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Jennifer Akeley Spear  
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NARRATIVE BASED FEAR APPEALS: MANIPULATING  
GRAMMATICAL PERSON AND MESSAGE FRAME TO  
PROMOTE HPV AWARENESS AND RESPONSIBLE SEXUAL  
CONDUCT

by

JENNIFER AKELEY SPEAR  
B.A. University of Central Florida, 2009

A thesis submitted in partial fulfillment of the requirements  
for the degree of Masters of Arts  
in the Nicholson School of Communication  
in the College of Sciences  
at the University of Central Florida  
Orlando, Florida

Summer Term  
2011

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## ABSTRACT

The utility of narrative as a persuasive mechanism has been increasingly investigated in recent years especially within the context of health behaviors. Although many studies have noted the effectiveness of narrative-based persuasive appeals, conceptual inconsistencies have made it difficult to determine what specific aspects of narrative messages lead to the most effective persuasive outcomes. In the present study, 145 female college students were randomly assigned to read one of four narrative health messages about a female freshman college students experiences with the human papillomavirus (HPV). Two elements of the narrative message structure were manipulated: the message frame (gain framed vs. loss framed), and the grammatical person of the text (first-person vs. third-person). The messages were presented via the medium of an online blog. After reading a narrative participants responded to a brief questionnaire designed to measure perceptions of threat regarding HPV contraction, perceptions of efficacy regarding HPV prevention, and intentions to get the Gardasil vaccine. Participants exposed to loss framed messages reported higher levels of perceived threat (susceptibility and severity) than participants exposed to gain framed messages although participants in the gain framed message conditions reported higher levels of perceived self-efficacy. Significant correlations were also found between levels of reported character identification and the two threat variables. No effects were found for grammatical person.

For my mother, Jean, who has been an unwavering pillar of support throughout my academic career. I love you, Mom.

## **ACKNOWLEDGMENTS**

### **Dr. Miller**

Working with you throughout this endeavor has been an enjoyable and informative experience. I have developed a more thorough understanding of the research process and a deep sense of appreciation for the scholars who make it possible. I cannot thank you enough for your guidance, patience, and understanding.

### **Dr. Weger and Dr. Hastings**

Although I am sure at times you wondered if I would ever pull it off, here we are. Thank you for your thoughtful participation in this process and especially your patience.

### **Dr. Brown**

I have come to think of you as my pseudo-committee member. If not for your willingness to assist me with my instrument I might still be stuck in the data collection doldrums. I am glad to have had the opportunity to meet and work with you, even in this small capacity. Thank you.

### **Kris Van Vonderen**

Thank you for sticking with me through all of the panic and woe of this past semester. I am so lucky to have found a friend like you who is not only caring and supportive but a formatting expert to boot! Thank you for all of your help.

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## CHAPTER 1: INTRODUCTION

In recent years, the majority of research in persuasion has focused on the persuasive effects of non-narrative message forms. However, a multitude of studies comparing the persuasive ability of narrative versus non-narrative forms have demonstrated that narrative is oftentimes equally if not more persuasive than non-narrative (for reviews see Taylor & Thompson, 1982; Baesler & Burgoon, 1994; Allen & Preiss, 1997). Narrative has been shown to be especially effective within the context of health. For instance, narrative evidence has been shown to be more persuasive than statistical evidence with respect to decreasing tanning bed use (Greene & Brinn, 2003; Cody & Lee, 1990; Limon & Kazoleas, 2004), promoting blood donation (Kopfman, Smith, Yun, & Hodges, 1998), promoting organ donation (Weber, Martin, & Corrigan, 2006), increasing fruit and vegetable consumption (Slater et al., 2003), and discouraging drunk driving (Stitt & Nabi, 2005).

This persuasive effect occurs in part because narrative has the ability to reduce negative cognition in response to advocacy messages. People are typically resistant to change (Hinyard & Kreuter, 2007), especially in regard to health-related behaviors, and narrative has been shown to reduce the inclination to counterargue more effectively than statistical evidence (Limon & Kazoleas, 2004; Slater & Rouner, 1996). Narratives can also make abstract concepts more concrete and/or seemingly immaterial issues more relevant (Green, 2008). This makes narrative especially useful in certain circumstances, such as when the target audience does not perceive an issue to be relevant to them or their perceptions of efficacy and threat regarding an issue are low. Furthermore, narrative has the ability to promote identification with story characters (Cohen, 2001, 2006; Green & Brock, 2000). Increased identification can lead to increased perceptions of

threat regarding a behavior and increased perceptions of efficacy as characters successfully enact health behaviors. Increasing perceptions of threat while simultaneously inculcating the target audience with a sense of self-efficacy regarding the desired behavior has been theorized as an essential component for the effective use of fear appeals. Witte's (1992) extended parallel process model (EPPM) suggests that whether an individual intends to engage in adaptive behavior change or maladaptive behavior change in response to a fear appeal message depends upon the balance of threat level and degree of efficacy that individual perceives as a result of the message.

Although past research has demonstrated the effectiveness of narrative-based interventions, it is still not entirely clear exactly what particular features of this message type lead to higher perceptions of threat and efficacy and ultimately the intention to engage in adaptive behavior change (Green, 2008). In reference to the persuasive power of narrative, Green and Brock (2000) have proposed that transportation into a narrative world may lead to persuasion in several ways including creating emotional responses to and connections with characters and making the narrative seem more like direct, real experience. However, they offer no explanations as to what elements of message construction actually lead to transportation in the first place and ultimately to persuasion. Thus, the critical question of what specific features of narrative health messages themselves lead to persuasion remains relatively unexplored.

One theory regarding message content that has been applied extensively to health messages more generally is prospect theory. Prospect theory contends that message framing (i.e., gain frame vs. loss frame) influences behavioral decisions (Tversky & Kahneman, 1981; Rothman, Bartels, Wlaschin, & Salovey, 2006). Typically, gain framed messages emphasize

what one stands to gain by engaging in recommended behaviors and loss framed messages emphasize what one stands to lose by not engaging in recommended behaviors. Within the context of health, research has shown that gain frames tend to be more effective for promoting prevention behaviors (Detweiler, Bedell, Salovey, Pronin, & Rothman, 1999; Rothman, Salovey, Antone, Keough, & Martin, 1993; Kiene, Barta, Zelenski, & Cothran, 2005; Wong & McMurray, 2002), and loss frames tend to be more effective for promoting detection behaviors (Banks, et al., 1995; Schneider et al., 2001; Meyerowitz & Chaiken, 1987; Block & Keller, 1995; Kalichman & Coley, 1995; Rothman, Martino, Bedell, Detweiler, & Salovey, 1999; Maheswaran & Meyers-Levy, 1990).

Although prospect theory has been investigated with respect to a variety of health behaviors, I have been able to discover only two studies which specifically investigated the effects of message framing within the context of a narrative message. A study conducted by Gray and Harrington (2009) examined the effects of message frame (gain vs. loss) and message style (narrative vs. statistical) with respect to intentions to exercise. The results supported the assertion of prospect theory finding that gain framed messages promote preventative behaviors (i.e., exercise) more effectively than loss framed messages. However, narrative based messages were not found to be more persuasive than statistics based messages in general or when considered in combination with either type of message frame. The authors noted that the narrative form may have “lacked the elements necessary for persuasion, such as vividness, concrete imagery, and identification” (Gray & Harrington, 2009, p. 275) as prescribed by Green (2006). In another study geared towards preventing fetal alcohol spectrum disorder (FASD), Yu, Ahern, Connolly-Ahern, and Shen (2010) utilized the same 2 x 2 experimental design, (gain vs. loss) x (narrative

vs. statistic), but noted that the narrative condition “vividly depicted an individual’s story” (p. 695). They found that participants in the gain framed conditions reported a higher level of intention to prevent FASD than participants in the loss framed conditions. Furthermore, they found that loss-exemplar appeals elicited higher levels of fear, perceived severity, and perceived external efficacy whereas gain-statistic appeals resulted in higher levels of perceived internal efficacy.

I propose that the effect of framing within a narrative condition may be best understood in the context of other factors related to the construction of the narrative. Specifically, research from the fields of both psychology and literature indicate that the point-of-view from which a story is told may also have a significant effect on how readers perceive and relate to story characters. Point-of-view more specifically refers to grammatical person (i.e., first person, second person, or third person), which is a concept most typically considered from a literary perspective. Research within the frameworks of transportation theory (Green & Brock, 2000, 2002), exemplification theory (Zillman, 1999; Zillman & Brosius, 2000; Zillman, 2006), and character identification (Cohen, 2001, 2006; Green & Brock, 2000; Slater, 2002; Slater & Rouner, 2002; Slater, Rouner, & Long, 2006) lend support to the notion that how readers relate to story characters may impact the persuasive ability of a story-based message. However, research examining the role of grammatical person, as it relates to the effectiveness of persuasive narrative, is not at all evident within the health communication literature.

In this thesis, I contend that message framing as well as character perspective (i.e., grammatical person) affect how individuals interpret and respond to narrative messages including their level of perceived threat, perceived degree of efficacy, and intention to engage in

recommended behaviors. I investigated the influence of message framing and grammatical person on narrative persuasion within the context of human papillomavirus (HPV) prevention. HPV is a sexually transmitted infection (STI) which can lead to various types of cancer if left untreated. HPV is especially common among college student populations and has received increased attention in public health initiatives in recent years. Considering the prevalence of HPV infection and its potential to cause various life-threatening diseases, it is important to determine how narrative message structure influences persuasive outcomes. In the present study, therefore, I explored how manipulating two elements of narrative message construction, message frame (gain vs. loss) and grammatical person (first-person vs. third-person), influenced participants' levels of perceived threat regarding HPV contraction, levels of perceived efficacy regarding HPV prevention, and intentions to engage in the suggested adaptive behavior change.

## **CHAPTER 2: LITERATURE REVIEW**

What follows is a review of the relevant literature regarding HPV, fear appeals, narrative message forms as persuasive mechanisms, grammatical person, and message framing. Via the systematic examination of previous research in these areas in combination with theoretical justification I intend to demonstrate the potential utility of manipulating how a message is framed and the grammatical person from which it is told in the context of narrative-based persuasion.

### **Human Papillomavirus (HPV)**

A member of the larger papillomavirus family, the human papillomavirus (HPV) includes the various types of papillomavirus that are capable of infecting humans. There are nearly 200 known types of HPV, the majority of which cause no symptoms in most people. Certain types of HPV can cause common warts, flat warts, and plantar warts, which are noncancerous skin growths. Other types are associated with the occurrence of genital warts. Of particular interest to the present analysis are the approximately 40 types of HPV that are transmitted via sexual contact and have the potential to infect the genital and reproductive regions. Of these 40 types of sexually transmitted HPV more than a dozen are considered to be “high-risk” types because they may lead to the development of various cancers (Parkin, 2006). The remaining types are considered “low-risk” because they are not associated with cancer development. HPV types are identified by number and the most dangerous of the high-risk types are types 16, 18, 31, and 45. HPV types 16 and 18 alone are responsible for more than 70% of cervical cancer cases; high-risk HPV types are detected in 99% of cervical cancer cases (Walboomers et al., 1999; Bosch &

Sanjose, 2003). HPV types 6 and 11, although classified as low-risk, are also noteworthy because they are responsible for approximately 90% of anogenital warts (Centers for Disease Control and Prevention, 2009). From this point forward HPV will refer to genital HPV unless otherwise noted.

**HPV and related cancer prevalence.** HPV is the most common sexually transmitted infection in the United States (Weinstock, Berman, & Cates, 2004; Dunne et al., 2007). According to the American Social Health Association (2010), approximately 70-85% of sexually active Americans will become infected with HPV during their lifetime. The Centers for Disease Control (CDC; 2009) reported that more than 6.2 million new documented cases of HPV infection occur each year in the United States among men and women; this accounts for approximately one-third of all new STI infections. Incidence of HPV is highest among young adults age 15-24 (Dunn et al., 2007). Prevalence estimates of HPV among females vary from as little as 14% to over 90%. One explanation for this wide range is that some studies have included women who displayed signs of HPV at any point in their lives whereas others included only women who presented with a detectable infection at the time of the study (Revzina & Diclemente, 2005).

College-age students are often considered to be a high-risk population in regard to sexual behavior and STIs (Sandfort & Pleasant, 2009; Koutsky, 1997; Ramirez, Ramos, Clayton, Kanowitz, & Moscicki, 1997). In a systemic review of studies published between 1995 and 2005, Revzina and Diclemente (2005) identified college students as consistently having a higher prevalence of HPV infection than any other population. In addition, “the highest rates of genital



HPV infection have consistently been found in sexually active women under 25-years of age” (Koutsky, 1997, p. 5). A study conducted in 1991 determined that in a sample of 467 college women 46% were infected with HPV (Bauer et al., 1991). A study conducted between 2003 and 2004 with a sample of over 2000 women ages 14-59 found that nearly 70% of participants age 14-24 were infected with at least one type of HPV (Dunne et al., 2007). In a nationwide sample of 3,262 women ages 18-25, 26.9% were found to be infected with HPV (Manhart et al., 2006).

