grandey, 2000]. Deep acting is less stressful because it involves changing one's inner emotions on the job by respecting the patient's point of view and past experience.

Surface acting involves modifying one's outward expression in response to the situation but not changing inner thoughts. This can include faking emotions, intensifying emotion or suppressing emotions. Both deep and surface acting have some detrimental effects because of the effort required to portray a pleasant demeanor while feeling stressed but surface acting is the more stressful of the two and has been associated with feeling emotionally drained and numb. Deep acting was not associated with these feelings. Negative emotional labor has been associated with individual and organization consequences such as burnout, employee attrition and poor job performance [Grandey, 2000, Quick et al., 1997].

Interpersonal relationships are important for communication, oral health education, and patient's satisfaction with dental care. In 2008, Ohrn, Hakeberg and Abrahamsson compared patients' specific attitudes towards dentists and dental hygienists in a comparative study of dental beliefs. To assess patients' attitudes towards dental caregivers a Swedish version of the revised Dental Belief Survey (DBS-R) and a comparable and partly new instrument, the Dental Hygienists Belief Survey (DHBS) were evaluated by Ohrn et al. to examine if patients' attitudes towards

dental hygienists (DH) and dentists (D) differ with regard to the separate items in the DBS-R and DHBS. The overall pattern in the results showed that participants in general had a less negative attitude towards dental hygienists when compared with that of dentists except in situations that may give rise to feelings of guilt or shame [Ohrn et al., 2008].

### 1.6 Assessing Levels of Dental Anxiety

There are two widely used scales to assess dental anxiety and fear, the Modified Dental Anxiety Scale (MDAS) and the Dental Fear Survey (DFS). The MDAS consists of five questions regarding feelings and physiologic reactions to the dental environment [Humphris et al., 1995]. Each of the five questions is graded from one point to five points. A person with no dental anxiety would score five points total and one with extreme anxiety would score a total of twenty five points. The Dental Fear Survey (DFS) assesses a wider range of dental fear across three different dimensions: avoidance and anticipatory anxiety, autonomic or physiologic arousal, and fear of specific objects or situations, for example the sight of the dental needle or the sound of the dental drill [Kleinknecht, 1978]. This survey has twenty items which are rated with a low of one to a high of five points. Scores range from 20 (lowest) to 100 (highest). Severely dentally anxious people have a score of 75 and above.

According to [Darby and Walsh, 2010], a comprehensive approach to assessing dental patients level of anxiety should include four components: a written questionnaire to assess the patients self-reported amount of dental anxiety, a verbal interview, vital signs to monitor physiological effects of stress, and careful observation which will allow the dental hygienist to recognize effects of fear and stress on behavior as well as on thoughts and feelings. The written assessment questionnaire could be

filled out by the patient in the waiting room at their first visit. The verbal interview would take place in the operatory before the chair was reclined on an eye to eye level so the patient feels respected and valued by the dental hygienist. Active listening by the dental hygienist includes eye contact and giving a summary of what the patient has described to confirm the validity of what was understood by the dental hygienist in the patient's report. The next step is taking vital signs. While taking the blood pressure close observation of the patient is required. Signs of somatic changes such as dilated pupils, shortness of breath, increased perspiration are noted. Behavioral manifestations such as gripping the dental chair, refusal to co-operate, or other signs of anxiety, forgetfulness, lack of concentration, anger, or resentment let the dental hygienist adjust for the special needs of the patient. [Darby and Walsh, 2010].

### 1.7 Intervention for Patients with Low Levels of Dental Fear

The levels of dental anxiety (low, moderate and high), and urgency of treatment need, determine the approach that should be taken in the management of dental anxiety. For children with low levels of dental fear, evidence-based approaches that can be adopted which include rapport building, voice control, distraction, modeling and memory reconstruction [Peretz and Gluck, 2005]. Rapport building could include the use of a magic trick to encourage children who had previously refused to enter the operatory, to sit in the dental chair or to have an x-ray taken. The mechanism of action for this technique is unclear but one element could be that rapport building improves cooperation.

In 1988, Greenbaum and Melamed studied the use of voice control on children with low levels of dental fear. The dentist used a loud voice when working on disruptive children between the ages of three to seven years old. The children who received loud commands reported finding the interaction more pleasurable than the normal

voice level group. The use of distraction was studied by Ingersoll in 1984 and results showed that the most significant reduction in anxiety related to behavior is found when the distracting material is made contingent on cooperative behavior. Children who were shown cartoons which were stopped if they became uncooperative, showed less than half the levels of disruptive behavior in comparison to children who were shown cartoons regardless of their behavior [Filcheck et al., 2004]. Modeling has been used extensively with children and is most effective if the observed child is similar in age, gender and level of dental anxiety to the child watching [Wardle, 1982]. Memory reconstruction is the use of positive images to help children reconstruct their memory of dental treatment [Auerbach et al., 1976]. This technique is made up of four components: visual, verbal, a concrete example and the sense of accomplishment. Environmental change is another helpful aspect which could include simply making the setting of the dental office friendlier for children.

