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Influence of Merck Gardasil 9 Advertisements on Male Vaccination Behavior Through a Health Belief Model Framework

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by

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Abstract

Merck's Gardasil advertisements for human papillomavirus (HPV) traditionally targeted women, thus feminizing the vaccine (Daley et al., 2017). With the release of newer gender-neutral Gardasil vaccine advertisements, this study seeks to understand the influence this campaign has on college-aged males' intent to vaccinate. This study, grounded in the health belief model, analyzes the "Numbers Move You" advertisement through in-depth interviews. Then, for increased validity, a textual analysis of Merck Gardasil broadcast advertisements was conducted with the health belief model as a framework. The health belief model seeks to understand the reasoning behind health behavior change. The health belief model includes six constructs: perceived susceptibility, perceived severity, perceived barriers, perceived benefits, cues to action, and self-efficacy, which all seek to understand the influences behind health-related behavior (Champion & Skinner, 2008). The findings indicate there is no potential for behavior change with low levels of perceived susceptibility, perceived severity, perceived benefits, knowledge, and high levels of perceived barriers. Data uncovered from this study suggests that perceived knowledge contributes to the intent to vaccinate. The discussion of these themes aims to provide practical recommendations for future HPV advertisements and research regarding the health belief model.

Introduction

The human papillomavirus, otherwise known as HPV, is a common sexually transmitted infection that can cause anal, cervical, vaginal, vulvar, penile, oropharyngeal cancers and genital warts (Centers for Disease Control and Prevention, 2022a). HPV is spread through sexual transmission, and the CDC (2022a) believes that sexually active people will become infected with HPV at some point in their lives. College-aged students are at a higher risk of contracting HPV due to their high rates of STIs (Whiting et al., 2019). Specifically, college-aged males are at a higher risk of contracting HPV and have lower vaccination rates than females (American College Health Association, 2023). Completed HPV vaccination rates among men have been slightly increasing over time; however, the gap between male and female vaccination rates continues (Boersma & Black, 2020). Renewed efforts are needed by the mass media to target the male population to equalize these vaccination rates. There is a direct correlation between consumers being exposed to direct-to-consumer advertising (DTCA) and then reaching out to their primary care service provider (Parekh & Shrank, 2018).

Historically, Merck has targeted a female audience for their Gardasil vaccine and HPV campaigns citing the main reason as prevention against cervical cancer. As a result, the vaccine has been stereotyped as the "girls vaccine" and has become feminized (Daley et al., 2017; Mishra & Graham, 2012). The word "feminized" describes how the vaccine has been targeted solely at females for a sexually transmitted disease that also affects males even though the responsibility is placed upon women and their bodies. The overt way in which HPV has been advertised as a specific disease that only impacts women has resulted in this feminization, thus alienating an entire subset of the population that could benefit from this vaccine (Daley et al.,

2017). Due to this consistent targeting of the vaccine to females, they tend to have a better understanding of HPV and the vaccine (Daley et al., 2017). Data suggests this as vaccination rates of college-aged men for HPV are lower than women (American College Health Association, 2023). With college-aged males at high risk for STIs, their vaccination rates need to increase to become equivalent to the female rate (Peterson et al., 2022; Renfro et al., 2020). Cases of throat and neck cancers, caused by HPV, are increasing at a rapid rate of 400%, and cervical cancer cases have been found to be decreasing (Grantham et al., 2020; Mount Sinai Hospital, 2014).

Perhaps influenced by this data, Merck recently began to release Gardasil advertisements featuring men and women to destigmatize HPV as feminized and capture the attention of a wider range of audience members. Merck can shift the HPV narrative and promote more male vaccination participation as Gardasil does prevent certain types of cancers that inflict males. The new Merck advertisement "Numbers Move You" was analyzed by conducting qualitative interviews through a health belief model framework, which has been widely used for understanding vaccine behavior change (Champion & Skinner, 2008). Additionally, a textual analysis of Merck Gardasil advertisements was conducted, through a health belief model framework, to determine which constructs of the health belief model have been and are being utilized within Merck's advertisements. With the use of two methods, this study takes on a multimethod research approach. A multimethod research approach combines multiple qualitative methods within the study (Creswell, 2015; Mik-Meyer, 2020). The goal of this multimethod study is to make recommendations for future HPV/Gardasil advertisements that are based on the health belief model to increase male vaccination rates. A review of literature about DTCA, HPV, Gardasil, and the history of Merck's HPV advertising follows.

Chapter One: Literature Review

DTCA (Direct-to-consumer pharmaceutical advertising)

Direct-to-consumer advertising (DTCA) is the primary method pharmaceutical companies employ when marketing their new products since they can address the public directly through the medium of television (Ventola, 2011). Companies that use DTCA aim to promote their product by providing the public with pertinent information they can apply to their life to solve a problem (Grantham, 2020). DTCA is a tool that has proven to be effective for pharmaceutical companies since it can catch the attention of consumers and thus prompt action to learn more about the product being advertised (Deshpande et al., 2010). People are more likely, by 27%, to schedule an appointment with a doctor after being exposed to DTCA (Food and Drug Administration, 2015; Parekh & Shrank, 2018). Adults, on average, spend 4.5 hours watching TV daily, consequently being exposed to around 30 hours of DTCA every year (DeFrank et al., 2020; The Nielsen Company, 2016). The average person watches around nine DTCAs daily on television (Parekh & Shrank, 2018**).** Pharmaceutical companies have recognized the opportunity of exposing people to their products through DTCA. In 2016, spending on DTCA reached $5.6 billion (Defrank et al., 2020; McCaffrey, 2017). Merck, one of the largest pharmaceutical companies, spent $161 million in 2000 for its Vioxx campaigns, which was more money than Nike and Pepsi spent on all their marketing that year (Rosenthal et al., 2002; Sathorn et al., 2018). Merck is a top spender in the DTCA category. In 2014, they spent $95 million on TV DTCA (Statista Research Department, 2015). In 2020, Merck was in the top five of spending for pharmaceutical companies reaching $16 million spent on advertising (Bulik, 2021). Spending on

DTCA is unprecedented as $18 billion was spent between 2016-2018 (U.S Government Accountability Office, 2021). It is critical to pursue research that investigates the field of DTCA to hold pharmaceutical advertisements accountable for what they are continually exposing the public to.

There are three kinds of DTCA: help-seeking advertisements, reminder advertisements, and product claim advertisements (Ventola, 2011). Help-seeking advertisements do not mention a product but provide information about medical conditions (Ventola, 2011). Reminder advertisements focus on the product by disclosing its strength, dosage, and other variables, but do not make any claims about the product (Ventola, 2011). These advertisements emphasize the need for the public to reach out to their physicians (Ventola, 2011). Product claim advertisements are the most common type and include information about the product and its effectiveness (Ventola, 2011). DTCA increased in the 1980s, sparking discussions within the FDA about how these advertisements should be regulated to keep the public safe (Ventola, 2011).

In 1938, the Federal Food, Drug, and Cosmetic Act granted the FDA authority to regulate DTCA (Boden & Diamond, 2008). In 1962, the FDA was permitted by Congress to control prescription drug advertising, including DTCA (Boden & Diamond, 2008). The FDA incorporated new guidelines into their regulations of DTCA in 1969 by mandating companies must incorporate a "fair balance" of risks and benefits and include a "brief summary" within the advertisement (Boden & Diamond, 2008). This "brief summary" includes all the risks of the product that is being promoted (Boden & Diamond, 2008). In 1981, Merck became the first pharmaceutical company to run a DTC print advertisement which was featured in *Reader's Digest* (Ventola, 2011). In 1997, the FDA decided product claim ads, the most common DTCA, could satisfy their neutral point of view requirements by including a statement addressing the

major risks and providing adequate provisions that directed viewers to complete print information about the product (Abel et al., 2006; Greene & Herzberg, 2010; Ventola, 2011). After this clarification by the FDA, the use of DTCA in broadcast media expanded rapidly and an increase in spending followed (Dave & Saffer, 2012). In 2004, FDA regulations decreased as the complete print information could be condensed to a brief summary that includes only the major risks (Abel et al., 2006; Lee, 2009; Ventola, 2011).

