

An Understanding of Dental Phobia

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Dental phobia, a phobic disorder, is a problem that affects a large number of individuals in the United States (Irish, Ginsburg, & Clarke, 1994). Phobic disorders are experienced by 77 out of 1,000 people in the general population. A person is said to have a phobic disorder when he or she attempts to avoid an object, situation, or activity. The object, situation, or activity is avoided because of the enduring, irrational fear that accompanies the situation (Tearnan & Telch, 1984).

Before a phobia can be defined, it is important to distinguish between the ideas of anxiety and fear. Anxiety, fear, and phobias are strongly related, in that the three concepts may lead to one another. Anxiety involves apprehension and arousal regarding a future situation. Fear usually occurs as a result of exposure to situations that are either real or imagined. Reactions to these situations are often considered normal. It is common for children to be afraid of things such as darkness, animals, and dentists. A phobia is a form of fear that cannot be controlled voluntarily. Phobias create feelings that are out of proportion to the actual situation. Using reasoning to overcome phobias becomes difficult, if not impossible. As a result, individuals usually resort to avoidance of the situation that has become feared (King, Hamilton, & Ollendick, 1988).

Tearnan and Telch (1984) described three groups of phobias: specific, formerly called simple, social, and agoraphobia. The main focus of this paper will concern specific phobias. Phobias that are classified as specific allow individuals more opportunities to dodge their fears because these particular phobias are more confined within boundaries. Examples of specific phobias include fear of elevators and heights. If a person lives in New York City, versus Pembroke, it would be harder to avoid a fear of elevators or heights. This is because of the many tall buildings present in New York City.

Specific phobias can be acquired at any age. Tearnan and Telch (1984), however, found that most commonly, these phobias start at young ages. The age tends to differ according to the different types of specific phobias. By age 24, many people with specific phobias will seek help.

Exact origins for the three categories of phobias among individuals have not been found. A variety of theories has been put forth that may account for the development of specific phobias. These are direct conditioning, vicarious conditioning, and receiving negative information from others. Vicarious conditioning and receiving negative information are examples of indirect conditioning (Tearnan & Telch, 1984).

Tearnan and Telch (1984) found that direct conditioning was believed to be the origin of the fear in the majority of the individuals they asked. People who could not remember the cause of their fears made up the second largest group. Indirect conditioning was reported as the cause by only a small number of the individuals.

Information about the family, childhood, and personality factors of people with specific phobias is sparse. In one study, Tearnan and Telch (1984) found that many individuals with specific phobias reported that modeling by family members did not constitute the origin of their phobias. In another study, dependent personality showed a strong relationship with phobias.

Biological factors also have an influence on the development of specific phobias. Only a small amount of research, however, has been conducted in this area. One study (Tearnan & Telch, 1984) has connected hereditary factors with fears such as those that are animal related. Other examples include fears of fire, bridges, mountains, oceans, and heights. These examples may be accounted for what is known as the preparedness hypothesis. More discussion about the preparedness hypothesis will be covered in another section of this paper.

According to Mackintosh (1983), conditioning occurs when a change in a person's behavior takes place as a result of a relationship formed between certain events. Classical conditioning, introduced by Ivan Pavlov, was one of the first

behavioral theories about the origin of phobias (Tearnan & Telch, 1984). Classical conditioning occurs when an unconditioned stimulus (UCS) is paired with a neutral stimulus. The neutral stimulus becomes a conditioned stimulus (CS) and takes on similar characteristics to those of the UCS. Thus, if the UCS originally elicited fear, so will the CS.

The most familiar study of classical conditioning is the case of little Albert, a five-year-old. In this experiment carried out by Watson and Rayner, a loud noise was paired with a white rat. When the noise was no longer present, after several pairing incidents occurred, little Albert became afraid of the white rat. The white rat was previously an unfeared object until it was paired with a loud noise. Classical conditioning can also involve generalization, as shown in little Albert's case. Things such as a Santa Clause beard and a white fur coat created effects similar to those of the original stimulus, the white rat (cited in Tearnan & Telch, 1984).

Mowrer believed the classical conditioning theory needed to be expanded, since the theory did not explain why fears lingered even after the UCS was removed. Mowrer's two-factor theory holds that the origin of fears involves two steps. The first step is the fear caused by pairing a neutral stimulus with an UCS which results in direct conditioning. The second step is the avoidance of the feared stimulus. In other words, the two-factor theory is the combination of classical and

operant conditioning. Step one serves as classical conditioning, and step two is operant conditioning (Tearman & Telch, 1984).

