


Spring 2018

# Families Communicating About Health: Conceptualization and Validation of the Family Health Communication Quotient Scale

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Gafner, Erin E.. "Families Communicating About Health: Conceptualization and Validation of the Family Health Communication Quotient Scale" (2018). Master of Arts (MA), thesis, Communication/TheatreArts, Old Dominion University, DOI: 10.25777/CHQF-PT75  
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**FAMILIES COMMUNICATING ABOUT HEALTH: CONCEPTUALIZATION AND  
VALIDATION OF THE FAMILY HEALTH COMMUNICATION QUOTIENT SCALE**

by

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A Thesis Submitted to the Faculty of  
Old Dominion University in Partial Fulfillment of the  
Requirements for the Degree of

MASTER OF ARTS

LIFESPAN AND DIGITAL COMMUNICATION

OLD DOMINION UNIVERSITY

May 2018

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## ABSTRACT

### FAMILIES COMMUNICATING ABOUT HEALTH: CONCEPTUALIZATION AND VALIDATION OF THE FAMILY HEALTH COMMUNICATION QUOTIENT SCALE

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Research on family health communication is based in part on the assumption that families actually communicate about a wide variety of topics pertaining to their health and wellness (or lack thereof). However, whether they do communicate about health and wellness, and exactly what they communicate about concerning health and wellness as well as how often, remains undocumented. To begin to address this problem of documenting the extent to which families talk about health and wellness, this study adapted Warren and Neer's (1986) *Family Sex Communication Quotient* to create and report the preliminary validation of a new measurement instrument called the *Family Health Communication Quotient* (FHCQ). The new measurement assesses an individual's reported levels of comfort, perception, and value regarding health and wellness communication within their family. To assess the new measurement's convergent validity, the *Revised Family Communication Patterns Instrument* (Ritchie & Fitzpatrick, 1990) as well as a new *Family Health Evaluation* questionnaire were used. Results confirm the concurrent validity of the FHCQ instrument and found that families with high FHCQ scores were also high in conversation-orientation, more likely to talk about health and wellness topics, have a working relationship with a physician, a positive outlook on diet, and exercise regularly.

Keywords: family communication, health and wellness, well-being, positive communication

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## DEDICATION

This thesis is dedicated to my husband, Pete, and my daughter, Teagan. Pete, thank you for your continued support, patience, and encouragement. Your love makes me feel like I can accomplish anything! I couldn't have done this without you.

Teagan, my sweet girl, never be afraid to fail. Set a goal, work hard, and don't give up. Don't ever let anyone tell you that you can't do something. Keep your eyes focused on Him. You can do all things through Christ who strengthens you. (Phil. 4:13)

## ACKNOWLEDGMENTS

I would like to acknowledge my thesis advisor and professor, Dr. Tom Socha, and my committee members, Dr. Gary Beck and Dr. Muge Akpınar-Elci.

Dr. Tom, thank you for believing in me when I didn't believe in myself. Throughout my time in this program, you've pushed me to achieve things that I never thought were possible. I sincerely appreciate you always going above and beyond, you're a wonderful teacher and I am forever grateful for you. Your positivity is truly inspiring! Thank you.

Dr. Beck and Dr. Muge, thank you for taking the time to read and review my thesis. Your support and feedback is greatly appreciated. I could not have completed this paper without your help and guidance. Thank you.

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## CHAPTER 1

### THE PROBLEM

#### **Family Communication and Health**

Across the lifespan, the family is recognized as the primary and proximal influence on the collective as well as the individual members' health (Koerner & Schrodt, 2014). For better or worse, interactions within the family circle shape behavior, lifestyle, relationships, perceptions, and ultimately, health capacities and health decisions (e.g., see Turner & West, 2015). Likewise, "The family occupies a central position in the lives of individuals and is also humanity's most enduring and most fundamental social institution" (Koerner & Schrodt, 2014, p. 1). More specifically, the parent-child dyad is an influential relationship in which the parental interaction with their child(ren) may directly affect the child's choices and behaviors (Socha & Yingling, 2010). Reciprocity describes how children can also influence their parent's choices and behaviors (Socha & Stamp, 1995). Reciprocal interactions occur within conversations between the parent-child dyad directly influencing one another through elicited and regulated responses. The same theories and propositions that apply to families in general can also apply to health and wellness communication within the family, in particular because parents are central to these efforts and play a key role in the health choices of their children (Ndiaye et al., 2013).

Considerable research exists from various disciplines regarding family communication and the physician-patient relationship as it pertains to the education, prevention, and intervention of unhealthy behaviors including family studies (e.g., Baoicchi-Wagner, 2015, Baxter et al. 2005, Bylund & Duck, 2004), public health (e. g, Birch & Fisher, 1998), medicine (e. g, Ferriera et al., 2006), psychology (e. g, Kelder, Perry, Klepp, & Lytle, 1994), and so on. However, limited research exists that has examined how families talk about health in the home as well as

the effects these conversations may have on the behavioral outcomes of individuals. Rebecca Cline (2003, p. 285), for example, states that health communication “focuses on the relationships between communication and health, health attitudes and beliefs, and health behavior.” However, at what point in our lifespan do children begin to develop these health attitudes, beliefs, and behaviors? Do they change over the lifespan, and if so what influences these changes? Is it possible that our everyday family interactions have a greater impact than we think on health and wellness? Family health attitudes, beliefs, and behaviors are unique for each individual family and formed within the context of their family culture. Cline (2003) supports the central argument of this study that traditionally, health communication theory and research has focused more on formal rather than informal health communication contexts or has paid far less attention to the important role of everyday interpersonal communication. Furthermore, she states that “influences on everyday communication on health (Cline, 2003, p. 287):

1. are anchored more in the social reality and social norms of participants than in health knowledge, health information, and traditionally defined health beliefs and behaviors;
2. are embedded in social institutions that can be understood only through the realities of the participants;
3. may be positive or negative; and
4. may be planned or incidental.

This is a missing component in the comprehensive study of family health communication and the goal of this study is to fill this gap and examine the extent to which everyday family communication about health plays a role in measurable family health and wellness outcomes. What are the messages and meanings likely to be the most influential in health-related behavior change? Cline (2003) identified the need for this research and this study likewise seeks to better

understand health and risk behaviors in terms of the frames of meaning used in the interpersonal contexts in which the discussion occurs. Oftentimes, public health campaigns intend to invoke change by simplifying their messages to the masses by communicating “just say no” or “eat this, not that” or “play outside for 60 minutes a day” – all of which lack the focus on their targeted audience(s) as well as how messages like these will be perceived, interpreted, and practiced by the public. By shifting the perspective on family health communication, health practitioners and researchers alike may be able to better educate families on how to discuss health and wellness in the home.

Warren and Neer (1986) recognized a similar disparity in their research about family sex communication. At the time, few research programs investigated the role of parents in the sex education of their children. However, evidence exists now that indicates that parents do influence their children’s sexual practices (Neer & Warren, 1988; Warren & Neer, 1986). While it is a widely-accepted notion that parents have a significant impact on the overall wellbeing of their child, it is less common to know how significant everyday informal conversations affect a child’s health choices as they develop across their lifespan. Warren and Neer (1986) research identified that there was a need to study the quality of the discussion about sex in the home. In this research, they developed the *Supportive Sex Discussion (SSD)* scale which later became the foundation for the *Family Sex Communication Quotient (FSCQ)* scale. A supportive communication climate likely contributes to information exchange within the family that is positive. This was Neer and Warren’s (1988) key indicator for supportive communication. Parents that foster a positive information exchange with their children create a safe environment where topics relative to sex, illness, and health and wellness are encouraged and supported. Warren and Neer’s (1986) sex discussion research supports the claim that quality family

conversations matter and can have a significant impact on children's sexual behaviors. A mutual dialogue that encourages an open discussion builds trust between parent and child, and child and parent. Therefore, establishing trust within this parent-child dyad creates a supportive environment where family members may openly and comfortably discuss health-related topics. While their research focuses on the topic of sex, similar issues of information exchange (or lack thereof) relative to openness, trust, frequency, and support within the parent-child dyad may likewise exist for talks relevant to health and wellness as well.

Moreover, existing health and family research is predicated on two assumptions: (1) in everyday life families discuss topics beyond phatic, or "everyday talk" and (2) (like sex) that sometimes, some (not all) families may (or may not) discuss health and wellness. Similar to communicating about sex, families likely may have varying levels of comfort, literacy, and values when it comes to communicating about health. For some family members, the level of comfort or discomfort when talking about health and wellness may be drastically different. Likewise, they may or may not feel comfortable with their level of health literacy and possibly avoid the topic altogether. Also, although most all families will report they value health and wellness, some families may not broach the subject until a member is sick or in need of medical attention. In the latter situation, the family may associate "health" with an absence of being ill and/or injured as opposed to "wellness" and improving one's health. The conversation(s) about health may be more reactive with a negative connotation as opposed to proactive with a positive connotation. Unfortunately, society and popular media quantifies "wellness" as simply being physically fit, which is directly attributed to one's physical appearance. However, wellness may also be discussed from a holistic perspective that involves the quality of the individual's mind, body, and soul. For healthcare practitioners, wellness can be defined as an approach to healthcare

that emphasizes preventing illness and prolonging life, as opposed to emphasizing treating diseases (Makoul et al., 2009). In this study, the terms health and wellness are used interchangeably. As noted in the above-mentioned definition of wellness, this thesis adopts “health” as defined by the World Health Organization (WHO) (1947, Constitution, p. 29): “Health is a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity” (Seligman, 2008, p. 4). This definition was established by the WHO in 1947. However, decades later, medical practitioners, public health campaigns, and health education programs alike neglect to tailor their messaging to the individual’s well-being and primarily focus on preventing, improving, and/or curing “unhealthy” populations.

It is important to begin to change the meanings of health and wellness from a negative communication perspective (i.e., exclusively reactive to illnesses) to a more positive communication perspective (i.e., proactive about prevention of illness and wellness) to more effectively impact the conversations in the home and in turn the health-behaviors of the family members. However, when studying how families communicate pertaining to health and wellness, we cannot assume that families are actually communicating specifically about health and wellness, or illness for that matter, as empirical evidence is lacking. For example, a family that is physically fit and active may participate in high-intensity exercise routines such as running long-distance road races, group sport, or other extra-curricular physical activities and communicate regularly about diet, exercise, and healthy decision-making. A physical exercise-focused family is likely to discuss health and wellness on a regular basis because in part they value physical fitness. Conversely, a family whose members are not active, nor physically fit may not participate in exercise in any capacity, and therefore may not discuss (or value) health and wellness in the home like their counterparts. Each family (and its members) may value,

perceive, and conceptualize health and wellness in different ways. To put this in conceptual terms Socha and Stamp (1995, p. 43) address common assumptions about communication and relationships:

1. Relationships occur both in the minds of the interactions as well as between the interactants.
2. Relationships are defined, changed, and embodied through interaction.
3. Relationship work is accomplished through routine interaction.

In terms of their actual “health and wellness,” families’ messages about health and wellness must be considered. To effectively study family health communication, it is pertinent to be aware of these common assumptions and to test the extent to which families of differing levels of actual health and wellness is mirrored by actual levels of communication about health and wellness. Common everyday life experience and research (Duck et al., 1991) provides us with evidence that our everyday, routine interactions are not as insignificant as often assumed. Likewise, one could posit that our everyday talk may be indirectly influencing our behaviors and choices related to our health and wellbeing in ways we’re not even cognizant of on a daily basis. For example, a family may start their day with talk about what to eat in the morning, whether or not particular family members brushed their teeth, and/or what activities are going on after work or school. Although these are relatively mundane topics of conversations they are, in fact, contributing factors that can facilitate or inhibit family’s health and wellness. Therefore, I argue in this thesis that everyday family communication episodes matter significantly because they can directly facilitate or inhibit the social construction of, and understandings about, healthy and/or unhealthy behaviors and choices. The influences of interpersonal communication interactions on health and wellness are oftentimes neglected. However, it would seem that they have the

potential to be powerful. Yet, to date, the extent to which families actually communicate about health and wellness continues to be unknown and undocumented.