In 2011, the Office of Prescription Drug Promotion opened with their expected duties including overseeing prescription drug advertisements ("The Food and Drug Administration", n.d.). To determine if an advertisement satisfies the FDA requirements, the Central Hudson Test is used (Shuchman, 2007). This test determines whether a commercial includes permissible speech and whether the advertisement is misleading the public (Shuchman, 2007). There are mixed opinions about the legitimacy of this test, but the Supreme Court has consistently used it in ruling on advertising cases that include products like alcohol and medications (Shuchman, 2007).

The most recent regulation of DTCA implemented by the FDA came in November 2023 (Food and Drug Administration and Department of Health and Human Services, 2023). This ruling issued final specifications that companies must follow when presenting the "major statement" in prescription drug advertisements on TV and radio DTCAs (FDA & HHS, 2023). The "major statement" that expulses information on the side effects of the drug and any contradictions must be addressed neutrally and clearly (FDA & HHS, 2023). To fulfill this neutrality requirement the regulation includes that while the "major statement" is being presented no audio or visual elements can interfere with the audience's possible understanding (Craven, 2023). Furthermore, while the "major statement" is being presented during the TV advertisement

must include a textual element as well as a simultaneous audio element of the statement (Craven, 2023). This new regulation is set for May 2024 (Craven, 2023).

DTCA increases sales but is an increasingly controversial topic (Donahue et al., 2007). DTCA is only legally permissible in the United States and New Zealand, as other countries have banned it due to its perceived hurtful effects on consumers prescribing behaviors, health outcomes, misrepresented health information, and more (Gleeson & Menkes, 2018). DTCA can misinform patients by persuading them that the drug/product in the ad is the only solution when the drug might not be necessary **(**Almasi et al., 2006; DeFrank et al., 2020**;** Mintzes, 2012**).** The language used in DTCA is often more advanced than an eighth-grade reading level, which the general public does not have the skill to fully comprehend (Abel et al., 2006; Ventola, 2011).

Another negative aspect of DTCA is the potential of pharmaceutical companies to overemphasize the benefits of a drug (Applequist & Ball, 2018). There is also the potential that DTCA can promote new drugs that are still early in the product life cycle (Gleeson & Menkes, 2018). Drugs that are still early in the life cycle can still have serious side effects, which could lead to market withdrawal (Gleeson & Menkes, 2018). Top-selling drugs that are heavily marketed without an extensive safety profile being conducted can be extremely dangerous to the public (Donahue, 2007; Ventola, 2011).

One of the more well-known cases regarding illegal pharmaceutical marketing is the case of Merck's Vioxx. Merck heavily marketed this drug as a treatment for rheumatoid arthritis between 1999-2002 before it became FDA-approved for that claim in 2002 (The United States Department of Justice, 2011). Allegations were also made that Merck made inaccurate and misleading claims about the cardiovascular safety of the drug (DOJ, 2011). In total, Merck had to pay $950 million to resolve criminal charges and civil claims (DOJ, 2011). Tragically, an

estimate of between 88,000 to 140,000 cases of heart disease occurred after people took Vioxx (Mayor, 2005). This case of pharmaceutical advertising is worth mentioning as it vindicates the need for DTCAs to be kept accountable.

Another well-known critique of DTCA is that it can lead to overprescribing the drugs shown in the advertisement rather than a patient being prescribed a cheaper generic brand **(**Parekh & Shrank, 2018**).** DTCA promotes new drugs which can influence people to adopt the more expensive version of the drug (Dave & Saffer, 2012). Furthermore, pharmaceutical companies tend to be known as the "gatekeepers" of a drug since they can set their manufacturing number, leading to the determined cost of the drug (Wolfe, 2009).

In a study conducted by Frosch et al. (2007), the majority of DTCAs included an emotional component within the advertisement rather than including an informational component about the disease and other viable alternative treatments. Educational aspects and information about the disease or drug in the advertisement are often lacking to allow for targeting human emotions instead (Hood, 2009). Applequist and Ball (2018), reviewed Frosch et al. (2007) findings and came to the same consensus that emotional components of DTCA are increasingly more prevalent than informational components. Specifically, the educational aspect of DTCA in informing patients is declining (Applequist & Ball, 2018). Informational components about HPV are extremely lacking in the media, and only a small percentage of HPV advertisements reference HPV as a sexually transmitted disease (Braun & Phoun, 2010; Pisciotta, 2012). Specifics of HPV and the history of Merck's HPV/Gardasil advertisements will be further referenced.

DTCA has positive benefits if used well by pharmaceutical companies. DTCA has the potential to educate and empower patients to take suggested action, increase awareness of a

disease, and more (Almasi et al, 2006; DeFrank et al., 2020; Gellad & Lyles, 2007). The increase in DTCA exposes the public to information about drugs and treatment options that could be beneficial to their health (Connors, 2009; Ventola, 2011). DTCA can also be an influential tool in removing the stigma about a certain disease, like HPV, and for raising awareness and urging patients to talk to their doctors **(**Sathorn et al., 2018**).** The information presented within a DTCA can also encourage the public to contact their health service provider to talk about the drug/product being advertised (Sathorn et al., 2018**).**

DTCA positively impacts the industry as it stimulates supply and demand for the products in the advertisement (Boden & Diamond, 2008). Regarding DTCA, Merck specifically believes in its positive aspects such as informing patients about diseases and thus prompting action with their healthcare provider (Gellad & Lyles, 2007**).**

DTCA can influence the public positively or negatively regarding their health behavior. It has been proven that television DTCA can increase the number of doctor visits for the topic shown in the advertisement (Hood, 2009). Due to the large influence of DTCA, it is critical to pursue research that aims to improve health communication, especially within pharmaceutical companies' advertisements, and for the public's overall health.

HPV (Human papillomavirus)

HPV (human papillomavirus) is a common STI (sexually transmitted disease) that spreads through sexual transmission, commonly through vaginal or anal sex (Centers for Disease Control and Prevention, 2022a). While HPV can be spread through penetrative sex, it can also be spread by skin-to-skin contact during sex (CDC, 2022a). HPV is extremely common, and the CDC estimates that those who are sexually active will be infected with HPV at some point (CDC, 2022a). According to the CDC, there were about forty-three million people infected with HPV in

2018 among the ages of late teens to early twenties (CDC, 2022a). A person can be infected with HPV and not know they are infected due to a lack of symptoms but can still pass it on to those with whom they have sexual contact (CDC, 2022a). While most cases of HPV clear on their own, there is still the potential that HPV can cause certain cancers and genital warts (CDC, 2022a). HPV also has the potential to cause up to 90% of anal cancers and more than 50% of penile cancers in males (CDC, 2022b; Laserson et al., 2020). The CDC recommends that everyone up to the age of twenty-six should receive the vaccine (CDC, 2022a). People aged twenty-six and older should consult with their doctor (CDC, 2022a).

College-aged students are part of the population that has the highest rate of STIs and are most likely to practice risky sexual behaviors (Whiting et al., 2019). Fifty percent of sexually active undergraduates noted that they are having unprotected sex (American College Health Association, 2018; Whiting et al., 2019). Furthermore, the population with the highest prevalence of HPV cases is college students, which is why this target population should be exposed to material promoting HPV vaccination (Goldfarb & Comber, 2022). Specifically, college-aged men are lagging in receiving the vaccine and adhering to the series reaching only 14% completion, highlighting the need for media materials to capture their attention and increase vaccination rates (Johnson et al., 2017; Laserson et al., 2020; Koskan et al., 2020). Their understanding of HPV is significantly lacking, and an overwhelming majority of males noted they did not believe HPV could affect them, only women (Laserson et al., 2020; Tatar, 2017). The combination of the high-risk levels college-aged males have for HPV and their lack of awareness points to the necessary research that needs to be done on health messaging in the HPV sector.