Adult patients with low levels of dental fear have been helped by enhancing their sense of control, such as the use of a stop signal or allowing the patient to control the suction tip. Cognitive distraction is accomplished by encouraging the patient to think about something other than the dental situation [Corah et al., 1979]. Environmental change includes the use of aroma therapy in the waiting room to reduce immediate fear about treatment, which demonstrates the importance of considering both the immediate response to the setting and more long-term cognitions underlying the patient's reaction to dental treatment [Kritsidima and Asimakopoulou, 2010].

### 1.8 Interventions for Individuals with Moderate Levels of Anxiety

The adoption of all the approaches identified for individuals with low levels of anxiety will help to create a calm and welcoming environment [Newton et al., 2012]. Three important aspects of preparatory information include procedural information,

sensory information and coping information. The characteristics of the individual will determine how much information should be given. Patients with an internal locus of control show greater benefit in terms of anxiety reduction from the provision of information than individuals with a more external locus of control [Auerbach et al., 1976].

### 1.9 Interventions for Individuals with High Levels of Anxiety

Pharmacological management of dental anxiety includes relative analgesia, conscious sedation and general anesthesia. Patients who have delayed getting dental treatment to the point where they are in severe pain or have otherwise compromised their oral health will require such measures. In general, pharmacological approaches are seen as less acceptable in the management of dental fear when compared to psychological techniques both by individuals with extreme dental fear and members of the general public [Forbes et al., 2012, Newton and Sturmev, 2003].

Cognitive behavioral therapy (CBT) is an example of a brief psychological therapy with known effectiveness. It is a synthesis of behavior therapy and cognitive therapy and uses both behavior modification techniques and cognitive restructuring procedures to change maladaptive beliefs and behaviors [Atkinson et al., 1996]. Behavioral aspects of CBT include learning relaxation skills and using systematic desensitization. The way people think about events plays a central role in their emotions and physiological responses. Anxiety and physiological responses such as sweating, and dilated pupils, reinforce negative behaviors such as avoidance [Thorpe and Salkovskis, 1995]. Both cognitive and behavioral interventions have been shown to be successful in reducing dental anxiety and increasing dental attendance [De Jongh et al., 2005]. The problem of dental anxiety affects both the dental healthcare providers and patients; however it is unknown how well prepared dental hygienists are to deal with this prevalent condition.

The purpose of this study was to measure the knowledge, attitudes and practices of dental hygienists regarding the use of behavioral management techniques for patients with dental anxiety.

The research questions for this study were:

1. What is the knowledge level of dental hygienists regarding the use of behavioral management techniques for the dentally anxious patient?
2. What are dental hygienists' attitudes about providing behavioral management techniques?
3. What are dental hygienists' practices in providing behavioral management techniques?
4. What factors affect dental hygienists' usage of behavioral management techniques?

## 2. METHODS AND MATERIALS

### 2.1 Sampling Strategy

The participants in this study were registered dental hygienists currently licensed in Texas. The names and addresses of these dental hygienists were obtained on March 15, 2014 from the Texas State Board of Dental Examiners (TSBDE) website. The licensing information is updated annually and contains the name, address, license number, status and date of issue of all licensed Texas dental hygienists. The number of active dental hygienists was 12,588.

The sample size of 220 was calculated using G-power with an error rate of 0.05 and a 95% confidence level. To correct for less than 100% response rate, a random selection of 300 dental hygienists was chosen. The complete list of dental hygienists was numbered from 1 to 12,588. Python's built-in library random sample function was used to select 300 random numbers which were matched to the list to identify the individuals for the sample. A second randomization was done of these 300 names to protect the confidentiality of the sample group's identification.

### 2.2 Pilot Testing

The survey instrument was pilot tested with fifteen dental hygienists who were full or part-time faculty members of a dental hygiene bachelor's degree program. The survey took 5-9 minutes to complete and feedback was given regarding suggested improvements in the wording of both the questions and possible responses. The suggested improvements were made and a new survey instrument was presented and approved for content by a panel of three faculty members.

### 2.3 Survey Instrument

A twenty-six question survey was designed to measure the knowledge, attitudes and practices of registered dental hygienists' use of behavioral management techniques for their dentally anxious patients (Appendix A). The survey format included five domains: Demographics, Knowledge, Attitudes, Practices and Affecting Factors.