A wide variety of community health programs have been implemented to prevent obesity, cardiovascular disease, diabetes, as well as to promote healthy pregnancies and physical activity with families across population segments. In Virginia, for example, the Virginia Department of Health (VDH) provides support through education to help improve population health (Virginia Department of Health, 2017). For example, the VDH website provides various statewide programs for family health services within the following categories; child and family health, prevention and health promotion, and community nutrition. However, very few of these programs educate individuals on how to talk about health and wellness in the home. If it is mutually agreeable that families directly influence the health attitudes and behaviors of its members, then it is crucial for families to discuss a wide range of health-related topics and issues on a regular basis. Health-related topics may be relative to one's physical, mental, and/or emotional well-being. Defining total health and wellness is subjective: one person's definition of being healthy likely differs greatly to the next person's. "The way people define health is a major determinant of how they talk about it, take care of, and spend money on it" (Makoul et al., 2009). In this study, health and wellness is combined to reflect a holistic approach to an individual's well-being. Therefore, it is irrelevant how to what extent an individual is "healthy" by medical standards – what's pertinent is how comfortable one is discussing health and wellness topics in the home, if they receive this information in the home, and how valuable they deem this to be as well. A positive communication environment likely fosters a positive outlook on life regarding health and wellness. Furthermore, throughout the lifespan, researchers have learned that how families' function affects how societies at large function as well (Koerner & Schrod, 2014). It is

possible that families likely may not feel competent or equipped with the knowledge to discuss health topics related to disease, nutrition, physical activity, aging or even dying but these are all processes that families experience regardless of race, ethnicity, age, income level and location.

### **Assessing Family Health Communication**

It is within the family communication environment that children learn informational and relational objectives of communication that they practice outside of the home in their social environments (Ritchie & Fitzpatrick, 1990). Similarly, it is likely that families that have regular and frequent conversations about health will foster healthy choices and behaviors for individuals within the collective. Members of families that do not have regular and frequent conversations about health may adopt unhealthy choices and behaviors. Herein lies the problem; research shows that communicating about health and wellness (or its lack of) can have a positive (or negative) effect on families and family members, but we do not yet understand if and to what extent family communication about health and wellness is taking place at home or what that communication might look like. This provides a warrant to undertake a study seeking to develop a measurement of the extent to which family health communication is taking place and assuming that not all communication episodes are “equal” (Duck et al., 1991), what are the qualities of these exchanges that might be facilitative of health and wellness.

Bylund and Duck (2015, p. 5) noted that, “Throughout the lifespan, the everyday interactions among family members have the potential to have a tremendous impact on individuals’ construction of health, talk about health, participation in health care systems, enactment of healthy or unhealthy behaviors, and health status.” Nevertheless, research on these everyday interactions and conversations about health and wellness within the family are understudied. Across disciplines, the research has predominantly focused on formal over



informal contexts. In addition, the studies of informal contexts have traditionally focused on communication and health influence from mass media campaigns and the clinician-patient relationship (Cline, 2003). The everyday interpersonal communication factor within the family has yet to be fully considered. It is a “missing box” in everyday conversations about health and wellness (Cline, 2003). Within informal contexts such as the family, how can communication about health result in positive or negative outcomes? It is important to better understand these everyday conversations because they can potentially play a significant role in the development of healthy behaviors and outcomes for each individual family member.

Oftentimes, conversations about “health” at home may instead actually be reactive communication episodes responding to an illness, disease or other health issues, rather than proactive communication about health. Family health values, beliefs, and priorities are established through family traditions and culture and are dependent on resources available to support healthy living and accessibility of health care. We learn, for example, which topics are comfortable to discuss, provide quality and useful information, and which ones are valued.

This study seeks to address the need for an efficient means to assess family health communication by the development and preliminary validation of a scale that seeks to assess the extent to which families report to communicate about health. Specifically, the study, builds on Warren and Neer’s (1986) *Family Sex Communication Quotient*, to develop and offer initial evidence for the validity and reliability of a new self-report scale—the *Family Health Communication Quotient (FHCQ)*—that seeks to measure the extent to which family members report family health communication to be comfortable, informative, and of value.

## CHAPTER 2

### LITERATURE REVIEW

#### **Family Communication and Health: An Overview**

As discussed in chapter one, within the health and family communication research literature, how families' converse about health across the lifespan is not well understood. Arguably, much of the family health communication research focuses on health crises or high-risk behaviors (e.g., Pecchioni et al., 2006, Koesten et al., 2009), prevention campaigns (e.g., Cavill & Bauman, 2004, Flora et al., 1989), death and dying (e.g., Fish & Nussbaum, 2015) and more. However, much less attention has been given to everyday conversations about health and wellness among family members. "Because of the interwoven nature of our lives in families, family well-being is interconnected" (Pecchioni et al., 2006, p. 457). More specifically, the role of everyday family communication about health and wellness, prevention, and illness pertaining to actual health and wellness outcomes is unclear. Overall, it is mutually agreeable across disciplines that early intervention is critical in children adopting healthy behaviors that will likely develop into healthy lifestyles (Rimal, 2003). For this study, early intervention includes positive conversations and interactions about health and wellness in the home. Rimal (2003, p. 10) emphasizes that the proximal influence on children in the home (e.g., household adults) can act as "influential agents of change." Conversely, while much of the existing research focuses on the unidirectional influence from adults to children and the role parents play in behavior acquisition, we're learning that the child-to-adult influences are equally important (Rimal & Flora, 1998). This reciprocal relationship within the home can positively or negatively influence the behaviors of one another. Family members are also influenced by factors about health and wellness within their distal environment (e.g., school, work, church, etc.), which likely impacts

the way they communicate within this dyadic relationship.

A lifespan perspective on how families talk about health in the home will help us to better understand how these conversations evolve over time along with the individuals and relationships (Pecchioni et al., 2006). Pecchioni et al. (2006) looked at how families talk about sex and substance abuse and argued that a family that discusses other issues openly is more likely to openly discuss more challenging health-related issues. If this is true, then Pecchioni et al.'s (2006) argument may apply to the argument of this study that the more open a family is talking about health, the more likely they are to talk about wellness. Like Pecchioni et al. (2006), this study identifies that within the family unit it is important to establish health attitudes and behaviors, disclose family health history, and to provide support for the individual family member's information needs regarding one's well-being. This begins in the earliest life stage, childhood. "A child may observe her father feeling ill but refusing to go to the doctor" or "A family may have religious sanctions against certain types of health-related behavior" (Pecchioni et al., 2006, p. 449). These examples are somewhat indirect but illustrate specific cases of the function of communication in our health behaviors. Regardless of the perceived value and/or comfort with talking about health and wellness in the home, "active parental involvement is an important influence on adolescents' health-related behaviors" (Pecchioni et al., 2006, p. 449).

Similarly, Byland and Duck (2004) also identify the significant influence of everyday interactions within the family regarding "individuals' construction of health, talk about health, participation in healthcare systems, enactment of healthy or unhealthy behaviors, and health status" (p. 5). In turn, public health campaigns encourage adults within the family unit to talk to their children about smoking, sex, and drugs. Furthermore, the advertisements and literature included in these mass media public health campaigns are predicated under the assumption that

families are talking about health-related topics in the home. However, making this assumption can be detrimental to the well-being of the family and its members. Prevention and public health campaigns also assume that families are having formal conversations about health, which in most cases, is highly unlikely. Formal, sit-down conversations are likely dependent upon the family's health literacy as well as the value and comfort level of discussing health-related topics within the home. Conversely, it is more likely that children and adults are having informal talks about health daily. These experiences are likely not always in the form of sit-down conversations to talk about practicing healthy and/or unhealthy behaviors. Instead, it is more likely that these experiences occur informally through everyday interactions. For example, mealtime rituals, daily hygiene, and physical activity (or lack thereof) are all instances that appear mundane but happen routinely and become learned behaviors for those individuals within the household. "The study of everyday interpersonal communication in informal contexts (such as families) is critical to understanding how communication about health can serve both positive and negative outcomes" (Byland & Duck, 2004, p. 6). This thesis seeks to test the assumption and better understand if families are talking about health, what health-related topics they're discussing, and how frequently and/or infrequently they're communicating. At this point in time, it is unclear if families are comfortable talking about health and if wellness is something that they value. This study posits that the role of discourse within the family unit is not simply the medium, rather it may be the mode for the foundation of communication about health and the behaviors that follow.

Health is communicative. It "exists as the implicit mechanism through which family members offer words of caution, give and take advice, provide support, and so on" (Baioocchi-Wagner, 2015, p. 811). The everyday informal conversations that occur enhance, debilitate, or

maintain an individual member's health behaviors. Baiocchi-Wagner (2015) provides support for this study that by learning more about family communication, we can better understand the reasoning and explanations behind why individuals make certain choices regarding their health and wellness. Much of the research that exists on family communication focuses on health outcome differences based on race and gender as opposed to the role of communication in the home (Baiocchi-Wagner, 2015). Herein lies an important limitation of past family communication research. This study seeks to add to the existing research by disregarding race, gender, creed, income, and literacy, to simply understand the everyday interactions that organically happen in the home. "Family members, unlike interpersonal interactions, are interconnected and interdependent" (Baiocchi-Wagner, 2015, p. 814). In other words, a lifestyle change for one family member likely effects the entire family unit. This mutual reciprocity of the parent-child dyad directly influences one another's health behaviors and actions. Likewise, a parent is initially a child's primary attachment figure and caregiver (Ledbetter & Beck, 2014). Ledbetter and Beck's (2014) study supports that, "Children initially learn communicative behavior, in part, by modeling parental behavior, and even after children become young adults and move away from their parents, the perspectives and beliefs that comprise their family schemas continue to influence their communicative behavior" (p. 231). The role of the family's communicative behavior is a lifespan approach that creates a foundation for the daily interactions that naturally occur within the home. These interactions are repetitive and oftentimes habitual and it's important to study these behaviors to better understand how they may be developed communicatively. Past researchers have reviewed the interdependency within the family unit and its effects on communicative behavior, but few have studied the context and content of these conversations. Family communication research is incomplete if we do not explore their roles in

the development and adoption of individual health behaviors.

### **Family Communication about Illness: Reactive Approaches**

Unfortunately, for some families, communication about illness, death, and dying, may be the first discussions the family has regarding health and well-being. In these instances, discussions are reactive. When a family member receives a negative health diagnosis or the family experiences a health crisis, issues of disclosure, family information needs, and social support arise (Pecchioni et al., 2006). Disclosure issues may occur in a family that has not fostered an open communication environment. For example, when a family member receives a negative health diagnosis they may not know who to inform or how to communicate their news because no systematic environment exists. Once the family is made aware of the situation, they may feel a need for more information or feel dissatisfied with the information received. For example, families that have an established communication environment likely desire to have a more active role in the individual's health care decisions whereas families that do not have this type of communication environment established likely assume a more passive role. Likewise, "A health crisis serves as an ideal opportunity to examine family functioning and its ability to adapt to change" (Pecchioni et al., 2006, p. 455). Furthermore, research shows that individuals cope with health challenges more effectively when they have social support from their family. A lifespan perspective will help us better understand how the individuals and their relationships within the family interact and change over time.

As previously mentioned, a family that has established an open communication environment and a strong support network is likely to cope well when a health crisis arises. The diagnosed family member is more inclined to disclose this information when they feel supported. Unfortunately, in many cases a negative health diagnosis likely triggers the family's first

conversations about familial support and caregiving. The family's social support (or lack thereof) directly effects the individual's well-being and they characteristically play an active role in caring for the sick family member. Regardless of the severity of the diagnosis, when someone in the family is unexpectedly ill, injured, or dies, family members oftentimes take on the role of caregiving. This role may be welcomed or it may feel like an obligation but either way requires time, energy, effort, and emotional exhaustion and relational strain (Pecchioni et al., 2006). Therefore, it's important to have proactive conversations about caregiving not only regarding terminal illness of an elderly family member but as it may pertain to sickness, acute and chronic illness, injuries, rehabilitation, recovery, and other negative health diagnosis as well. In a reactive experience, caregiving may be considered an obligation because this role often defaults to the parent, eldest child, or spouse. It's critical to have these difficult conversations about health before they occur, if ever. This thesis argues that a family well-equipped with the communication skills to discuss health-related issues such as, illness, death and dying, create a socially supported environment where all members feel equally involved in the health outcome of the sick individual. Many families choose to avoid or minimize these discussions because they're difficult to have and may not be equipped with the communication skills to talk about these topics constructively. Ultimately, how the family approaches communication about these health issues may affect the long-term dynamics of the household and unit.