In terms of HPV related cancer prevalence, a study conducted in 2002 found over 500,000 cases of HPV-induced cancers worldwide (Parkin, 2006). In the United States, approximately 25,000 HPV-associated cancers occur each year (CDC, 2009). Of the various cancers associated with HPV infection, cervical cancer is by far the most prevalent and is caused almost exclusively by HPV infection. HPV infection is a necessary factor in the development of 99.7% of cervical cancer cases (Kumar, Abbas, Fausto, & Mitchell, 2007; Walboomers et al., 1999). The American Cancer Society (2010) estimated that approximately 12,200 new cases of cervical cancer would be diagnosed and about 4,210 women would die from cervical cancer in 2010. In the past, cervical cancer was once the leading cause of cancer death among women in the United States, but the cervical cancer death rate declined by nearly 70% between 1955 and 1992 and continues to decline by almost 4% each year. This is largely attributed to the increased use of the Pap test, which enables the early detection and treatment of cervical abnormalities prior to the development of cancerous tissue. Cervical cancer is highly treatable if discovered early; however, cervical cancer can be fatal if it goes undetected and untreated. Although the incidence of other HPV-related cancers is significantly lower than that of cervical cancer, the majority of anal and vaginal cancers are also caused by sexually transmitted HPV infection (De

Vuyst, Clifford, Nascimento, Madeleine, & Franceschi, 2009). Recent studies have shown that HPV is responsible for about 85% of anal cancers, 70% of vaginal cancers, 40% of vulvar cancers, 40% of penile cancers, 25% of mouth cancers, and 35% of throat cancers (De Vuyst et al., 2009; Parkin & Bray, 2006; Kreimer, Clifford, Boyle, & Franceschi, 2005).

**HPV awareness.** Considering the pervasive presence of HPV infection among the American population and the seriousness of HPV related diseases, it is important that people potentially affected by the disease are both aware of and knowledgeable about the issue. However, until recently, most people have had minimal knowledge of HPV and its consequences. The fact that researchers have consistently found low levels of knowledge about HPV in college-aged groups (see Ramirez et al., 1997; Dell, Chen, Ahmad, & Stewart, 2000; Vail-Smith & White, 1992) is of particular interest to the present study. Just 18 years ago a study of sexually active college women reported that 72% of respondents had never heard of HPV and an additional 15% were unsure if they had ever heard of the disease (Vail-Smith & White, 1992). According to a national survey conducted in 2000, less than one-third of Americans had heard of HPV and only 2% were able to identify HPV as an STI (Friedman & Sheppard, 2007; Sandfort & Pleasant, 2009).

In 2004, the Division of Sexually Transmitted Disease Prevention (DSTDP) at the CDC conducted a series of focus groups geared toward gathering data about the knowledge, attitudes, and beliefs of the general public relevant to STIs. One of the specific intentions of the focus groups was to assess what members of the general public ages 25 to 45 knew about HPV. Although females were more knowledgeable than males, the study reported low awareness of

HPV among all participants across segments. Respondents indicated a desire to obtain additional information about HPV and available vaccines as well as a desire to determine their own personal susceptibility (Ogilvy Public Relations Worldwide, 2005). A similar study conducted two years later by Cuschieri, Horne, Szarewski, and Cubie (2006) reported that there was still a generally low public awareness of HPV especially regarding awareness of its relation to cervical cancer and of the diseases associated with each type.

In recent years, an increased awareness of HPV has resulted from the development and promotion of the Gardasil vaccine for HPV among adolescent girls. In 2007, shortly after the introduction of the vaccine, an analysis of the National Immunization Survey revealed that 84.3% of women aged 18-49 years were aware of HPV and 78.9% were aware of the existence of a vaccine (Jain et al., 2009). Despite this seemingly dramatic increase in awareness the incidence of HPV infection among the U. S. population remains remarkably high. According to the CDC (2009), approximately 20 million Americans are currently infected with HPV.

**Detection, treatment, and prevention.** One of the main reasons infection with high-risk types of HPV can be so dangerous is that infected individuals do not display easily detectable signs or symptoms. The warts and skin growths caused by certain low-risk types of HPV are the only overt symptoms associated with the virus. Routine Pap tests or Pap smears for women remain the only way to detect the abnormal cell changes or precancerous lesions on the cervix associated with HPV and cervical cancer (CDC, 2009). When a Pap test detects abnormalities the physician may order an HPV test recently approved by the US Food and Drug Administration (FDA). The HPV test can detect the most common and dangerous types of HPV and distinguish

between high and low-risk types. No recognized screening tests for HPV related health effects, such as genital warts and cancer, are currently available; in addition, no recognized HPV screening test exists for men. Because overt symptoms are uncommon and HPV screening options are limited, the majority of men and even most women who carry the HPV virus are unaware that they are infected.

Currently, no cure or treatment exists for the HPV infection itself. In 70% of cases HPV infections clear on their own within one year; 90% clear on their own in two years (CDC, 2009; Moscicki et al., 1998). However, persistent infections, which occur in approximately 5-10% of infected women, create a high risk of developing precancerous lesions on the cervix which can eventually progress to invasive cervical cancer if not vigilantly monitored. Precancerous cervical cells can be removed, genital warts can be removed or treated with medication, and the other associated cancers can be managed – but no medical procedure for the eradication of the HPV virus exists.

Research suggests that engaging in certain behaviors increases the risk of contracting HPV. Having sex with multiple partners or having sex with someone who has or has had multiple partners significantly increases the risk of contracting an HPV infection (Marrazzo, Koutsky, Kiviat, Kuypers, & Stine, 2001). Furthermore, becoming sexually active at a young age also increases the likelihood that one will contract HPV. Limiting one's number of sexual partners and/or maintaining a monogamous relationship decreases the chances that one will contract HPV. Having unprotected sex also increases one's chances of contracting HPV. However, condoms appear less effective at preventing HPV transmission than other STIs because condoms do not completely cover all of the areas (e.g., infected skin or mucosal

surfaces) by which HPV infections are transmitted (Manhart & Koutsky, 2002). Abstaining from sexual contact remains the only sure way to prevent all types of sexually transmitted HPV infection.

In addition to the traditional STI prevention methods outlined above, two vaccines have recently been developed to prevent infection with certain types of HPV. The two vaccines, Gardasil and Cervarix, protect against the initial infection of HPV types 16 and 18 which together are responsible for over 70% of cervical cancer cases. Gardasil also protects against HPV types 6 and 11 which cause 90% of cases of genital warts (Greer, Wheeler, & Ladner, 1995). Despite the obvious utility of these vaccines for preventing infection with some of the most common and dangerous types of HPV, even vaccinated individuals are still at risk for contracting dozens of other types of high-risk and low-risk HPV. Because the recommended methods for preventing HPV contraction are not infallible it is important to ensure that people are not only aware of the risks but that they are both capable and motivated to be vigilant about HPV prevention. Within the context of the present study I will attempt to persuade participants to engage in the prevention behavior of getting the Gardasil vaccine.

### **Persuasion and Fear Appeals**

Having considered symptoms, prevalence, awareness, detection, treatment, and prevention of HPV infection, I now turn to theory regarding fear appeals and persuasion. How the persuasive effects of narrative evidence relate to health communication can be readily understood within the context of fear appeals. Because the goal of many health communication messages, including those utilized in the present study, is to arouse perceptions of threat

regarding the performance of an unhealthy behavior, at this point I will briefly examine theory and research regarding fear appeals. A fear appeal is a persuasive message designed to arouse the emotion of fear in a target audience. Fear appeals depict the negative consequences of a personally relevant and significant threat (usually in an extreme, highly disturbing way) in order to motivate people to engage in recommended adaptive behaviors presented as feasible and effective ways to deter the threat (Witte, 1992). The extended parallel process model (EPPM; Witte, 1992) suggests that persuasion is a function of perceived threat and perceived efficacy. Perceived threat includes perceived threat severity (beliefs about the magnitude of the threat) and perceived threat susceptibility (beliefs about the likelihood that the threat will occur). Perceived efficacy refers to persons' beliefs about their ability to hinder or avert a threat and is a function of perceived response efficacy (an individual's belief that the recommended response will effectively deter the threat) and perceived self-efficacy (an individual's belief that he or she is capable of performing the recommended response).

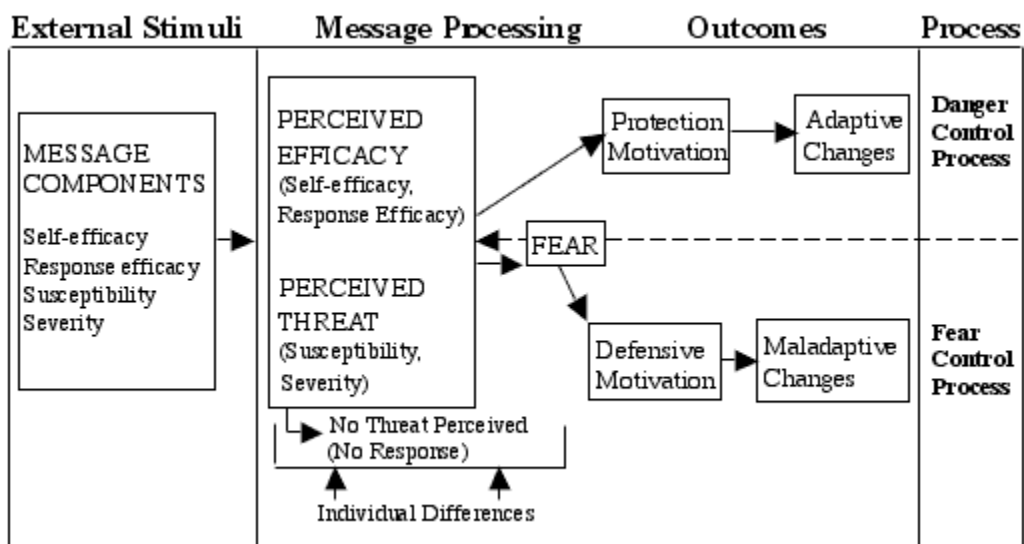


Figure 1. The Extended Parallel Process Model (Witte, 1992)

If both perceived threat and perceived efficacy are high, individuals are motivated to engage in adaptive strategies to control the threat. It is necessary that people perceive high levels of both threat and efficacy in order for persuasion to occur and adaptive behavior changes made. In the present study, perceived threat severity, threat susceptibility, self-efficacy, and response efficacy as well as intentions to engage in the recommended behavior of getting the Gardasil vaccine will serve as dependent variables.

Fear appeals have been employed to reduce the harmful outcomes associated with a wide range of potentially unhealthy behaviors including alcohol abuse (Jessup & Wade, 2008), smoking (Thompson, Barnett, & Pearce, 2009), reckless driving (Lewis, Watson, White, & Tay, 2007), and unsafe sexual behaviors (Slavin, Batrouney, & Murphy, 2007). A handful of health campaigns concerned with promoting HPV awareness and prevention have also been implemented. For instance, Witte, Berkowitz, Cameron, and McKeon (1998) applied EPPM with a small sample of college-aged women to assess the effectiveness of a print-based fear appeal designed to decrease the spread of HPV-induced genital warts and promote self-protective behaviors. Results indicated that the fear appeal message successfully increased the perception of threat towards genital warts and “promoted health-protective attitudes, intentions, and behaviors for women with high efficacy perceptions and inhibited self-defeating fear control responses” (Witte et al., 1998, p. 582).

In 2006 Merck & Co. became the first pharmaceutical company to market an HPV prevention product specifically to young adult females and adolescent females via its *One Less* campaign (Grantham, Ahern, & Connolly-Ahern, 2010). The vast majority of targeted individuals learned about the *One Less* campaign via a series of television commercials designed

to amplify the perception of risk regarding HPV contraction and the subsequent development of cervical cancer. Young women and their mothers were depicted as having a dichotomous choice to get the vaccine and be protected against HPV and cervical cancer or to not get the vaccine and be “one more” woman with HPV and/or cervical cancer. According to Grantham, Ahern, and Connolly-Ahern (2010), the campaign effectively raised awareness about HPV and related health concerns in addition to empowering females to take control of HPV and associated risks. Merck’s *One Less* campaign marks the successful implementation of a fear appeal message by which perceived threat associated with HPV and cervical cancer was amplified. Perceptions of efficacy were also significantly enhanced by presenting a seemingly feasible and effective method of risk reduction.