Section one of the survey asked demographic information including number of years practiced, number of hours a week practiced and highest level of education completed. Information on the type of practice in which the dental hygienists worked: general, specialty or academic setting was asked. Respondents were asked the percentage of patients in their practice showing signs of dental anxiety and if the dental hygienists had taken any continuing education courses on the topic of dental anxiety. Section two of the survey contained seven knowledge questions specific to the topics presented in dental hygiene textbooks. Section three asked six attitude questions. Section four contained four practice questions on whether or not the dental hygienist had used behavioral management techniques and if so what type(s) they had used. Section five asked four questions to identify factors that might affect the dental hygienists' ability to use behavioral techniques. These included perceived competency, lack of agreement by the employer dentist and personal preferences. The survey ended with an open-ended/qualitative question allowing the subject to express any additional information they wished to share on the topic of the dentally anxious patient.

### 2.4 Survey Mailing and Tracking

The survey package included the following items: survey, cover letter and stamped return envelope. There were two points of contact with the respondents which included 1) the first survey mailing with the first cover letter, survey and stamped



return envelope and 2) the second cover letter with survey and stamped return envelope sent to subjects who had not yet returned the first mailed survey. Respondents were given three weeks to return the first mailing before the second mailing was sent.

## 2.5 Consent and Confidentiality

Consent was assumed with the return of the survey. The surveys were coded with numbers one through three hundred and logged in as returned by number without the names attached. The second mailing was to subjects who had not returned the surveys from the first mailing. Fifteen of the first mailed surveys were returned as undeliverable. The master list was stored in a locked file cabinet in room 136A at Baylor College of Dentistry. The information linking names to participants was destroyed after the second mailing. This project received IRB “Expedite” approval protocol number: 2014-0243-BCD-EXP.

### 3. RESULTS

Of the 300 dental hygienists names randomly selected from the Texas State Board of Dental Examiners' (TSBDE) website, 15 had incorrect addresses leaving a total of 285. Ninety-four surveys were returned. The response rate was 32.98% (94/285). The frequency results for all survey questions are shown in Appendix A. SPSS software was used including descriptive statistics-frequencies and cross tabulations to identify the knowledge, attitudes, practices and affecting factors of the dental hygienists use of behavioral management techniques. No significant correlations were found between correctly answering the knowledge questions and the degree level of the dental hygienists, and no significant correlation between knowledge and number of years practicing. Open-ended comments were transcribed and analyzed by themes.

#### 3.1 Demographics

The first section of the survey asked demographic questions starting with the number of years they had been a dental hygienist. The largest group of respondents (46.8%, n=44) had been in practice for more than twenty years (Table B.1). The second largest group (19.1%, n=18) had practiced six to ten years. The third group (14.9%, n=14) had practiced for the shortest time, zero to five years. The fourth group had practiced sixteen to twenty years (10.6%, n=10) and the smallest group eleven to fifteen years (8.5%, n=8).

Number of hours per week involved in direct patient care was question number two. Forty-two respondents (44.7%) worked more than thirty hours per week (Table B.2). The next highest group (35.1%, n=33) worked between twenty-one to thirty hours per week.

The highest level of education completed by the respondents is shown in Ta-

ble B.3. The largest group had Bachelor's degrees (50%, n=47) followed by Associate's degrees (42.6%, n=40), Master's degrees (6.4%, n=6) and one had a dental hygiene certificate (1.1%).

The majority of respondents (87.2%, n=82) practiced in general dentistry offices (Table B.4). Eight of the dental hygienists (8.5%) worked in specialty settings which included Pediatric, Periodontal, Military and Public Service.

Question five asked the subjects the percentage of their patients showing signs of having dental anxiety. Forty respondents (43.5%) reported that 11-20% of their patients had dental anxiety; twenty-nine (31.5%) indicated that 1-10% showed signs of being dentally anxious (Table B.5). A smaller group of respondents, (15.2%, n=14) reported a higher percentage (21-30%) of their patients having dental anxiety and nine respondents (9.8%) estimated more than 30% of their patients were anxious.

The subjects were asked if they had taken any continuing education courses on the topic of dental anxiety (Table B.6). The majority of the respondents (60.6%, n=57) had never taken a continuing education course on this topic. Twenty-nine (30.9%) had taken 1-2 classes, seven (7.4%) had taken 3-5 courses and one (1.1%) had taken more than five continuing education courses about dental anxiety.

### 3.2 Knowledge

The first knowledge question (Table B.7) asked the subjects the percentage of the population that is apprehensive (mild anxiety) about dental visits. The largest number of respondents (49.5%, n=46) answered correctly that 26 to 50% of the population has mild anxiety. Eighteen respondents (19.4%) underestimated this population at 0-25%. Twenty-nine respondents (31.2%) overestimated that 51 to 100% of the population is affected by this condition.