Mowrer believed that fear continues even after the UCS is removed. The fear continues because an individual has a tendency to avoid a stimulus that creates fear. This avoidance constitutes negative reinforcement. Avoidance learning is a major category of instrumental (operant) conditioning. Experiments have been conducted (Tearman & Telch, 1984) regarding avoidance behavior. Light, a neutral stimulus, was paired with shock among laboratory animals. Animals showed avoidance behavior toward the stimulus after the pairing was repeated several times.

Tearman and Telch (1984) believe there is a problem with viewing conditioning as a cause of phobias. Repeating studies on humans such as the study carried out with little Albert often poses ethical difficulties. Another problem of conditioning deals with the difficulty involved in analogue studies between laboratory animals and humans. The causes of fear tend to be different between laboratory experiments and the real life experiences of humans. In phobia situations, individuals have reported that they became fearful of something after only one occurrence of a situation. One study supports this observation. In this study, a drug that caused short-term paralysis was given to the participants. A tone was sounded during the same time that the drug was administered. The participants

felt such intense fear that it took only one pairing of the UCS and neutral stimulus to elicit an enduring fear (Lieberman, 1993). In most conditioning situations, however, a fear becomes evident after more than one pairing, which presents still another problem of claiming conditioning as a sole cause of specific phobias.

Operant conditioning is another theory that helps explain the cause of specific phobias. Operant conditioning involves being reinforced (rewarded) or punished for a behavior (Oltmanns, Neale, & Davison, 1982). This type of conditioning, also known as instrumental conditioning, involves important research originated by B. F. Skinner. A behavior is reinforced if the stimulus increases the likelihood that a certain behavior will occur in the future. Conversely, if a reduction of a behavior occurs, then the behavior change is due to a punishing stimulus. Williams (1973) believes that negative reinforcement occurs when a situation is avoided to reduce the amount of fear. A person learns to avoid a situation so that he or she feels no fear.

Williams believes that escape usually is learned first, and avoidance is learned afterwards. With escape, a person learns how to get away from the danger or the feared situation. With avoidance, a person learns how to stay away from the danger or feared situation.

Another theory that helps explain the origin of specific phobias is the psychoanalytic theory. Sigmund Freud, also known as the father of psychoanalysis, believed that our defense against fear is avoidance (Elliot, 1994). He also believed the psychoanalytic therapy of phobias should involve methods to unveil and review the phobia. Freud felt it was important for individuals to bring their fears out into the open and talk about them (Oltmanns et al., 1982).

Freud believed that two defense mechanisms are used when phobias create anxious feelings. These two defense mechanisms are repression and displacement. Repression involves an individual blocking anxious feelings from consciousness. Displacement involves a person viewing feelings of anxiety as a result of a more reasonable situation (Mavissakalian & Barlow, 1981). For example, a child who feared his or her father might displace the fear and instead fear large dogs. The dogs could be avoided more easily than the father. Defenses created to shield anxiety come from the ego (Arlow & Brenner, 1964).

Freud was convinced that phobia is a symptom derived from neurotic anxiety. Neurotic anxiety comes from drives, wishes, and desires which Freud felt were related to sexuality and aggression. Freud believed these drives, wishes, and desires are unconscious conflicts buried inside of a person. To remove a phobia,

Freud suggested that a person would have to become aware of the anxiety as well as of its source (Mavissakalian & Barlow, 1981).

The preparedness hypothesis, indirect conditioning, and the cognitive-behavioral approach are other theories that have also been considered to explain the development of specific phobias. The preparedness hypothesis, proposed by Seligman, is the belief that humans have an innate tendency to become fearful of things that were dangerous to humans' ancestors. The preparedness hypothesis includes fears of things such as snakes, heights, storms, illnesses, and injuries (Tearnan & Telch, 1984).

Vicarious learning and modeling are examples of indirect conditioning. Much of our learning throughout life comes from vicarious learning and modeling. If a young boy sees his friend become afraid of snakes because of a snake bite, then the young boy will probably become fearful of snakes, also. A strong possibility exists that vicarious conditioning is very common in phobias. More research, however, is needed in this area before the possibility can be confirmed (Tearnan & Telch, 1984).

