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Barriers to Care and Buyer Behavior in Relation to Oral Hygiene

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BARRIERS TO CARE AND BUYER BEHAVIOR
IN RELATION TO ORAL HYGIENE

A Capstone Experience/Thesis Project

Presented in Partial Fulfillment of the Requirements for

the Degree Bachelor of Science with

Honors College Graduate Distinction at Western Kentucky University

By:

Allison E. McCutchen

Western Kentucky University
2015

CE/T Committee:

Dr. Lynn Austin, Advisor

Professor Wendi Hulsey

Dr. Karen Furgal

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2015

ABSTRACT

How much of an impact do advertising, brand loyalty, and socioeconomic status have on the overall oral-health knowledge and dental care product purchases of consumers? A survey was distributed to collect data on consumers' background, oral hygiene purchasing habits, and decision making rationales. It was assumed that those with minimal access to care and minimal oral-health knowledge would be purchasing products based on sale prices, or the promise of improved esthetics, whereas consumers with increased access to care would likely make their purchasing decisions based on the recommendations of a dental professional and be potentially more interested in trying new and innovative products, regardless of price. The results of this study indicated that, while advertising does have an effect, its influence is not as strong as originally suspected. Fluctuating brand loyalty, sales price, and familial influence were shown as the main motivators behind choice in dental product. Other factors that were noted included the benefits which would be gained by using specific products, with the most desired trait being cavity prevention and the least desired trait being sensitivity relief.

Keywords: oral hygiene, toothpaste, brand loyalty, purchasing patterns, advertising

Dedicated to my family and friends for their continuous support and devotion to helping me succeed, as well as to all professors, advisors, and mentors who said, “Yes, you can,” when all circumstances were saying, “No, you cannot.” Endless thanks to those who kept me on track when the light at the end of the tunnel was still too distant for me to see.

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To the entire WKU Dental Hygiene Faculty and Staff, as well as the graduating Class of 2015, for making my time in this program as rewarding as it was challenging – the laughs and lessons will not be forgotten.

VITA

- January 10, 1991.....Born – Nashville, Tennessee
- 2009.....Ravenwood High School – Brentwood, TN
- 2010.....Alpha Chi National College Honor Society
- 2012.....Psi Chi International Honor Society in Psychology
- 2013..... Student organizer for Tennessee Wesleyan College’s First Women’s Health Awareness Exposition
- 2013.....Undergraduate research accepted to the Southeastern Psychological Association (SEPA) conference held in Atlanta, GA
- 2013.....Tennessee Wesleyan College’s William James Senior Psychology Award recipient
- 2013.....Tennessee Wesleyan College – Athens, TN
Bachelor of Arts, Psychology
- 2014..... Big Red Chapter of the National Residence Hall Honorary (NRHH)
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- 2014.....The Honor Society of Phi Kappa Phi
- 2014.....Association of Schools of Allied Health Professions (ASAHP)
Scholarship of Excellence recipient
- 2015.....Dr. William E. Neel Memorial Scholarship and Award recipient

FIELDS OF STUDY

Major Field: Dental Hygiene

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CHAPTER 1

INTRODUCTION

In recent years, consumers have been exposed to a growing number of advancements in at home oral-health products. To some, the “toothpaste aisle” has become a burden to navigate, when really it should present as an opportunity to improve oral hygiene homecare. The myriad of options and the way in which they are advertised may be the only exposure to oral hygiene education that many consumers encounter. Americans, as a whole, spend an average of nearly 2.5 billion dollars on products from the “toothpaste aisle” each year (Focused Dental Care, 2013). Toothpaste alone is responsible for 1.8 billion in consumer spending yearly. What motivates Americans to spend such a large sum of money on a consumable product? This study seeks to identify patterns between one’s socioeconomic status and their purchasing patterns in the oral hygiene department. Are consumers loyal to one brand, concerned with price or esthetics, or are they heeding recommendations from a dental professional? A survey was created and distributed to determine what patterns exist between an individual’s background and his or her product choices.