The second knowledge question asked the percentage of the population having

moderate to severe dental anxiety. The correct answerer was 20-29% (Table B.8). Twenty- nine respondents (31.2%) answered correctly. A slightly higher number of respondents (32.3%, n=30) answered incorrectly that 10 to 19% of the population has moderate to severe anxiety.. Twenty-two respondents (23.7%) chose 0-9% of the population as their answer and twelve respondents (12.9%) answered that 30-49% of Americans have moderate to severe dental anxiety.

The third knowledge question asked the definition of the “vicious cycle”. Almost all of the respondents (94.3%, n=82) knew the correct definition (Table B.9). Only two respondents (2.2%) answered incorrectly and three (3.4%) said they did not know the answer.

The fourth knowledge question asked what type of response pain is considered to be: an emotional response, a physiological response or a combination of the two (Table B.10). The majority of respondents (93.5%, n=87) correctly answered that it was a combination of emotion and physiology. Only 6.5% (n=6) considered pain to be solely a physiological response.

The fifth knowledge question asked in which dimension pharmacological agents work. Slightly less than half (49.4%, n=41) of the respondents knew that pharmacological agents work in the somatic dimension (Table B.11). Almost a third (28.9%, n=24) answered that these agents work in the cognitive dimension and 14.5%, (n=12) did not know in which dimension pharmacological agents work.

The sixth knowledge question asked how the subjects treated dentally anxious patients. When working on a patient who exhibits dental fear, most (98.8%, n=85) of the dental hygienists responded that they understood the patient’s behavior and responded with empathy (Table B.12).

The last knowledge question was a true/false question, “One of the main benefits of using behavioral management techniques is that it achieves a more lasting solution

to the problem of dental anxiety”. Table B.13 shows that the majority of respondents (97.9%, n=92) knew the correct answer was true. Only two respondents (2.1%) found that statement to be false.

### 3.3 Attitudes

Section three examined the attitudes of the subjects regarding dental anxiety. The first question in this section asked if behavioral management techniques were learned during their dental hygiene education (Table B.14). Slightly more than half of the respondents (56.4%, n=53) reported having learned behavioral management techniques during their dental hygiene education and 41 (43.6%) answered that they had not. The second attitudes question asked if the subjects use the techniques they learned during their dental hygiene education (Table B.15). The same fifty-three (56.4%) respondents answered yes. Thirty-one (33.3%) reported that this question did not apply to them.

The third attitudes question asked, “Do you think your dentally anxious patients would benefit if you knew more about behavioral management techniques?” Table B.16 shows that 91 (96.8%) of the respondents said yes, only 3 (3.2%) answered no.

The fourth attitudes question asked, “Which methods do you feel are most effective for patients with dental anxiety?” Seventy-five (79.9%) stated a combination of pharmacologic and behavioral management techniques would be the most effective (Table B.17).

The fifth attitudes question asked, “Which methods do you think patients are more comfortable using?” Table B.18 shows that fifty-eight (62.4%) selected a combination of pharmacological and behavioral management techniques followed by pharmacological methods alone (26.9%, n=25) and lastly, behavioral methods alone

(7.5%, n=7).

The sixth attitudes question asked, “Do you feel you are effective when you use behavioral techniques on your patients?” Table B.19 shows that the majority of respondents feel they are effective when they use behavioral techniques on their patients (87.1%, n=81).

### 3.4 Practices

The first question in section four asked if the subjects used any standardized tests such as the Modified Dental Anxiety Scale (MDAS) to determine a patient’s level of dental anxiety prior to treatment (Table B.20). Only four (4.3%) of those surveyed were using some type of dental anxiety questionnaire; eighty-four (89.4%) were not.

The second practices question asked, “Have you successfully helped your patients feel more comfortable using behavioral techniques?” Table B.21 shows that 78.7% of the respondents (n=74) said they had successfully helped their patients feel more comfortable during dental hygiene appointments by using behavioral techniques. Sixteen (17.0%) did not know if they had been successful helping the patients feel more comfortable, and four (4.3%) did not use these techniques.

The third practices question asked the subjects which behavioral management techniques they used (Table B.22). A combination of breathing and distraction was used by 23.1% (n=21) followed by distraction alone (13.2%, n=12). Respondents were allowed to circle all the answers that applied to them. The possible answers on this question were: guided imagery, breathing techniques, cueing, distraction or other.

The fourth practices question asked the subjects which types of distraction aids they used. The results are shown in descending order in Table B.23. The most common combination was Auditory/Tactile (23.7%, n=22) followed by Vi-

sual/Auditory/Tactile (17.2%, n=16).