Gardasil

Gardasil is a vaccine developed by Merck & Co., Inc. to protect against certain cancers that are caused by HPV (Markowitz et al., 2007). Merck was the first pharmaceutical company to produce an HPV vaccine (Pisciotta, 2012). The first version of Gardasil was approved in 2006 by the FDA for use in females ages 9-26 (Markowitz et al., 2007). The vaccine was approved to prevent certain cancers like cervical, vulvar, and vaginal, as well as to prevent genital warts which can be caused by HPV types 6,11,16,18 (Markowitz et al., 2007). The Gardasil vaccine does not serve as a replacement for cervical cancer screenings because the vaccine does not prevent all types of HPV (Markowitz et al., 2007). Merck sought to fast-track the approval of the vaccine and was issued a priority review status by the FDA (Food and Drug Administration, 2006; Tomlijenovic & Shaw, 2012). For a fast-tracked drug to be approved it needs to meet certain conditions such as proven superior effectiveness, lack of major side effects, improving a serious disease, significant decrease in the toxicity of an already accepted treatment, and an obvious public health need to address (U.S. FDA, 2018; Tomlijenovic & Shaw, 2012). Merck's Gardasil vaccine did not meet these requirements; however, it was still fast-tracked (Tomlijenovic & Shaw, 2012).

Gardasil was not approved for male use at that time as Merck reasoned they did not have enough data for how the vaccine would affect males **(**Pisciotta, 2012**).** According to transcripts from the FDA, the high rates of cervical cancer were a contributing factor to fast-tracking the vaccine for women **(**Pisciotta, 2012**).** The focus at this time was approving the vaccine for female use, thus further adding to the notion that women are the beings responsible for protecting themselves in sexual transmission (Daley et al., 2017). Cultural and societal beliefs about gender often are reflected in the creation of science and technology and it is often not neutral

(Oudshoorn, 2003; Pisciotta, 2012). In 2009, the FDA approval expanded to allow that Gardasil can be used in males aged 9-26 (Markowitz et al., 2007). Gardasil was recommended by the FDA for male use to prevent genital warts, which are caused by types 6 and 11 HPV (Markowitz et al., 2007). In 2014, Gardasil 9 was approved by the FDA (Kaiser Family Foundation, 2021). It prevents the previous strains of HPV (6, 11, 16, 18) and strains 31, 33, 45, 52, and 58 (Kaiser Family Foundation, 2021).

In 2018, the FDA approved the expansion of the age range for Gardasil 9 to include women and men from 27-45 years old (U.S. Food and Drug Administration, 2018). Gardasil 9 is approved for use in males and females from ages 9-45 (U.S. FDA, 2018). In a report by the American College Health Association, 46% of college-aged men reported completing the HPV vaccination series, while 55% of women reported completing the series (American College Health Association, 2023). To emphasize the discrepancy in the HPV vaccination rate between college-aged males and females, the flu vaccine rate was almost identical at 50.2% for men and 50.3% for women (American College Health Association, 2023). The data suggests there is an obvious discrepancy between male and female HPV vaccination rates.

History of Merck Gardasil/HPV Advertisements

Merck began their DTCA in 1981 with the print advertisement feature in *Reader's Digest* for the Pneumovax vaccine (Ventola, 2011). Merck began their Gardasil DTCA campaign in 2005 with a four-step campaign characterized by the "Make the Connection" campaign, then the "Tell Someone Campaign", the "One Less" campaign, and lastly the "I Choose" campaign (Buttweiler, 2009). Each of these campaigns had a unique strategy in promoting awareness of HPV and moving into a promotion of the Gardasil vaccine. These four phases each had a specific audience in mind including mothers seeking to protect their daughters and young girls lacking

information about HPV and seeking to take control of their health (Davies & Burns, 2014; Merck Serono, 2007). Merck's strategy in this preliminary campaign of the Gardasil vaccine was to focus on the beneficial aspect of the vaccine toward preventing cervical cancer and not mention the sexual transmission aspect of HPV to avoid controversy and uneasiness from adults (Davies & Burns, 2014; Merck Serono, 2007). Merck did not want to have the Gardasil vaccine be associated with the sexual activity of young girls (Davies & Burns, 2014; Merck Serono, 2007).

The first phase in Merck's preliminary campaign for the Gardasil vaccine was the "Make the Connection" phase, which started in the fall of 2005 (Wolfe, 2009). Merck did not direct this portion of the campaign. It was directed by the Cancer Research and Prevention Foundation and the celebrity nonprofit Step-Up Women's Network (Buttweiler, 2009). The "Make the Connection" campaign was not an advertisement but a website with the primary goal of sharing information and awareness about cervical cancer prevention (Buttweiler, 2009). The website included information about HPV and personal stories from girls who have been affected by cervical cancer **(**Davies & Burns, 2014**).** Merck focused on creating an environment where young girls could personally resonate with the risks of cervical cancer and HPV **(**Davies & Burns, 2014**).** The website also emphasized the need for young girls to talk to their doctor and discuss their risk of HPV **(**Wolfe, 2009**).** The "Make the Connection" phase also included celebrity events and public service announcements to increase awareness of HPV and its links to cervical cancer (Wolfe, 2009). A key component of this campaign was that Merck was not involved in promoting the vaccine and no mention was made of Gardasil as it was not FDA-approved at that point (Croswell & Porter, 2018). While Gardasil was not yet approved Merck was still able to embark on an educational/promotional campaign to discuss HPV and cervical cancer as long as no mention was made of Gardasil (Wolfe, 2009).

The next phase was the "Tell Someone" campaign, emphasizing the link between HPV and cervical cancer (Croswell & Porter, 2018). The public relations company Edelman ran this phase of the campaign **(**Davies & Burns, 2014). The "Tell Someone" campaign included a help-seeking advertisement. An emphasis on awareness of HPV and cervical cancer was the focus (Croswell & Porter, 2018). The advertisement highlighted young girls being surprised to learn about the link between HPV and cervical cancer and vowing to "Tell Someone" about this **(**Davies & Burns, 2014**).** The belief was that each woman told about this link, would be one more potentially saved from the risks of cervical cancer **(**Wolfe, 2009**).** Alongside the advertisements was a website that had captions that stated: "Did you know cervical cancer is caused by certain types of a common virus? Neither did we" (Merck & Co., 2005; Wolfe, 2009). The website also included features like "Tell Someone" virtual cards that girls could send out to tell their friends about the risks of HPV (Wolfe, 2009). The priority of this campaign was to empower women/young girls to act and take control of their health (Merck & Co., 2005; Wolfe, 2009). Like the "Make the Connection" phase, there was no mention of Merck or Gardasil as the vaccine was not FDA-approved yet (Croswell & Porter, 2018).

In 2006, Gardasil received FDA approval for use in females (Kaiser Family Foundation, 2021). This initial approval for female use, even though at the time it was understood that males could also be affected by HPV, solidified Gardasil and HPV as an issue for young girls (Andreou, 2018). Upon approval, this marked the rollout of their "One Less" campaign, which focused on supplying a vaccine that protects against HPV (Croswell & Porter, 2018). This was the first DTCA that specifically focused on young women, girls, and their female adult figures (Grantham et al., 20ll). By the time Merck released the "One Less" campaign, they were positioning the vaccine as a solution to becoming one less statistic (Croswell & Porter, 2018).