### **Narrative as Persuasion**

Having explained fear appeals, the EPPM, and how they relate to this study, I now turn to theory regarding the persuasive power of narrative. Narrative is a basic form of human interaction and a fundamental method for acquiring knowledge (Hinyard & Kreuter, 2007). Based upon recurring themes and key concepts present throughout the literature, Hinyard and Kreuter (2007) define a narrative as “any cohesive and coherent story with an identifiable beginning, middle, and end that provides information about scene, characters, and conflict; raises unanswered questions or unresolved conflict; and provides resolution” (p. 778). The utility of narrative as a persuasive mechanism has been increasingly investigated in recent years. Multiple studies demonstrate that narratives can influence beliefs (e.g., Appel & Richter, 2007; Strange & Leung, 1999), attitudes (e.g., Diekmann, McDonald, & Gardner, 2000; Lee & Leets, 2004), and



behavioral intentions (e.g., Hoeken & Geurts, 2005; Massi-Lindsey & Ah Yun, 2005; Slater, Rouner, & Long, 2006). Before addressing the elements of narrative experience of interest in the present study, I consider the mechanism of narrative evidence as it compares to statistical evidence as well as some of the existing explanations for the persuasive function of narrative relevant to the present investigation.

### **Narrative versus Argument**

The use of narrative evidence as a method of persuasive communication within the context of health is a relatively new concept. Until recently, the majority of persuasion research has focused on cognitive responses to advocacy messages. Hinyard and Kreuter (2007) explained:

To date, the dominant paradigm for health communication has involved using statistical evidence, probability, and appeals to logic and reason to persuade and motivate people to adopt behavioral changes. Increasingly, however, health communication developers are turning to narrative forms of communication like entertainment education, storytelling, and testimonials to help achieve those same objectives. (p. 777)

The dominance of logic-based persuasion research can be largely attributed to the popularity of dual-process models (Hinyard & Kreuter, 2007) such as the elaboration likelihood model (ELM; Petty & Cacioppo, 1981) and the heuristic-systematic model (HSM; Chaiken, 1980). According to these models, the persuasiveness of a message depends upon the degree to which effortful cognitive processing occurs. Slater and Rouner (2002) proposed that the cognitive processing of narrative and non-narrative messages is so different that the two processes must be represented

by entirely different persuasion models. Unlike persuasive messages that rely upon the logical consideration and evaluation of arguments based on statistical evidence, narrative messages are said to result in attitude, behavior and/or belief change as a result of involvement with and/or absorption into a narrative medium (Green & Brock, 2000).

A number of studies, reviews, and meta-analyses have compared the persuasive effects of narrative and non-narrative approaches, but with inconsistent results. For instance, Allen and Preiss (1997) conducted a meta-analysis across 16 studies and found statistical information to be more persuasive than narrative evidence. Hornikx and Hoeken (2007) also found statistical evidence to have a slight persuasive advantage over anecdotal evidence. In contrast, Taylor and Thompson (1982) reviewed 7 studies comparing the persuasiveness of statistical and narrative evidence and found that the narrative medium was more persuasive than statistical evidence in 6 out of the 7 studies. In a similar review of 19 studies comparing narrative and statistical evidence, Baesler and Burgoon (1994) reported that narrative evidence was more persuasive in 13 studies, statistical evidence was more persuasive in 2, and there was determined to be no difference between narrative and statistical evidence in the remaining 4 studies.

Based on these findings Baesler and Burgoon (1994) speculated that the vividness of the evidence presented may confound the manipulation of the two types of evidence. Thus, because anecdotal evidence is more easily imagined than statistical evidence and a vivid argument should be more convincing than a more pallid one, anecdotal evidence should be more convincing than statistical evidence (Hoeken, 2001). Baesler and Burgoon (1994) tested this explanation by manipulating message type and message vividness simultaneously. They found that when controlling for vividness statistical information was more convincing than anecdotal information.

Hoeken and Van Wijk (2007) found a similar pattern concluding that “the normatively weaker but more vivid anecdotal evidence is more convincing than the normatively stronger but less vivid statistical evidence” (Hoeken, 2001, p. 428).

Hinyard and Kreuter (2007) speculated that the use of varying definitions of narrative is one reason for the inconsistent findings regarding evidence type. Furthermore, there is often considerable variation between studies in terms of the methods and measures used to evaluate the persuasiveness of each message type (Hinyard & Kreuter, 2007). The influence of culture on the persuasiveness of message types has also been investigated. Although some studies have found cultural differences in the persuasiveness of evidence types (e.g., Hoeken & Hornikx, 2007), others have not (e.g., Hoeken, 2004). A relatively unexplored potential explanation for the inconsistent findings regarding the persuasiveness of narrative evidence is that narrative effectiveness depends upon qualities of the narrative messages themselves. Transportation theory, exemplification theory, and research within the area of identification with story characters offer some insight into the persuasive power of narrative and provide support for the premise of the present study that how narrative consumers relate to story characters is of paramount importance.

### **How Does Narrative Lead to Persuasion?**

Several explanations have been developed in an attempt to explain the persuasive effects of narrative (Green & Brock, 2000, 2002; Slater & Rouner, 2002; Busselle & Bilandzic, 2008). Although the Extended Elaboration Likelihood Model (Extended ELM; Slater & Rouner, 2002) has received some attention, only partial empirical evidence has been found to support its claims

(De Graaf, Hoeken, Sanders, & Beentjes, 2009). One of the most frequently cited and empirically supported explanations as to the persuasive effects of narrative is transportation theory (Green & Brock, 2000, 2002). Transportation, more specifically transportation into a narrative world, is conceptualized by Green and Brock (2000) as a distinct, convergent mental process whereby “all mental systems and capacities become focused on events occurring in the narrative” and “an integrative melding of attention, imagery, and feelings” (p. 701) takes place. According to the theory, absorption into a story or transportation into a narrative world has the potential to affect individuals’ real-world beliefs. Green and Brock (2000) contend that transportation may lead to persuasion in several ways. First, being transported reduces one’s inclination to disbelieve or counterargue story claims. There is a tendency to associate stories or narratives with entertainment. Thus, because narratives are not necessarily presented as vehicles for attitude change the likelihood of reactance, or a negative emotional response, in light of a persuasion attempt is reduced. Second, being transported makes narrative experience seem more like real experience in that absorption into a narrative may facilitate the internalization or mimicry of narrative experience. This enables the transported individual to feel directly impacted by the events in the story. Finally, transported readers may cultivate strong feelings towards story characters. The more emotionally involved a reader becomes with characters the more likely the beliefs and experiences of those characters will influence the beliefs and experiences of the reader.

One weakness of the current theorizing about transportation is the lack of clarity regarding what causes an individual to be transported. De Graaf, Hoeken, Sanders, and Beentjes (2009) concur with the assertion of both transportation theory and the Extended ELM that the

“phenomenological experience of a narrative plays a mediating role in narrative persuasion” (p. 386). However, they point out that “different terms and, more importantly, different conceptualizations have been used for the narrative reading experience in several models. Therefore, the nature of the experience that mediates between reading a narrative and its persuasive effects is unclear” (p. 386). It is possible that being “transported” is just a byproduct of the narrative experience and variations in message structure are actually responsible for motivating attitude and belief change. In fact, research on character identification offers a competing explanation for the persuasive effects of narrative that Green and Brock (2000) attribute to transportation.

Identification with characters appears to be a powerful mediating variable in forming or changing attitudes and beliefs in response to narrative messages (Appel & Richter, 2007; Cohen, 2001, 2006; Green & Brock, 2000; Prentice & Gerrig, 1999; Slater, 2002; Slater & Rouner, 2002; Slater, Rouner, & Long, 2006). Identifying with characters potentially reduces negative cognitive responding and facilitates the acceptance of story characters’ attitudes and beliefs (Green, 2006; Slater & Rouner, 2002). According to Igartua (2009), “Identification is an imaginative process that involves the temporal replacement of one’s own identity with that of a character from an affective and cognitive point of view” (p. 1). Identifying with characters is a multidimensional concept involving many different processes including emotional empathy, cognitive empathy, a temporal loss of self-awareness, and personal attraction to the characters (Basil, 1996; Chory-Assad & Cicchirillo, 2005; Chory-Assad & Yanen, 2005; Cohen, 2001; Eyal & Rubin, 2003; Hoffner, 1996; Hoffner & Buchanan, 2005; Hoffner & Cantor, 1991; Slater & Rouner, 2002). Emotional empathy refers to feeling what characters feel and becoming

“affectively involved in a vicarious way” (Igartua, 2009, p. 1). Cognitive empathy, or cognitive perspective taking, occurs when narrative consumers take on the point of view of or put themselves in the place of story characters. Another aspect of identification involves becoming so absorbed in the story that one essentially loses a sense of self-awareness and experiences the sensation of becoming a story character or imagines oneself as a story character thus making the narrative experience seem like direct, real experience. Finally, personal attraction to story characters in accordance with positive valuation, the perception of similarity, and the desire to be like story characters are all considered aspects of identifying with characters.

Exemplification theory (ET) also provides insight into how readers’ responses to story characters affect persuasive impact. An exemplar is a single example of a situation, behavior, or event (Zillman, 2006). In essence, an aggregated exemplar, or multiple exemplars, comes to represent a whole phenomenon or issue by acting as a typical instance of that issue. According to the theory, this occurs because individuals often do not consider all relevant information when making a decision, but instead use heuristics or shorthand methods to make decisions (Zillmann, Perkins, & Sundar, 1992). Heuristics may be simply defined as generalizations based on experience (Zillman & Brosius, 2000). People tend to make generalizations to larger populations based on seemingly representative characters within stories (Strange & Leung, 1999). In the context of narrative persuasion, a reader is more likely to identify with, relate to, and take on the beliefs of a character who appears to exemplify the characteristics of a group or population to which the reader belongs. It is by this mechanism that exemplars may influence people’s assessments about their susceptibility to health risks and their perceptions about their abilities to adopt protective behaviors. In terms of perception of threat, previous studies have shown that

messages with exemplars increase the consciousness of risk and severity of an issue (e.g., Zillmann, 2006; Hoeken & Geurts, 2005). Perceptions of self-efficacy have also been shown to increase when persons are exposed to messages in which an exemplar successfully performs a propagated behavior (see Hoeken & Geurts, 2005).

This study delivered fear appeal messages in narrative form or story form. Past research has demonstrated the persuasive power of narrative messages; however, it is unclear exactly what elements of a narrative message make it an effective persuasive medium. This study systematically manipulated elements of narrative message structure and compared persuasive outcomes in order to determine what combination of message variables most effectively motivate adaptive behavior change. The following sections consider how manipulating grammatical person and message frame affect the persuasiveness of a narrative message.

### **Grammatical Person**

Grammatical person refers to how person information is presented within a text. There are three types of grammatical person in Standard English: first-person, second-person, and third-person (McArthur, 1992) with first-person and third-person being the most commonly used in narrative writing (Graesser, Bowers, Olde, & Pomeroy, 1999). The role of grammatical person within a narrative has to do with the relationships between narrator, character, and reader (Cohn, 1968; Prince, 1987). Research within the fields of literature and psychology lends support to the idea that manipulating grammatical person can influence how readers relate to story characters and events.

A multitude of authors, literary critics, and literary scholars have noted the importance of grammatical person (Stanzel, 1978). In reference to writing in the first-person, Percy Lubbock, a renowned reviewer for the *Times Literary Supplement* in the early 1900s, stated: “This, then is the readiest means of dramatically heightening a reported impression, this device of telling the story in the first person, in the person of somebody in the book” (Lubbock, 1921, p. 127). With this comment Lubbock touches on what many have contended – stories written in the first-person just “feel” different. Based on an informal poll of readers, Thomte (2009) reported that third-person texts are perceived as emotionally cooler and more distant in comparison to first-person texts which are perceived as more personal and as having the ability to make readers feel more like a participant in the story world. According to Cohn (1984), the overall climate of the story, including the tone and mood changes depending upon the grammatical person. He states that in comparison to third-person texts first-person texts have greater “...potential for immediacy and drama” (p. 172).

Hamburger and Rose (1973) argued that the most crucial decision an author makes when beginning to write a novel is whether it will be written in the first- or third-person because first- and third-person represent very different ways of storytelling. Hamburger and Rose term stories written in the first-person “feigned reality statements” explaining that when readers encounter a first-person narrative they are dealing directly with a personalized narrator who is a character in the story. For readers, this is comparable to having a real life person directly relate events they have actually experienced. Hamburger and Rose contend that a true narrator is essentially absent when a narrative is written in the third-person. They refer to this absent narrator as having an impersonal narrative function because there is no concrete person whom a reader can relate to



doing the telling. Thus, Hamburger and Rose argued that stories written in first-person versus third-person are fundamentally different not only in how they are constructed but, more importantly, in how they are understood by the reader. This can likely be attributed to the contention that texts written in the first-person serve to lessen the “psychic distance” between the reader and the protagonist whereas texts written in the third-person increase the distance (Forche & Gerard, 2001, p. 54).