Coping with illness or a life-threatening disease can significantly impact the relations amongst the family. Bachner and Carmel (2009) note the importance of interpersonal communication within these relations. Their study adds to the existing health communication research that "higher levels of open communication between caregivers and patients at this moment of crisis may have a positive impact, whereas lower levels of open communication may

have a negative impact on both parties” (Bachner & Carmel, 2009, p. 524). While Bachner and Carmel (2009) use cancer as an example for analyzing communication between caregivers and terminally ill patients, their study supports the argument of this thesis that families prone to discourse in all aspects of health are more likely to cope with a negative health diagnosis or issue compared to families that avoid such topics altogether. Oftentimes, decisions may need to be made on behalf of the ill family member. In a household with lower levels of open communication, difficult choices such as, identifying a primary caregiver, medication distribution, and physician selection may take on a reactive approach. Discussing illness, death and dying is challenging and particularly challenging for family members. Herein lies the problem, “92% of family members of American cancer patients had thoughts about the possibility of the patient’s death, but only 22% discussed the possibility with the patient” (Bachner & Carmel, 2009, p. 525). The result, the caregiver, patient, and other family members may engage in “protective buffering, that is, the avoidance of discussion of fears and concerns in order to protect each other” (Bachner & Carmel, 2009, p. 525). Coping with a negative health diagnosis or issue such as cancer can affect everyone involved both physically, mentally, and emotionally. However, having an open dialogue established that nurtures a healthy communicable environment, familial support, empathy, and honesty has the potential to thrive under extenuating circumstances.

Moreover, like the topic of sex, the topics of death and dying are particularly difficult discuss within the family. Death and dying are not topics of discussion most families are comfortable talking about because considering our loved ones’ (or our own) mortality, is unimaginable. However, “family communication is central to sound end-of-life decision-making” (Scott & Caughlin, 2014, p. 262). Scott and Caughlin (2014) identify that people are



more likely to discuss end-of-life decisions with family members than anyone else. Furthermore, they identify the significant and direct impact of having these discussions proactively (as opposed to reactively), which can either improve or impair this decision-making. Research shows that family end-of-life communication can result in more timely decisions and overall health care of the patient even for the terminally ill. Conversely, neglecting to have end-of-life discussions with family members can result in depression, anxiety, post-traumatic stress, and diminished quality of life for the patient as well as the other involved family members (Scott & Caughlin, 2009, p. 262). Another significant factor discussed by Scott and Caughlin (2014) is the importance of the quality of family talk surrounding end-of-life conversations as opposed to frequency. As noted in Chapter 1, the content and context of these conversations about health are even more important than frequency. “However, when aspects of the quality of family talk are accounted for, there is a more consistent connection between effective family discussion and better end-of-life outcomes” (Scott & Caughlin, 2014, p. 263).

Supportive communication, supportive acts, and social support can directly and indirectly improve an individual’s health, life expectancy, recovery from illnesses, stress levels, and self-perception (Brannon & Shaw, 2015). Furthermore, supportive communication can be defined as, “verbal and nonverbal behavior produced with the intention of providing assistance to others perceived as needing aid” (Brannon & Shaw, 2015, p. 344). Unfortunately, for families that respond reactively to these situations, supportive communication is likely nonexistent. A family that doesn’t have cohesion or flexibility to cope with negative health diagnoses likely will also struggle with talking about information needs and family health history – both of which can directly affect family-specific risk and preventive action (Rodriguez et al., 2017). Rodriguez et al illustrate the severity of this communication gap here, “most respondents (96%) to a national

survey believed that their family history was important; yet, only 30% had actively collected family health information from their relatives” and furthermore, “34% of respondents reported little to no communication with family members about their health history” (2017, p. 2). The results identified by Rodriguez et al (2017) is yet another example that demonstrates how crucial it is for families to talk about health proactively.

The research in this literature review has identified several sources across various disciplines that support the hypothesis of this thesis. That is, proactive communication about health within the family can positively affect the well-being of its members. Fisher and Nussbaum (2015) further affirm that, “consistent with lifespan theory is the proposition that adaptation is not simply reactive. Rather, individuals maintain a proactive role in constructing social environments such that they match and enhance individual competencies” (p. 6). Researchers Fisher and Nussbaum (2015) looked at older women diagnosed with breast cancer but their study provides additional support from a lifespan perspective of the importance of establishing a supportive and open communication environment early in the family to prepare for unexpected diagnosis such as cancer. While their research identifies the significant role communication can play in improving the terminally ill patient’s well-being, like many other studies, it does not analyze the content of the family’s conversations between one another. Again we see the assumption that because communication within the family exists, they’re discussing the family’s health history, information needs, etc. Overall, reactive approaches to talking about illness, death and dying add unnecessary stress and anxiety to an already difficult situation.

### **Family Health Communication: Proactive Approaches**

Family communication “related to health in the lifespan, such as puberty and substance abuse, require parents and children to manage private information about these sensitive issues”

(Erbersole & Hernandez, 2016, p. 574). Topics such as these are inevitable for all families to encounter and are best managed proactively. Puberty is a natural part of adolescents' physical development; substance experiences may occur at various life stages as well as the communality of adult sexual intercourse but they are all still sensitive issues that individuals consider private information. While their outcomes may not be as detrimental as various illness, death and dying, they're oftentimes associated with feelings of awkwardness, uncomfortableness, at times heartbreaking and even humiliating. However, for families with a supportive, open communication environment, children and parents are more likely to feel comfortable and safe discussing these challenging topics with one another. These topics are health-related issues that occur within the lifespan and can proactively be talked about in the home. As adults, parents have firsthand experience with dealing with health-related lifespan issues and therefore can prepare their children for what's inevitably to come as they develop into each life stage.

Scott and Caughlin stated that, "communication is a purposeful process" (2014, p. 263). From a proactive standpoint, it's crucial to the health and wellness of the family and its members to have intentional and decisive conversations not only about challenging health-related topics such as, illness, death and dying but also lifespan health-related topics that we all experience as we age. Similarly, Fisher and Nussbaum (2015) note that, "interpersonal communication is a fundamental part of being and key to health" and that "interactions within the family are especially critical to wellness across time" (p. 3). Family communication is central to the health and wellness of its members. Furthermore, communication is an essential part of our well-being. It is fundamental to preserving our holistic selves (e.g., physical, mental, emotional, spiritual).

Fisher and Nussbaum studied the importance of interpersonal communication within the family in relation to successful aging but provide additional support for this thesis in that,

“healthy family interaction is one key to a high quality of life across the life span” (2015, p. 3). For Fisher and Nussbaum (2015), they demonstrate how the family is a source of social support and can help the ill and/or aging family member manage stress, cope with traumatic challenges, and adapt to new circumstances in a healthy way. However, the hypothesis of this thesis argues that none of this would be possible if the family hasn’t proactively established positive healthy communication habits from the beginning. Nevertheless, it’s plausible for the family to initiate health conversations later in the lifespan and/or in reaction to a negative health diagnosis or death but it’s likely to be more challenging and feel unnatural since it may not be part of their preexisting dynamic and dialogue. Lifespan theory is a critical factor in the construction and hypothesis of this study because, “Life-span perspectives propose that individuals are constantly adapting to their changing environment” (Fisher & Nussbaum, 2015, p. 5). Additionally, “consistent with life-span theory is the proposition that adaptation is simply not reactive. Rather, individuals maintain a proactive role in constructing social environments such that they match and enhance individual competencies” (Fisher & Nussbaum, 2015, p. 6). These statements about lifespan theory are the fundamental pillars for the development of the hypotheses of this study.

Perceptions of health and wellness can be significant determinants to our physical and mental health and overall well-being, which may also be attributed to our holistic health: mind, body, and soul (Novilla et al., 2006). It is important that we begin to systematically consider perceptions of health and wellness (self and other) because in the U.S., our physical health is currently at the highest risk for chronic disease (Walsh, 2015). For example, obesity continues to grow at a rapid pace with no signs of reversing; “Currently, 65% of adults in the United States are overweight and over 32% are classified as obese. The number of overweight children has more than tripled over the past three decades” (Baiocchi-Wagner & Talley, 2013, p. 193). The

obesity epidemic is evident and at present there is no single solution to the problem. Most of the current research discusses how to prevent, intervene, or motivate healthy behavior change. I argue that it's possible for an individual to learn healthy behaviors and habits in the home when modeled and discussed at an early age. Communication learning begins in the home (Socha & Yingling, 2010), and thus it is relevant to study how families talk about health and wellness topics such as physical activity and diet. The more we can learn about the interactions taking place within the intimate confines of the family unit, we may be able to better understand how unhealthy behaviors and habits are developed. Do conversations about exercise and food occur? If so, when and how frequently? If not, why? Communication scholars can add to the existing literature through interpersonal communication and the study of messages, conversations, and influences of health topics that may prevent obesity such as, physical activity and diet within the family structure.

Healthy behaviors are learned and developed at the earliest stages of childhood development and oftentimes these behaviors perpetuate throughout our lifespan. As previously stated, family communication is a proximal source of influence on health attitudes and behaviors. Bronfenbrenner's (1992) bio-ecological model illustrates the crucial roles immediate family members and caregivers have on early childhood development within this proximal environment. There is a need to better understand how family communication impacts family members' attitudes and behaviors regarding health. If healthy behaviors are discussed, practiced, and learned at the earliest stages of development within the family system, then the family will likely continue these behaviors across their lifespan. Moreover, this is a proactive approach to health and wellness communication as opposed to the oftentimes-reactive approach. A proactive approach to health and wellness addresses key topics within family communication such as,

health, social support, positive communication, education, coping, work, and aging as they all relate to health and well-being. Conversations and interactions about health require time, effort, and support, all of which are positive family communication traits that help to improve the overall health and well-being of the family and its members.

Individual family members will likely communicate differently across the lifespan (e.g., Fisher & Nussbaum, 2015). For example, young children and adolescents are much more dependent upon their parents for their basic health needs as opposed to teenagers and young adults. This directly influences the ways in which they model and discuss health in the home. Furthermore, parents are typically the responsible party for bringing children to doctor's visits and the direct point of contact for health history and information communicated to the doctor. Conversely, as the child matures, the parent becomes less involved and the child takes on a more significant role in their health. College-aged students are therefore important to study because not only are they considered adults (over the age of 18) but also, they're likely at the stage in life where they're more responsible for their health and healthcare than ever before. In other words, their health attitudes and beliefs are established and constructed from their recollections of family interactions in the home.

Allen, Ryan, and Framer (2013) identified several organizations and institutions that have a stake in the health and well-being of individuals. They also noted that, "the creation of supportive family environments is a vital, and largely untapped, health promotion strategy" (Allen et al., 2013, p. 2). For example, healthy behaviors and wellness activities practiced and promoted in the home can have a positive influence both in the workplace and schools alike. A proactive, reciprocal relationship can exist between home and school and home and work through positive reinforcements. Allen et al. (2013) point out that many serious illnesses such as

heart disease and even cancer can be treated not only through medication but lifestyle changes as well. This provides further support that the family plays a significant role in the health outcomes of its members.

Many researchers including Baiocchi-Wagner and Talley (2014) have applied Koerner and Fitzpatrick's (2006) theory of family communication patterns (FCPT), which emphasizes both cognitive and social processes to the study of communication within the family. However, few have utilized it in support of a study specifically pertaining to health communication within the family. The Baiocchi-Wagner and Talley (2014) study on physical activity (PA) was one of the first family health-related communication studies. FCPT theory is an example of how family communication is linked to behavioral outcomes. Furthermore, FCPT states that, over time, family communication processes that create a family's shared reality become patterned. FCPT directly links family communication to members' health-related behaviors. In the Baiocchi-Wagner and Talley (2014) study, the researchers utilized the conformity and conversation orientation dimensions of FCPT as a mechanism through which family members engage in communication patterns and behaviors. Specific communication factors were considered; frequency and the degree of communication an individual perceives from family members during health conversations and interactions.