Cognitions can also play a role in the development of specific fears. Receiving negative information from others about an experience can cause fear. For example, if a person is warned continuously about the dangers of a particular

situation or object from his or her parents, and if those warnings are reinforced by stories about the same situation or object heard from other people, fear can be created cognitively. A person can become afraid without having ever experienced the object or situation directly or having seen someone else become afraid (Tearman & Telch, 1984).

In the cognitive-behavioral approach, a person decides to become afraid of something using a limited amount of information about an object or situation. This is also known as overgeneralizing. More research is needed in examining the cognitive-behavioral approach as an explanation for the development of specific phobias (Tearman & Telch, 1984).

Dental phobias fall into the category of blood and injury phobias, which are a type of specific phobia (Mavissakalian & Barlow, 1981). Irish, Ginsburg, and Clarke (1994) reported that 25 to 40 million Americans do not go to the dentist because they are afraid. Harrison, Carlsson, and Berggren (1985) believe that people who are afraid usually go to the dentist because they are experiencing a great deal of pain. Fear appears to be the main reason that the person avoided previous, preventative dental care. The etiology of dental phobia is strongly related to negative experiences in the past. People can also become fearful by receiving negative information vicariously (Glassman & Peltier, 1993).

Classical conditioning comes into effect in the development of a dental phobia when a negative response is paired with a particular stimulus (Glassman & Peltier, 1993). A good example of classical conditioning in this case is when the sound of the drill (CS) is paired with a painful or uncomfortable feeling caused by the drill (UCS). The patient responds by making a noise or a complaint, which is the unconditioned response (UCR). The UCR is the patient's indication that he or she will most likely want to escape similar stimuli in the future. The actual avoidance of future instances makes up the conditioned response (CR). Also, fear is reinforced when dental procedures are performed while the patient is experiencing more than a level of low anxiety. As a result, fear will reappear during future dental procedures (Glassman & Peltier, 1993). Freud used the term untamed memories to refer to clear images of bad experiences that people recall. Traumatic dental experiences have been viewed as the most common etiologic element of dental phobia (Mass, 1995).

Dental phobias may also develop because many people are afraid of pain. Needles, dental handpieces (drills), tooth extractions, and nerve removals (root canals) are some of the things that create fear among dental phobics. Threat of harm and lack of control are also things that cause fear and anxiety in dental patients. Mass (1995) believes that individuals who have experienced traumatic dental

procedures may not be able to trust dentists in general. Mistrust, in this case, also leads to anxiety and fear.

Vicarious conditioning can also be a determinant in dental phobia. Freud's untamed memories can appear when people hear horror stories from others about dental appointments. For example, a person could hear from a friend how much it hurt to have a tooth pulled. If the person sees that the friend has a swollen jaw, then he or she would probably be convinced that the friend was being truthful. People can capture untamed memories from their personal perception of what a dental experience would be like. Negative information about dentists and dental procedures shared by authority figures, such as parents, is another example of the vicarious conditioning of dental fears (Mass, 1995).

Dental phobia is a problem because those who are afraid will most often avoid much needed dental care. Some dental phobics feel their fears constitute abnormal behavior. These individuals, therefore, tend to misattribute the anxiety caused by dental procedures as the cause of their fear (Glassman & Peltier, 1993). People with dental phobia sometimes refuse to examine their beliefs in order to search for the true cause of their fear. A person will become comfortable with dental procedures only if his or her fear has been resolved (Mass, 1995).

Statement of Purpose

Dental phobia is definitely a problem because it affects such a large portion of the population (25 to 40 million Americans). I found in a review of literature (e.g., Mass, 1995) that a good patient/dentist relationship is needed in order for dental phobics to experience successful and comfortable dental appointments. Before a good patient/dentist relationship can exist, the dentist should be aware of the needs possessed by dental phobics. In other words, a dentist should have some kind of training and experience with dental visits involving dental phobics. Thus, the first purpose of my research was to find out how many dental schools offer such training to dental students.

Because dental phobia is a problem, my second goal was to find out more about its etiology. In a review of the literature, I found that more research is needed on several possible factors that could contribute to the development of dental phobia. These factors include the age of onset of a phobia, and family, childhood, and personality characteristics of phobics. Thus, the second purpose of my research was to explore the personality characteristics of dental phobics.