### 3.5 Affecting Factors

The first question in section five asked, “Do you feel competent treating dentally anxious patients?” Table B.24 shows that 82 respondents (88.2%) felt competent treating this type of patient.

The second affecting factors question asked the subjects, “If you are not using behavioral techniques/why not?” Three respondents (15.8%) stated it takes too much time, two (10.5%) would rather have the patient use meds and two (10.5%) were not allowed by the dentist to use behavioral managements techniques (Table B.25).

The last multiple choice question (Table B.26) asked, “Does the dentist you work with encourage the use of behavioral techniques on their patients?” Fifty-three (58.9%) answered yes, while thirty-seven (41.1%) reported no or don’t know.

### 3.6 Qualitative Answers

The final question on the survey was an open-ended/qualitative question asking: Is there anything that you would like to add about the topic of the dentally anxious patient? Of the 94 dental hygienists responding to the survey, 51 left comments regarding their use of behavioral management techniques on their own patients. Some of the themes that emerged are shown in the table below.

## 4. DISCUSSION AND CONCLUSION

### 4.1 Knowledge

This study showed that while the majority of respondents had learned some behavioral management techniques during their dental hygiene education, a much larger number felt they needed more training to effectively help their dentally anxious patients. The main benefit of using behavioral management techniques, as described by Donate- Barfield in 2010 is to achieve a more lasting solution to the problem of dental anxiety. This benefit was clearly understood by the respondents of this survey.

The locus of the pain response was known to be a combination of emotion and physiology by most of the respondents. However, less than half knew that pharmacological agents work only in the somatic dimension. Dental hygienists who are unaware that part of the patients pain will not be alleviated by local anesthesia or other pharmaceutical agents might be less able to help re-train the patient using behavioral management techniques.

Many respondents were not aware of the current percentage of the population with mild, moderate and high levels of dental anxiety. Knowing how widespread this condition is could be a motivating factor to improve the level of knowledge of effective techniques to help the dentally anxious patient.

### 4.2 Attitudes

More than half of the respondents reported having learned behavioral management techniques during their dental hygiene education and 100% of the respondents who had learned these techniques implemented them in their practice. A large number felt they needed more training and that their dentally anxious patients would benefit if they knew more behavioral management techniques. Thus the need for



more continuing education on this topic was clearly shown.

There was a difference between which techniques the respondents thought were more effective and which they thought their patient would prefer. Almost 80% stated that a combination of pharmacological and behavioral management techniques would be most effective and yet only 60% thought their patients would be more comfortable using this combination. This discrepancy might show a lack of communication between the dental hygienist and the patient. In 1991, Pawlicki wrote that breathing and relaxation techniques can help, but an informative, kind and competent oral healthcare provider can help a patient learn how to be a more relaxed dental patient. If the dental hygienist knew more about the emotional and physiological aspects of dental anxiety they would be better equipped to help their patients overcome this condition.

The emotional demands of dental hygienists when interacting with anxious patients can be referred to as emotional labor. Dental hygienists appear to experience the professional stressor of wanting to provide high quality oral healthcare yet have to impose mild pain or discomfort on their patients during the course of treatment as studied by Sanders in 2010. Dental hygienists who have learned to calm the dentally anxious patient help not only the patients but also themselves by decreasing their own stress and enjoying the benefits of a sense of accomplishment.

### 4.3 Practices

Most dental hygienists responding had successfully helped their patients feel more comfortable during the appointment by the use of behavioral management techniques. The techniques respondents reported using most were breathing techniques and distraction which included music and a warm blanket. A large number of the respondents reported feeling effective using behavioral techniques on their patients.

This is important because the dental hygienist who feels effective helping their patients by using these techniques will more likely be able to make a positive difference in their patients' dental experiences.

#### 4.4 Affecting Factors

The respondents stated they felt competent treating dentally anxious patients but wanted to take more training in the form of continuing education courses. More than half of the respondents reported that the dentist they work with encourages the use of behavioral management techniques and that it would be beneficial for the entire dental team to receive more education on this topic.

The small group of respondents who were not using behavioral techniques gave several answers why they chose not to, including: that it takes too much time, they would rather have the patient use pharmacological agents, or that their practice did not allow this. More than half of the respondents stated the dentist they work with encourages the use of behavioral techniques on their patients.

#### 4.5 Qualitative Answers

This section of the study allowed the respondents to freely give their opinions on their own experiences using behavioral techniques. Many expressed a sense of satisfaction in helping their patients overcome dental anxiety. The most common theme was the need to feel empathy and understanding for the patient. Another important theme was the need for more education on the topic of behavioral techniques, both in the dental hygiene program and later continuing education courses.