The point-of-view offered from a narrative written in the third-person is indefinite and not directly aligned with any concrete story character (Stanzel, 1986); we don’t really know who the narrator is, it is just a voice coming from somewhere not even necessarily from within the story world (Banfield, 1982). Stanzel (1986) argued that the perceived bodily presence of a first-person narrator "emphatically determines the spatio-temporal orientation" of the narrative (p. 92). A narrative written in the first-person gives readers a specific vantage point from which to navigate a story-world; in other words, the narrative experience takes place from a specific point-of-view. The reader and the narrator share the same story-world orientation and the reader is influenced to adopt that orientation. Thus, grammatical person presents itself as one way to encourage the reader to adopt a certain perspective as opposed to another. In the case of first-person narratives, the narrator/protagonist’s view is often the most salient, if not the only, point-of-view to adopt; the reader essentially experiences the narrative through the “eyes” of the narrator. In third-person narratives however, there is a separation of narrator and protagonist. Thus, the reader is not fated to take on a certain point-of-view but is rather reminded that there is more than one point-of-view to adopt. This reasoning leads into and supports the idea that readers create spatial mental models of story-worlds (Bower & Morrow, 1990; Glenberg, Meyer,

& Lindem, 1987; Johnson-Laird, 1983; Zwaan & Radvansky, 1998). According to Zwaan (1999), readers may feel as though they are within the story world and can actually see what's going on and experience story events as if they were in the story themselves.

Thomte (2009) explains why the grammatical person of a text should exert some influence on how we think about and relate to that text from a psychological perspective:

What psychology has told us is that processing a text is more than syntax, more than words and meanings; it is taking from the text (and bringing to it) a whole host of bridges, inferences, guesses, schemas, and models. And since we make use of all those types of strategies and information, surely it would be odd to ignore something as obvious as the pronouns in a text. (p. 26)

In essence, Thomte is pointing out that readers do not just passively accept the grammatical person of a text when interpreting a narrative but rather attend to it as well as a host of other textual factors and consider them in terms of how they relate to their own experiences. She tested the notion that the grammatical person of a narrative affects how readers conceptualize, view, or experience a story world in a series of experiments. She presented participants with two versions of the same story about a person waiting in line at a coffee shop which were identical except for the personal pronouns used (i.e., first-person or third-person); she then asked participants to describe the line. She found that those who read the prompt which utilized first-person described the line as extending out in front of them as if they were in it whereas those who read the prompt which utilized third-person described the line from the side as if they were not in it but looking at it from the side. Thomte explained:

Reading the prompt in the first-person encourages us to think about the scene from a first-person view—to incorporate ourselves into the scene...In the case of imagining people waiting in line, the first-person view is then of us in line, presumably looking ahead (towards the front of the line)...The third-person prompt, on the other hand, encouraged a third-person perspective. By this I mean the view of the imagined scene is from that of an observer rather than an actor. (p. 81-82)

Thus, reading a first- or third-person account of an otherwise identical scene caused readers to render different imagined perspectives.

This finding has powerful implications especially when considered in conjunction with information previously presented about the role of vividness as described by Baesler and Burgoon (1994) and about the power of identifying with characters in a narrative. A reader who adopts a first-person orientation towards a story will likely experience a more vivid imagined perspective than a reader who adopts an external third-person orientation, and it has been empirically shown that the more vivid the evidence the more convincing the message (Baesler & Burgoon, 1994; Hoeken, 2001). Texts written in the first-person should also encourage greater identification with characters than texts written in the third-person simply because taking on a first-person orientation increases one's involvement with the scene and characters. Thus, the following hypothesis was proposed:

H1: Participants exposed to a first-person message will evidence higher levels of identification with characters than participants exposed to a third-person message.

In addition, intentions to engage in recommended behaviors should also strengthen as a result of increased identification with characters. Exemplification theory tells us that readers are

more likely to identify with and take on the attitudes and beliefs of story characters if those characters appear to exemplify or represent a group to which the reader feels that they belong. Hoeken and Geurts (2005) found that stronger intentions to engage in a recommended behavior were reported when participants were exposed to the story of an exemplar who successfully performed said behavior. In the present study, the story character was a female college student and the participants were female college students. The following hypothesis was, therefore, proposed:

H2: Participants exposed to a first-person message will be more likely to indicate that they intend to get the Gardasil vaccine than participants exposed to a third-person message.

### **Message Framing**

The effect of grammatical person within a narrative condition may be better understood in the context of another factor related to the construction of the narrative – how a message is framed. Prospect theory contends that how people respond to a message is directly related to how the information within the message is framed (Tversky & Kahneman, 1981); in other words, whether it is presented in terms of the positive or negative outcomes associated with performing (or not performing) a certain behavior. At the heart of prospect theory is the concept of “risk” which has traditionally been conceptualized as “uncertainty”. Behaviors with known or expected outcomes are likely to be perceived as posing little risk whereas behaviors with unexpected outcomes are likely to be perceived as risky (Yu et al., 2010).

Traditionally, applications of prospect theory have shown that people are more likely to avoid risks when the potential gains or benefits of engaging in a certain behavior are emphasized and more likely to take risks when potential losses or negative consequences are emphasized (Tversky & Kahneman, 1981; Rothman et al., 2006; Yu et al., 2010). Within the context of health, disease detection behaviors are considered uncertain outcome behaviors; disease prevention behaviors are associated with certain outcome behaviors (Rothman et al., 2006). In other words, disease detection behaviors are considered more risky whereas disease prevention behaviors are perceived as posing little risk. Yu et al. (2010) offered clarification by way of examples:

Detection behaviors involve a potential risk of discovering a health problem. For example, making the decision to have a mammography or HIV (human immunodeficiency virus) test could be a risky decision; the result might not be pleasant. In this scenario, loss frames should be more effective in motivating risk-seeking detection behaviors. Prevention behaviors involve reducing the risk of getting ill or maintaining current health conditions. For example, making the decision to use a condom may prevent or reduce the risk of getting infected with sexually transmitted diseases. In this scenario, gain frames should be more effective in promoting the use of prevention behaviors. (p. 693)

That is, because people are more likely to take risks when negative outcomes are more salient, loss framed messages should be more effective for motivating disease detection behaviors. Because people are more likely to avoid risks when positive outcomes are more salient, gain framed messages should be more effective for motivating disease prevention

behaviors. Indeed, loss framed messages have been shown to be more effective than gain framed messages for promoting a variety of detection behaviors including getting mammograms (Banks et al., 1995; Schneider et al., 2001), performing breast self-examinations (Meyerowitz & Chaiken, 1987), receiving skin cancer examinations (Block & Keller, 1995), getting tested for HIV (Kalichman & Coley, 1995), using plaque-detecting rinse (Rothman et al., 1999), and getting blood-cholesterol screenings (Maheswaran & Meyers-Levy, 1990). Evidence also supports the claim that gain framed messages should be more effective for promoting prevention behaviors such as the use of sunscreen to prevent skin cancer (Detweiler et al., 1999; Rothman et al., 1993), the use of condoms (Kiene, Barta, Zelenski, & Cothran, 2005), and smoking cessation (Wong & McMurray, 2002). It is important to note that some research has found no framing effect at all (Lalor & Hailey, 1990; Lauver & Rubin, 1990). Of particular interest are the findings of O'Keefe and Jensen (2006); they discovered no significant difference in the persuasiveness of gain versus loss framed messages for preventing STIs.

As previously mentioned, there are a handful of behaviors with the potential to decrease the risk that one will contract an HPV infection. Getting vaccinated presents itself as the most effective HPV prevention option aside from abstaining from sexual contact. There are two available HPV vaccines: Gardasil and Cervarix. Both protect against the initial infection of HPV types 16 and 18 which together are responsible for over 70% of cervical cancer cases. Gardasil, however, also protects against HPV types 6 and 11 which cause 90% of cases of genital warts (Greer, Wheeler, & Ladner, 1995). Considering that gain framed messages have been shown to more effectively promote prevention behaviors than loss framed messages and that getting vaccinated is a prevention behavior, the following hypothesis was advanced:

H3: Participants exposed to a gain framed message will be more likely to indicate that they intend to get the Gardasil vaccine than participants exposed to a loss framed message.

Evidence has been mixed regarding whether gain or loss frames more effectively promote feelings of efficacy regarding the performance of a prevention behavior. Yu et al. (2010) found that loss frames elicited higher levels of perceived response efficacy whereas gain frames elicited higher levels of perceived self-efficacy in regard to preventing fetal alcohol spectrum disorder. Hoeken and Geurtz (2005) also reported that participants exposed to gain framed messages experienced more positive self-efficacy perceptions regarding internet addiction than those exposed to loss framed messages. Finally, Maguire et al. (2010) reported no significant differences between gain and loss frames for perceived efficacy (self and response) in regard to preventing kidney disease. Despite these somewhat inconsistent findings, a slight pattern has emerged with respect to gain framed messages and self-efficacy, therefore, the following hypothesis was posed regarding framing effects and perceived efficacy:

H4: Participants exposed to a gain framed message will evidence higher levels of a) perceived self-efficacy and b) perceived response efficacy than participants exposed to a loss framed message.

Although the evidence regarding message frame and perceptions of efficacy has been slightly incongruous, the literature is clearer about message frame and perceptions of threat. Yu et al. (2010) found that a loss-exemplar message appeal more effectively raised perceptions of threat severity and susceptibility than a gain-exemplar message appeal. In a study regarding the prevention of genital herpes, Mitchell (2001) reported that negatively framed messages resulted

in higher levels of perceived threat severity and susceptibility than positively framed messages. Furthermore, evidence from fear appeals research indicates that messages which depict threats in terms of the negative consequences of engaging in a behavior arouse high levels of perceived threat severity and susceptibility. Because loss framed messages focus on what one stands to lose or the negative consequences of engaging in a behavior it seems plausible that loss framed messages should also arouse high levels of perceived threat severity and susceptibility. Thus, the following hypothesis was proposed:

H5: Participants exposed to a loss framed message will evidence higher levels of a) perceived threat susceptibility and b) perceived threat severity than participants exposed to a gain framed message.

In addition to the effects predicted above, I also expected to observe some interaction effects between message frame and grammatical person. Loss-framed messages have been shown to promote higher levels of perceived threat than gain-framed messages and messages written in the first-person are thought to promote higher levels of identification than messages written in the third-person. Utilizing first-person within a loss-framed message should then increase perceptions of threat to even higher levels because readers will not only perceive that a threat exists but that it is likely to happen to them. Furthermore, because people tend to consider imminent threats to be more severe than distant threats, perceptions of severity should also increase. Therefore:

H6: Participants exposed to a first-person loss framed message will evidence higher levels of a) perceived threat susceptibility and b) perceived threat severity than



participants exposed to a third-person loss framed message, first-person gain framed message, and third-person gain framed message.

Messages written in the first-person are thought to promote higher levels of identification than messages written in the third-person. Furthermore, perceiving a similar other successfully performing recommended actions should increase participant's perceived self-efficacy and response efficacy. Thus, utilizing first-person should increase perceptions of efficacy to higher levels than utilizing third-person. However, although there is some support that gain frames increase perceptions of self-efficacy to higher levels than loss frames, how message frame impacts response efficacy is less clear. Therefore, the following research question was posed:

RQ1: Will there be an interaction between grammatical person (first vs. third) and message frame (gain vs. loss) with respect to a) perceived self-efficacy and b) perceived response efficacy?

I also anticipated that experiencing the processes involved with identification (empathy, cognitive perspective taking, perceived similarity, etc.) in response to a fear inducing narrative would impact perceptions of threat and efficacy. In accordance with EPPM, perceptions of threat regarding a health risk should increase if a reader perceives that a similar other has experienced said health risk. Furthermore, increased identification should influence readers to believe that events experienced by story characters could feasibly happen to them as well. Therefore, the following hypothesis was posed:

H7: Character identification will mediate the relationship between grammatical person and a) perceived threat susceptibility, b) perceived threat severity, c) perceived self-efficacy, and d) perceived response efficacy.

Finally, I sought to determine what combination of framing and grammatical person would have the greatest effect on behavioral intentions. Because research in the area of prospect theory provides strong evidence for the effectiveness of gain frames for promoting prevention behaviors and the literature on grammatical person indicates that first-person messages promote identification, the following hypothesis was proposed:

H8: Participants exposed to a first-person gain framed message will be more likely to indicate that they intend to get the Gardasil vaccine than participants exposed to a first-person loss framed message, third-person loss framed message, and third-person gain framed message.