Study 1

Method

Participants. In order to find out what kind of training is provided to dental students for situations involving dental phobics, I surveyed each of the 53 dental schools in the United States. I obtained a list of all of the dental schools and their addresses from the American Dental Association (see Appendix A). Of the 53 dental schools, 48 schools responded, which corresponds to a 91% return rate.

Materials. Each dental school received an envelope with the following materials enclosed: a cover letter, a 3-question survey, and a stamped envelope. In the cover letter, I stated the purpose of the survey (see Appendix B). The stamped envelope was provided to the dental schools for returning the surveys.

Procedure. After obtaining approval from the Institutional Review Board (IRB) at the University of North Carolina-Pembroke (UNC-P), I sent materials to each dental school. In the cover letter, several items were addressed, such as my thesis assignment and the purpose of the enclosed survey. I stated I was interested in the training requirements for dentists. I informed the schools that group data from the surveys would be used in my thesis and that responses from individual schools would not be identified. I did, however, ask the recipients to attach the names of their schools to their surveys so that follow-up letters could be sent if necessary. I

included a self-addressed, stamped envelope with the cover letter and survey to make the process more convenient for those responding.

In the first question of the survey, I asked if any psychology-related courses were required for dental students, and if so, to please list them. I phrased the question in this manner in order to prevent any suggested responses. I also asked for an approximate number of graduates per year from the dental schools. Another question was added in the survey, which inquired about psychology-related seminars (see Appendix C).

Follow-up letters were sent to 17 dental schools. A cover letter, a survey, and a self-addressed, stamped envelope were included with the follow-up letters.

Results

Forty-eight schools responded to the survey (91%); however, three of the surveys received were uncodable. Therefore, only 45 schools were included in the computations of the following data. Seventy-one percent of the 45 schools that answered "yes" to the first question in the survey, indicating that psychology-related courses were required. Twenty-nine percent of the 45 schools that responded indicated that psychology-related courses were not required.

Discussion

Most of the courses listed by the dental schools that answered "yes" to the first question in the survey did not pertain to the patient/dentist relationship or dental phobia. For example, some of the courses listed were Dental Ethics, Dental Public Health, Introduction to Dentistry, Pediatric Dentistry, and Gerontology and Geriatric Dentistry. (A complete list of courses can be found in Appendix D.) Furthermore, the percentage of schools that do not require psychology-related courses may seem low (29%), but it is important to keep in mind that this percentage is based on a large sample of the dental schools in the United States. Training in the areas of the patient/dentist relationship and dental phobia, therefore, is not provided by a significant proportion of dental schools in the United States to future dentists. This proportion is especially significant when we take the number of dental school graduates into consideration. If one school does not provide this type of training to its students, and the school has approximately 85 graduates per year, 85 dentists each year begin to practice without the training needed to deal with dental phobias. This is a concern which should be resolved in the future.

In conclusion, all dental schools in the United States do not provide training to their students in the area of dental phobia. Because of the absence of this training, it would be difficult for future dentists to become aware of the needs possessed by

dental phobics. In order for these needs to be recognized, a future dentist should have some kind of training and experience with dental phobics. This is critical because the patient/dentist relationship is considered an important factor in the treatment of dental phobics.

Study 2

Method

Participants. In order to explore the personality characteristics of dental phobics, I completed a 2-part study which utilized students enrolled in Introduction to Psychology classes at UNC-P. The IRB at UNC-P reviewed a proposal of my research purpose and method. After the review process, my research was approved by the IRB.

In the first part of Study 2, 73 male students and 121 female students completed a dental fear scale. A consent form attached to this scale reminded the students that they were not required to complete the questionnaire. The students were given the option of leaving their telephone numbers if they were interested in the possibility of being contacted later for a second part of the study. The students were told that research credit would be awarded for the second part (see Appendix E for consent form).

In the second part of Study 2, three personality questionnaires were completed by 29 of the Introduction to Psychology students. A consent form was also attached to these questionnaires to remind students that their participation was voluntary. The consent form also noted that research credit would be awarded for completing the questionnaires. In order to remain anonymous and still receive research credit, the students were instructed to leave the last four digits of their social security number and the day and time of their Introduction to Psychology class on the consent form (see Appendix F).