One respondent accurately described the use of pharmacological agents as harmful because they do not allow the patient to get over dental anxiety. This echoes the study by Donate-Barfield in 2010 supporting the ethical rationale for using behavioral techniques.

Another theme was the need for more time when treating dentally anxious patients. Several respondents stated that sufficient appointment time results in a calm dental environment promoting a less anxious dental patient.

Many respondents wrote that building a relationship of trust with the patient was mutually beneficial and added to the dental hygienist's feeling of accomplishment. The respondents described the need to communicate effectively both by talking and listening as essential components of retraining the dentally anxious patient to be a more relaxed dental patient.

#### 4.6 Limitations and Future Research

The demographic concentration of respondents was not representative of a random sample of dental hygienists in the state of Texas. According to recent survey of Allied Dental Education (ADA) reports, the number of respondents with an Associate degree was expected to be 2-3 times more than respondents with a Bachelor's degree for the state of Texas. The majority of respondents to this survey had Bachelor's degrees.

The history of dental hygiene education in the United States is over one hundred years old while many countries around the world have only recently started accredited educational programs. Further research on this topic could include a wider geographic area and examination of differences between and among groups. This topic could be evaluated internationally to compare new dental hygiene education programs to established accredited programs.

#### 4.7 Conclusion

Texas dental hygienists are interested in helping their dentally anxious patients learn to be calmer and more relaxed which in turn improves the health of the patient and decreases stress on the dental hygienist. The prevalence of dental anxiety

could be reduced if dental hygienists learned even more on the topic of the dentally anxious patient both in their dental hygiene education and throughout their careers by attending continuing education courses.

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## APPENDIX A

### DENTAL HYGIENISTS' USE OF BEHAVIOR MANAGEMENT TECHNIQUES SURVEY

#### Demographics

1.

How many years have you been a Dental Hygienist?

- a. 0-5      b. 6-10      c. 11-15      d. 16-20      e. 21+

2.

How many hours each week are you involved in direct patient care?

- a. none      b. 1-10      c. 11-20      d. 21-30      e. 31+

3.

What is the highest level of education that you have completed?

- a. Associates  
b. Bachelors  
c. Masters  
d. Doctorate

4.

Which best describes the type of practice/practices that you work in?

- a. General practice

b. Specialty practice (specify) \_\_\_\_\_

c. Not currently practicing

d. Academic setting

5.

What percentage of your patients show signs of having dental anxiety?

a. 1-10%

b. 11-20%

c. 21-30%

d. 31+%

6.

Have you taken any continuing education courses on the topic of dental anxiety?

a. no

b. yes (1-2 courses)

c. yes (3-5 courses)

d. yes (more than 5)

### Knowledge

7.

What percentage of the population is apprehensive (mild anxiety) about dental visits?

- a. 0-25%
- b. 26-50%
- c. 51-75%
- d. 76-100%

8.

What percentage of the population reports moderate to severe dental anxiety?

- a. 0-9%
- b. 10-19%
- c. 20-29%
- d. 30-49%

9.

The “vicious cycle” is:

- a. when the patient acts aggressive during the hygiene appointment
- b. avoiding dental care because of fear which leads to more dental problems
- c. the progression of periodontal disease requiring more dental treatment
- d. do not know

10.

Do you consider pain as:

- a. an emotional response
- b. a physiological response
- c. a combination of emotion and physiology

11.

Pharmacological agents work in which dimension?

- a. somatic (body)
- b. cognitive (mind)

- c. affective (emotional)
- d. do not know

12.

When working on a patient who exhibits dental fear do you:

- a. refer the patient to another dentist or hygienist
- b. diagnose the patient with a mental disorder
- c. understand the patient's behavior and respond with empathy
- d. ask the patient if they have an anxiety disorder
- e. do not know

13.

One of the main benefits of using behavioral management techniques is that it achieves a more lasting solution to the problem of dental anxiety.

- a. true
- b. false

### **Attitudes**

14.

Did you learn behavioral management techniques during your dental hygiene education?

- a. yes
- b. no

15.

Do you use the techniques you learned during your dental hygiene education?

- a. yes
- b. no
- c. not applicable

16.

Do you think your dentally anxious patients would benefit if you knew more about behavioral management techniques?

- a. yes
- b. no

17.

Which methods do you feel are most effective for patients with dental anxiety?

- a. pharmacological interventions ( nitrous oxide, IV sedation, oral medications: halcion, valium, etc.)
- b. behavioral management interventions ( guided imagery, breathing techniques, cueing, modeling, etc.)
- c. a combination of pharmacological and behavioral management
- d. do not know

18.

Which methods do you think patients are more comfortable using?

- a. pharmacological interventions
- b. behavioral management interventions
- c. a combination of pharmacological and behavioral management
- d. do not know

19.