The results of that study suggest that family health communication has a significant impact on individuals' PA-related behaviors (Baiocchi-Wagner & Talley, 2014). And by extension, families that are more conversationally oriented are likely to report more healthy attitudes toward PA. In contrast, families with higher conformity were those in which family members were likely to report lower healthy attitudes. These families also reported more frequent PA specific communication during their conversations. Furthermore, it's not sufficient

to have generally open and/or broad conversations about the importance of PA but rather specific messages and behaviors should be utilized. The more habitual the discussions and behaviors of PA, the more likely family members are to perform the desired PA-related behaviors. The Baiocchi-Talley and Wagner (2014) study is a relevant example because it mirrors the hypothesis and research questions posited in this study. Family systems consist of reciprocal influences in which parents can influence the behaviors of their children and likewise, children can influence the behaviors of their parents. Further research may study this reciprocal influence through dyadic interviews and conversation analysis.

Priebe and Spink (2012) examined whether exposure to messages containing descriptive norm information about the prevalence of others' physical activity behavior to a greater extent than exposure to non-normative messages. In other words, the researchers looked at whether or not specific messages about PA behavior positively influenced others' PA behavior. While this study also reviews health in terms of PA, it is an important resource to the posed argument because it can be applied to studying conversations about health within the family communication system. For example, the influence of the parent-child relationship has been identified as a potential source for individual PA behavior patterns. Priebe and Spink's (2012) experimental research study looked at the relationships within the workplace that influence descriptive norms on PA. They also examined PA changes associated within the descriptive norm condition. Results of this study indicated that exposure to messages about descriptive norms can increase specific types of PA to a greater extent than other messages. Additionally, it is noteworthy to recognize that as the quality of the messages improved—when they were believable and relevant to participants—overall PA increased after receiving these messages, regardless of the condition. Priebe and Spink's (2012) study can be applied to families



communicating about health – if family members reconsider the effects and influences of their normal, everyday conversations with one another, the level of significance of these interactions will likely become more prevalent, frequent, and intentional. Everyday family talks about health are realistic, achievable, and manageable. The more “normal” these conversations become in the home, the more likely families will become comfortable discussing health topics and value the importance of these traditionally insignificant interactions.

Rimal (2003) investigated the intergenerational transmission of health as it pertains to the role of intrapersonal, interpersonal, and communicative factors. The research focus for their study supports the argument that adults can be the primary agents of change within the family system. Rimal (2003, p. 10) stated that, “early intervention is key in socializing children to develop healthy lifestyles, as healthy practices adopted during childhood and early adolescence tend to be enduring.” While early intervention is important, the general argument being made in the literature states that positive communication about PA can be even more effective when implemented early in the development stages.

Social cognitive theory (SCT) has been a primary theoretical approach for previous studies because it supports the idea that individuals evaluate and model the behaviors of others. Children mimic their parents’ behaviors. Therefore, if parents are actively participating in and engaging their children in healthy interactions then children will be more likely to follow their role models within their proximal environment. Like the FCPT, SCT includes factors that reinforce each other in a reciprocal manner such as, personal self-efficacy, environmental, and behavioral. If families make conversations about health a priority within the household, then they will likely create a healthy environment that can promote the family’s communication and behavioral choices regarding health.

Applying SCT, Rimal looked at the “intrapersonal factors that influence children’s own behavior, corresponding intrapersonal factors that influence adults’ behavior, interpersonal influences from adults to children, and household communication” (Rimal, 2003, p. 11). A better understanding of the aforementioned predictors may help families communicate better intergenerationally about PA. Results indicated that health behaviors of both children and adults were influenced by their intrapersonal factors, including knowledge about health and self-efficacy. “Children in households with efficacious parents also seem to develop efficacious expectations about their own abilities” (Rimal, 2003, p. 22). In support of the SCT, this statement highlights the intergenerational socialization process. That is, if parents lead by example their children will likely follow in their footsteps. Overall, in each aspect of this study self-efficacy was the most significant predictor of behavioral influence and change. Also noteworthy was the communicative influence reported. Households in which adults and children discussed health issues (or health behaviors) were more likely to have adults and children who made use of health information. Therefore, household conversations about health may have a direct effect on the healthy behavior choices amongst individual family members and the system alike.

Dailey, Thompson, and Romo (2014) went further into the study of family communication of PA behaviors by specifically researching the mother-teen dyad relationship as it pertains to weight management. These researchers hypothesized that mothers’ roles may be more salient. Like other studies in health communication, the researchers identified a health problem, weight management (WM), and then studied how to address the issue through applied theory and results. This identifies yet another opportunity for positive communication scholars to study family communication from a different lens than has been traditionally studied using a strength-building perspective. Dailey et al (2014), used Confirmation Theory to determine that

quality of communication between mother-teen dyads was related to their exercise behaviors as well as their subjective perceptions of the productivity of WM conversations. By extension, the same argument could be applied to family communication and conversations regarding PA within the family unit.

Like Bronfenbrenner's bioecological model, Dailey et al (2014), reinforced that parents teach and model PA (and/or exercise) habits to their children and family members can help change each other's behaviors as well. The applied theory for their study, "confirmation theory, focuses on the ways in which communication creates a climate in relationships and how this climate affects family members' outcomes" (Dailey et al., 2014, p. 385). An important aspect of confirmation theory is that individuals need to be accepted and challenged to achieve their potential. In the family system, members can influence one another in a reciprocal manner through practicing positive communication and healthy PA behaviors. Through social support within the proximal environment families may find a PA that works best for their system and/or each individual and support one another through positive messages both verbally and non-verbally. The results of the Dailey et al (2014) study revealed that perceived effectiveness and conversation satisfaction included the strongest support for the mother-daughter dyadic relationship. Furthermore, acceptance and challenge were positively associated with participants perceiving a family member as motivating them to enact healthier behaviors and feeling satisfied with WM conversations. If members of parent-child relationships within the family employ these qualities more frequently they could potentially facilitate more beneficial and enjoyable conversations about a topic that can be difficult to talk about with family members.

In this chapter, I reviewed the existing research on family health communication as it pertains to wellness, reactive approaches to illness, and proactive approaches to well-being. As

discussed, ample research exists on family health communication. However, few researchers have studied the informal and formal conversations about health and wellness within the home. Furthermore, most of the existing research addresses health prevention and promotion, which is all predicated on the assumption that families are already talking about health-related topics and are comfortable doing so. For the purposes of this study, it's important to discuss the existing research on family health communication and how it pertains to an individual's well-being specifically from a lifespan perspective. A lifespan approach applies theory that communication changes over time and across the varying environments we experience throughout our life stages. Therefore, much of the research discussed in this literature review uses examples of how families communicate about health in a time of crises (reactively) such as, a negative health diagnosis or death, as well as in terms of prevention (proactively). However, this chapter identifies that most the existing research fails to study the quality, frequency, and context of these conversations happening in the home and how they may affect one's holistic self.

Likewise, traditional research, recommendations, and health education and promotion have focused on ways to motivate people to exercise or to become physically active as opposed to being sedentary. While the obesity epidemic is a public health issue, it is also a communication issue. The traditional approach to obesity prevention has many negative connotations to much of the public. The public is bombarded with messages telling them how to manage their weight, new diets and exercise regimens to try, and more importantly, "what not to eat." Positive communication scholars (e. g., Socha & Pitts, 2013) have the unique opportunity to study how (and if) families talk about PA, why they talk about PA, and when they talk about PA. Instead of focusing on the problem of obesity, we need to focus on developing the strengths, which in this case is creating positive communication messages about PA for families to foster

healthy behaviors long-term.

The research discussed in this review is not a comprehensive summary of all the literature available across all the related fields of interest. Rather, the research selected focuses specifically on positive communication approach that is, when health is discussed, practiced, and learned at the earliest stages of development within the family system, the individual family members will likely continue these behaviors across their lifespan. For example, when an individual is participating in healthy PA behaviors, it is likely that it will penetrate other elements of their life such as, their health, social support, positive communication, their education, coping mechanisms, their professional life, and perhaps most importantly, their cognitive and physical health as they age.

## CHAPTER 3

### SCALE DEVELOPMENT AND VALIDATION

#### Conceptualizing a Family Health Communication Instrument

Warren and Neer's (1986) *Family Sex Communication Quotient* (FSCQ) was "designed to consolidate and examine a measure of children's attitudes toward family sex communication on the dimensions of comfort, information, and value" (Warren & Neer, 1986, p. 86). The FSCQ specifically investigated the role of parents in sex education of their children. Researchers across disciplines have found that parents do influence their children's sexual practices (Warren & Neer, 1986). However, like the FSCQ, few studies have examined the parental role in children's sex education as a part of their overall health and wellness development. As Warren and Neer (1986) claimed, even fewer studies have directly examined the significance of parent-child dialogue within this sphere of lifespan developmental influence.

Warren and Neer's (1986, p. 88) research found that fewer than 20% of respondents reported participating in any discussion about sex in the family, and when parents did discuss sex, they were perceived as uncomfortable and unsure of what to say. Following Warren and Neer's lead, the proposed *Family Health Communication Quotient* (FHCQ) posits a similar pattern regarding parents discussing health (and health-related topics) with their children in the home. That is, it is hypothesized that parents may differ in feeling comfortable and/or knowing what to say when talking about health with their children. More specifically, and similar to talking about sex, parents may face communication obstacles including feeling uncomfortable (comfort), not know what to say (information), and/or simply not seeing the need to talk about health (value), which may prevent them from communicating about health altogether. Therefore, from these similarities, the FSCQ was chosen as a preliminary framework upon which to develop

the FHCQ.

Clay Warren and Michael Neer's (1986) Family Sex Communication Orientation research identified that there was a missing component within the existing health communication research. Before Warren and Neer, few communication researchers had focused on the dialogue that exists within the parent-child relationship, specifically regarding sex communication. As previously stated, their orientation is assessed across three dimensions including comfort, information, and value. First, they chose the comfort dimension because "people positively experience supportive climates regarded as essential to the exchange of sex-related information between parents and children" (Warren, 2011, p. 140). Next, they chose the information dimension because, "the home can function as a primary source of sexual learning only through sufficient sharing of information" (Warren, 2011, p. 140). Lastly, they chose the value dimension because, "long-range positive values about family sex communication will influence the likelihood of discussing sex with one's own children" (Warren, 2011, p. 140). Likewise, these dimensions parallel communication about other topics including health, as well as other forms of family discourse such as exercise, diet, hygiene, illness, aging, death and dying, and more. The 18-item FSCQ instrument addresses a subject's personal feelings regarding family discussions about sex. It's important to note that the scale is derived from an individual's perception of family sex communication across the three dimensions. Parallel to communication about sex, this study argues that it makes conceptual sense to begin to measure communicating about "health" by following the linguistic pattern of the FSCQ and replacing the word "sex" with "health" and hypothesizes that the results will be comparable. For example, the first comfort dimension item of the FSCQ (statement #2 on the FSCQ scale) is, "I can talk to my parents about almost anything related to sex." Similarly, on the FHCQ scale, the item wording is, "I can talk to my

parents about almost anything related to health.” The first information dimension item (statement #3 on the FSCQ scale) states, “My parents know what I think about sex.” The same item number on the FHCQ scale states, “My parents know what I think about health.” The first value dimension item (statement #1 on the FSCQ scale) states, “Sex should be one of the most important topics for parents and children to discuss.” Likewise, the same item number on the FHCQ scale states, “Health should be one of the most important topics for parents and children to discuss.” Adopting a parallel wording also allows researchers to directly compare results from studies about “sex” with studies about “health.”

More importantly, Warren and Neer (Warren & Neer, 1986; Neer & Warren, 1988) identified that the existing research primarily focused on the causes of teenage pregnancy and ways to reduce teen pregnancy rates while neglecting to acknowledge the significant influence of communication about sex within the family context. Furthermore, the Family Sex Communication Orientation research also identified several studies that have shown how family communication influences adolescent sexual attitudes and behavior. The same theory may be applied to other forms of family discourse, such as, health and wellness. Moreover, following FCPT, families high in conversation orientation will likely be inclined to talk about health-related topics more than those families low in conversation orientation. The family sex communication orientation identifies several recommendations for family sex communication policy, which include the following: (1) start talking, (2) once you start talking, be prepared to continue, (3) start early, (4) both parents should talk, (5) talk with sons as well as daughters, and (6) establish mutual dialogue (Warren & Neer, 1986, p. 101 – 102). Likewise, they identified consequences of family sex communication, which include the following: (1) if parents don’t talk, someone will do it for them, (2) discussing sex does not promote promiscuity, and (3)



discussing sex early will likely make discussion less anxiety-filled (Warren & Neer, 1986, p. 103). While they specifically recommend these for family sex communication, this study argues that these recommendations and consequences may be applied to health as well as other forms of family discourse to better examine the actual techniques used within the family unit.