CHAPTER 2

LITERATURE REVIEW

According to a 2012 government survey, out of roughly 234,900 adults surveyed, more than 27,000 Americans reported not having been to the dentist in the past two to five years, an additional 29,000 adults reported not having visited a dentist in over five years, and greater than 1,800 adults reported having never been to the dentist (U.S. Department of Health and Human Services, 2014). These numbers reflect the unfortunate disparity between the importance of dental care and the actual utilization of dental services. Often, dental care is not sought until pain or tooth mobility is involved, which is completely incongruent with the preventive nature of dentistry. The predilection to overlook dental needs comes not only from a lack of access to care, but also from a deficiency in oral-health knowledge and an inadequate understanding of the oral-systemic link.

Barriers to dental care, which are consistent with the barriers to traditional health care, encompass: the cost of care, distribution of services, and health literacy (Shi & Singh, 2013). One's socioeconomic status is the foremost predictor of how health literate an individual is, and whether or not he or she will be able to find and afford care. The cost of dental care is not reasonable for the uninsured, and even patients on Medicaid[®] are often turned away from private practices. When severe dental pain arises, many patients seek care from hospital emergency rooms instead of dental offices, due to financial reasons and discrepancies in insurance coverage.

In 2002, there were nearly forty million Americans enrolled in Medicaid[®], signifying that there were that many Americans in need of help paying for dental care; however, dental coverage is only guaranteed for children under this system and is not always readily available for adults (Burt and Eklund, 2005). This lack of access to dental care resulted in over two million emergency room visits related to dental pain in 2010 (Norman, 2014). Also, a study conducted in 2014 revealed that seventy percent of dental related emergency room patients were of low socioeconomic status and did not live within close distance to a dental clinic (Allareddy, Rampa, Lee, et al., 2014). While an individual may have the money to pay for dental care, they may not have the additional funds needed to cover travelling to and from the dental office, or to withstand the pay cut incurred by missing work for an appointment. Financial constraints are difficult to overcome and can have a direct effect on how health literate an individual is. Health literacy, or one's ability to attain, process, and comprehend basic health information and services in order to make appropriate decisions regarding one's personal health, is a major factor in whether or not individuals make and maintain dental appointments (U.S. Department of Health and Human Services, 2010). According to the Office of Disease Prevention and Health Promotion (2010), only twelve percent of adults have a proficient health literacy level, and low health literacy has been linked to underutilization of preventive services.

Aside from the restorative, prophylactic, and cosmetic procedures, the most overlooked aspect of dental care is education. Without proper education from trained dental professionals, health literacy, and in turn home-care and future utilization of services, cannot be increased. While up to 130 million Americans are without dental

insurance (U.S. Senate Committee on Health, Education, Labor & Pensions, 2012), eighty-two percent of Americans have more than one television in their household (Nielsen Company, 2009). For Americans without access to dental care, this influx of media and advertising may be the sole source of oral-health education and the driving force behind purchasing patterns of oral health products.

Recognizing the more active role that consumers have in their own health status, Chang (2007) was interested in looking at the way that healthcare-related products were advertised and the way their marketing messages were framed. Chang explains that negative framing emphasizes what may be lost if the product is not purchased, while positive framing focuses on the benefits that will be gained by purchasing the product. Chang conducted a study to determine which type of message framing works best for a healthcare product, depending on its function. Chang chose to look at dental care products first, and surveyed over 200 undergraduate students from a large university in the United Kingdom. Each participant had purchased dental care products within the last three months. Chang chose products that either prevented disease or detected dental health problems (such as disclosing solution), and created positively and negatively framed advertisements for each. Participants randomly received one of the advertisements and then were asked a series of questions concerning their interest in and intentions regarding the particular product. The results of the study revealed that positive framing, focusing on what would be gained, was more effective in promoting prevention products, whereas negative framing, focusing on what would be lost, was more effective in advertising detection products (Chang, 2007). Chang also discovered that the less

familiar with a product someone is, the more susceptible he or she is to the way in which the product is described.