The “One Less” campaign featured television advertisements that focused on mothers and daughters learning about HPV and its connection to cervical cancer (Daley et al., 2017). The advertisements depicted young women participating in physical activities with the catchphrase of being “one less” woman who gets cervical cancer (Wolfe, 2009). Merck followed the pattern of the earlier phases by emphasizing the theme of empowering women to take control of their health (Herskovits 2007; Wolfe, 2009).

The Gardasil vaccine prevents other female-specific cancers such as vaginal and vulvar but the “One Less” campaign focused entirely on cervical cancer (Markowitz et al., 2007). This focus strongly connected HPV as a women’s health problem only (Habel et al., 2009; Hilton et al., 2010; Pisciotta, 2012). The advertisements, like the earlier phases of the campaign, did not approach the topic of sexual transmission (Daley et al., 2017). The sexual transmission aspect of HPV was avoided by Merck to avoid controversy since Gardasil was being targeted at young girls (Epstein & Huff, 2010; Pisciotta, 2012). The “taboo” topic of sex is not mentioned but implied, giving the impression that sex is inherently wrong, and women are to blame for HPV (Daley et al., 2017). At the time these advertisements were released, it is important to note that Gardasil was not approved for males. Yet the role of men in the transmission of HPV was never mentioned. The Gardasil vaccine has been marketed by Merck as a preventative tool to fight cervical cancer rather than a method of protection from sexual behaviors (Mamo et al., 2010; Pisciotta, 2012). This focus on preventing cervical cancer as the main benefit of Gardasil has silenced other discourses and alienated the male audience (Hilton 2010; Pisciotta, 2012). The vaccine was approved for male use later in 2009 (Centers for Disease Control and Prevention, 2010). Merck’s strategy for promoting Gardasil focused on spreading awareness through the “Make the Connection” campaign, cultivating concern within the public through its “Tell

Someone" campaign, and generating product demand through its "One Less" campaign and the "I Choose" campaign (Croswell & Porter, 2018).

The "I Choose" campaign was the fourth and final phase of the preliminary marketing campaign for Merck's Gardasil vaccine (Croswell & Porter, 2018). This campaign was like the "One Less" campaign in that its goal was to continue generating demand for the product (Croswell & Porter, 2018). The "I Choose" advertisement acted like a sequel to the "One Less" advertisement by showing young girls and their mothers discussing why they choose to receive the vaccine (Croswell & Porter, 2018). This phase of the campaign was more personal as it showed young girls in their family homes, in their bedrooms, kitchen, and living rooms (Wolfe, 2009). The advertisement ended with a young girl stating, "My dreams don't include cervical cancer" (Wolfe, 2009).

Merck's "One Less" four-phase campaign only targeted females since Gardasil was only approved for female use. However, the delay in approval for males was consequential in how HPV has been marketed to the public (Malkowski, 2013). There is a perception that HPV only affects women (Baker, 2012). The campaign added to the social conversation that women are responsible for protecting themselves from sexual activity, and it is not the responsibility of the man (Baker, 2012). The blame for HPV is directed toward the woman and that her body is infecting the man (Daley et al., 2017). Since sex and sexual transmission were not mentioned, it thus silenced the rhetoric about women's sexuality (Branson, 2012). With the female emphasis of the Gardasil vaccine, it is asserting control over women's health by breaking down how the female body will be penetrated (Mara & Scott, 2010). The body will be penetrated either through the vaccine, a pap smear in replacement of the vaccine, or sexual activity (Mara & Scott, 2010). These symbols further complicate the vaccine in terms of the female body and impose certain

aspects of control that were not put on males at the time (Mara & Scott, 2010). These symbols, focusing on the female body, further function as gendering the vaccine and disease (Mara & Scott, 2010). The massive scale of Merck's campaign and its targeting of women/girls feminized the vaccine, and Gardasil became known as the girl's vaccine (Daley et al., 2017; Mishra & Graham, 2012). The failure to include males in the early marketing campaigns in some capacity upheld the scrutiny that young girls/females face in terms of sexuality (Malkowski, 2013; Thompson, 2010).

In 2009, the FDA approved Gardasil for males aged 9-26 (Centers for Disease Control and Prevention, 2010). The vaccine became routinely recommended for use by males in 2011 (Fitzgerald, 2019). It was not until 2016 that Merck released a Gardasil/HPV campaign that featured men and women (Fitzgerald, 2019). Merck waited seven years from the time Gardasil was approved for use in males to include males in an HPV advertisement. The 2016 campaign, "Did You Know?," featured an advertisement showing men and women who have been affected by HPV (Fitzgerald, 2019). This advertisement was the first DTCA that actively targeted young males (Grantham et al., 2020). In this advertisement, there is a strong focus on fear tactics and placing responsibility on parents to vaccinate their children before they become sexually active (Fitzgerald, 2019). Merck's previous Gardasil and HPV DTCA focused on emphasizing a message of empowerment, but this advertisement took a dramatic turn to blame parents for not vaccinating their children (Kolodziejski, 2022). While the "Did You Know?" advertisement features women and men, it is still vague about HPV and does not specifically address the harm that HPV can inflict upon the male body (Fitzgerald, 2019). It is commonly understood that HPV is a damaging infection that can hurt the female body, but less is known about how it can affect males (Fitzgerald, 2019). Merck did not provide any specific technical information about how

HPV can infect the male body **(**Kolodziejski, 2022**).** While males are incorporated into the "Did You Know?" campaign, the responsibility for HPV placed on the female is still reinforced as diseases from HPV like penile cancer and genital warts that affect men are not mentioned (Fitzgerald, 2019). The female in the advertisement mentions how she has cervical cancer due to HPV; however, the male does not clarify what kind of cancer he has (MiOttawa, 2016). The male in the advertisement only alludes to the fact that his body has been compromised because of HPV. The feminization of HPV is retained due to the exclusion of male-specific cancers featured in the advertisement (Fitzgerald, 2019).

Merck's strategy to focus on fear tactics/emotional appeals in this advertisement is noteworthy because, by this time, they had ample evidence about the efficacy and safety of the vaccine, which would have been beneficial to include in the advertisement to persuade parents **(**Kolodziejski, 2022**).** Instead, the advertisement clearly states how HPV penetrates the female body, but it is much more ambiguous about how it can hurt the male body leading to the continued theme that a girl's body is a vessel for the disease which brings consequences to her body and a male (Fitzgerald, 2019). Merck had the opportunity to create an advertisement with a gender-equal narrative about HPV and peel back the layers of the built-in misogyny that has been surrounding HPV, but they did not with the "Did You Know?" ad. The past advertising of HPV and Gardasil mandates that future advertisements be re-storied dramatically to include men and women on an equal level (Malkowski, 2013).

As recently as 2021-2023, Merck released newer gender-neutral HPV/Gardasil advertisements featuring men and women that are being shown on cable, broadcast, streaming platforms, and YouTube, and plans to shift to social media (Coey, 2021). This study will focus on the advertisement "Numbers Move You" released in 2022, which includes men and women

(Ad Archives, 2022). This advertisement starts with the opening statement "Numbers move you, but some can stop you in your tracks" (Ad Archives, 2022). While the narrator's voice is speaking, an Apple watch with workout information is shown and shifts to a scene with a man running, another scene with a different man lifting weights, and a different scene showing a woman doing yoga. The actors in the advertisement never speak, but the voice-over narrates the entire advertisement. When the male lifting weights is shown, the words "Certain HPV-related head & neck, and anal cancers" are shown (Ad Archives, 2022). When the ad shifts back to the woman doing yoga, the words onscreen are "Certain HPV-related cervical, vaginal, vulvar, head & neck, and anal cancers" (Ad Archives, 2022). At the end of the ad, the three actors are facing the screen with the two males in the background and the female front and center next to the words "Talk to your doctor or pharmacist about Gardasil 9" (Ad Archives, 2022). This advertisement differs from the first gender-neutral Merck HPV advertisement ("Did You Know?") in that it does not use dramatic fear tactics playing upon the guilt of parents, and it includes specific language such as head and neck cancers, anal cancers, cervical cancers, vaginal cancers, vulvar cancers, throat cancers, and genital warts (Ad Archives, 2022). The specific naming of these cancers is an important aspect of the advertisement as previous Merck HPV advertisements did not specifically mention them except for cervical cancer. However, penile cancer, a male-specific cancer that HPV can cause (Centers for Disease Control and Prevention, 2022), is still not mentioned in this advertisement.