## **Summary of Hypotheses and Research Question**

By way of review, the following hypotheses and research questions were advanced.

H1: Participants exposed to a first-person message will evidence higher levels of identification with characters than participants exposed to a third-person message.

H2: Participants exposed to a first-person message will be more likely to indicate that they intend to get the Gardasil vaccine than participants exposed to a third-person message.

H3: Participants exposed to a gain framed message will be more likely to indicate that they intend to get the Gardasil vaccine than participants exposed to a loss framed message.

H4: Participants exposed to a gain framed message will evidence higher levels of a) perceived self-efficacy and b) perceived response efficacy than participants exposed to a loss framed message.

H5: Participants exposed to a loss framed message will evidence higher levels of a) perceived threat susceptibility and b) perceived threat severity than participants exposed to a gain framed message.

H6: Participants exposed to a first-person loss framed message will evidence higher levels of a) perceived threat susceptibility and b) perceived threat severity than participants exposed to a third-person loss framed message, first-person gain framed message, and third-person gain framed message.

RQ1: Will there be an interaction between grammatical person (first vs. third) and message frame (gain vs. loss) with respect to a) perceived self-efficacy and b) perceived response efficacy?

H7: Character identification will mediate the relationship between grammatical person and a) perceived threat susceptibility, b) perceived threat severity, c) perceived self-efficacy, and d) perceived response efficacy

H8: Participants exposed to a first-person gain framed message will be more likely to indicate that they intend to get the Gardasil vaccine than participants exposed to a first-person loss framed message, third-person loss framed message, and third-person gain framed message.

## CHAPTER 3: METHODS

Participants for the present study were 145 females recruited from communication, psychology, and sociology courses at a large Southeastern University. Although 87 males read an alternative narrative message and responded to questionnaire items pertaining to that message for the purposes of obtaining class credit, the data were not included in analysis because the behaviors of interest almost exclusively affect females. The 145 female participants ranged in age from 18 to 51 years ( $M = 21.6$ ,  $SD = 5.11$ ) with 80 describing themselves as White/Caucasian, 26 as Hispanic, 14 as Black, 14 as Asian/Pacific Islander, and 9 as other. 9 were freshman, 38 were sophomores, 48 were juniors, 38 were seniors, and 10 were non-degree seeking. Of the 145 female participants 84 indicated that they had already received the Gardasil vaccine and were thus removed from the behavioral intention analyses. This study was judged exempt from the requirement for written informed consent by the University IRB. A copy of the IRB approval letter is contained in Appendix A.

### **Procedure**

This study employed a post-test only, 2 (loss frame vs. gain frame) x 2 (first-person vs. third-person), between-subjects experimental design in which participants read one of four narrative health messages about a female freshman college student's experiences with HPV. The messages were presented via the medium of an online blog. The messages were created by the author specifically for the purposes of this study. The four different combinations of messages in this study included: 1) loss framed – first-person message appeal; 2) loss framed – third-person message appeal; 3) gain framed – first-person message appeal; and 4) gain framed – third-person

message appeal. Loss framed messages described the negative experiences of a person who contracted HPV and gain framed messages emphasized the positive experiences of a person who did not contract HPV. Messages written in the first-person utilized first-person pronouns (i.e., I and me) and messages written in the third-person utilized third-person pronouns (i.e., she and her). Participants were provided with a link to a questionnaire via email or course website. After answering a few demographic questions participants were randomly assigned to one of the four experimental conditions based on the month they were born. (This technique was necessary because the online survey provider utilized did not have random assignment capabilities.) They were instructed to follow a link to an online blog, read the message, and then return to and complete the questionnaire with measures of identification, perceived threat, perceived efficacy, and behavioral intentions. Copies of the blog texts are presented in their entirety in Appendices C, D, E, and F. Students were informed that their participation was entirely voluntary and anonymous.

## **Instrument**

Intentions to engage in the recommended behavior change were measured using a 3-item scale developed by the author for the purposes of this study. Participants were asked to indicate the likelihood that they would perform certain behaviors on a 5-point Likert-type scale (1 = very likely to 5 = very unlikely). Items read: “How likely is it that you will seek out more information about the Gardasil vaccine (e.g., via the internet, healthcare professional, etc.)”, “How likely is it that you will get the Gardasil vaccine within the next 6 months”, and “How likely is it that you will get all three doses of the Gardasil vaccine”. Participants were also asked if they had already

gotten the Gardasil vaccine, and if so whether they had gotten all three doses. Because the Gardasil vaccine involves the receipt of three doses at separate times, at the time of research participation respondents may have received all three doses of the vaccine, two out of the three doses, one out of the three doses, or none of the three doses.

Perceived threat severity and perceived threat susceptibility were measured using an adaptation of Witte et al.'s (1998) 5-item scale. The reliability of the 2-item perceived severity portion of the scale was found to be unacceptable at  $\alpha = .505$  and was converted to a single item measure. The reliability of the 3-item perceived susceptibility portion of the scale was found to be acceptable at  $\alpha = .833$ . Participants were asked to indicate the degree to which they agreed or disagreed with the statements "I believe HPV is a serious condition", "I am at risk for HPV", "It is likely that I will contract HPV", and "It is possible that I will contract HPV" on a 5-point Likert-type scale (1 = strongly agree to 5 = strongly disagree).

Perceived self-efficacy and perceived response efficacy were measured using an adaptation of Yu et al.'s (2010) 6-item scale. The reliability of the 3-item perceived self-efficacy portion of the scale was initially low at  $\alpha = .67$  but rose to an acceptable level of  $\alpha = .714$  when one item was removed. The reliability of the 3-item perceived response efficacy portion of the scale was initially unacceptable at  $\alpha = .59$ . After removing one item scale reliability remained unacceptable at  $\alpha = .61$ , thus it was converted to a single item measure. Participants were asked to indicate the degree to which they agreed or disagreed with the statements "Preventing HPV is easy for me", "Preventing HPV is difficult for me", and "Getting the Gardasil vaccine can prevent HPV and related diseases" on a 5-point Likert-type scale (1 = strongly agree to 5 = strongly disagree).

Identification with characters was measured using an adaptation of Igartua and Paez's (1998) 14-item scale. Participants were asked to indicate the degree to which they agreed or disagreed with statements such as, "I thought I was like the character or very similar to her" and "I understood the characters' feelings or emotions" on a 5-point Likert-type scale (1 = strongly agree to 5 = strongly disagree). Scale reliability was found to be acceptable at  $\alpha = .904$ . A measure of transportation, or absorption into a story, was also included for comparative purposes. Transportation was measured using an adaptation of Green and Brock's (2000) 12-item scale. Participants were asked to indicate the degree to which they agreed or disagreed with statements such as, "While I was reading the narrative, I could easily picture the events in it taking place" and "The narrative affected me emotionally" on a 5-point Likert-type scale (1 = strongly agree to 5 = strongly disagree). Scale reliability was found to be acceptable at  $\alpha = .747$ .

The instrument was pre-tested with 15 individuals. Some items were rearranged in response to concerns that items inquiring about similar things, or items belonging to the same scales, should not be presented one right after the other. A copy of the survey instrument can be found in Appendix B.

## **Analysis**

H1 was tested using an independent samples *t*-test in order to compare identification with characters in first-person and third-person conditions. H4, H5, H6, and RQ1 were tested using two, two-way MANCOVAs with grammatical person and message frame as independent variables, perceived threat (severity and susceptibility) and perceived efficacy (self-efficacy and response efficacy) as dependent variables, and Gardasil vaccination status as a covariate. H2, H3,



and H8 were tested by splitting the file according to Gardasil vaccination status and using a two-way ANOVA with grammatical person and message frame as independent variables and behavioral intention as a dependent variable respectively. Had the results of RQ1 and H6 warranted the analysis, H7 would have been tested by means of Judd and Kenny's (1981) technique estimating a series of three regression models for each dependent variable.

## CHAPTER 4: RESULTS

Results are presented below according to the order in which analyses were run. H1 predicted that individuals in first-person conditions would exhibit higher levels of identification with characters than individuals in third-person conditions. Descriptive statistics for H1 are presented in Table 1 below. H1 was tested using an independent samples *t*-test in order to determine if identification with characters differs, on average, based on grammatical person (i.e., first-person or third-person). Levene's test indicated that the assumption of homogeneity of variances was met ( $F = .025, p = .875$ ). The independent samples *t*-test was not statistically significant ( $t(127) = -1.69, p = .866$ ). Individuals in first-person conditions did not identify with story characters more on average ( $n = 63, M = 2.92, SD = .82$ ) than those in third-person conditions ( $n = 66, M = 2.94, SD = .73$ ). H1 was not supported.

Table 1  
*H1 Descriptive Statistics*

	Person	N	Mean	Std. Deviation
Identification	First	63	2.9195	.81789
	Third	66	2.9426	.73243

Descriptive statistics for the remaining hypotheses and the research question are presented in Table 2 below. H4 and RQ1 were tested using a two-way MANCOVA with grammatical person and message frame as independent variables, perceived efficacy (self-efficacy and response efficacy) as dependent variables, and Gardasil vaccination status as a covariate. Prior to running the analysis outliers were identified by means of studentized residuals. Five cases with residuals higher than 2.0 were removed from analysis. Box's *M* test for homogeneity of variance ( $M = 17.33, p = .051$ ) indicated that the null hypothesis should not be rejected. Therefore, homogeneity of the covariance matrices could be assumed.

Table 2  
*RQ1, H2 through H6, and H8 Descriptive Statistics*

	Frame	Person	Mean	Std. Deviation	N
Response Efficacy	Gain	First	1.6429	.78004	28
		Third	1.6829	.96018	41
		Total	1.6667	.88561	69
	Loss	First	1.6486	.67562	37
		Third	2.0000	1.09545	31
		Total	1.8088	.90203	68
	Total	First	1.6462	.71656	65
		Third	1.8194	1.02540	72
		Total	1.7372	.89336	137
Self-Efficacy	Gain	First	4.3929	.64344	28
		Third	4.2683	.78340	41
		Total	4.3188	.72746	69
	Loss	First	4.0811	.79507	37
		Third	4.0161	.97026	31
		Total	4.0515	.87306	68
	Total	First	4.2154	.74461	65
		Third	4.1597	.87140	72
		Total	4.1861	.81124	137
	Frame	Person	Mean	Std. Deviation	N
Severity	Gain	First	4.5357	.69293	28
		Third	4.7436	.44236	39
		Total	4.6567	.56548	67
	Loss	First	4.3714	.97274	35
		Third	4.6667	.71116	30
		Total	4.5077	.86824	65
	Total	First	4.4444	.85719	63
		Third	4.7101	.57141	69
		Total	4.5833	.73143	132

	Frame	Person	Mean	Std. Deviation	N
Susceptibility	Gain	First	2.1667	.97077	28
		Third	2.2650	1.04624	39
		Total	2.2239	1.00903	67
	Loss	First	2.6667	.92884	35
		Third	2.3778	1.03106	30
		Total	2.5333	.98036	65
	Total	First	2.4444	.97275	63
		Third	2.3140	1.03356	69
		Total	2.3763	1.00331	132
Behavioral Intention	Gain	First	2.1818	1.47093	11
		Third	2.5333	1.35576	15
		Total	2.3846	1.38786	26
	Loss	First	2.3571	1.33631	14
		Third	2.3810	1.39557	21
		Total	2.3714	1.35225	35
	Total	First	2.2800	1.36991	25
		Third	2.4444	1.36161	36
		Total	2.3770	1.35602	61

H4 predicted that participants exposed to a gain framed message would evidence higher levels of a) perceived self-efficacy and b) perceived response efficacy than participants exposed to a loss framed message. Results revealed no multivariate main effects with respect to message frame (Wilk's  $\Lambda = .96$ ,  $F(2, 126) = 2.77$ ,  $p = .067$ ,  $n^2 = .04$ ). However, tests of between subjects effects indicated a significant difference for the dependent variable of self-efficacy ( $F(1, 127) = 4.36$ ,  $p = .039$ ,  $n^2 = .03$ ). Gain frame messages promoted higher levels of perceived self-efficacy than loss frame messages. The hypothesis was therefore partially supported. RQ1 asked if there would be an interaction effect between grammatical person (first vs. third) and message frame (gain vs. loss) with respect to a) perceived self-efficacy and b) perceived response efficacy. No

multivariate interaction effect with respect to perceived efficacy was found for grammatical person and frame (Wilk's  $\Lambda = .98$ ,  $F(2, 126) = .150$ ,  $p = .23$ ,  $n^2 = .02$ ). Tests for simple effects also revealed no statistically significant relationships.