The 29 students who participated in the second part of this study were chosen on the basis of their scores on the dental fear scale. Those in the low-scoring group scored a 4, 5, or 6 on the dental fear scale (N=15). Those in the high-scoring group scored 13, 14, or 15-20 on the dental fear scale (N=14).

Procedure and Materials. In the first part of Study 2, the Corah Dental Anxiety Scale (CDAS; 1969; cited in Krochak & Rubin, 1993) was distributed to students in six of the Introduction to Psychology classes at UNC-P. The CDAS, which includes four questions, assesses the level of anxiety one has about going to the dentist. Scores from this questionnaire range from 4 to 20. High anxiety is characterized by a score of 13 or 14. A phobia is represented by a score of 15 to 20

(Irish, Ginsburg, & Clarke, 1994). The CDAS was used in order to detect students whose scores indicated a possible phobia or feelings of high anxiety (Phobic-Anxious group). The CDAS also made it possible to select students with lower scores (4, 5, or 6, for example) in which feelings of high anxiety or phobic avoidance were not represented. These students constituted a normal control group.

In part two of Study 2, three questionnaires were used to assess various personality characteristics. The first questionnaire was the Barnes-Vulcano Rationality Test (BVRT) developed by Barnes and Vulcano (1982; cited in Weiten, 1994). The BVRT, which contains 44 items, is designed to assess the degree to which individuals exercise the following: negative self-talk, irrational assumptions, and catastrophic thinking. High scores on the BVRT indicate rational thinking whereas low scores represent irrational thinking. I hypothesized that, in comparison to the control group, the phobic-anxious participants would score low on the BVRT. These low scores would indicate the presence of irrational thinking.

The second questionnaire, the Social Avoidance and Distress Scale (SAD), was developed by Watson and Friend (1969; cited in Weiten, 1994). The SAD, which contains 28 items, measures avoidance and distress that may occur in social interactions. High scores on this scale represent an unwillingness to engage in

particular social activities, such as participating in a group discussion. I hypothesized that, in comparison to the control group, phobic-anxious participants would score high on the SAD scale. These high scores would suggest an unwillingness to participate in certain social activities.

The third questionnaire, the Desirability of Control Scale (DC), was developed by Burger and Cooper (1979; cited in Weiten, 1994). The DC, which contains 20 items, assesses an individual's need for control. A person who scores high on the DC scale would indicate a desire to control other individuals and situations in order to create more control in his or her own life. I hypothesized that, in comparison to the control group, phobic-anxious participants would score high on the DC scale. These high scores would represent a desire for control in certain situations.

Results

Five percent of the students scored between 15 and 20 on the CDAS , indicating a possible phobia. Five percent of the students scored 13 or 14, suggesting high anxiety. Differences between male and female scores in the CDAS also emerged. I used a t-test to test the difference between male and female scores on the CDAS. Because I did not have an a priori hypothesis concerning the results, the test was two-tailed. The t-test indicated significant results. Overall, the results revealed that females ($M = 9.07$, $SD = 3.47$) scored significantly higher than males

($\underline{M} = 7.74$, $\underline{SD} = 2.92$) on the dental fear scale, $t(192) = 2.87$, $p \leq .005$.

Separate one-tailed t-tests comparing the scores of phobic-anxious participants and normal control participants on the BVRT, SAD, and DC scales were conducted. Phobic-anxious participants ($\underline{M} = 139.71$, $\underline{SD} = 18.13$) did not differ from the control participants ($\underline{M} = 145.80$, $\underline{SD} = 13.70$) on the BVRT scale, $t(27) = 1.02$, $p \leq .16$. The scores of the phobic-anxious participants ($\underline{M} = 6.07$, $\underline{SD} = 4.91$) did not differ from the scores of the normal control participants ($\underline{M} = 6.13$, $\underline{SD} = 7.49$) on the SAD scale, $t(27) = .03$, $p \leq .49$. Phobic-anxious participants ($\underline{M} = 99.93$, $\underline{SD} = 10.77$) did not differ from the normal control participants ($\underline{M} = 100.67$, $\underline{SD} = 11.27$) on the DC scale, $t(27) = .18$, $p \leq .43$.