Also interested in consumers' purchasing patterns, Wood (2008) conducted a study with the intent of looking at brand loyalty and what influences an individual's brand-loyal purchasing patterns. Wood's study focused on college students, those aged 18-24, and had two main objectives. The first objective was to measure brand loyalty across six categories of products, one of which was toothpaste. The second objective was to identify the motivating factors for choosing a specific brand in each product category. The sample for the survey was selected from undergraduate students at a university in the United Kingdom. Wood's results found that this age group selects the same brand of toothpaste two out of every three times, and without regard to price. The second section of the survey had respondents rank the potential reasons behind their purchases. It was found that quality and reputation are the two biggest influences behind toothpaste selection among undergraduate students. Other influential factors for toothpaste choice were identified: undergraduate students tended to choose the same brand of toothpaste as their parents, as well as gravitating towards the same brand to save time.

Vani, Ganesh Babu, and Panchanatham (2010) were interested in understanding the external factors that play a role in consumers' choice of toothpaste. The researchers were interested in the role that variables, such as one's culture, the price of the product, the quality and other attributes of the product, play in making a toothpaste purchase. The study was conducted using a survey and a random sample of 200 individuals in Bangalore City, India. The surveys collected demographic information, and asked questions regarding: awareness of various toothpaste brands, toothpaste usage habits,

influential people in purchasing decisions, and preference of various attributes of the toothpaste. The results revealed that forty percent of respondents consider the price when purchasing toothpaste. Forty percent of respondents reported that parents had a large impact on the choice of toothpaste, while another forty percent was equally divided between the influence of friends or spouses. The study also revealed that forty-five percent of respondents pay attention to toothpaste advertisements. Fifty percent of respondents rated healthy teeth and gums (30 percent), as well as prevention of decay (20 percent) as being their top priority when selecting a toothpaste. Overall, the researchers concluded that consumers were still less aware than necessary to make proper choices about toothpaste in relation to their oral health needs.

Also interested in brand loyalty, Akabogu (2013) conducted a study to assess brand loyalty to different brands of toothpaste and compare its extent across different socioeconomic factors. The researcher conducted a survey of 300 adult consumers in Anambra State, Nigeria who regularly made their own toothpaste purchases. The survey collected demographic information as well as questioned consumers about their typical toothpaste purchases. The results of the study revealed that no brand demanded undivided loyalty; most consumers admitting to switching back and forth between two brands, or trying one brand for a while then switching to another. The researcher also found that there were no significant differences in brand loyalties between the various demographic groups of age, education, and income level. Akabogu suggests that toothpaste marketers take advantage of this non-exclusive consumer-toothpaste relation and create new strategies to entice the unsure into trying new brands.

Smith (2009) explains that toothpaste is more than a mere product to professionals in the dental field; toothpaste is a tool in helping achieve the goal of behavior change in patients. Purchasing oral-hygiene products is the first step in behavioral modification and attaining the ultimate goal of making oral-care part of a daily routine. Unfortunately, many Americans have less-than-desirable access to dental care and are not receiving any sort of homecare instruction. With as overwhelming as the “toothpaste aisle” has become in recent years, advertising and brand loyalty are the two biggest influences on a consumer’s choice in oral-hygiene aids. Advertisements have the potential ability to influence consumers into making seemingly more informed purchases, as well as to encourage better at-home oral hygiene practices. Further research needs to be conducted in this area to determine the impact that advertising and socioeconomic status have on consumers’ choices of oral hygiene products. Still missing from the literature, however, are studies looking specifically at the connections between brand loyalty, socioeconomic status, and overall oral health knowledge among undergraduate students in south central Kentucky. The following chapter will describe the methodology used to conduct this research.

CHAPTER 3

METHODOLOGY

Advertisements and brand loyalty seemingly have a significant impact on purchasing patterns, but are likely not fulfilling their potential to affect positive change in the at-home oral hygiene practices of consumers with little or no access to care. It is assumed that those without access to care and whom possess minimal oral-health knowledge would be purchasing products based on sale prices, or the promise of improved esthetics, whereas consumers with increased access to care are likely making their purchasing decisions based on the recommendations of a dental professional and are potentially less loyal to a specific brand and more interested in trying new and innovative products, regardless of price. How much of an impact do advertising, brand loyalty, and socioeconomic status have on the overall oral-health knowledge and dental care product purchases of consumers?

Participants in this study included 35 undergraduate students at a public university of approximately 21,000 students in south central Kentucky. Of the participants, 19 were female and 16 were male. The participants ranged from age 19 to age 23, but the average age of participants was 20 years old. The sample included 30 individuals who self-classified as White/Caucasian (85.71%), 3 individuals who classified themselves as Black/African-American (8.57%), 1 individual that identified as Asian (2.86%), and 1

participant (2.86%) that reported being of another race but did not specify. Participants voluntarily took part in this study and no incentives were given.