Do you feel you are effective when you use behavioral techniques on your patients?

- a. yes
- b. no
- c. not applicable

### **Practices**

20.

Does your office, or do you, use any standardized test such as the Modified Dental Anxiety Scale (MDAS) to determine a patient's level of dental anxiety prior to treatment?

- a. yes
- b. no
- c. not applicable

21.

Have you successfully helped your patients feel more comfortable during their

appointment by the use of behavioral management techniques?

- a. yes
- b. no
- c. don't know
- d. don't use

22.

Which techniques are you using? (Circle all that apply)

- a. guided imagery
- b. breathing techniques
- c. cueing
- d. distraction
- e. other \_\_\_\_\_

23.

What type of distraction aids are used in your office to help patients relax throughout the appointment? (Circle all that apply)

- a. visual aids – television
- b. auditory aids – music
- c. olfactory aids – aroma therapy
- d. tactile aids – warm blanket
- e. none



## Affecting Factors

24.

Do you feel competent treating the dentally anxious patient?

a. yes

b. no

25.

If you are **not** using behavioral management techniques, why not? (Circle all that apply)

a. takes too much time

b. don't like to

c. would rather have patient use pharmacological agents or nitrous oxide

d. don't believe they help

e. not allowed by the dental office

f. other \_\_\_\_\_

26.

Does the dentist you work with encourage the use of behavioral management techniques on their patients?

a. yes

b. no

c. don't know

27.

Is there anything that you would like to add about the topic of the dentally anxious patient?

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## APPENDIX B

### RESULTS TABLES

#### Demographics

Table B.1: Number of years a dental hygienist

	Frequency	
	Absolute	Relative
0-5 years	14	14.9
6-10	18	19.1
11-15	8	8.5
16-20	10	10.6
> 20	44	46.8
Total	94	100

Table B.2: Number of hours per week involved in direct patient care

	Frequency	
	Absolute	Relative
None	5	5.3
1-10 hours per week	4	4.3
11-20	10	10.6
21-30	33	35.1
> 30	42	44.7
Total	94	100

Table B.3: Highest degree

	Frequency	
	Absolute	Relative
Associates	40	42.6
Bachelors	47	50.0
Masters	6	6.4
Doctorate	0	0
Other (Certificate)	1	1.1
Total	94	100

Table B.4: Type of practice

	Frequency	
	Absolute	Relative
General Dentistry	82	87.2
Specialty	8	8.5
Not currently practicing	3	3.2
Academic setting	1	1.1
Total	94	100

Table B.5: Percent of patients with dental anxiety

	Frequency	
	Absolute	Relative
1-10%	29	31.5
11-20%	40	43.5
21-30%	14	15.2
> 30	9	9.8
Total	94	100

Table B.6: CE courses taken on topic of dental anxiety

	Frequency	
	Absolute	Relative
None	57	60.6
1-2	29	30.9
3-5	7	7.4
More than 5	1	1.1
Total	94	100

## Knowledge

Table B.7: Percent of population with mild anxiety. (Correct answers are marked with an asterisk\*)

	Frequency	
	Absolute	Relative
0-25%	18	19.4
26-50%*	46	49.5
51-75%	23	24.7
76-100%	6	6.5
Total	93	100

Table B.8: Percent of population with moderate to severe anxiety

	Frequency	
	Absolute	Relative
0-9%	22	23.7
10-19%	30	32.3
20-29%*	29	31.2
30-49%	12	12.9
Total	93	100

Table B.9: Definition of the “vicious cycle”

	Frequency	
	Absolute	Relative
When the Patient acts aggressive during treatment	1	1.1
Avoiding dental care leading to more dental problems*	82	94.3
Progression of periodontal disease requiring more treatment	1	1.1
Do not know	3	3.4
Total	87	100

Table B.10: Do you consider pain

	Frequency	
	Absolute	Relative
A physiological response	6	6.5
A combination of emotion and physiology*	87	94.3
Total	93	100

Table B.11: Pharmacological agents work in which dimension?

	Frequency	
	Absolute	Relative
Somatic (body)*	41	49.4
Cognitive (mind)	24	28.9
Affective (emotional)	6	7.2
Do not know	12	14.5
Total	83	100

Table B.12: When treating a dentally anxious patient do you:

	Frequency	
	Absolute	Relative
Refer the patient to another dentist or hygienist	0	0
Diagnose the patient with a mental disorder	0	0
Understand their behavior/respond with empathy*	85	98.8
Ask them if they have an anxiety disorder	0	0
Do not know	1	1.2
Total	83	100



Table B.13: One of the main benefits of using behavioral management techniques is that it achieves a more lasting solution to the problem of dental anxiety:

	Frequency	
	Absolute	Relative
True*	92	97.9
False	2	2.1
Total	94	100

## Attitudes

Table B.14: Did you learn techniques during your dental hygiene education?