The "Numbers Move You" advertisement is the focus of this study because of the gender inclusivity it depicts and how it specifies which cancers HPV causes. Unlike past advertisements that only mention cervical cancer, this study seeks to understand if this new gender-neutral

approach by Merck is making an impact on the college-aged male audience to get vaccinated and thus lessen the stereotype of HPV being feminized.

Chapter Two: Theoretical Framework

Health Belief Model

The health belief model was developed in the 1950s by a group of investigators seeking to understand a series of health-related research problems centering around preventive health behavior (Rosenstock, 1974). Later the model was expanded by Kirscht (1974) to include responses to symptoms and by Becker (1974) to include behavior that is in response to diagnosed illnesses (Rosenstock et al., 1994). In the beginning stages of the health belief model, there was a widespread failure by the public to take responsibility for their health (Rosenstock, 1974). Hochbaum (1958) laid the foundation for the health belief model as he sought to understand why people choose to accept or reject behaviors/opportunities for knowledge to learn about their health status (Hochbaum, 1958). Hochbaum aimed to understand what factors influence people's desire to participate in voluntary health programs, such as tuberculosis screenings (Hochbaum, 1958). The three main factors that influence one's health behavior are psychological readiness, situational influences, and surrounding environmental conditions (Hochbaum, 1958).

In the early stages of the model, the basic assumptions for someone to take action to prevent disease were: they would have to believe there was a level of susceptibility that could impact them, the disease would have a level of severity on some aspect of their life, by taking a recommended health action it would reduce the level of susceptibility and/or severity, and there is a low level of barriers to taking action (Rosenstock, 1974). For a person to successfully change their behavior, they must have a level of perceived susceptibility and severity and a perceived benefit because of this change (Champion & Skinner, 2008). Individuals are not likely to change

their behavior unless there is a degree of perceived benefits, even if there is a level of perceived susceptibility and severity (Champion & Skinner, 2008).

There are six constructs of the Health Belief Model: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy (Champion & Skinner, 2008). Perceived susceptibility is the belief a person has about the likelihood of becoming infected with a disease or condition (Champion & Skinner, 2008). The second construct, perceived severity, is the belief in how serious the impact of the disease or condition could be on a person (Champion & Skinner, 2008). Perceived benefits, the third construct, is when the individual believes there are certain advantages to adopting the recommended behavior change such as a reduction of the seriousness of the disease (Champion & Skinner, 2008). Individuals who have a strong belief in the seriousness of a disease are more likely to take preventative action if it can reduce the threat (Champion & Skinner, 2008). The fourth construct, perceived barriers, is the individual's beliefs about the costs, whether physical or psychological, of the advised action (Champion & Skinner, 2008). If an individual has elevated levels of perceived barriers, that might act as an obstruction to their following the recommended behavior (Champion & Skinner, 2008). The fifth construct is cues to action, which is the extent to which an individual feels like they are empowered to take the recommended action (Champion & Skinner, 2008). The sixth construct added by Rosenstock (1988) is self-efficacy, which is the level of confidence an individual has that they can take the recommended action (Champion & Skinner, 2008). This construct is typically used to understand behavior regarding chronic illnesses and addictions (Rosenstock et al., 1988). A more detailed examination of this construct and its usefulness within this study will be noted in the methods section. These constructs serve alongside the modifying factors in an individual's life like their demographics, knowledge level,

and sociopsychological factors that can influence health-related behavior (Champion & Skinner, 2008). The modifying factors can influence the constructs and a combination of all these beliefs can lead to behavior change (Champion & Skinner, 2008). For a person to effectively change their behavior, there needs to be a degree of perceived susceptibility, severity, and a level of perceived benefits (Champion & Skinner, 2008). The health belief model, while widely used for understanding behavior change, has limitations as there is a lack of clear understanding between the individual constructs and their relationship with each other (Champion & Skinner, 2008; Orji et al., 2012).

The research found on the health belief model concerning direct-to-consumer advertising has predominately focused on quantitative methods through exposing participants to advertisements and following up with a survey after exposure (Jones et al., 2015; Rollins et al., 2014). A study conducted by Jones et al. (2015) uncovered that when a combination of susceptibility and severity is high (otherwise known as threat), perceived barriers are low, the introduction of benefits could lead to behavior change. In this specific instance, there was a positive correlation between exposure to the advertisement and receiving a flu vaccine (Jones et al. 2015). Rollins et al. (2014) similarly detected a positive correlation between exposure to an advertisement and thus subsequent behavior change in those who had high levels of severity and susceptibility. Most research conducted on the health belief model and DTC has been through quantitative methods (D'Souza et al., 2011). However, by utilizing a qualitative approach this study seeks to gain a deeper understanding of the health belief model constructs that are influential factors on participants. Specifically, Rollins et al. (2014) quantitative study recognized the need for more information about specific information that consumers want to be included in advertisements. Using a qualitative approach can go beyond the data to uncover these

emerging themes. There are qualitative health belief model studies with a focus on DTC and/or vaccination behaviors (D'Souza et al., 2011; Rajeh et al., 2023) but not enough research has been done specifically on male vaccination behavior change in response to DTC advertisements. D'Souza et al. (2011) focused on using the health belief model to inform marketing strategies and uncovered the consistent lack of awareness levels of HPV. To combat this, recommendations were made to specifically target certain age groups/genders within a particular time for vaccination behavior change (D'Souza et al., 2011). Rajeh et al. (2023) utilized the health belief model in a qualitative study concerning COVID-19 vaccination behaviors. Discoveries resulted in perceived benefits, perceived severity, perceived suitability, and cues to action all being influential constructs in terms of vaccination behavior (Rajeh et al., 2023). An emerging theme of lack of awareness was prominent and resulted in the study providing recommendations to increase awareness as that will in turn have the potential to increase vaccination rates (Rajeh et al., 2023). These studies provided foundations for a health belief model qualitative study and this study seeks to explicitly explore the connection between the health belief model and direct-to-consumer advertisements on male vaccination behaviors. To add to this much-needed area of study, this study uses in-depth interviews and textual analysis to uncover a deeper comprehension of the health belief model in terms of a qualitative study focusing on DTC advertising.

In the past, HPV advertisements from Merck targeted women to try and motivate them to receive the vaccine, stereotyping the vaccine as a women's problem (Grantham et al., 2020). College-aged male vaccination rates are lower than female rates (American College Health Association, 2023). Most literature about HPV advertisements and their effect on vaccination behavior has focused on either the older Merck Gardasil advertisements and/or females and the

feminization of HPV (Baker, 2012; Branson, 2012; Buttweiler, 2009; Croswell & Porter, 2018; Daley et al., 2017; Fitzgerald, 2019; Grantham et al., 2011). The limited literature that has been conducted focusing on males was in response to the 2016 advertisements or the campaigns on social media (Grantham et al., 2020; Reiter et al., 2017).