### **Developing a Family Health Communication Instrument**

Thus, the Family Sex Communication Quotient (FSCQ) scale was used as a primary scaffold to build most of the FSCQ items with minor revisions to develop the new scale featuring items that focused on health (See APPENDIX A). Warren and Neer (1986) found the FSCQ clustered into three factors: comfort at talking about sex, informativeness of talk about sex, and the values associated with talking about sex. I reasoned that like sex, family members vary in the extent to which they feel comfortable talking about health, find family health talk (their own and others) to be informative, and the extent to which family member found talk about health to be consistent with their family's values (i.e., like sex, some families may value frank talks about health, while others may value indirect talk about health).

It is assumed that the initial factors in the new FHCQ scale will be similar to the FSCQ scale, that is will contain three factors, this raises the first hypothesis to be tested in this thesis:

H1: The three-factor structure found in the Family Sex Communication Quotient will also be found in the Family Health Communication Quotient.

Previous testing has found FSCQ to be a valid and reliable instrument in measuring the extent to which families talk about sex. The second hypothesis addresses the reliability of the FHCQ scale.

H2: Items in a Family Health Communication Quotient reflect similar reliabilities to the items in the Family Sex Communication Quotient.

### **Validating the Instrument: Correlates of Family Health Communication**

To begin to assess the FHCQ scales' validity, specifically face validity and concurrent criterion validity, the following procedures were undertaken. For face validity, the proposed items in the FHCQ were examined by a family communication expert (thesis advisor, Dr. Tom Socha) and were found to be clear, consistent with the wording of FHSQ items, and in general made conceptual sense as a means to measure family talk about health, or in short to have high face validity. To assess concurrent criterion validity, I reasoned that families who are oriented to communication in general (i.e., those that like to talk) would also be likely to score higher on the FHCQ. To measure orientation towards communication, I employed the *Revised Family Communication Patterns Instrument* (Ritchie & Fitzpatrick, 1990) that measures family orientations to communication (i.e., conversation oriented, and position-oriented). The revised FCP has been shown to be a valid and reliable instrument. I hypothesized the following:

H3: Individuals' scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals' scores on the Conversation Orientation dimension of the *Family Communication Patterns Instrument*.

To further test concurrent, criterion-related validity, I hypothesized that families' scores on the FHCQ will also correlate positively with several self-reported health qualities. Based upon my research and reading of the literature across various disciplines, I developed the Family Health Evaluation Questionnaire (FHEQ). It was created to test my hypothesis that families' scores on the FHCQ would also correlate positively with several self-reported health qualities such as, the importance of a healthy diet, regular well-visits to a Primary Care Physician (PCP), exercise regularly, have an overall positive outlook on life, and value health as an important factor in one's life.

H4: Individuals' scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals' scores on attitudes towards healthy eating.

H5: Individuals' scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals' who report to have a working relationship with a physician.

H6: Individuals' scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals' scores from the Family Health Evaluation Questionnaire (FHEQ) on a healthy diet, exercise, having a positive outlook on life, as well as the overall importance of health.

H7: Individuals' scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals' scores on the Family Health Evaluation Questionnaire (FHEQ).

I was also interested if there might be sex differences in reporting about health communication as well as it may be that women might be more oriented to talking about health than men. This raised the following research question:

RQ1: Is there a difference in scores on FHCQ of males and females?

Sampling and Administration Procedures

### **Participants and Data Collection**

Data in this study originate from surveys distributed in undergraduate communication courses at Old Dominion University including during the spring semester of 2016. Students were asked to complete a questionnaire on family health communication either before and/or after their course lecture. Prior to data collection the study was reviewed by the College of Arts & Letters Human Subjects Committee and was found to be in compliance with human subject

protections, and was exempted from Full IRB review (See Appendix for the completed copy of the human subject's application). Teaching Assistants (Instructors within the Lifespan and Digital Communication program at ODU) assisted distribution of the questionnaire during their classes. In classes where the primary researcher was not present, an instructional PowerPoint slide was provided, which included brief details about the questionnaire, disclaimer for voluntary participation, statement of anonymity, and contact information for the primary researcher.

Regardless of the data collection scenario, respondents are informed that the FHCQ, the Revised Family Communications Patterns Instrument, and the Family Health Evaluation Questionnaire represent personal feelings about family discussions of sex. They are asked to select one of five response categories that best describe their opinion: SA = Strongly Agree, A = Agree, N = Neutral (or Don't Know), D = Disagree, SD = Strongly Disagree. Furthermore, they are advised to answer the questions to the best of their ability, regardless of whether they talk about health with their parents, not to spend much time on any one question, and not to ask others and/or the questionnaire administrator (e.g., Instructor) how they are answering their questions. The entire questionnaire including all three surveys can be completed in 15 minutes or less.

The goal for the number of participants in this study was 200. This was the approximate total of respondents in Clay Warren and Walter Neer's (1986) Family Sex Communication Orientation study (93 male and 94 female undergraduates enrolled in a basic communication theory course). It was important to garner a similar sample to Warren and Neer's (1986) study for testing the new measurement (Family Health Communication Quotient, FHCQ). Ultimately, respondents totaled 221 (109 female and 112 male) undergraduate college students currently enrolled in various sections of a basic communication theory course. Demographic data were also collected, including respondent sex, birth year, level of education, and current occupation.

Likewise, the demographics for this study include both male and female undergraduate students between the ages of 18-21. Most respondents indicated that they are currently full-time students and/or work part-time while enrolled in a full-time course load. See Appendix for the completed copy of the application for human subjects included at the end of this paper.

### **Data Analysis Plan**

Statistical analyses were conducted that paralleled Warren and Neer's (1986) FSCQ, including correlations and associated tests (e.g., Cronbach's alpha, factor analysis, correlational analysis) for assessing the reliability and validity of the FHCQ. Similar statistical analysis was conducted for the *Revised Family Communication Patterns Instrument* as well as the *Family Health Evaluation Questionnaire*. Factor analysis of the FHCQ involved principal components with iterations and varimax rotation for the extraction of factors (Warren & Neer 1986). According to Warren and Neer's (1986, p. 93) FSCQ, items for the FHCQ were required to load minimally at .40 before being added to the item-composite of a factor while the factors themselves were required to load at least two items above .60. Moreover, the 18-item FHCQ summed scores were then assigned ranged levels to determine whether family orientation would yield significant mean differences with the other measures tested. In addition to analysis of variance, discriminant analysis was employed to establish which items yielded the greatest separation among the FHCQ range levels (Warren & Neer, 1986, p.93).

### **Measures Used**

*Family Health Communication Quotient*. The FHCQ was adapted from the FSCQ as a diagnostic tool to measure a general family orientation to discussion about health between parents and children. The FHCQ sought responses on five aspects of health discussion: general orientation toward health discussion, frequency of discussion, effects of discussion, parental style

when discussing health, and attitudes toward health practices (Warren, 1986, p. 90). The FHCQ was developed from the FSCQ as a diagnostic measure of family orientation toward health communication. The instrument consists of 18 Likert-like items anchored from “strongly agree” to “strongly disagree.” Like the FSCQ, the FHCQ measured three dimensions: (1) communication comfort, (2) communication information, and (3) value of communication.

The first dimension, health communication comfort, consists of six items measuring the perceived degree of openness with which health is discussed in the family (e.g., “I can talk to my parents about almost anything related to health” and “I feel free to ask my parents questions about health”). The second dimension, health communication information, consists of six statements measuring perception of the amount of information learned and shared during discussion (e.g., “I feel better informed if I talk to my parents about health” and “Much of what I know about health has come from family discussions”). Lastly, the third dimension, value of health communication, measures the perceived overall importance of the family role in learning about health (e.g., “The home should be a primary place for learning about health” and “Health should be one of the most important topics for parents and children to discuss”). The value dimension also consists of six statements.

*Revised Family Communication Pattern Instrument.* The Revised Family Communication Pattern (RFCP) instrument (Ritchie & Fitzpatrick, 1990) was selected to measure intrapersonal perceptions of interpersonal relationships within the family unit. Ritchie and Fitzpatrick (1990) state that, “mass communication researchers interested in family communication have traditionally assumed that family norms are shared by all family members, and apparent disagreement about family norms has been ascribed to instrument unreliability.” Utilization of the RFCP instrument was pertinent to demonstrate the systematic patterns of agreement and

disagreement between children and their parents. This instrument supports the argument that it cannot be assumed that families share the same norms about health and/or are communicating about health within the household. College-age students were selected for this study and therefore, as young adults, the RFCP instrument was not administered to participant's parents. Ritchie and Fitzpatrick's (1990) study surveyed families but for the purposes of this study, it was not necessary since it was intended to determine an individual's perceived recollection of their conversations about health in the home regardless of whether they still reside with their parents. As emerging adults, they are likely to be established in their health beliefs, practices, and behaviors at this point in their lifespan. The RFCP instrument is comprised of 15 statements relevant to conversation-orientation and 11 statements relevant to conformity-orientation. Statements in the RFCP instrument were not specific to how families communicate about health. Respondents answer the statements based upon their perception and/or recollection of family interactions and in this case, specifically between children and their parents. Statements for both conversation-orientation and conformity-orientation are on a numbered Likert-type scale ranging from 1 = Disagree Strongly, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Agree Strongly.

*Family Health Evaluation Questionnaire.* The Family Health Evaluation Questionnaire (FHEQ) was created for this study, includes ten statements about health and was developed to evaluate individual beliefs, behaviors, and practices regarding health. Similar to the FHCQ and RFCP, the FHEQ statements are on a Likert-type scale ranging from SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree. The statements of the FHEQ assess health from a positive communication perspective. For example, several statements focus on the individual's health behaviors such as, "A healthy diet is important to me," "I have a positive outlook on life", "Health is important to me", and "My overall health is important to me".

Additional statements inquire specifically about the individual's health behaviors and practices. For example, "I exercise regularly," "I visit my Primary Care Physician once a year", "I am connected to a local health center" and "I follow my doctor's recommendations for my individual health".



## CHAPTER 4

### RESULTS

#### FHCQ Reliability Checks

##### Demographics

The demographics of the participants in this study was not a primary factor in the analysis of the results. However, demographic-related questions were asked to determine whether age, sex, education, and occupation factored in the individual subject's responses. Participants were asked to take a moment before they began the survey to state what year they were born in, verify their sex (female-1 or male-2), identify their current level of education completed (e.g., high school-1, some college-2, bachelor's-3, master's-4) and to identify their current occupation (e.g., full-time student-1, full-time student/part-time job-2, full-time job/part-time student-3, retired-4). Descriptive statistics indicated that the group results included age ranges from 19 (born in 1997) to 46 (born in 1971) with 112 males (mean = 33.76, SD = 4.82) and 109 females (mean = 33.55, SD = 5.65). In addition, 58% of participants are full-time students, 41% are full-time students with a part-time job, and 1% are full-time employees. Lastly, 61% of respondents identified that their current level of completed education was high school, 38% had completed some level of education, 1% had completed a bachelor's degree and .05% had completed a master's degree. Future research should further evaluate and analyze how demographics may influence an individual's responses to discussions about family health communication. It is likely that the socioeconomics of one's household affects the way they perceive conversations about health within their family unit in relation to the three-factor structure of the FHCQ, which includes comfort, value, and information.

H1: The three-factor structure found in the Family Sex Communication Quotient will also be found in the Family Health Communication Quotient.