Discussion

The results from Part 1 of Study 2 revealed that women scored significantly higher than men on the CDAS. The significant scoring difference could mean one of two things. First of all, it may very well be that women are more afraid of going to the dentist than men. If this is true, dentists need to be aware of the needs and fears held by women. A competing explanation, however, is also possible. It could be that women are more likely to report being afraid of going to the dentist than men are. If this is indeed the case, dentists should pay closer attention to males in case they are truly afraid of their dental visit. Measuring galvanic skin response

(GSR) is one way to find out if males are likely to hide their feelings of anxiety while completing self-reports, such as the CDAS. After males complete self-reports, a video could be shown to these participants. The video could show an individual having his or her teeth cleaned by a dentist. A control video should also be shown to these participants. The GSR, a physiological measure of emotional responses, can be used while viewing both videos. The GSR measures observed during the dental video can be compared to those measures taken during the control video. By comparing these measures, any anxiety exhibited by males could be detected. The GSR may be a more accurate indication of males' anxiety as compared to self-reports.

In Part 2 of Study 2, phobic-anxious participants and normal control participants did not differ on measures of personality variables. I predicted that, in comparison to the normal control participants, the phobic-anxious participants would score lower on the BVRT scale, and higher on the SAD and DC scales. The t-tests I performed, however, did not yield these results. One possible explanation for the lack of significant results in Part 2 has to do with the size of my sample, as I was unable to gather data from 20 phobic-anxious participants and 20 normal control participants as I intended. This argument is particularly compelling in the case of the BVRT as the results indicated a strong trend towards significance. Thus,

it may be possible, with a larger sample, to find that phobic-anxious individuals do indulge in negative self-talk, irrational assumptions, or catastrophic thinking. This finding, if true, would be consistent with the theory developed by Ellis. Ellis believed that psychological distress, such as anxiety and depression, is generated by irrational beliefs or assumptions that individuals hold (Kendall & Hammen, 1995). Therefore, further exploration of this possibility could yield productive and beneficial results.

Conclusion

Unfortunately, many dental schools in the United States do not require, as part of their curriculum, training in the area of the patient/dentist relationship. This training could be advantageous to future dentists, as they will most likely encounter experiences involving dental phobics during their dental career. Such training could bring forth positive results, such as more pleasant dental visits for both the dental phobic and the dentist. Stress can also be reduced for both the patient and the dentist.

Ten percent of the Introduction to Psychology students at UNC-P scored between 13 and 20 on the CDAS, denoting feelings of high anxiety or phobia. These results suggest that dental phobia is not an uncommon problem in college-aged individuals.

A significant difference between male and female scores on the CDAS was discovered. Females scores were substantially higher than male scores. This finding raises a variety of concerns and questions that need to be addressed. Females could actually be more afraid of going to the dentist than males. If this is so, dentists should brace themselves for a large number of females with feelings of high anxiety or phobia. Dentists should be prepared to spend some extra time with the female patients. Dentists can use this extra time to detect any feelings of high anxiety that female patients may display. If many males are truly reluctant to report feelings of anxiety, dentists should also expend extra time with this population. During this time, dentists can attentively observe their male patients in order to detect any inconsistencies between verbal and nonverbal language. For example, the patient could tell the dentist that he is not afraid, but the patient could be exhibiting anxious behaviors, such as sweating and shaky hands. Dentists should be aware of both possibilities, relating to male and female patients, in order to ensure the most comfortable dental visit for patients that are afraid of dentists and/or dental procedures. The significant difference found between male and female scores on the CDAS calls for further investigation. Further investigation in this area can generate explanations as to why a difference exists between males and females.

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College of Dentistry
800 Rose Street-Med. Ctr.
Lexington, KY 40536-0084
Dr. David A. Nash, Dean

University of Louisville
School of Dentistry
Health Sciences Center
Louisville, KY 40292
Dr. Rowland A. Hutchinson, Dean

Louisiana State University
School of Dentistry
1100 Florida Avenue, Building 101
New Orleans, LA 70119
Dr. Eric J. Hovland, Dean

University of Maryland
Baltimore College of Dental Surgery
666 West Baltimore Street
Baltimore, MD 21201
Dr. Richard R. Ranney, Dean

Boston University-Henry M. Goldman
School of Graduate Dentistry
100 East Newton Street
Boston, MA 02118
Dr. Spencer N. Frankl, Dean

Harvard School of Dental Medicine
188 Longwood Avenue
Boston, MA 02115
Dr. R. Bruce Donoff, Dean