This study seeks to fill the gap by analyzing the new Merck advertisement "Numbers Move You" through qualitative interviews and a textual analysis of Gardasil advertisements, grounded in the health belief model, to understand the reasonings behind male college-aged population's intention to vaccinate or not vaccinate. Due to the focus of this study centering on behavior, qualitative methods are utilized to understand the "why" behind vaccination intentions (Cleland, 2017). Human behavior is often difficult to quantify which is why the strengths of qualitative methods in explaining behavior and attitudes are a key component of this study (Tenny et al., 2022). In-depth interviews and textual analysis will enable the study to go further into the data to gain a better understanding of the participant's experiences and life context that might influence their behavior (Cleland, 2017). With most health belief model studies taking a quantitative approach this study is pursuing to go in a different approach and learn more about the inner workings of the human experience with vaccination behaviors (Cleland, 2017). This study uses the health belief model as a theoretical framework to examine what constructs are most influential for college-aged males in terms of vaccination behavior. The health belief model is widely incorporated within health behavior research to understand vaccine behavior change (Champion & Skinner, 2008). The overall goal of this study is to assess which characteristics of the health belief model are significant and use that to promote change in pharmaceutical advertising to improve public health by seeking to equalize HPV vaccination rates.

Research Question 1: When exposed to the Gardasil advertisement, in what ways do the constructs of the HBM influence each participant's intentions toward vaccination behavior?

Research Question 2: What constructs of the HBM are currently being used in the newer Gardasil advertisements?

Chapter Three: Method

Semi-Structured Qualitative Interviews

Qualitative interviews are classified as a conversation in a one-on-one environment with the desired goal to gain a better understanding of the topic in question (Brennen, 2012). Qualitative interviews typically are conducted either online or face-to-face between a moderator and the people being interviewed (Brennen, 2012). Interviews were selected as the primary method due to their innate ability to uncover new information about a topic (Brennen, 2012). This study was reviewed by the IRB board and received exempt status. Individual semi-structured online interviews were conducted with a convenience sample of fifteen male participants. Females were not included because the purpose of this study is to understand the intent of males to receive the Gardasil vaccine. Males were the focus of this study as Merck's HPV/Gardasil advertisements in the past have contributed to the feminization of HPV (Daley et al., 2017). As a result, more research needs to be focused on how gender-neutral advertisements are reaching the college-aged male audience and influencing their intent to vaccinate. College-aged males are at higher risk of contracting HPV and typically are slower to receive the vaccine than women (Koskan et al., 2021). This subset of the population is key to the study as they are typically prone to risky sexual behaviors, and thus more susceptible to sexually transmitted infections (Peterson et al., 2022; Renfro et al., 2020).

Interviews were conducted to allow the participants an ideal environment to speak their thoughts and opinions in a casually controlled setting. By using qualitative interviews, the interviewer was able to administer the exposure of the advertisement in a controlled setting. A

convenience sample was used to recruit college-aged males. Alongside the convenience sampling method, snowball recruiting was utilized to gather more participants who fit the requirements. The inclusion criteria for participants were males, ages 18-26, who are enrolled in college courses. Before the interviews took place, participants completed two surveys, which assessed if they fit the requirements to participate and to collect demographic data. The first survey participants completed was to confirm their eligibility to participate in the study. The second survey included demographic questions and more sensitive questions about sexuality and gender. Due to the sensitive nature of these questions, they were included in the format of a survey rather than being included as part of the interview process. Before each survey began, participants were instructed about informed consent and prompted to select "consent" or "no consent". Consent was secured before collecting data. Table one, utilizing pseudonyms and random ordering, outlines the demographic variables of participants.

After the surveys were completed, the online interviews took place on Zoom. The interviewer stated that the goal of this study is to understand male vaccination behavior in response to pharmaceutical advertisements. The interviewer made the participants aware that they would be exposed to one HPV advertisement about the Gardasil vaccine. The advertisement "Numbers Move You" was chosen because it features men and women equally. The interviewer verbally told the participant about informed consent. Each participant gave their consent to the interview and to have it recorded. The interview questions were set up in a semi-structured format to learn about each participant's knowledge and beliefs about HPV pre-exposure and prior exposure to the advertisement through a health belief model framework. After exposure to the advertisements interview questions followed as the health belief model seeks to predict behavior change following exposure to the stimulus (Mackert & Love, 2011). With the exposure

to the advertisement, and then the follow-up questions, the goal is to evaluate the influence of the ads on the participants potential behavior change (Rollins et al., 2014). The decision to expose the participants to the advertisement and then follow up with interview questions reflected the study's intent to understand behavior change in response to the advertisement. Qualitative methods seek to understand the "why" behind participants behaviors and how they as individuals construct meaning among themselves thus this study follows the common practice of analyzing participants responses to an advertisement (Belk, 2017). Similar research studies that focused on direct-to-consumer advertising and subsequential behavior change have followed this format of exposure and then interview methods (McStay, 2010; Nicolini & Cassia, 2022; Tantiseneepong et al., 2012; Wolburg, 2006; Zhou & Belk, 2004).

The first phase of interview questions assessed the participant's belief in perceived severity, perceived susceptibility, perceived benefits, perceived barriers, cues to action, and self-efficacy in terms of their vaccination behavior toward receiving the Gardasil vaccine. Upon further review of the data, by using a phronetic iterative approach, the interview guide was refined by withdrawing the self-efficacy construct. Self-efficacy was a construct that was added to the health belief model in 1988 due to its ability to predict health behavior in terms of dealing with chronic illnesses and addictions (Rosenstock et al., 1988). Due to the nature of chronic illnesses and addictions, self-efficacy typically plays a large role in health behavior as it requires long-term lifestyle changes that require a substantial amount of confidence for someone to drastically alter their lifestyle to successfully implement lasting behavioral change (Rosenstock et al., 1988). Self-efficacy is a construct needed with complex behavior, however, with vaccines being the action focused on in this study it is not a priority and often is a construct not associated or used with vaccination behavior (Carpenter, 2010; Rosenstock et al., 1988; Rosenstock et al.,

1994). Similar studies focusing on the health belief model have refrained from using the self-efficacy construct (Carpenter, 2010; Mackert & Love, 2011; Nkwonta et al., 2019 Reiter et al., 2009) or have found that the other constructs are a better predictor of behavior change (Bynum et al., 2011; Juraskova et al., 2011; Mehta et al., 2013; Wong et al., 2020) With self-efficacy taken out of the interview guide, the data is more refined as the analysis focused on the main determining factors of the original health belief model constructs. It is crucial to utilize a tailored approach to the constructs of the health belief model to focus the data and analysis on the most significant factors (Wong et al., 2020). The second phase of interviews included perceived susceptibility, perceived severity, perceived barriers, perceived benefits, and cues to action. The second phase of interviews included the same approach to surveys and consent as did the first phase of interviews. Participants were compensated in the form of a five-dollar Starbucks gift card after the interview was completed.

This study conducted a total of fifteen interviews until saturation had been reached. Saturation, a term coined by Glaser and Strauss (1999), is reached when no emerging data is found within the researched category. Among the fifteen participants, there was one Asian male, twelve white males, and two Hispanic males. All participants identified as heterosexual males.

This study utilized a phronetic iterative approach by analyzing semi-structured interviews based on the health belief model (Tracy, 2013). Interviews were transcribed by handwriting and then typing them. This study utilized open, axial, and selective coding. Open coding includes the process of engaging with the data in an initial phase by categorizing the data (Corbin & Strauss, 2008). Upon completion of this step comes axial coding which takes a deeper look at the initial codes and looks for any connections that may be present (Corbin & Strauss, 2008; DeCuir-Gunby et al., 2011). Finally, selective coding unifies the codes that have already been established

around a "core category" (Corbin & Strauss, 2008). The codes, using a priori codes, came from the six health belief model constructs which included perceived susceptibility, perceived severity, perceived barriers, perceived benefits, and cues to action. Self-efficacy was only included in the first phase of interviews and subsequently withdrawn as it did not pertain directly to the goals of this study. In the open coding phase, the transcripts were read multiple times, and lines of transcriptions were categorized into brief descriptive phrases influenced by the health belief model constructs. These brief phrases became axial codes. Some examples of these axial codes include feeling susceptible, not feeling susceptible, and recognizing susceptibility but not on a personal level. During this process, extra attention was placed on making sure the coder was not limited to only the constructs of the health belief model, but open to other categories that could emerge from the data. Once the axial coding phase was complete, through selective coding, the phrases were placed into the larger constructs/themes of the health belief model. There was one exception to this as a new category was formed that did not fit in with any of the constructs as it permeated throughout the data. In the results section, these categories will be presented in further detail. By the fifteenth interview, new themes were no longer emerging thus saturation was reached.