A three-factor structure in the FSCQ was used as a foundation for the development of the FHCQ. Like the FSCQ, the FHCQ will analyze the 18-statement questionnaire on communication comfort, communication information, and value of communication. According to Warren and Neer (1986), the FSCQ proved to be a reliable scale to measure family orientation to sex communication. Likewise, this study posits that by maintaining the integrity of the FSCQ statements, the FHCQ will also prove to be a reliable scale to measure family orientation to health communication. The FSCQ examined whether communication frequency and frequent communication resulted in more positive attitudes toward family sex discussion, which is measured in this study as it pertains to health. In addition, the FSCQ assessed whether high scores more positively influenced attitudes toward sexual behavior than low orientation, which is also a measurement factor in the FHCQ. The methods of the FSCQ sought to identify five aspects of sex discussion: “general orientation toward sex discussion, frequency of discussion, effects of discussion, parental style when discussing sex, and attitudes toward sexual practices” (p. 90). Moreover, when developing the FHCQ questionnaire, the methods focused on similar aspects of health discussion such as: general orientation toward health discussion, frequency of discussion, effects of discussion, parental style when discussing health, and attitudes toward health behaviors. Each dimension within the FSCQ consists of specific items in the questionnaire that measure various sex communication factors. For example, the communication comfort dimension consists of six items measuring the perceived degree of openness with which sex is discussed within the family. Next, the communication information dimension consists of six statements measuring perception of the amount of information learned and shared during

discussion. Lastly, the value of communication dimension also consists of six statements measuring the perceived overall importance of the family role in sexual learning (Warren & Neer, 1986, p. 90). The FHCQ utilizes the same three dimensions that measure various health communication factors. Similarly, the communication comfort dimension consists of six items measuring the perceived degree of openness with which health is discussed within the family. Second, the communication information dimension consists of six statements measuring perception of information learned and shared during discussion. Third, the value of communication dimension also consists of six statements measuring the perceived overall importance of the family role in health education, behavior, and practice.

An initial principle components factor analysis with oblique rotation was conducted. In SPSS, Oblimin with Kaiser Normalization rotation is used when the variables are assumed to be intercorrelated (Gorsuch, 1983). As with the FSCQ, output was examined for Eigen values over .60 for the FHCQ. Similar to Warren and Neer (1986), 3 factors were extracted using the Principal Component Analysis however several items were problematic and required closer examination. Descriptive statistics for the FHCQ distinguished levels of family orientation about health discussion across three factors (comfort, information, and value). As these statistics demonstrate, 11 of the 18 items correlated with their intended corresponding factor structure (e.g., comfort, value, information). That is, analysis of subjects ( $n = 222$ ) resulted in statements 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, and 18 all loaded above .60. For example, item number 5 correlated the highest with comfort at .878 and statement number 14 correlated the lowest with comfort at .703. However, items 1, 3, 6, 7, 9, and 10 did not correlate with their corresponding factor structure (e.g., comfort, value, information), although most still correlated above .60. For example, item number 3 did not load with the dimension “information,” but rather loaded on the

“comfort” dimension at .689 and item number 7 did not load with the “value” dimension rather it loaded on the “comfort” dimension at .634. Overall, however, Cronbach’s Inter-Item Alpha Reliability did find high reliability at .916. Furthermore, statistical significance resulted for reliability of the original subtotals. That is, the “comfort” alpha subtotal was .913 with  $p < .0001$ , the “information” alpha was .793 with  $p < .0001$ , and the “value” alpha was .671 with  $p < .0001$ .

Given the mixed results of the initial factor analysis, I decided to remove the six problematic items (1, 3, 6, 7, 9, and 10) and re-run the factor analysis a second time excluding these problematic items. The results improved significantly when the aforementioned problematic items were omitted from the structure matrix. As initially tested, the same extraction method and rotation method were applied (Principal Component Analysis and Oblimin with Kaiser Normalization). With the problematic items removed, the Second Item Analysis resulted in all Eigen values over .60 and all items aligned with their correlating factors – as tested in the original FSCQ. For example, in the Revised Family Health Communication Quotient with the Second Factor Analysis items 2, 5, 6, 8, 11, 14, and 17 all loaded above .60 with comfort, items 4, 13, and 16 all loaded above .60 with value, and items 12, 15, and 18 loaded above .60 with information.

Table 1: Factor Analysis #1

## Structure Matrix

	Component		
	1	2	3
FHCQ1	.148	.584	.245
FHCQ2	.861	.307	.396
FHCQ3	.689	.188	.276
FHCQ4	.225	.673	.331
FHCQ5	.869	.221	.342
FHCQ6	.485	.360	.554
FHCQ7	.133	.446	.634
FHCQ8	.844	.270	.422
FHCQ9	.522	.369	.494
FHCQ10	.741	.530	.312
FHCQ11	.758	.368	.499
FHCQ12	.469	.278	.846
FHCQ13	.419	.723	.116
FHCQ14	.703	.529	.270
FHCQ15	.521	.199	.725
FHCQ16	.456	.768	.260
FHCQ17	.807	.297	.438
FHCQ18	.582	.169	.762

Table 2: Factor Analysis #2

## Structure Matrix

	Component		
	1	2	3
FHCQ2	.876	.339	.488
FHCQ4	.180	.759	.356
FHCQ5	.878	.259	.417
FHCQ8	.877	.289	.470
FHCQ11	.755	.382	.501
FHCQ12	.448	.304	.863
FHCQ13	.428	.768	.092
FHCQ14	.703	.559	.289
FHCQ15	.497	.236	.809
FHCQ16	.445	.804	.280
FHCQ17	.822	.332	.502
FHCQ18	.569	.241	.843

Table 3: FHCQ &amp; RFHCQ Comfort Dimension Eigen Values

<b>Comfort Dimension</b>	<b>FHCQ</b>	<b>RFHCQ</b>
Item 2	.861	.876
Item 5	.869	.878
Item 8	.844	.877
Item 11	.758	.755
Item 14	.703	.703
Item 17	.807	.822

Table 4: FHCQ &amp; RFHCQ Information Dimension Eigen Values

<b><u>Information Dimension</u></b>	<b><u>FHCQ</u></b>	<b><u>RFHCQ</u></b>
Item 3	.689 (with comfort)	Problematic - removed
Item 6	.554	Problematic - removed
Item 9	.522 (with comfort)	Problematic - removed
Item 12	.846	.863
Item 15	.725	.809
Item 18	.762	.843

Table 5: FHCQ &amp; RFHCQ Value Dimension Eigen Values

<b><u>Information Dimension</u></b>	<b><u>FHCQ</u></b>	<b><u>RFHCQ</u></b>
Item 1	.584	Problematic - removed
Item 4	.673	.759
Item 7	.634 (with information)	Problematic - removed
Item 10	.741 (with comfort)	Problematic - removed
Item 13	.723	.768
Item 16	.768	.864

The second factor Analysis of the RFHCQ demonstrates that the transition of sex-related items from the original measurement, the FSCQ, to health-related items with the new measurement, the FHCQ, may change a subject's interpretation of some of the items in question.

The problematic items in the FHCQ (e.g., items 1, 3, 6, 7, 9, and 10) will need to be re-evaluated for use in future studies (and their validity and reliability retested). Thus, after adjusting the items based on the results of the second factor analysis it can be concluded that hypothesis 1 is supported. That is, the FHCQ is similar to the FSCQ.

H2: Items in the Family Health Communication Quotient reflect similar reliabilities to the items in the Family Sex Communication Quotient.

Cronbach's Alpha for all items in the RFHCQ Second finds high degrees of reliability

Table 6: Cronbach's Alpha Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.901	.903	12

This result supports hypothesis #2. Results show that items in the Family Health Communication Quotient reflect similar reliabilities to the items in the Family Sex Communication Quotient. Therefore, the FHCQ proved to be a highly reliable measure of family communication about health ( $\alpha = .916$ ). In addition to the alpha estimate, item analysis of the original 18 items revealed that a majority of the statements yielded significant correlations with the summed FHCQ scores – similar to the reliabilities of the FSCQ. Factor analysis of the FHCQ scale resulted in three items failing the factor structure of the FHCQ, as established by the FSCQ. For example, the first item of the FHCQ that failed was item number one that states, “Health should be one of the most important topics for parents and children to discuss” – while this correlated correctly with the value factor structure, it loaded below .60 at .584. Next, the second item of the FHCQ that failed



was item number six that states, “I know what my parents think about health” – this item correlated correctly with the information structure but loaded below .60 at .554. Lastly, the third item of the FHCQ that failed was item number nine that states, “My parents have given me very little information about health” – this item did not correlate correctly with its corresponding factor structure, which according to the FSCQ should be information. Item number nine correlated with the comfort factor structure and loaded below .60 at .522. In addition, while item numbers three, seven, and ten, loaded above .60 and/or .70, they failed to correlate with their corresponding factor structure as indicted by the FSCQ. For example, item number three failed to correlate with information, instead it correlated with comfort at .689. Item number seven failed to correlate with value, instead it correlated with information at .634 and item number ten failed to correlate with value, and instead it correlated with comfort at .741. As previously stated, the remainder of the items of the FHCQ correlated correctly with their corresponding factor structure and loaded above .60 and/or above .70 as well – these are the standards established by the FSCQ and the minimum goal for results of the FHCQ.

H3: Individuals’ scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals’ Conversation Orientation scores (Revised Family Communication Patterns Instrument)

Table 7: Correlational Subtotals for the FCP and FHCQ scales

Correlations

	Family Communication Patterns: Conversation Total	Family Communication Patterns: Conformity Total	Family Health Communication Quotient Revised Total
Conversation total	1	-.466**	-.601**
Pearson Correlation		.000	.000
Sig. (2-tailed) N	222	221	222
Confirmation total	-.466**	1	.272**
Pearson Correlation	.000	.000	.000
Sig. (2-tailed) N	221	221	221
Family Health Communication Quotient Revised Total	-.601**	.272**	1
Pearson Correlation	.000	.000	.000
Sig. (2-tailed) N	222	221	222

\*\* . Correlation is significant at the 0.01 level (2-tailed).

H4: Individuals' scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals' scores on attitudes towards healthy eating.

H5: Individuals' scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals' who report to have a working relationship with a physician

H6: Individuals' scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals' scores from the Family Health Evaluation Questionnaire (FHEQ) on a healthy diet, exercise, having a positive outlook on life, as well as the overall importance of health.

H7: Individuals' scores on the Family Health Communication Quotient (FHCQ) will correlate positively with individuals' scores on the Family Health Evaluation Questionnaire (FHEQ).

First, the Family Health Evaluation Questionnaire (FHEQ) was found to be reliable Cronbach's  $\alpha = .836$ . FHEQ is also a new measurement that was developed as a manipulation check for the FHCQ in which the total resulted in reliability at .310 and  $p < .0001$ . Related to H

4 to H7, almost all individuals' scores on the FHCQ correlated positively with individuals' who report to being connected to a physician and/or local health center on the FHEQ. Five of the items included in the FHEQ specifically related to being connected to a physician and/or local health center. For example, item three states, "I visit my Primary Care Physician once a year", item four states, "I am connected to a local health center", item five states, "I visit my Primary Care Physician once a year", and item nine states, "I follow my doctor's recommendations for my individual health". Furthermore, items three and four correlated positively at .163 and .015, item five correlated positively at .145 and .031, and item nine correlated positively at .256 and .000. However, item eight states, "I only visit my doctor when I am sick", which correlated negatively at  $-.223$ ,  $p < .001$ . From these results (and specifically the negative correlation of item number eight), new factor structures were created - "consume" and "value". In other words, to test how respondents consume and/or value health information from a physician and/or a local health center. Results illustrate high statistical significance towards both – consumption reliability at .831 and  $p < .000$  and value reliability at .323 and  $p < .000$  as well. Further research is necessary to assess how individuals consume health information as well as value the health recommendations provided by their physician and/or local health care center. Overall, H4, H5, and H6 were supported.

Individuals' scores on the FHCQ correlate positively with individuals' scores on the FHEQ, which included healthy lifestyle statements with topics on healthy diet (item one), exercise (item two), having a positive outlook on life (item six), as well as the overall importance of health (items seven and ten). Item one states, "A healthy diet is important to me", which correlated positively with the FHCQ for reliability at .198 and  $p < .003$ . Item two states, "I exercise regularly", which correlated positively with the FHCQ for reliability at .218 and  $p <$

.001. Item six states, “I have a positive outlook on life”, which correlated positively with the FHCQ for reliability at .198 and  $p < .003$ . Item seven states, “Health is important to me”, which correlated positively with the FHCQ for reliability at .269 and  $p < .000$ . The final healthy lifestyle statement is item ten that states, “My overall health is important to me”, which also correlated positively with the FHCQ for reliability at .257 and  $p < .000$ . Thus, H7 is supported.