A survey was created with structured open-ended questions (Appendix A), Likert[®] scale questions, and ranking responses, as well as restricted-item questions to collect demographic data. The survey focused on participants' overall perceptions of the "toothpaste aisle", their typical purchases in this product category, their motivation for purchasing specific products, and their desire to obtain the various benefits that certain products may offer. The survey was anonymous and the responses were not connected to participants' names. The data were collected through personal interaction with the researcher. Participants were approached in community areas around campus, asked to participate in the survey, and given time to read the implied consent form before agreeing to take the survey (Appendix B). After the attainment of 35 survey responses, the results were pooled and coded based on participants' responses, and patterns between demographics and oral hygiene knowledge and purchases were noted. The results of this study will be discussed in the next chapter.

CHAPTER 4

RESULTS

The survey revealed that 29 participants (82.86%) had dental insurance, 3 participants (8.57%) did not have dental insurance, and 3 participants (8.57%) were unsure as to whether or not they had dental coverage. Thirty participants (85.71%) had their last dental appointment/cleaning within the last year, 4 participants (11.42%) had not seen a dentist or had a cleaning in two to four years, and 1 participant (2.86%) reported not having a dental appointment or cleaning in over 5 years. Thirty-two participants (91.43%) responded that they had received oral hygiene instructions while 1 participant (2.86%) responded that they had not, and two participants (5.71%) were unsure if they had ever received such education. When presented with the statement, “I often feel overwhelmed when shopping in the toothpaste aisle,” 15 participants (42.86%) strongly disagreed, 5 participants (14.28%) disagreed, 8 participants (22.86%) felt neutral, 6 participants (17.14%) agreed, and one participant (2.86%) strongly agreed. When asked to rank the following benefits/qualities of toothpaste from 1 (most desired) to 5 (least desired), the least desired trait was sensitivity relief with an average ranking of 3.94, followed by tartar control with an average rank of 3.42, the third most desired trait was breath freshening with an average ranking of 3.11, the second most desired quality was whitening with an average rank of 2.34, and the most desired benefit was cavity prevention with an average ranking of 2.28.

Assessing participants overall exposure to advertisements, five participants (14.29%) reported having only one television in their household, another five (14.29%) reported having 2 televisions, 8 participants (22.85%) reported having 3 televisions, and 17 participants (48.57%) reported having 4 or more televisions in their household. When asked to rank how strongly they agreed or disagreed with the statement “I pay attention to dental product advertisements”, 15 participants (42.86%) either disagreed or strongly disagreed, 12 participants responded neutrally, and 8 participants (22.86%) agreed. In response to the statement “I am more likely to try a new type of toothpaste if I have seen it advertised on television”, 12 participants (34.29%) either disagreed or strongly disagreed, 10 participants (28.57%) were neutral, and 13 participants (37.14%) either agreed or strongly agreed.

Of the participants, 19 (54.29%) reported using Colgate toothpaste, 12 (34.29%) stated that they use Crest, 2 (5.71%) reported using Sensodyne, 1 (2.85%) reported using Arm & Hammer, and 1 participant (2.85%) reported not knowing the brand of toothpaste he or she was using. When asked how often they buy the reported brand, 17 participants (48.57%) responded with “always” and 17 participants (48.57%) responded with “sometimes”; one participant did not respond. When presented with the statement, “I always buy the same brand of toothpaste,” only 2 participants (5.71%) strongly disagreed, 9 participants (25.71%) disagreed, 6 participants (17.14%) felt neutral, 11 participants (31.43%) agreed, and 7 participants (20%) strongly agreed.

When questioned about what influences participants’ choice in toothpaste, 6 participants (17.14%) responded that advertisements have an impact on their decision, 13 (37.14%) reported that parents and family influence their choice, 3 (8.57%) reported

friends, 6 (17.14%) cited in-store displays as being influential, 18 participants (51.43%) stated that sales prices had an impact on their decision, and 12 (34.23%) reported that their choice in toothpaste is influenced by a dentist's recommendation. In response to the statement "I will try a new type of toothpaste, regardless of price" 7 participants (20%) strongly disagreed, 15 participants (42.86%) disagreed, 7 (20%) were neutral, 4 participants (11.43%) agreed, and 2 (5.71%) strongly agreed.