H5 and H6 were tested using a two-way MANCOVA with grammatical person and message frame as independent variables, perceived threat (severity and susceptibility) as dependent variables, and Gardasil vaccination status as a covariate. Prior to running the analysis outliers were identified by means of studentized residuals. Three cases with residuals higher than 2.0 were removed from analysis. Box's  $M$  test for homogeneity of variance ( $M = 5.98$ ,  $p = .76$ ) indicated that the null hypothesis should not be rejected. Homogeneity of the covariance matrices was therefore assumed.

H5 stated that participants exposed to a loss framed message would evidence higher levels of a) perceived threat susceptibility and b) perceived threat severity than participants exposed to a gain framed message. A multivariate main effect was found for message frame (Wilk's  $\Lambda = .954$ ,  $F(2, 124) = 3.504$ ,  $p = .03$ ,  $n^2 = .05$ ). The hypothesis was therefore supported. H6 stated that individuals exposed to a first-person loss framed message would evidence higher levels of a) perceived threat severity and b) perceived threat susceptibility than individuals exposed to a third-person loss framed message, first-person gain framed message, or third-person gain framed message. No multivariate interaction effect was found for grammatical person and frame (Wilk's  $\Lambda = .98$ ,  $F(2, 124) = 1.22$ ,  $p = .30$ ,  $n^2 = .019$ ). Tests for simple effects also revealed no statistically significant relationships. The hypothesis was therefore not supported.

H2, H3, and H8 were tested using a two-way ANOVA with grammatical person and message frame as independent variables and intention to get the Gardasil vaccine as a dependent

variable. The file was split prior to analysis so that only individuals who indicated they had not already gotten the Gardasil vaccine would be included. Prior to running the analysis outliers were identified by means of studentized residuals. No cases with residuals higher than 2.0 were identified. Levene's test indicated homogeneity of variance could be assumed ( $F = .19, p = .904$ ).

H2 stated that participants exposed to a first-person message would be more likely to indicate that they intended to get the Gardasil vaccine than participants exposed to a third-person message. No main effect with respect to intentions to get the Gardasil vaccine was found for grammatical person ( $F(1, 57) = .004, p = .99, n^2 = .00$ ). The hypothesis was therefore not supported. H3 asserted that individuals exposed to a gain framed message would be more likely to indicate that they intended to get the Gardasil vaccine than participants exposed to a loss framed message. No main effect with respect to intentions to get the Gardasil vaccine was found for message frame ( $F(1, 57) = .00, p = .96, n^2 = .00$ ). The hypothesis was therefore not supported. H8 predicted that individuals exposed to a first-person gain framed message would be more likely to indicate that they intended to get the Gardasil vaccine than individuals exposed to a first-person loss framed message, third-person loss framed message, or third-person gain framed message. No interaction effect with respect to intentions to get the Gardasil vaccine was found for grammatical person and frame ( $F(1, 57) = .044, p = .83, n^2 = .00$ ). Tests for simple effects also revealed no statistically significant relationships. The hypothesis was therefore not supported.

Finally, because analysis of RQ1 indicated there was no relationship between grammatical person and message frame with respect to efficacy and analysis of H6 indicated that there was no significant difference in perceived threat levels with respect to grammatical person

and message frame, there was no need to analyze H7. The hypothesis that character identification would mediate the relationships between grammatical person and perceived threat and grammatical person and perceived efficacy was therefore not supported. However, as a post hoc analysis a correlation was run between character identification and all four attitudinal variables. Results are presented in Table 3. As the table indicates, a significant positive correlation was found between identification and threat susceptibility and a significant negative correlation was found between identification and threat severity. The trend with efficacy variables was toward a negative relationship, although it did not reach significance.



Table 3  
*Character Identification Correlations*

	Identification	Susceptibility	Severity	Self-Efficacy	Response Efficacy
Pearson Correlation	1	.18*	-.25**	-.15	-.167
Sig. (2-tailed)		.040	.004	.089	.059

\* Correlation is significant at the 0.05 level (2-tailed)

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

## **Summary of Results of Hypotheses and Research Question**

By way of review, the following results were obtained. Results are organized by independent variable.

### **Hypotheses regarding message framing.**

H5: Participants exposed to a loss framed message will evidence higher levels of a) perceived threat susceptibility and b) perceived threat severity than participants exposed to a gain framed message. – **supported**

H4: Participants exposed to a gain framed message will evidence higher levels of a) perceived self-efficacy and b) perceived response efficacy than participants exposed to a loss framed message. – **partially supported**

H3: Participants exposed to a gain framed message will be more likely to indicate that they intend to get the Gardasil vaccine than participants exposed to a loss framed message. – **not supported**

### **Hypotheses regarding grammatical person.**

H1: Participants exposed to a first-person message will evidence higher levels of identification with characters than participants exposed to a third-person message. – **not supported**

H2: Participants exposed to a first-person message will be more likely to indicate that they intend to get the Gardasil vaccine than participants exposed to a third-person message. – **not supported**

**Hypotheses and research question positing an interaction between message frame and grammatical person.**

H6: Participants exposed to a first-person loss framed message will evidence higher levels of a) perceived threat susceptibility and b) perceived threat severity than participants exposed to a third-person loss framed message, first-person gain framed message, and third-person gain framed message. – **not supported**

RQ1: Will there be an interaction between grammatical person (first vs. third) and message frame (gain vs. loss) with respect to a) perceived self-efficacy and b) perceived response efficacy? – **no interaction observed**

H8: Participants exposed to a first-person gain framed message will be more likely to indicate that they intend to get the Gardasil vaccine than participants exposed to a first-person loss framed message, third-person loss framed message, and third-person gain framed message. – **not supported**

**Hypothesis regarding character identification.**

H7: Character identification will mediate the relationship between grammatical person and a) perceived threat susceptibility, b) perceived threat severity, c) perceived self-efficacy, and d) perceived response efficacy – **not tested**

## CHAPTER 5: DISCUSSION

This study provides additional support for prospect theory, but does so with a new health issue and a new medium than previous studies. Predictions regarding message frame and the two threat variables were fully supported. Participants exposed to a loss framed message evidenced higher levels of both perceived threat susceptibility and perceived threat severity than participants exposed to a gain framed message. Thus, reading a blog about the experiences of a person who did not get the Gardasil vaccine and subsequently contracted HPV triggered stronger perceptions of threat susceptibility regarding HPV contraction and threat severity regarding HPV infection than reading a blog about a person who got the Gardasil vaccine and successfully avoided contracting HPV. This finding further establishes the assertions of past research regarding framing effects and fear appeals (see Rothman et al., 2006; Witte, 1992, 1998) but it is especially informative when considered in conjunction with the findings regarding frame and efficacy.

Participants exposed to a gain framed message evidenced higher levels of perceived self-efficacy than participants exposed to a loss framed message. Thus, reading a blog about a person who got the Gardasil vaccine and successfully avoided contracting HPV instilled readers with a stronger sense of self-efficacy than reading a blog about a person who did not get the Gardasil vaccine and contracted HPV. Typically, both increased perceptions of threat and efficacy are necessary in order to motivate the adoption of protective behaviors (Witte, 1992, 1998). It appears that elements of both loss frames and gain frames are necessary to achieve this desired outcome. More research needs to be done in the area of gain frame-loss frame combination

messages in order to determine what type of message most effectively raises perceptions of both threat and efficacy simultaneously.

It is difficult to say why message framing affected self-efficacy but no association was found between message frame and response efficacy. Perhaps the story successfully instilled readers with a sense of protective ability but did not necessarily convince them that getting the Gardasil vaccine is an effective way to prevent HPV contraction. Furthermore, only one case was offered as evidence of Gardasil's effectiveness. The testimonial nature of the messages employed in this study may not have provided sufficient evidence to convince readers of Gardasil's effectiveness. It may be necessary to provide both case evidence and statistical evidence in order to achieve increased perceptions of both self-efficacy and response efficacy in regard to getting the Gardasil vaccine.

This reasoning may also help explain why none of the hypotheses regarding behavioral intention were supported. The fact that participants reported increased levels of perceived threat and self-efficacy in some conditions but still indicated they did not intend to engage in the recommended behavior contradicts established theory (see Rothman et al., 2006; Witte, 1992, 1998) and research (e.g., Yu et al., 2010; Hoeken & Geurtz, 2005) regarding message framing and fear appeals. For instance, stronger intentions to engage in recommended behaviors have been reported by participants in previous studies who only experienced increased perceptions of self-efficacy in response to a gain framed message (e.g., Yu et al., 2010; Hoeken & Geurts, 2005). It could be that the nature of the recommended behavior itself affected participants' behavioral intentions. The gain framed message indicated that getting the Gardasil vaccine prevented the character from contracting HPV; however, it also pointed out that there was really

no way to tell for sure. Although the character went to the doctor several times and test results always indicated no signs of cervical abnormalities, it is possible that the virus had yet to present itself or was lying dormant at the time of each doctor visit. Furthermore, the nature of the virus itself makes it impossible for the Gardasil vaccine, which only protects against 4 types of HPV, to be a completely effective way to prevent contraction of all virus types. Another potential explanation is that because getting Gardasil is meant to protect against a virus that is sexually transmitted there may be some level of embarrassment or shame involved in getting it. It is also possible that participants were simply unwilling to get the vaccine because going in for three doses was too time consuming. Furthermore, given that a high level of publicity has surrounded a debate about the safety of vaccines in recent years, it may be that people are simply apprehensive about getting any sort of vaccine especially one that is fairly new and for which the utility has not been definitively established.

The lack of support for the hypotheses regarding behavioral intention may also be due in part to the small sample size. Using Gardasil vaccination status as a covariate enabled the majority of statistical analyses to be run with the required 30 subjects per condition. However, a sample containing only subjects who had not gotten the Gardasil vaccine was necessary in order to assess behavioral intention. This cut the sample size in half. Ideally additional data would have been collected from other women who had not received the vaccine, but given that data were collected during a summer semester participant availability was limited. Furthermore, time constraints for this thesis project made it necessary to go ahead with data analysis despite having an insufficient number of participants for the behavioral intention analyses.

As with the hypotheses regarding behavioral intention, no support was found for any of the hypotheses regarding grammatical person. In retrospect, this may be due to difficulties with operationalizing the variable. Although manipulating grammatical person may seem like a relatively simple endeavor, it was difficult to generate identical texts aside from the grammatical person used without one or the other sounding somewhat forced. Also, because blogs are typically written from a first-person perspective (Della, Eroglu, Bernhardt, Edgerton, & Nall, 2008) the third-person conditions may have seemed inauthentic. Furthermore, any number of factors may moderate the persuasive influence of grammatical person including the type of behavior being investigated, the medium via which messages are delivered, and/or how it relates to other message variables such as the depth of character development and the degree of imagery evoked by the text. It is also possible that any effects grammatical person does have are slight and not influential in terms of the overall persuasiveness of a message.

Despite the lack of findings in the present study, however, past research does indicate that the grammatical person of a text affects how readers conceptualize story worlds (e.g., Thomte, 2009). More investigation is necessary in order to determine the utility of manipulating grammatical person in narrative persuasive messages. Perhaps because the messages employed in the present study did not depict any one specific scene or event but rather a series of events over time readers experienced difficulty relating to a continually evolving story world. Future studies should focus on creating narrative messages that depict a single influential event in an effort to increase readers' ability to take on character points-of-view. Maintaining a consistent story setting may also increase the likelihood that readers will take on character perspectives.

In addition to the observed associations between frame, efficacy, and threat a post hoc analysis revealed a correlation between character identification and perceived threat (susceptibility and severity). Interestingly, increased identification was associated with increased perceptions of threat susceptibility but decreased perceptions of threat severity. This may be due to the ultimate outcomes of all narrative conditions. In gain frame conditions the character protected herself, avoided a threat, and was ultimately unchanged. Even in loss frame conditions which depicted the hardships faced by someone who contracted HPV, the character did not experience any devastating consequences. Readers identified with a story character who was clearly susceptible to a threat and thus perceived that they too were susceptible to that threat. They also perceived that even if they were to fall victim to that threat, despite some unpleasant and disquieting procedures and unfortunate social implications, they would still be able to go on living essentially in the same manner as before without any truly life altering consequences (e.g., death or terminal illness). Either HPV contraction consequences were not depicted in an intense enough manner or the consequences simply were not perceived as incredibly severe in an absolute sense.