	Frequency	
	Absolute	Relative
Yes	53	56.4
No	41	43.6
Total	94	100

Table B.15: Do you use the techniques you learned?

	Frequency	
	Absolute	Relative
Yes	53	57.0
No	9	9.7
Not applicable	31	33.3
Total	93	100

Table B.16: Do you think your patients would benefit if you knew more?

	Frequency	
	Absolute	Relative
Yes	91	96.8
No	3	3.2
Total	94	100

Table B.17: Which methods do you feel are most effective?

	Frequency	
	Absolute	Relative
Pharmacological	8	8.7
Behavioral	8	8.7
Combination of pharmacological/behavioral	75	81.5
Do not know	1	1.1
Total	92	100

Table B.18: Which methods do you think patients are more comfortable using?

	Frequency	
	Absolute	Relative
Pharmacological	25	26.9
Behavioral	7	7.5
Combination of pharmacological/behavioral	58	62.4
Do not know	3	3.2
Total	93	100

Table B.19: Do you feel you are effective when you use behavioral techniques?

	Frequency	
	Absolute	Relative
Yes	81	87.1
No	3	3.2
Not applicable	9	9.7
Total	93	100

## Practices

Table B.20: Use of standardized tests in your practice

	Frequency	
	Absolute	Relative
Yes	4	4.3
No	84	89.4
Not applicable	6	6.4
Total	94	100

Table B.21: Have you successfully helped your patients feel more comfortable?

	Frequency	
	Absolute	Relative
Yes	74	78.7
No	0	0
Don't know	16	17.0
Don't use	4	4.3
Total	94	100

Table B.22: Which techniques are you using?

	Frequency	
	Absolute	Relative
Breathing / distraction	21	23.6
Distraction	12	13.5
Breathing / distraction / other	8	9.0
Guided imagery / breathing / cueing / distraction	8	9.0
Breathing / cueing / distraction	7	7.9
Other	6	6.7
Guided imagery / breathing / distraction	6	6.7
Cueing / distraction	4	4.5
Distraction / other	4	4.5
Breathing	3	3.4
Guided imagery / distraction	3	3.4
Cueing	2	2.2
Guided imagery / breathing / cueing	1	1.1
Cueing / distraction / other	1	1.1
Guided imagery / breathing / distraction / other	1	1.1
Guided imagery / distraction / other	1	1.1
Guided imagery / breathing	1	1.1
Total	89	100

Table B.23: What type of distraction aids are used in your office?

	Frequency	
	Absolute	Relative
Auditory/Tactile	22	23.7
Visual/Auditory/Tactile	16	17.2
Auditory	14	15.1
None	9	9.7
Visual/Auditory	8	8.6
Tactile	6	6.5
Auditory/Olfactory/Tactile	5	5.4
Visual/Auditory/Olfactory/Tactile	5	5.4
Visual/Tactile	3	3.3
Visual	2	2.2
Olfactory/Tactile	1	1.1
Visual/Olfactory/Tactile	1	1.1
Auditory/Olfactory	1	1.1
Total	93	100

## Affecting Factors

Table B.24: Do you feel competent treating dental anxious patients?

	Frequency	
	Absolute	Relative
Yes	82	88.2
No	11	11.8
Total	93	100

Table B.25: If you are not using behavioral techniques, why not?

	Frequency	
	Absolute	Relative
1. Takes too much time	3	15.8
2. Don't like to	0	0
3. Would rather have the patient use meds or $N_2O_2$	2	10.5
4. Don't believe they help	0	0
5. Not allowed by the dentist	2	10.5
6. Other	8	42.1
1, 3	3	15.8
1, 2, 3, 4	1	5.3
Total	19	100
Missing	75	



Table B.26: Does the dentist encourage the use of behavioral techniques?

	Frequency	
	Absolute	Relative
Yes	53	58.9
No / Don't know	37	41.1
Total	90	100

Table B.27: Qualitative Themes

Empathy/understanding for the patient	11
Education – dental hygienist wanting more CE on techniques	7
Trust	7
Communicate – Tell patient	7
Communicate – Listen to patient	6
Need more time with anxious patients	6
Show interest in patient	6
Observe patient for signs of anxiety	5
Educate patients to not be anxious	4
Give patients some control	4
Ask patient if they are anxious	3
Determine cause of anxiety	3
Use comforting aids – blanket, music, etc	2
Satisfaction felt by RDH who helps patient overcome fear	2
Use of pharmacological impedes patient improvement over time	1