CHAPTER 5

DISCUSSION

For professionals in the dental field, toothpaste is a product that should be promoted, not solely for capital gain, but as a means to an end – toothpaste that has a great taste, or comes in an eye-catching box has the potential to solidify or even simply create a brushing habit for consumers. As professionals, it is important to reinforce the oral-hygiene homecare routine for patients. The best way to bolster the brushing habit is to present buyers with a product that makes them enjoy the practice. With so many options to choose from and a constant barrage of advertisements trying to sway public opinion, how do one's socioeconomic status and the potential of brand loyalty affect the purchases that consumers are making from the "toothpaste aisle"?

Similar to Wood's (2008) study that discovered college students aged 18-24 in the United Kingdom were choosing the same toothpaste two out of every three times, the current study revealed that roughly 97 percent of undergraduate students at a public university in south central Kentucky either always, or sometimes, buy the same brand of toothpaste. In addition, 18 participants (41.43%) either agreed or strongly agreed with the statement, "I always buy the same brand of toothpaste." Differing from Wood's study which revealed a general disregard for price, the current study unveiled that over 50 percent of participants are influenced by sales prices. The current study also found that over 62 percent of participants either disagreed or strongly disagreed with the statement,

“I will try a new type of toothpaste, regardless of price,” which further emphasizes the importance cost in the eyes of undergraduate students in south central Kentucky.

The study conducted by Vani, Ganesh Babu, and Panchanatham (2010) found that 80 percent of individuals surveyed in Bangalore City, India, cited parental or peer influence as being a motivating factor behind selecting a certain product. These results are similar to those of the current study, which revealed that 37 percent of the participants reported parents and family as having a major influence on their choice in toothpaste, with an additional 8.6 percent citing friends as influential in their decision. Vani, Ganesh Babu, and Panchanatham also reported that 45 percent of those surveyed pay attention to dental product advertisements. The current study revealed that over 37 percent of participants either agreed or strongly agreed with that statement, “I am more likely to try a new type of toothpaste if I have seen it advertised;” however, only 22 percent of participants reported paying attention to advertisements regarding dental products. Vani, Ganesh Babu, and Panchanatham also discovered that the top priorities of those surveyed in Bangalore City, India, were having healthy teeth and gums, as well as preventing cavities. The current study similarly revealed that cavity prevention was the most desired quality for a toothpaste to possess according to undergraduate students in south central Kentucky.

Although only 20 percent of participants either agreed or strongly agreed with the statement, “I often feel overwhelmed when shopping in the toothpaste aisle,” the myriad of products available for purchase lends to questioning what motivates consumers’ choices. While the demographics of participants and the design of the survey were not

adequate enough to accurately assess distinct patterns between purchases and socioeconomic status, the results of this study still further the research in this field. The small sample size prevents the results from being applicable to a larger population, but still increases the knowledge base in this area.

The limitations of this study include the small sample size, the timeframe in which it was conducted, and the lack of pertinent survey questions regarding socioeconomic status. Many of these limitations could be combated by working with a research team, setting and adhering to a definitive timeline, and surveying a more diversified and aged population. Potential future surveys, if working with a research team, could include more open-ended questions and allow for more freedom in participant feedback.

CHAPTER 6

CONCLUSION

While the results of this study may not have specifically answered the research question, they did add to the knowledge in this field of research. Although socioeconomic status was only assessed on a surface level, and brand loyalty and advertisements did not have as large an impact as initially thought, they were still shown to have an impact. In regards to socioeconomic status, the stereotype of the poor college student was upheld with the concern and influence of sales prices when selecting a toothpaste. Brand loyalty was not shown to be as large a factor as familial or parental influence – undergraduate students may switch between brands, but the loyalty to a particular brand or set of brands likely comes from a history of using those products at home, while they were still being purchased by someone else. While advertisements were not shown to be as prominently important as believed in the beginning, this could be due to the demographics of those who participated in the survey.