I speculate that the medium of delivery itself also affected story and character perceptions. As previously mentioned, third-person conditions may have seemed inauthentic since blogs are typically written in first-person. In addition, the nature of the stories created for this study made it necessary that posts be presented in chronological order. Because blogs are typically presented in reverse-chronological order (Della et al., 2008) this may have seemed strange or awkward to readers. In other respects, the blog format contributed to the external validity of the study. An online blog is a more natural medium for expressing this type of



experiential, story-based evidence versus say a piece of paper with the same material handed to you by a researcher in a classroom. If one were to search online for information about HPV or any medical condition it is probable that they would come across a blog containing relevant subject matter. In fact, blogs dedicated to depicting peoples' experiences with disease are a common and popular internet source for obtaining medical information (Della et al., 2008). Considering that more and more people are turning to the internet in search of medical information, the utility of presenting medical information in blog format warrants further exploration. Future research should compare the persuasive outcomes of identical health messages presented in blog format versus other mediums of delivery.

In combination with the findings detailed above, the experiential knowledge gained from the process of attempting to effectively manipulate narrative message conditions is also of value. As previously mentioned, manipulating grammatical person was not as straightforward as it originally seemed. Manipulating message frame effectively also proved to be challenging. Although the ultimate intention of each message was the same – persuade the reader to get the Gardasil vaccine – it was difficult to create stories that were comparable in terms of length, character development, and emotional appeal but divergent in terms of the actual events taking place. The narrative messages were amended based on pretest responses. The amount of technical information was reduced and the amount of information about the character (i.e., activities, thoughts, feelings) was increased in an effort to make the narratives more relatable and realistic. However, considering my difficulties during the composition process alongside the small number of significant findings it is probable that manipulation strength was inadequate

despite my efforts. Future research in this area will likely require more extensive pretesting procedures in order to ensure that narrative conditions have the intended effects.

Finally, future studies regarding intentions to get the Gardasil vaccine should consider including men as participants for several reasons. First, at the time this study was conceptualized, the utility of giving Gardasil to males had not yet been established. The vaccine was approved for use in females in June of 2006 but it was not until October of 2009 that the U.S. Food and Drug Administration approved the Gardasil vaccine for use in males between ages 9 and 26 (CDC, 2010). Since then, a study published in the New England Journal of Medicine (NEJM) indicated that getting the vaccine decreased the risk of developing HPV related genital warts and precancerous lesions by 90 percent in a sample of 4,065 males who did not have an HPV infection prior to vaccination (Giuliano et al., 2011). Despite these findings, no persuasive attempts regarding the Gardasil vaccine have been geared towards males to date. Secondly, although women are more likely to suffer medical consequences as a result of HPV infection, men are carriers of the virus. If fewer men were carriers of the virus less women would be subject to infection. Lastly, it seems that a large proportion of women, nearly half of the sample in this study, have already gotten the Gardasil vaccine. This is likely because health campaigns geared towards persuading women to get the Gardasil vaccine have already been implemented in the past. There is certainly still merit in trying to convince additional women to get vaccinated; however, a larger effect may be seen in a persuasive attempt geared towards men.

**APPENDIX A: IRB APPROVAL LETTER**



University of Central Florida Institutional Review Board  
 Office of Research & Commercialization  
 12201 Research Parkway, Suite 501  
 Orlando, Florida 32826-3246  
 Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

**Approval of Exempt Human Research**

From: **UCF Institutional Review Board #1  
 FWA00000351, IRB00001138**  
 To: **Jennifer A. Spear**  
 Date: **May 11, 2011**

Dear Researcher:

On 5/11/2011, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination  
 Project Title: Narrative Based Fear Appeals: Manipulating Grammatical Person and Message Frame to Promote HPV Awareness and Responsible Sexual Conduct  
 Investigator: Jennifer A. Spear  
 IRB Number: SBE-11-07659  
 Funding Agency:  
 Grant Title:  
 Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Kendra Dimond Campbell, MA, JD, UCF IRB Interim Chair, this letter is signed by:

Signature applied by Joanne Muratori on 05/11/2011 08:49:40 AM EDT

IRB Coordinator

## **APPENDIX B: INSTRUMENT**

## Sexual Health Behavior 2.0

You are being invited to take part in a research study. Whether you take part is up to you.

The purpose of this research is to examine how narratives affect reader attitudes and behaviors regarding a health-related topic. You are being asked to read a brief narrative in the format of an online blog and complete a survey. The survey will take approximately 10-15 minutes to complete. It may be taken at any time on any computer with internet access until May 31, 2011.

Your participation is completely voluntary and you may opt out of the survey at any time. Your responses will be analyzed and reported anonymously to protect your privacy. If you are under the age of 18, you are ineligible to complete the survey. By starting the questionnaire, you are indicating your agreement with the conditions as laid out above.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints, contact Jennifer Spear, Graduate Student, Nicholson School of Communication, College of Sciences, (407) 823-2681, or by email at [wibr.spear@knights.ucf.edu](mailto:wibr.spear@knights.ucf.edu), or Dr. Ann Miller, Faculty Supervisor, Nicholson School of Communication, College of Sciences, (407) 823-2602, or by email at [ann.miller@ucf.edu](mailto:ann.miller@ucf.edu).

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

Thank you again for your time.

## Sexual Health Behavior 2.0

**\* 1. What is your gender?**

- Male
- Female

## Sexual Health Behavior 2.0

### 2. What is your age?

### 3. To the best of your knowledge, what year are you at UCF?

- Freshman
- Sophomore
- Junior
- Senior
- Non-degree Seeking

### 4. What is your ethnicity?

- American Indian
- Black
- White
- Asian/Pacific Islander
- Hispanic
- Other (please specify)

### \* 5. In what month were you born?

- |                                |                              |                                 |
|--------------------------------|------------------------------|---------------------------------|
| <input type="radio"/> January  | <input type="radio"/> May    | <input type="radio"/> September |
| <input type="radio"/> February | <input type="radio"/> June   | <input type="radio"/> October   |
| <input type="radio"/> March    | <input type="radio"/> July   | <input type="radio"/> November  |
| <input type="radio"/> April    | <input type="radio"/> August | <input type="radio"/> December  |



## Sexual Health Behavior 2.0

First, we'd like to have you read a short blog post, then we're going to ask you a few questions about your thoughts on that post. You can access the blog by [clicking on this link](#) which will open a new window. Once you have finished reading, exit out of the blog and return to this page.

Now that you have read the blog post, please click "next" to answer a few questions.

## Sexual Health Behavior 2.0

First, we'd like to have you read a few short blog posts, then we're going to ask you a few questions about your thoughts on that post. You can access the blog by [clicking on this link](#) which will open a new window. Once you have finished reading, exit out of the blog and return to this page.

Now that you have read the blog post, please click "next" to answer a few questions.

## Sexual Health Behavior 2.0

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Now that you have read the blog post, please click "next" to answer a few questions.

## Sexual Health Behavior 2.0

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Now that you have read the blog post, please click "next" to answer a few questions.

## Sexual Health Behavior 2.0

**6. Have you ever had sexual intercourse?**

Yes

No

## Sexual Health Behavior 2.0

### 7. How often do you use condoms when you have sexual intercourse?

- Always
- Usually
- Occasionally
- Rarely
- Never

### 8. Have you ever been diagnosed with an HPV infection?

- Yes
- No
- Not Sure

## Sexual Health Behavior 2.0

### 9. Have you gotten the Gardasil vaccine?

- Yes
- No
- Not Sure

## Sexual Health Behavior 2.0

**10. Please indicate how many doses you have received.**

- First dose only
- First and second dose
- All three doses



## Sexual Health Behavior 2.0

### 11. How likely is it that you will get the remaining doses?

- Very Likely
- Likely
- Not Sure
- Unlikely
- Very Unlikely

## Sexual Health Behavior 2.0

12. Please explain why it is not "very likely" that you will get the remaining doses.

## Sexual Health Behavior 2.0

The following set of questions asks about HPV and the Gardasil vaccine.

**13. Please indicate the degree to which you agree or disagree with the following statements by clicking the appropriate button.**

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
I believe HPV is a serious condition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preventing HPV is difficult for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that HPV is a serious threat to my health.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can prevent HPV.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is possible that I will contract HPV.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preventing HPV is easy for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HPV and related diseases are preventable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am at risk for HPV.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Getting the Gardasil vaccine can prevent HPV and related diseases.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is likely that I will contract HPV.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HPV and related diseases are difficult to prevent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Sexual Health Behavior 2.0

The following set of questions asks your opinion about the blog you just read.

**14. Please indicate the degree to which you agree or disagree with the following statements by clicking the appropriate button.**

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
I thought I was like the character or very similar to her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I thought that I would like to be like or act like the character.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I identified with the character.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt as if I were the character.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had the impression that I was really experiencing the story of the character.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt as if I formed part of the story.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I myself have experienced the emotional reactions of the character.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understood the character's way of acting, thinking or feeling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tried to see things from the point of view of the character.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Sexual Health Behavior 2.0

**15. Please indicate the degree to which you agree or disagree with the following statements by clicking the appropriate button.**

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
I tried to imagine the character's feelings, thoughts and reactions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understood the character's feelings or emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was worried about what was going to happen to the character.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt emotionally involved with the character's feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I imagined how I would act if I found myself in the place of the protagonist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
While I was reading the narrative, I could easily picture the events in it taking place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
While I was reading the narrative, activity going on in the room around me was on my mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I could picture myself in the scene of the events described in the narrative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was mentally involved in the narrative while reading it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Sexual Health Behavior 2.0

**16. Please indicate the degree to which you agree or disagree with the following statements by clicking the appropriate button.**

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
After finishing the narrative, I found it easy to put it out of my mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wanted to learn how the narrative ended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The narrative affected me emotionally.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found myself thinking of ways the narrative could have turned out differently.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found my mind wandering while reading the narrative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The events in the narrative are relevant to my everyday life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The events in the narrative have changed my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**17. While reading the narrative I had a vivid image of \_\_\_\_\_**

## Sexual Health Behavior 2.0

The following set of questions asks about your future plans regarding the Gardasil vaccine.

**18. Please indicate how likely it is that you will engage in the following behaviors by clicking the appropriate button.**

	Very Likely	Likely	Not Sure	Unlikely	Very Unlikely
How likely is it that you will seek out more information about the Gardasil vaccine (e.g., via the internet, healthcare professional, et cetera)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**19. Please indicate how likely it is that you will engage in the following behaviors by clicking the appropriate button.**

	Very Likely	Likely	Not Sure	Unlikely	Very Unlikely	I have already gotten the Gardasil vaccine
How likely is it that you will get the Gardasil vaccine within the next 6 months?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How likely is it that you will get all three doses of the Gardasil vaccine?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Sexual Health Behavior 2.0

Thank you again for taking the time to answer these questions. Your participation is greatly appreciated.

Please click "done" to complete the questionnaire.



## **APPENDIX C: GAIN – FIRST-PERSON NARRATIVE**

## **My Story**

### **A female freshman college students experiences with HPV.**

#### **Living the College Life ;-)**

**May 1, 2007**

I can't believe summer vacation is already just around the corner. And I especially can't believe I am basically done with my freshman year of college! It has been such an awesome and crazy year. I went to study groups (sometimes), joined some random intramural sports teams, explored the area, and I even rushed a sorority. I had never thought about joining a sorority but I met this awesome group of girls and it just worked out perfectly. We are all trying to get an apartment together next year.

The best part is meeting new people and making new friends, but it can be a little overwhelming sometimes. Wherever the girls and I go we meet so many guys and they all want to take us to get pizza or they ask for our numbers. Sometimes I'll give one of them the time of day but nothing has ever really turned into a serious relationship. There was this one guy, Brad, who I sort of dated for like 2 months and really liked. The last few times we had sex I didn't make him use a condom. I felt really stupid afterwards especially when he broke it off. Whatever, his loss. I am looking forward to spending an awesome three weeks of vacation at home before coming back for the start of summer classes.

#### **Just to be Safe...**

**May 30, 2007**

When I came back to school I decided I'd better go to the health center and make sure I was okay. Brad was not the only guy I'd had unprotected sex with and I wanted to be safe. So I went and got a pap smear and a blood test. Two weeks later I went back to get my results. The nurse took me into an exam room and told me that the blood test was clean and the pap smear came back normal. Phew. But the doctor was concerned because I had admitted that I didn't always use protection during sex. The doctor told me about all the various infections and diseases I could get from having unprotected sex. I told the doctor that I had known all of my partners pretty well and that they all told me they were free of STDs – it's not that big of a deal, right? That's when he said that certain infections don't really display any outward signs or symptoms. In other words, it is possible for someone to have an infection, not know it, and pass it along to someone else. My stomach turned.