RQ1: Is there a difference in scores on FHCQ of males and females?

To address RQ1, a T-test for independent means shows no difference between males (mean = 33.76) and females (mean = 33.55) ( $t(219) = .295, p = .769$ ).

Table 8: Correlational Subtotals for the FHEQ and FHCQ scales

Correlations

	Family Health Evaluation Questionnaire: Health Value Total	Family Health Evaluation Questionnaire: Health Consumption Total	Family Health Communication Quotient: Revised Total
Family Health Evaluation Questionnaire: Health Value Total Pearson Correlation Sig. (2-tailed) N	1 222	.311** .000 222	.323** .000 222
Family Health Evaluation Questionnaire: Health Consumption Total Pearson Correlation Sig. (2-tailed) N	.311* .000 222	1 222	.831** .000 222
Family Health Communication Quotient: Revised Total Pearson Correlation Sig. (2-tailed) N	.323** .000 222	.831** .000 222	1 222

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## CHAPTER 5

### CONCLUSION AND DISCUSSION

Can differences between families' communication about health be reliably measured? The results of this study argue that the new Revised Family Health Communication Quotient (RFHCQ) is a valid and reliable measure that is up to the task. Empirical tests of the RFHCQ demonstrates its expert validity, concurrent validity as well as predictive validity in terms of health outcomes. In creating the measure, I also learned there are differences in families talking about "sex" and families talking about "health." For example, instead of replacing the word "sex" with "health" in each individual item, it may be necessary to re-word the statement altogether to better align with the subject's conceptualization and perception of family health communication in the home as it applies to today's society. Moreover, to more closely align with today's societal terminology, "lifestyle" and/or "well-being" could be utilized as an alternative term for "health" in the aforementioned problematic items in the FHCQ. Lifestyle and well-being may be better understood and provide a more all-encompassing definition of the individual's health and wellness including mind, body, and soul. For the participants in this study, "health" may be too inclusive of one's physical health. Therefore, it is pertinent to reconsider the factor analysis originally created in the FSCQ to develop a more accurate depiction of subjects' level of comfort, information, and value systems regarding health.

How does one's comfort level relate to family health communication? The term, "family," likely goes beyond the traditional nuclear definition of father, mother, and siblings – "family" may need to be defined as any immediate guardian, caregiver, and/or relative that may have influenced the individual's conceptualization and perception of health. Where are individuals most likely to obtain information about health? While this study proves that families

do communicate about health, it is unclear as to what extent. Also, due to some notes added to the physical copies of the survey by multiple subjects, the home is not the only source of education and information about health. In addition to one's family, it is likely that an individual's environment, peers, educators, as well as the Internet and social media play a significant role in the personal feelings about the topic of health. Do family members value family health communication differently? Families are made up of different generations and each generation may view health uniquely due to various factors such as the decade in which they grew up, their environment, and more. Future studies may address these differing factors that could make this study more applicable for present day.

### **Limitations**

The sample size ( $n = 222$ ) for this study was sufficient but research limitations exist for data collection, demographics, access, and longitudinal effects. The data collection limitation occurred in the distribution of the first round of questionnaires, which included an error in two of the 18-item statements in the FHCQ. Unfortunately, this error was discovered after the results had been gathered and upon analyzation of the data. Item number 8 and 11 were duplicated. Item number 8 should read, "I feel comfortable discussing health with my family" and item number 11 should read, "My parents feel comfortable discussing health with me". However, due to an error made by myself, item number 8 was duplicated in item number 11. Once this error was identified, I updated the FHCQ and my thesis advisor, Dr. Tom Socha, reviewed for accuracy before my second round of data collection. The second round of data collection consisted of completely new participants (e.g., college students) that had not taken the first survey. The duplication of this statement was crucial to rectify because it is important to maintain the integrity of the questionnaire to effectively compare and contrast it to the FSCQ as it pertains to

the hypotheses of this study.

Furthermore, analysis of the first round of results caused me to revise the 18-items within the FHCQ. One of the biggest changes I made was to edit the word “family” to “parents” throughout the questionnaire. This revision was made to be more inclusive of the family unit as it may apply more closely to parents and immediate family members (e.g., mom, dad, stepmom, stepdad, siblings, etc.) as opposed to the broader term, family, which may include extended family members (e.g., grandparents, aunts, uncles, cousins, etc.). Like the FSCQ, the FHCQ is targeted toward the “child” in the parent-child dyad relationship. For example, for the comfort communication dimension in the first round of data collection, item number 2 changed from, “I can talk to my family about almost anything related to health” to, “I can talk to my parents about almost anything related to health” in the second round of data collection. Next, for the information communication dimension, item number 6 changed from, “I know what my family thinks about health” to, “I know what my parents think about health”. Lastly, for the value of communication dimension, item number 1 changed from, “Health should be one of the most important topics for families to discuss” to, “Health should be one of the most important topics for parents and children to discuss”.

As a master’s student developing my thesis, I was somewhat limited by access, demographics, and time to adhere to the timeline upon completion of my degree within my program. Therefore, I utilized the most convenient resources available to me, which were college students. As a graduate teaching assistant, I had access to several different undergraduate communication classes to utilize at the instructor/professor’s discretion. In addition, my fellow peers within my master’s program supported my data collection efforts in both my first and second rounds in order to meet my minimum goal of 200 subjects. However, my convenience

sample is a limitation of access because my subjects are exclusive to Old Dominion University. Future research should utilize differing universities, organizations, and groups. Likewise, the limitation of access leads to a limitation of demographics. While it is likely that the socioeconomics of the 222 subjects varies greatly, this was not a primary focus of the FHCQ or the FHEQ but may be incorporated in future studies. Due to the time constrictions and adherence to semester deadlines, a longitudinal approach was not permissible. Nevertheless, a longitudinal approach to the FHCQ would be ideal because it is likely that the subject's conceptualization and perception of family health communication varies across their lifespan.

### **Future Research**

The FHCQ is a new measurement that identified a missing component within the discipline for analyzing conversations about health in the household and has developed a foundation to build on for future research. As previously stated, participants were asked to state the year they were born, identify their sex, level of education completed, and current occupation, but they were not asked to specify their ethnicity. Ethnicity (like socioeconomics) may influence an individual's responses to the FHCQ – it is likely that various ethnic groups have different life experiences and interactions with family health communication. Future studies should ask subjects to identify their ethnicity in the demographics statements at the beginning of the survey, which may enhance the descriptive statistics and provide more comprehensive results. Also, a person's family size and role within the family unit may be considered in future studies as this may affect the respondents FHCQ scores. Research shows that the nuclear family (e.g., mom, dad, and children) is no longer the “norm” within the household and families may consist of blended families with stepparents and stepchildren, grandparents, aunts, uncles, same-sex families, etc. Therefore, for the purposes of this initial study, we intentionally didn't define the



“family unit” for participants as to not exclude people. However, as previously stated, the person’s family size and role within the family (e.g., mother, father, stepparent, child, grandparent, etc.) may directly or indirectly influence their response. Future research may include these statements within the demographics portion of the questionnaire.

In addition, it’s important to note that the 18-item FHCQ is written from the child’s perspective. In this study, the children were young adults. The survey questions are targeted to the child to answer from their viewpoint of how they feel about the topic of health in regard to their relationship with their parents. Future studies may consider developing a version targeted to parents to answer from their viewpoint of how they feel about the topic of health in regard to their relationship with their children.

The RFHCQ results suggest that future research should include assessments on how people consume health information. As previously stated, while the family has proven to be an influential factor in the development of health beliefs, behaviors, and practices, it is not the only source of content. It is likely that there are multiple influential factors about health and wellness within the home, which may also include the Internet and social media. In addition to analyzing the informal and formal conversations happening in the household, future research may consider evaluating the mediums that likely influence the information communication dimension, which may contribute to the discussions that occur as well.

Likewise, this study didn’t examine the content of health communication. For the purposes of this initial study, health communication and the term, “health”, were intentionally undefined to be inclusive of all participants’ interpretations. However, future studies should define the meaning of health communication and health to potentially foster more specific results. In study, health was assessed from a holistic approach, which may include physical,

mental, emotional, and spiritual factors. However, health communication and health are likely interpreted differently based upon one's family and environment. Moreover, it's possible that a participant's personal health situation may affect their responses. For example, if the individual is experiencing acute or chronic health circumstances at the time they take the questionnaire, this could directly or indirectly influence the way that they respond to the survey. Future studies will take this into account when distributing the survey by including statements that would ask the subject to self-disclose this information. Also, examining health risk factors such as smoking, obesity, family history, and cardiovascular disease within the FHCQ in future studies may add value by incorporating public health aspects to this communication measurement. Including public health assessments within the measurement may add to the relevance and usage of the tool across various disciplines.

Extensive research on health communication led me to identify that no measurement currently existed to study family members' conceptualization and perceptions about the topics of health and wellness in any capacity. Previous research assumed that families were already talking about health-related topics in the home. Warren and Neer's (1986) FSCQ was the closest applicable measurement, which was selected to be utilized as the foundation for the development of the FHCQ. In closing, the results of this study proved to be statistically significant and will add to future research that may be applied across disciplines. The FHCQ may help other researchers, communicators, marketers, health advocates, and the like, to better understand the family unit and how comfortable they are talking about health and wellness, to what extent it's valued discussion in the home, and the means to which they seek out and/or communication health information. While this study isn't longitudinal in effect, participants likely recall their interactions, conversations, and experiences within the family household when responding to the

18-item scale. Therefore, the FHCQ takes on a lifespan approach to communication and provides a more comprehensive assessment of family health communication as a whole.

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## APPENDIX A

## OLD DOMINION UNIVERSITY APPLICATION FOR EXEMPT RESEARCH

Note: For research projects regulated by or supported by the Federal Government, submit 10 copies of this application to the Institutional Review Board. Otherwise, submit to your college human subjects committee.

Responsible Project Investigator (RPI)		
The RPI must be a member of ODU faculty or staff who will serve as the project supervisor and be held accountable for all aspects of the project. Students cannot be listed as RPIs.		
<b>First Name: Thomas</b>	<b>Middle Initial: J</b>	<b>Last Name: Socha</b>
<b>Telephone: 757-683-3833</b>	<b>Fax Number:</b>	<b>E-mail: <a href="mailto:tsocha@odu.edu">tsocha@odu.edu</a></b>
<b>Office Address: Batten Arts &amp; Letter 3054</b>		
<b>City: Norfolk</b>	<b>State: VA</b>	<b>Zip: 23529</b>
<b>Department: Communication &amp; Theatre Arts</b>		<b>College: Arts and Letters</b>
<b>Complete Title of Research Project: Communicating about physical health within the family</b>		<b>Code Name (One word): Health</b>
Investigators		
Individuals who are directly responsible for any of the following: the project's design, implementation, consent process, data collection, and data analysis. If more investigators exist than lines provided, please attach a separate list.		
<b>First Name: Erin</b>	<b>Middle Initial: E</b>	<b>Last Name: Gafner</b>
<b>Telephone: (315) 723-8556</b>	<b>Fax Number:</b>	<b>Email: <a href="mailto:egafn001@odu.edu">egafn001@odu.edu</a></b>
<b>Office Address: BAL 1002StrayerUniv-Marketing100</b>		
<b>City: Norfolk</b>	<b>State: VA</b>	<b>Zip: 23529</b>
<b>Affiliation:</b> <input type="checkbox"/> Faculty <input checked="" type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student <input type="checkbox"/> Staff <input type="checkbox"/> Other _____		
<b>First Name:</b>	<b>Middle Initial:</b>	<b>Last Name:</b>
<b>Telephone:</b>	<b>Fax Number:</b>	<b>Email:</b>
<b>Office Address:</b>		
<b>City:</b>	<b>State:</b>	<b>Zip:</b>
<b>Affiliation:</b> <input type="checkbox"/> Faculty <input type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student <input type="checkbox"/> Staff <input type="checkbox"/> Other _____		
List additional investigators on attachment and check here: <input type="checkbox"/>		
Type of Research		
<b>1. This study is being conducted as part of (check all that apply):</b>		
<input type="checkbox"/> Faculty Research <input type="checkbox"/> Non-Thesis Graduate Student Research		