Tufts University
School of Dental Medicine
1 Kneeland Street
Boston, MA 02111
Dr. Lonnie H. Norris, Dean

The University of Michigan
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1234 Dental Building
Ann Arbor, MI 48109-1078
Dr. William E. Kotowicz, Acting Dean

(Appendix continues)

University of Detroit Mercy
School of Dentistry
2985 East Jefferson Avenue
Detroit, MI 48207
Dr. Bruce Graham, Dean

University of Minnesota
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515 S.E. Delaware Street
Minneapolis, MN 55455
Dr. Michael J. Till, Interim Dean

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2500 North State Street
Jackson, MS 39216-4505
Dr. J. Perry McGinnis, Dean

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School of Dentistry
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Kansas City, MO 64108
Dr. Michael J. Reed, Dean

University of Nebraska Med. Ctr.
College of Dentistry
40th & Holdrege Streets
Lincoln, NE 68583-0740
Dr. Stephen H. Leeper, Dean

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School of Dentistry
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Omaha, NE 68178
Dr. Wayne W. Barkmeier, Dean

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110 Bergen Street
Newark, NJ 07103-2425
Dr. Robert A. Saporito, Acting Dean

State University of New York, Buffalo
School of Dent. Med., Farber Hall
3435 Main Street
Buffalo, NY 14214
Dr. Louis Goldberg, Dean

Columbia University
School of Dental & Oral Surgery
630 West 168th Street
New York, NY 10032
Dr. Allan J. Formicola, Dean

New York University
College of Dentistry
345 East 24th Street
New York, NY 10010
Dr. Edward G. Kaufman, Dean

State Univ. of New York, Stony Brook
School of Dent. Med., Rockland Hall
Stony Brook, NY 11794-8700
Dr. Burton Pollack, Dean

University of North Carolina
School of Dentistry
104 Brauer Hall, 211 H
Chapel Hill, NC 27514
Dr. John W. Stamm, Dean

(Appendix continues)

Case Western Reserve University
School of Dentistry
2123 Abington Road
Cleveland, OH 44106
Dr. Lawrence I. Goldblatt, Dean

The Ohio State University
College of Dentistry
305 West 12th Avenue
Columbus, OH 43210
Dr. Henry W. Fields, Jr., Dean

Univ. of Oklahoma, Hlth. Sci. Ctr.
College of Dentistry
P.O. Box 26901
Oklahoma City, OK 73190
Dr. Russell J. Stratton, Dean

The Oregon Health Science University
School of Dentistry-Sam Jackson Pk.
611 S.W. Campus Drive
Portland, OR 97201
Dr. Henry J. Van Hassel, Dean

Temple University School of Dentistry
3223 North Broad Street
Philadelphia, PA 19140
Dr. Martin F. Tansy, Dean

University of Pennsylvania
School of Dental Medicine
4001 West Spruce Street
Philadelphia, PA 19104
Dr. Raymond Fonseca, Dean

University of Pittsburgh
School of Dental Medicine
3501 Terrace Street
Pittsburgh, PA 15261
Dr. Jon B. Suzuki, Dean

Medical University of South Carolina
College of Dental Medicine
171 Ashley Avenue
Charleston, SC 29425
Dr. Richard De Champlain, Dean

University of Tennessee
College of Dentistry
875 Union Avenue
Memphis, TN 38163
Dr. William F. Slagle, Dean

Meharry Medical College
School of Dentistry
1005 18th Avenue, N.
Nashville, TN 37208
Dr. Fred C. Fielder, Dean

Texas A&M University
Baylor College of Dentistry
P.O. Box 660677
Dallas, TX 75266-0677
Dr. Richard N. Buchanan, Dean

The University of Texas
Health Science Center-Dental Branch
6516 John Freeman Avenue
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Dr. Ronald Johnson, Dean

(Appendix continues)

The University of Texas
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Dr. Kenneth L. Kalkwarf, Dean

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MCV-School of Dentistry
P.O. Box 566
Richmond, VA 23298
Dr. Lindsay M. Hunt, Jr., Dean

University of Washington
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Health Science Building, SC-62
Seattle, WA 98195
Dr. Paul B. Robertson, Dean

West Virginia University
School of Dentistry
The Medical Center
Morgantown, WV 26506
Dr. Robert N. Moore, Dean

Marquette University
School of Dentistry
604 North 16th Street
Milwaukee, WI 53233
Dr. Thomas Rypel, Acting Dean

Appendix B

Dear Sir or Madam:

I am a senior and psychology major at the University of North Carolina at Pembroke. I am also a Chancellor's Scholar here at UNC Pembroke. I am working on a thesis for the Chancellor's Scholars Program. My topic for the thesis includes an interest in the training requirements for dentists.