Textual Analysis

To increase the validity of this study, a multimethod approach was utilized by conducting a textual analysis of all Merck Gardasil HPV advertisements publicly available. Multimethod research, coined by Creswell (2015), is an approach that uses multiple qualitative methods to increase the study's validity by looking at the data from differing methods.

Table 1: Participant Information

PARTICIPANT	AGE	ETHNICITY	SEXUALLY ACTIVE
Roy	22	White	No
Finnley	26	White	Yes
Raleigh	25	White	No
Colten	25	White	No
Morley	19	Asian	No
Cayson	20	White	No
Milo	22	White	Yes
Holden	22	Hispanic	No
Jo	23	White	No
Donnie	22	Hispanic	Yes
Elvin	23	White	No
Alonzo	26	White	No
Ryan	22	White	Yes
Terell	26	White	No
Dan	22	White	No

The combination of interviews and a textual analysis as a multimethod research approach allows the data to be seen through multiple angles resulting in a deeper analysis (Creswell, 2015; Mik-Meyer, 2020; Tierney et al., 2019). To add to this study's rigor textual analysis was conducted using the same theory applied to the qualitative interviews to assess past advertisements and make better-equipped recommendations for future advertisements. Textual analysis is incorporated into a study to gain a critical perspective and understanding of themes that have been deeply rooted in society during a specific time (Brennen, 2012). This study utilized textual analysis, alongside qualitative interviews, to provide a deeper analysis of the themes of Gardasil

advertisements. The textual analysis served to bolster the data collected from interviews by analyzing all advertisements through the health belief model constructs to assess the constructs that likely influence behavior. The health belief model is the theoretical foundation utilized for the textual analysis to further build on the interview data as well as attempt to understand behavior following exposure to the advertisements (Mackert & Love, 2011).

Thirteen Merck Gardasil advertisements ranging from 2006-2023 were included in the textual analysis, including one advertisement from the "Tell Someone" campaign, two advertisements from the "One Less" campaign, one advertisement from the "I Chose" campaign, four advertisements from the "Did You Know?" campaign from 2019, and five advertisements from 2021-2023, including the "Numbers Move You" advertisement that participants are being exposed to during the qualitative interviews. The advertisements from 2021-2023 were analyzed more thoroughly to give a more detailed deconstruction of the current themes Merck is utilizing and thus present detailed recommendations for future advertisements. In total, the sample of advertisements chosen to be analyzed is thirteen. The number of advertisements included is due to what is publicly available online as an extensive search was conducted. The thirteen advertisements are currently either publicly available on YouTube or iSpot TV. The "Versed" advertisement that was exclusively on social media was not included as the source is no longer publicly available. The advertisements within the sample are broadcast advertisements that were shown on major networks, streaming services, and social media. This study analyzed the sample starting with the oldest advertisement and then moving chronologically to better understand how the advertisements have changed over time, utilizing the health belief model constructs as codes during the data analysis phase. The health belief model is used throughout the analysis, alongside the five constructs, to give a deeper analysis of what role the constructs have played in past

advertisements and make practical recommendations for future ads based on this framework. The textual analysis followed Stern (1996**)** in terms of identifying themes and certain characteristics in each advertisement being analyzed such as language used, gender of actors, visuals, and semiotics. The second step is the construction of meaning through genre/thematic categorization of elements in the advertisement based on the constructs of the health belief model (Stern, 1996). The third step is deconstructing these themes to make new assumptions and recommendations that expose the past themes of Gardasil advertisements and thus make new suggestions for future advertisements to increase male engagement. The end goal of the textual analysis is the deconstruction of the meanings within the advertisement to understand the past themes of Gardasil campaigns and how future HPV advertisements should improve to grasp the attention of the male audience, thus potentially increasing the rates of male vaccination.

The textual analysis codebook was constructed with the health belief model as the foundation. The codes and categories were created by combining the constructs of the health belief model with Stern's (1996) textual analysis guidelines, with a focus on the language in the ad copy, to understand the meaning of the advertisements. The first step of the data phase consists of identifying textual elements (Stern, 1996). This was done by using Stern's (1996) list of guidelines to assess the entire advertisements based on specific visual elements before placing elements into the health belief model codes. The advertisements were watched multiple times and then the analysis began based on Stern's (1996) guidelines including, product category, medium, intended audience, aesthetics, elements/symbolic appeal, foreground, narrative, missing components, relationships, self-identity, and social status. The second step is the construction of meaning through thematic categorization (Stern, 1996). This is accomplished by categorizing the data into the health belief model constructs. This study chose to focus on the language being

used that likely would influence behavior which is what was placed into the categorial codes. To accomplish this advertisement transcripts were written down and each phrase, either spoken or written within the ad, was analyzed, and coded using the health belief model codes. The coding process followed the same guidelines that the interview transcripts were coded from. Visual cues and imagery were still analyzed according to Stern's guidelines, but the focus was on the ad copy. During this process, extra attention was placed on making sure the coder was not limited to only the constructs of the health belief model, but open to other categories that could emerge from the data. After multiple rounds of revision, the final codebook for the textual analysis included the health belief model constructs of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action. The construct of self-efficacy was not included within the codes as it was determined not to be relevant to the study. The third step consists of the deconstruction of meaning which was accomplished by utilizing the data uncovered in steps one and two, in conjunction with the interview data, to make new suggestions and recommendations for future advertisements to increase male engagement.

Chapter Four: Results

Semi-Structured Qualitative Interviews

This study focused on five health belief model constructs to assess participants' intentions to vaccinate against HPV. Alongside the five constructs, participants' lack of knowledge about HPV was consistent. Perceived susceptibility, perceived severity, perceived barriers, perceived benefits, and cues to action were overarching themes in terms of factors that would influence male vaccination behaviors. Perceived knowledge, not a health belief model construct, was a theme that was prominent throughout the data. The results of these constructs and themes will be further developed in the following section.

Health Belief Model Construct 1: Perceived Susceptibility

1. Participants do not feel susceptible to HPV.

When prompted to speak about susceptibility, many participants indicated that they do not feel at risk of HPV for multiple reasons. Respondents felt that they were either not at risk, did not know they could be at risk, that older women are more susceptible to HPV, and/or do not feel personally worried about the virus due to reasons of not being sexually active. To demonstrate the personal feelings of low perceived susceptibility, the following is a quote from a participant:

> . . . I feel like it was more directed towards like women who are maybe like 20, 30 years older than me. Um, but if it was like closer to my age range, then I'd be like, oh, maybe I probably should get this.

This sentiment of feeling that the advertisement was more focused on women continued, "Well I just feel that this was more for women so I'm not to concerned about it right now." The visuals

of the female actress had an impact on participants as well, “I just remember seeing there was more women in the advertisement or at least it focused on the woman more.” Participants also made statements regarding their lack of sexual activity as a reason for not feeling susceptible to HPV, “Well I don’t think I need it. Not being sexually active I don’t really need it.” These feelings of low personal susceptibility continued as participants often made statements, in response to their risk levels, citing lack of knowledge as an explanation for not feeling high levels of susceptibility. Such as, “Like honestly I am not that worried about it just because I don’t know what it is” and “I don’t necessarily like feel at risk because I don’t really know what the risk is or how I would get it or how I would spread it.”