I mostly use condoms for birth control and hadn't really thought much about condoms protecting me against STDs. Then the doctor said that condoms aren't always enough. The human papilloma virus (HPV) is a sexually transmitted infection that can lead to cervical cancer and some types even cause genital warts. Yuck. Besides the warts, most types of HPV do not cause any outward symptoms so most people are unaware they are infected which is why it can be unknowingly passed from person to person. When I asked what I could do to protect myself against HPV given that condoms don't necessarily work the doctor told me about a vaccine called Gardasil. Getting the vaccine didn't seem like too big a deal. It's just getting three shots over a 6 month period.

**Vaccine = Needles...Yikes!**

**November 3, 2007**

I just got back from getting the final shot of the Gardasil vaccine. Even though I hate needles and now I'm pretty sure that my nurse hates me, the whole vaccination process was pretty easy and virtually painless. I just went in three times over a 6-month period to get each shot. After getting each one my arm was a little sore and swollen for a day or two but that was about the only thing. The doctor said now that I had gotten the vaccine I would be protected against the most serious types of HPV for life. I feel like if I hadn't gotten the vaccine I would've ended up regretting it later. It would be like never going to get a mammogram and then finding out you have breast cancer. If I were to get HPV later on knowing I could have done something to protect myself but I just didn't bother I don't think I would be able to forgive myself. I feel like I can breathe a little easier now that I have taken responsibility for my sexual health.

**A Close Call**

**May 17, 2011**

It has been almost 4 years since I got the Gardasil vaccine to help protect me against HPV. About 2 years ago I found out that a guy I was seeing had previously been having unprotected sex with someone who had HPV and he didn't tell me until after he and I had also had unprotected sex. Ugh, it's like freshman year of college all over again! Will I have something, will I be okay, why was I so stupid? But I have been to the gynecologist four times since then and so far there have been no signs of cervical abnormalities and no signs of genital warts. The doctor says that the infection likely would have presented itself by now if I had contracted the virus. It could be that the Gardasil vaccine protected me from contracting a high risk type of HPV.

I feel so good knowing that I was proactive. I can't imagine what it would be like to have to tell my current boyfriend that I was infected with HPV and that I might have infected him. I feel

much better about myself knowing that if I ever do contract some type of HPV at least I have done everything in my power to protect myself. Above all else I am so glad that I do not have to endure the tests, procedures, and multiple visits to the gynecologist that a person infected with HPV has to go through. Three simple shots prevented me from having to deal with all of these issues and many more for the remainder of my life. I am so thankful that I protected myself with the Gardasil vaccine.

**APPENDIX D: LOSS – FIRST-PERSON NARRATIVE**

## **My HPV Story**

### **A female freshman college student's experiences with HPV.**

#### **Living the College Life ;-)**

**May 1, 2007**

I can't believe summer vacation is already just around the corner. And I especially can't believe I am basically done with my freshman year of college! It has been such an awesome and crazy year. I went to study groups (sometimes), joined some random intramural sports teams, explored the area, and I even rushed a sorority. I had never thought about joining a sorority but I met this awesome group of girls and it just worked out perfectly. We are all trying to get an apartment together next year.

The best part is meeting new people and making new friends, but it can be a little overwhelming sometimes. Wherever the girls and I go we meet so many guys and they all want to take us to get pizza or they ask for our numbers. Sometimes I'll give one of them the time of day but nothing has ever really turned into a serious relationship. There was this one guy, Brad, who I sort of dated for like 2 months and really liked. The last few times we had sex I didn't make him use a condom. I felt really stupid afterwards especially when he broke it off. Whatever, his loss. I am looking forward to spending an awesome three weeks of vacation at home before coming back for the start of summer classes.

#### **Just to be Safe...**

**May 30, 2011**

When I came back to school I decided I'd better go to the health center and make sure I was okay. Brad was not the only guy I'd had unprotected sex with and I wanted to be safe. So I went and got a pap smear and a blood test. Two weeks later I went back to get my results. The nurse took me into an exam room and told me that the blood test was clean but there were abnormal cell changes on my cervix. I asked her what that meant. She said it was a sign of HPV or the human papilloma virus. They needed me to come back for a few additional tests to find out exactly how far along it was. All I could think was, "this cannot be happening – I cannot have an STD."

Of everyone I knew in high school I could remember hearing about one person who had gotten HPV and I remember thinking, "Wow, that really sucks; but something like that could never happen to me." Now here I was being told that I had HPV. I couldn't believe it. I thought I was going to throw-up. I felt embarrassed, ashamed, scared, ignorant, and stupid all at the same time.

What did this mean for my future? How would I tell future boyfriends or even my future husband about this?

I decided to tell my roommate because I felt like my head was going to explode. She tried to make me feel better by acting understanding and telling me everything would be okay, but I could see by looking at her face that she probably thought I was some kind of slutty girl or something and it just made me feel even worse. I am going back in a week to have the procedures. It feels like I'm going to be going to the gynecologist every week for the rest of my life. This is a nightmare.

### **The Nightmare Continues**

**June 20, 2007**

Two weeks ago I had the procedures – a visual inspection and a biopsy. The biopsy part was not fun. It felt like I was having really bad cramps while they were actually doing it and there was a lot of pressure; it hurt. It was so uncomfortable. The whole thing took about 15 minutes. It felt like I was having bad cramps for about two days afterwards. For about a week afterwards I had to wear a pad because there was a bloody discharge. It was so gross.

Today I went to get the results of the procedures. The doctor said the infection is in the early stages but it is being caused by a high risk type of HPV meaning it could turn into cervical cancer someday, but apparently it takes a really long time to progress. The doctor said since I was so young and we caught the infection early they would not do anything to it right now. Instead they would see me again in 3 months to check on it and make sure it did not progress. I asked what would happen if it was still there in 3 months. The doctor told me that as long as it had not gotten worse they still would not do anything to it. So basically we were playing the waiting game. There's no quick fix cure for this STD. It was just going to be there and I was just going to have to live with it.

It's funny how I thought I was being so careful and responsible just because I used condoms most of the time. I had myself convinced that I was doing everything right and nothing bad like getting an STD could happen to me. Not to mention it was really stupid of me to trust the guys I've been with and take their word for it when they said they were STD free.

### **What if?**

**April 15, 2011**

It has been nearly 4 years since I found out I had HPV. I went back every three months for a year. At the one year mark, my pap smear results came back normal. I kept going back each year after that and the results always came back normal – until this year. It turns out I have a

persistent or recurring type of HPV after all. Now I know that I have to keep going back to the doctor to make sure it doesn't get any worse. Right now the infection is still in the early stages but it is likely that at some point years from now it will start to progress and I will have to have a procedure to remove the infected tissue.

So now here I am just wishing and waiting. I can't stop thinking about how all of this could have possibly been avoided. The doctor told me that there is a vaccine called Gardasil which protects against the contraction of several types of HPV. Although it is still possible that I could have contracted another type of HPV even after getting the vaccine, it is also possible that the vaccine could have protected me. Getting the vaccine is pretty easy. You just go in and get three shots over a 6 month period and that's it. Now instead of three simple shots I will have to deal with this for the rest of my life. If only I had known.



## **APPENDIX E: GAIN – THIRD-PERSON NARRATIVE**

## **Amanda's HPV Story**

### **A female freshman college students experiences with HPV.**

#### **Living the College Life ;-)**

**May 1, 2007**

Amanda can't believe summer vacation is already just around the corner. And she especially can't believe she is basically done with her freshman year of college! It has been such an awesome and crazy year. She went to study groups (sometimes), joined some random intramural sports teams, explored the area, and she even rushed a sorority. Amanda had never thought about joining a sorority but she met this awesome group of girls and it just worked out perfectly. They are all trying to get an apartment together next year.

The best part is meeting new people and making new friends, but it can be a little overwhelming sometimes. Wherever Amanda and the girls go they meet so many guys and they all want to take them to get pizza or they ask for their numbers. Sometimes Amanda will give one of them the time of day but nothing has ever really turned into a serious relationship. There was this one guy, Brad, who she sort of dated for like 2 months and really liked. The last few times they had sex Amanda didn't make him use a condom. She felt really stupid afterwards especially when he broke it off. Whatever, his loss. Amanda is looking forward to spending an awesome two weeks of vacation at home before coming back for the start of summer classes.

#### **Just to be Safe...**

**May 30, 2007**

When Amanda came back to school she decided she'd better go to the health center and make sure she was okay. Brad was not the only guy she'd had unprotected sex with and she wanted to be safe. So she went and got a pap smear and a blood test. Two weeks later she went back to get her results. The nurse took Amanda into an exam room and told her that the blood test was clean and the pap smear came back normal. Phew. But the doctor was concerned because Amanda had admitted that she didn't always use protection during sex. The doctor told her about all the various infections and diseases she could get from having unprotected sex. She told the doctor that she had known all of her partners pretty well and that they all told her they were free of STDs – it's not that big of a deal, right? That's when the doctor said that certain infections don't really display any outward signs or symptoms. In other words, it is possible for someone to have an infection, not know it, and pass it along to someone else. Her stomach turned.

Amanda mostly uses condoms for birth control and hadn't really thought much about condoms protecting her against STDs. Then the doctor said that condoms aren't always enough. The

human papiloma virus (HPV) is a sexually transmitted infection that can lead to cervical cancer and some types even cause genital warts. Yuck. Besides the warts, most types of HPV do not cause any outward symptoms so most people are unaware they are infected which is why it can be unknowingly passed from person to person. When Amanda asked what she could do to protect herself against HPV given that condoms don't necessarily work the doctor told her about a vaccine called Gardasil. Getting the vaccine didn't seem like too big a deal. It's just getting three shots over a 6 month period.

**Vaccine = Needles... Yikes!**

**November 3, 2007**

Amanda just got back from getting the final shot of the Gardasil vaccine. Even though she hates needles and now she's pretty sure that her nurse hates her, the whole vaccination process was pretty easy and virtually painless. She just went in three times over a 6-month period to get each shot. After getting each one her arm was a little sore and swollen for a day or two but that was about the only thing. The doctor said now that she had gotten the vaccine she would be protected against the most serious types of HPV for life. Amanda feels like if she hadn't gotten the vaccine she would've ended up regretting it later. It would be like never going to get a mammogram and then finding out you have breast cancer. If Amanda were to get HPV later on knowing she could have done something to protect herself but she just didn't bother she didn't think she would be able to forgive herself. She feels like she can breathe a little easier now that she has taken responsibility for her sexual health.

**A Close Call**

**October 17, 2011**

It has been almost 4 years since Amanda got the Gardasil vaccine to help protect her against HPV. About 2 years ago she found out that a guy she was seeing had previously been having unprotected sex with someone who had HPV and he didn't tell her until after he and she had also had unprotected sex. Ugh, it was like freshman year of college all over again! Will she have something, will she be okay, why was she so stupid? But Amanda has been to the gynecologist four times since then and so far there have been no signs of cervical abnormalities and no signs of genital warts. The doctor says that the infection likely would have presented itself by now if she had contracted the virus. It could be that the Gardasil vaccine protected her from contracting a high risk type of HPV.

Amanda feels so good knowing that she was proactive. She can't imagine what it would be like to have to tell her current boyfriend that she was infected with HPV and that she might have infected him. She feels much better about herself knowing that if she ever does contract some

type of HPV at least she has done everything in her power to protect herself. Above all else Amanda is so glad that she does not have to endure the tests, procedures, and multiple visits to the gynecologist that a person infected with HPV has to go through. Three simple shots prevented her from having to deal with all of these issues and many more for the remainder of her life. Amanda is so thankful that she protected herself with the Gardasil vaccine.

## **APPENDIX F: LOSS – THIRD-PERSON NARRATIVE**

## **Amanda's HPV Story**

### **A female freshman college student's experiences with HPV.**

#### **Living the College Life ;-)**

**May 1, 2007**

Amanda can't believe summer vacation is already just around the corner. And she especially can't believe she is basically done with her freshman year of college! It has been such an awesome and crazy year. She went to study groups (sometimes), joined some random intramurals sports teams, explored the area, and she even rushed a sorority. Amanda had never thought about joining a sorority but she met this awesome group of girls and it just worked out perfectly. They are all trying to get an apartment together next year.

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stupid all at the same time. What did this mean for her future? How would she tell future boyfriends or even her future husband about this?

Amanda decided to tell her roommate because she felt like her head was going to explode. Her roommate tried to make her feel better by acting understanding and telling her everything would be okay, but Amanda could see by looking at her face that she probably thought Amanda was some kind of slutty girl or something and it just made her feel even worse. Amanda is going back in a week to have the procedures. It feels like she's going to be going to the gynecologist every week for the rest of her life. This is a nightmare.

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It's funny how Amanda thought she was being so careful and responsible just because she used condoms most of the time. She had herself convinced that she was doing everything right and nothing bad like getting an STD could happen to her. Not to mention it was really stupid of her to trust the guys she'd been with and take their word for it when they said they were STD free.

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