The most striking statistics are that thirty out of the thirty-five participants had been to the dentist within the last year, but only thirty-two reported having ever received oral hygiene instruction, and a mere twelve participants reported that a dentist's recommendation influenced their choice in toothpaste. Education should be a primary component of each and every dental care visit. Unfortunately, it appears that the education that patients are receiving from professionals is less memorable than the

messages that consumers are receiving from advertisements. Future research should focus on the messages and methods of dental product related advertisements – are they appealing to what patients and consumers reportedly want, and are they educating properly in the process?

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APPENDIX A

Capstone Experience/Thesis Survey

Age: _____ Gender: _____ Class Rank: Fr. So. Jr. Sr. Major: _____

Ethnicity: Hispanic White/Caucasian Black/African American Asian Other _____

Do you have dental insurance: Yes No Don't Know/Unsure

How many televisions are in your household: 1 2 3 4+

When was your last dental appointment/cleaning: Within the last year 2-4 years 5+ years never

Have you ever received oral hygiene instructions: Yes No Don't Know/Unsure

What brand of toothpaste are you currently using:

Colgate Crest Aquafresh Sensodyne Aim Arm & Hammer Other: _____ Don't know

How often do you buy this brand: Always Sometimes Rarely First Time/Once

What influences your choice in toothpaste:

Advertisements Parents/Family Friends Store display Sale prices Dentist recommendation

1. I often feel overwhelmed when shopping in the toothpaste aisle.

Strongly Disagree Disagree Neutral Agree Strongly Agree
1 2 3 4 5

2. I always buy the same brand of toothpaste.

Strongly Disagree Disagree Neutral Agree Strongly Agree
1 2 3 4 5

3. I pay attention to dental product advertisements.

Strongly Disagree Disagree Neutral Agree Strongly Agree
1 2 3 4 5

4. I am more likely to try a new type of toothpaste if I have seen it advertised on television.

Strongly Disagree Disagree Neutral Agree Strongly Agree
1 2 3 4 5

5. I will try a new type of toothpaste, regardless of price.

Strongly Disagree Disagree Neutral Agree Strongly Agree
1 2 3 4 5

Rank the following in order of importance when selecting your toothpaste: (1 = most desired, 5 = least desired)

__ Sensitivity relief __ Whitening __ Tartar control __ Cavity prevention __ Breath freshening

APPENDIX B

IMPLIED CONSENT DOCUMENT

Project Title: Barriers to Care and Buyer Behavior in Relation to Oral Hygiene
Investigator: Allison McCutchen, Department of Allied Health, 615-878-4340

You are invited to participate in a classroom project conducted as part of the requirement for DH 323 and Hon 404 in the Department of Allied Health at Western Kentucky University.

The purpose of this research project is to help beginning researchers learn more about collecting data using qualitative research methods. The information generated will not be used for academic research or publication. All information obtained will be treated in the strictest confidentiality. The investigator will explain to you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask him/her any questions you have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the researcher any questions you may have.

If you then decide to participate in the project, you should be given a copy of this form to keep if requested.

1. Nature and Purpose of the Project:

As an undergraduate student in the Department of Allied Health and under the supervision of Dr. Lynn Austin, Professor, I am conducting research for a required class project on purchasing patterns and barriers to dental care. The purpose of this survey is to help the researcher study the correlation between socioeconomic status and dental product purchases.

2. Explanation of Procedures:

I ask that you complete a brief questionnaire. This process should take no longer than five to ten minutes.

3. Discomfort and Risks:

There are no foreseeable risks associated with this research project and the probability and magnitude of harm or discomfort anticipated in the research is very minimal.

4. Benefits:

While you may not benefit directly from participation in this study, it is hoped that the knowledge gained through your participation will help others at a later time.

5. Confidentiality:

The survey does not contain any identifiable information, anonymity is assured, and all data will be reported in the aggregate. No one except the researcher and the instructor will have access to them.

6. Refusal/Withdrawal:

Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

Your continued cooperation with the following research implies your consent.

THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY
THE WESTERN KENTUCKY UNIVERSITY INSTITUTIONAL REVIEW BOARD
Paul Mooney, Human Protections Administrator
TELEPHONE: (270) 745-2129