As part of my thesis, I am conducting a survey which is included. The intention of this survey is to provide some information about the training requirements for dentists. If you could spend just a couple of minutes completing the enclosed survey, your time and effort would be greatly appreciated. After you have completed the survey, please return it in the stamped envelope provided.

Group data from the surveys will be used in my thesis. Therefore, responses from individual schools will not be identified. I am, however, asking for the names of institutions. The names of institutions will be used only if follow-up letters become necessary.

Thank you very much for your time.

Sincerely,

Tonya M. Jasinski
Chancellor's Scholar, University of North Carolina at Pembroke

Elizabeth B. Denny, Ph.D.
Assistant Professor, University of North Carolina at Pembroke

Appendix C

Name of Institution:

1. Are any psychology-related courses required for dental students? (For example, Abnormal Behavior)

If yes, please list the courses.

If no, are any offered to dental students?

2. Are any seminars, etc. related to psychological aspects of the dentist/patient relationship required of your dental students?

If yes, please describe briefly.

If no, are any offered to dental students?

3. Approximate number of graduates per year:

Appendix D

| | |
|---|--------------------------------|
| Dental Public Health | Stress Management |
| Dental Ethics | Introduction to the Patient |
| Dental Practice Management I, II, III, and IV | Human Behavior in Dentistry |
| Special Patient Care | Clinical Ethics |
| Behavioral, Geriatric, Special Care Dentistry | Behavioral Management |
| Behavioral Dentistry | Behavioral Medicine I and II |
| Behavioral Science I and II | Psychopathology |
| Health Promotions/Preventive Dentistry | Anxiety, Pain, and Emergency |
| Health Promotions/Normal Behavior | Introduction to Medicine |
| Health Promotions/Abnormal Behavior | Introductory Psychology |
| Gerontology: Aging Phenomenon | Interpersonal Relations |
| Psychological Aspects of Dentistry | Behavior Modification |
| Communication Laboratory | Developmental Psychology |
| Human Development and Health | Personality |
| Geriatric Dentistry | Clinical Dentistry |
| Pain and Anxiety Control | Professional and Social Issues |
| The Edentulous Patient | (Appendix continues) |

Simulated Patient Experience

Introduction to Dentistry

Correlated Sciences

Oral Diagnosis/Oral Medicine I and II

Growth, Development and Aging

Introduction to Clinical Studies

Treatment Planning I and II

Pediatric Dentistry

Cariology and Preventive Dentistry

Complete Dentures

Dental Health Education

Clinical Extramural Experience

Advanced Periodontology

Senior DAU

Senior Seminar in Prosthodontics

Advanced Concepts in Dentistry

Patient Management

Behavioral Growth and Development

Appendix E

This questionnaire assesses your feelings about going to the dentist. You are not required to participate in this questionnaire. However, by signing your name to this consent form, you will be volunteering to do so. A second part to this questionnaire, for which you can receive research credit, will be available at a later date. If you are willing to participate in the second part, please leave your telephone number in the space provided below. Thank you for your time and effort.

Signature _____

Date _____

Telephone number _____

Best times to call _____

Appendix F

These questionnaires assess your personal reactions to a variety of situations. You are not required to participate in this study. However, by including the last four digits of your social security number on this consent form, you will be volunteering to do so. Although all individual responses will be kept confidential, do not put your name on the consent form or on any of the questionnaires. Please leave the day and time of your Introduction to Psychology class in the space provided below so that you may receive research credit.

If you should have any questions, you can see Tonya Jasinski during the following times and location: MWF 12:30-1:20 in Room 308 (Education Building). You can also direct any questions to Dr. Denny in Room 323 (Education Building). Dr. Denny's office hours are posted on her door.

When you have completed these questionnaires, please return them to the envelope on Dr. Denny's office door. Thank you very much for your time and effort.

Social Security Number (last four digits)_____

Date_____

Day and Time of Introduction to Psychology Class_____