<input type="checkbox"/>	Doctoral Dissertation	<input type="checkbox"/>	Honors or Individual Problems Project
<input checked="" type="checkbox"/>	Masters Thesis	<input type="checkbox"/>	Other _____
<b>Funding</b>			
<p><b>2. Is this research project externally funded or contracted for by an agency or institution which is independent of the university? Remember, if the project receives ANY federal support, then the project CANNOT be reviewed by a College Committee and MUST be reviewed by the University's Institutional Review Board (IRB).</b></p> <p><input type="checkbox"/> Yes (If yes, indicate the granting or contracting agency and provide identifying information.)  <input checked="" type="checkbox"/> No</p> <p><b>Agency Name:</b>  <b>Mailing Address:</b>  <b>Point of Contact:</b>  <b>Telephone:</b></p>			
<b>Research Dates</b>			
<p><b>3a. Date you wish to start research (MM/DD/YY)</b>    <input type="text" value="08"/> / <input type="text" value="01"/> / <input type="text" value="2015"/></p> <p><b>3b. Date you wish to end research (MM/DD/YY)</b>    <input type="text" value="08"/> / <input type="text" value="01"/> / <input type="text" value="2016"/></p>			
<b>Human Subjects Review</b>			
<p><b>4. Has this project been reviewed by any other committee (university, governmental, private sector) for the protection of human research participants?</b></p> <p><input type="checkbox"/> Yes  <input checked="" type="checkbox"/> No</p> <p><b>4a. If yes, is ODU conducting the primary review?</b></p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No (If no go to 4b)</p> <p><b>4b. Who is conducting the primary review?</b></p>			
<b>5. Attach a description of the following items:</b>			
<p><input checked="" type="checkbox"/> Description of the Proposed Study</p> <p><input checked="" type="checkbox"/> Research Protocol</p> <p><input checked="" type="checkbox"/> References</p>			

Any Letters, Flyers, Questionnaires, etc. which will be distributed to the study subjects or other study participants  
 If the research is part of a research proposal submitted for federal, state or external funding, submit a copy of the FULL proposal

Note: The description should be in sufficient detail to allow the Human Subjects Review Committee to determine if the study can be classified as EXEMPT under Federal Regulations 45CFR46.101(b).

### Exemption categories

1. Identify which of the 6 federal exemption categories below applies to your research proposal and explain

why the proposed research meets the category. Federal law 45 CFR 46.101(b) identifies the following EXEMPT categories. **Check all that apply and provide comments.**

SPECIAL NOTE: The exemptions at 45 CFR 46.101(b) do not apply to research involving prisoners, fetuses, pregnant women, or human in vitro fertilization. The exemption at 45 CFR 46.101(b)(2), for research involving survey or interview procedures or observation of public behavior, does not apply to research with children, except for research involving observations of public behavior when the investigator(s) do not participate in the activities being observed.

\_\_\_\_(6.1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

**Comments:**

6.2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; AND (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

**Comments:**

This is a confidential study. Data are gathered via surveys and interviews but no identifying information is being gathered and participation will not negatively affect participants.

\_(6.3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if:

(i) The human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

**Comments:**

\_\_\_\_(6.4) Research, involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

**Comments:**

\_\_\_ (6.5) Does not apply to the university setting; do not use it

\_\_\_\_(6.6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

**Comments:****PLEASE NOTE:**

1. You may begin research when the College Committee or Institutional Review Board gives notice of its approval.
2. You MUST inform the College Committee or Institutional Review Board of ANY changes in method or procedure that may conceivably alter the exempt status of the project.

**Responsible Project Investigator** (Must be original signature)

**Date**

**APPENDIX B**

Before you begin the survey, please take a moment to answer the following questions:

1. Please fill in the blank with the year you were born in: \_\_\_\_\_
2. Please verify your sex (circle one):                      Female                      Male
3. Please identify your current level of education completed: \_\_\_\_\_
4. Please fill in the blank with your current occupation: \_\_\_\_\_

### Family Health Communication Quotient

Directions: The following statements represent your personal feelings about the topic of health. In this study, “health” is defined as a person’s state of physical, mental and social well-being and not merely the absence of illness. Please circle one of the five response categories that best describes your opinion: SA = Strong Agree, A = Agree, N = Neutral (or Don’t Know), D = Disagree, SD = Strongly Disagree to each item. Also, please respond to all of these items regardless of whether you regularly talk about your personal health with your parents (or within your family). Don’t spend much time on any one question; make a choice and move to the next. Don’t ask others how they are answering their questions, or how they should answers yours.

1. Health should be one of the most important topics for parents and children to discuss.

SA    A    N    D    SD

2. I can talk to my parents about almost anything related to health.

SA    A    N    D    SD

3. My parents know what I think about health.

SA    A    N    D    SD

4. It is not necessary to talk to my parents about health.

SA    A    N    D    SD

5. I can talk openly and honestly with my parents about health.

SA    A    N    D    SD

6. I know what my parents think about health.

SA    A    N    D    SD

7. The home should be a primary place for learning about health.

SA    A    N    D    SD

8. I feel comfortable discussing health with my parents.

SA    A    N    D    SD

9. My parents have given me very little information about health.

SA    A    N    D    SD

10. Health is too personal a topic to discuss with my parents.

SA    A    N    D    SD

11. My parents feel comfortable discussing health with me.

SA    A    N    D    SD

12. Much of what I know about health has come from parental discussions.

SA    A    N    D    SD

13. Health should not be discussed in the family unless there is a problem and/or illness to address.

SA    A    N    D    SD

14. Health is too hard a topic to discuss with my parents.

SA    A    N    D    SD

15. I feel better informed about health if I talk to my parents.

SA    A    N    D    SD

16. The least important thing to discuss with my parents is health.

SA    A    N    D    SD

17. I feel free to ask my parents questions about health.

SA    A    N    D    SD

18. When I want to know something about health, I generally ask my parents.

SA    A    N    D    SD

## APPENDIX C

### The Revised Family Communication Pattern Instrument

Instructions:

I would like to learn more about how you communicate in your family. Please use this scale to indicate your agreement with the following statements.

Disagree Strongly      Disagree      Neutral      Agree      Agree Strongly

1-----2-----3-----4-----5

1) In our family, we often talk about topics like politics and religion where some persons disagree with others.

1      2      3      4      5

2) My parents often say something like “Every member of the family should have some say in family decisions.”

1      2      3      4      5

3) My parents often ask my opinion when the family is talking about something.

1      2      3      4      5

4) My parents encourage me to challenge their ideas and beliefs.

1      2      3      4      5

5) My parents often say something like “You should always look at both sides of an issue.”

1      2      3      4      5

6) I usually tell my parents what I am thinking about things.

1      2      3      4      5

7) I can tell my parents almost anything.

1      2      3      4      5

8) In our family, we often talk about our feelings and emotions.

1      2      3      4      5

9) My parents and I often have long, relaxed conversations about nothing in particular.

1      2      3      4      5



10) I really enjoy talking with my parents, even when we disagree.

1      2      3      4      5

11) My parents encourage me to express my feelings.

1      2      3      4      5

12) My parents tend to be very open about their emotions.

1      2      3      4      5

13) We often talk as a family about things we have done during the day.

1      2      3      4      5

14) In our family, we often talk about our plans and hopes for the future.

1      2      3      4      5

15) My parents like to hear my opinion, even when I don't agree with them.

1      2      3      4      5

**The Revised Family Communication Pattern Instrument (continued)**Disagree  
Strongly

Disagree

Neutral

Agree

Agree  
Strongly

1-----2-----3-----4-----5

1. When anything really important is involved, my parents expect me to obey without question.

1 2 3 4 5

2. In our home, my parents usually have the last word.

1 2 3 4 5

3. My parents feel that it is important to be the boss.

1 2 3 4 5

4. My parents sometimes become irritated with my views if they are different from theirs.

1 2 3 4 5

5. If my parents don't approve of it, they don't want to know about it.

1 2 3 4 5

6. When I am at home, I am expected to obey my parents' rules.

1 2 3 4 5

7. My parents often say things like "You'll know better when you grow up."

1 2 3 4 5

8. My parents often say things like "My ideas are right and you should not question them."

1 2 3 4 5

9. My parents often say things like "A child should not argue with adults."

1 2 3 4 5

10. My parents often say things like "There are some things that just shouldn't be talked about."

1 2 3 4 5

11. My parents often say things like "You should give in on arguments rather than risk."

1 2 3 4 5

**APPENDIX D****Family Health Evaluation Questionnaire**

Directions: The following statements are an evaluation of your individual health. Please circle one of the five response categories that best describes your opinion: SA = Strongly Agree, A = Agree, N = Neutral (or Don't Know), D = Disagree, SD = Strongly Disagree. Don't spend much time on any one question; make a choice and move to the next. Don't ask others how they are answering their questions, or how they should answer yours.

1. A healthy diet is important to me.

SA    A    N    D    SD

2. I exercise regularly.

SA    A    N    D    SD

3. I visit my Primary Care Physician once a year.

SA    A    N    D    SD

4. I am connected to a local health center.

SA    A    N    D    SD

5. I visit my Primary Care Physician more than once year.

SA    A    N    D    SD

6. I have a positive outlook on life.

SA    A    N    D    SD

7. Health is important to me.

SA    A    N    D    SD

8. I only visit the doctor when I am sick.

SA    A    N    D    SD

9. I follow my doctor's recommendations for my individual health.

SA    A    N    D    SD

10. My overall health is important to me.

SA    A    N    D    SD

## APPENDIX E

### Participant Info

Families Communicating About Health: Conceptualization and Validation of the Family Health Communication Quotient Scale

The following study includes statements that represent personal feelings about your family discussions about health. I would like to learn more about how you communicate about health within your family. Health communication may include (but not limited to) conversations with your family regarding wellness, illness, prevention, sex, and/or death. The family is a central position in the lives of individuals and may have a significant impact on the health and wellness its members. This study is being conducted so that I might learn more about how, when, and why families talk about health across the lifespan.

If you have any questions, please contact:

Erin Gafner, Graduate Student via email at [egafn001@odu.edu](mailto:egafn001@odu.edu)

Reminders:

- Your participation in the study is voluntary.
- No incentives are offered for participation.
- You do not have to answer any questions that you are asked for whatever reason.
- You may cease your participation at any time.
- Your identity is anonymous and will not be revealed in the write up of the study.
- During analysis, only the researcher will have access to the results.
- Once analysis is complete, results will be destroyed.

## VITA

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### EDUCATION

BA., Communication Studies, Oswego State University MAY 2008

MA., Lifespan & Digital Communication, Old Dominion University MAY 2018  
Thesis: *Families Communicating About Health: Conceptualization and Validation of the Family Health Communication Quotient Scale*

Advisor: Professor Thomas J. Socha

### PROFESSIONAL AND ACADEMIC INTERESTS

- Health and Wellness Communication across the Lifespan
- Family Communication
- Interpersonal Health Communication
- Interpersonal-Relational Communication
- Communication across the Lifespan
- Media and Digital Communication across the Lifespan

### PROFESSIONAL EXPERIENCE

Digital Marketing Manager FEB 2018 – Present  
Chartway Federal Credit Union, Virginia Beach, VA

Social Media Training Specialist MAY 2016 – DEC 2017  
Atlantic Bay Mortgage Group, Virginia Beach, VA

Graduate Teaching Assistant - Instructor AUG 2015 – MAY 2016  
Old Dominion University, Norfolk, VA

Communications Manager JUL 2015 – MAY 2016  
Crisis Pregnancy Center of Tidewater, Chesapeake, VA

Social Media/PR Director AUG 2014 – JUL 2015  
Davis Ad Agency, Virginia Beach, VA

Marketing and Production Graduate Assistant JAN 2014 – AUG 2014  
Old Dominion University, Norfolk, VA

Experiential Marketing Specialist OCT 2012 – DEC 2013  
Sentara Healthcare, Norfolk, VA