2. Participants recognized susceptibility but not on a personal level.

A small number of participants recognized that they could be susceptible to HPV, but it did not transfer to affect them on a personal level. Respondents acknowledge that other people could be susceptible and/or they could be susceptible in the future. This level of concern did not translate as being a personal threat in the present time. Participants also acknowledged if someone close to them had been infected with HPV that would possibly make them feel more susceptible. To show a level of this recognized susceptibility, the following is a participant’s statement:

> Yes, if you are making certain choices that would uh make you more susceptible, then I think that it could be preventable. But if you are like healthy and not at risk for anything then I don’t think its necessary.

To illustrate participants believing they could be at risk in the future, “So if I was older, then I’d probably look into it more” and “Just in the future, I am interested in like looking more into this because well I feel like it would probably affect me.” The perceived susceptibility is noticed but the connection of the threat in their current stage of life is not made.

3. Participant does feel susceptible to HPV.

A very small amount of participants acknowledged that they feel susceptible to HPV. After exposure to the advertisement, they recognized that they could be at risk for HPV.

4. Participants recognize that susceptibility should be referenced in the advertisement.

A group of participants acknowledged that some degree of susceptibility needs to be referenced in the advertisement. Participants noted that information about the current percentages of people who have been vaccinated, the behavior that can cause HPV, and current statistics about the susceptibility level would be educational and informative. To demonstrate a level of this is a quote from a participant, "Like they need to talk about like hey, if you're having sex like this is gonna make you more susceptible." There is a level of education of HPV missing in the advertisements that participants recognized. Another participant adds, "Like a scale would be good because you have no idea if this is common or if its like one in a million people get infected and I don't really have to worry about it."

Health Belief Model Construct 2: Perceived Severity

1. Participants do not feel HPV is serious.

Less than half of the participants noted that HPV does not feel like a serious problem to them. Participants noted that based on the advertisement, the consequences of HPV do not seem to have damaging effects, so HPV does not feel serious to them. A quote from a participant illustrates this, "It didn't really seem to add up to like what the actual consequences could be if that makes sense" and "I mean, the advertisement didn't make it really seem like that big of a problem." The advertisement did not prompt a sense of urgency within the individuals to feel that HPV is a serious threat. This theme of urgency presented itself by, ". . . it didn't convey that

sense or urgency really. I think for a lot of people it wouldn't seem like a current issue that should be addressed" and again in, ". . . I don't know, it just didn't convey like a big sense of urgency in me."

2. Participants recognized severity but not on a personal level.

A portion of participants recognized that some of the symptoms of HPV are serious like certain types of cancer and genital warts, but they did not equate that to being worried about the severity in their own lives. Participants recognized the symptoms but did not make the connection to HPV's possible threat to their daily routine. To demonstrate this feeling, the following is a quote from a participant, "I mean the side effects of it I guess are serious. But I think in my mind, I don't feel like necessarily like susceptible to it so it doesn't seem that serious to me." This lack of personal connection to the severity of the disease continues, "But I guess at the same time I am not actually compelled to get the vaccine. I'm aware that it could be serious but also well I don't think I'm going to get the vaccine." For some participants, there was a severity aspect that they noticed but this did not translate as a personal threat thus acting as a barrier to getting the vaccine.

3. Participant feels the severity of HPV.

On a rare occasion, participants acknowledged that HPV could have an impact on their lives. It was acknowledged that HPV is health-related and that participants feel anything health-related should be taken seriously. On this occasion HPV was recognized as serious since the vaccine is marketed as a method of cancer prevention, "So why not get a vaccine that stops cancer? So yea I am probably leaning towards wanting to get it."

4. Participants admit to not knowing the severity of HPV.

Participants acknowledge they are not able to give an accurate answer about the severity of HPV because they do not know. They are not able to assess the severity of HPV and how it could affect their life because they do not know the answer. Participants either admitted that they did not know, or they had an inaccurate understanding of the symptoms of HPV. This quote from a participant demonstrates this idea, "So I feel like it's hard for me to like really calculate like how serious or not serious it is because I feel like that advertisement was leaving out a lot of information." Another participant made a direct reference to their lack of knowledge prohibiting them from making an accurate assumption about the severity of HPV, "I mean, I don't know enough about the disease to actually give a good answer on that in general. I don't know if I have good enough knowledge."

5. Participants recognize that severity should be referenced in the advertisement.

A recurring theme among participants was that the advertisement should include references to the severity of HPV. With such elements included it could potentially be more influential for them. If the long-term effects of HPV were more prominent in the advertisement, it could catch their attention more. A quote from a participant that references this is:

> So, I would, I would create urgency, like I just said, to kind of, I don't want to say scare people into getting it, but to like bring people where more were like wow this is something I really need to take seriously.

Another participant mentioned, "Like more long term effects of like what can happen and like how like, make it kind of seem how serious this actually is in America or nationwide." This pattern of showing the long-term effects continued as another participant stated, "You would need to show more side effects or long-term effects of a vaccine to change my mind on getting the HPV vaccine" Overall, there seemed to be a pattern of disconnect between the participants

and the advertisement in terms of perceived severity. While the side effects of the vaccine were mentioned in the advertisement the overall severity of HPV is lacking.

Health Belief Model Construct 3: Perceived Benefits

1. Participant believes there are no benefits.

A small number of participants believed that there would be no benefits to receiving the vaccine, or they did not know what the benefits would be. The participants believed that those who were healthy would not need the vaccine. To represent this, a participant said, "But if you are like healthy and not at risk for anything, then I don't think it's necessary." Furthermore to illustrate the lack of knowledge of perceived benefits, "I guess I am not really sure because I do not know necessarily about the disease or the vaccine or anything." The lack of knowledge of HPV consistently acts as a barrier towards participants not knowing the full extent of how the vaccine could help them and/or how HPV can affect their lives.

2. Participants recognize the benefits of the vaccine.

When prompted to speak about benefits, some participants acknowledged there could be benefits to getting the vaccine. General health prevention and reducing the risk of cancer were reasons commonly seen as potential benefits of getting the vaccine. To demonstrate this a participant said, "Specifically general health prevention of a bad disease," and "It may just reduce your risk of getting those certain types of cancer for HPV."

3. Participants recognized the benefits of the vaccine but not on a personal level.

The majority of participants identified the benefits that the Gardasil vaccine could have but did not make the connection to how it could personally benefit them. Most participants recognized that others who are susceptible could gain an extra layer of security with the vaccine, but they do not stand to benefit from it. To represent this a participant stated, "So, I think if, I'm not

personally worried about it enough to get it, but I think if someone were, I think, again that extra layer of security wouldn't be a bad thing." To illustrate this theme more, "Also, despite not knowing exactly what HPV is, it made sense to me that it's like hey, this could be something that enhances your life if you struggle with this." Again the participant recognizes the benefits of the vaccine but only within those who are struggling with the disease and not as a cancer prevention benefit within themselves.

Health Belief Model Construct 4: Perceived Barriers

1. Participant has no barriers.

A small number of participants recognized that nothing is preventing them from getting the vaccine. A participant, when prompted about barriers, recognized on a medical level that they have no barriers, "I can't say there's really any factors that would prevent me. I mean I don't have any medical factors that would prevent me or anything, so." It was only in rare instances that participants made any mention of having zero barriers to receiving the vaccine.

2. Participant has barriers (personal and knowledge gap).

The majority of participants mentioned having barriers, such as personal reasons, the inconvenience aspect, worried about the side effects, and their lack of knowledge about HPV would prevent them from getting the vaccine. To represent this personal barrier, the following is a quote from a participant, "Well personally, I don't know, I haven't really gotten any vaccines. . ." Another personal reason for a participant that is acting as a barrier is the pharmaceutical industry:

> . . . they're just trying to get me to just, like, take their vaccine and it's more I feel like it's more monetary, kind of like, just like the pharmaceuticals are just trying to make

> money saying hey like this can happen so get this vaccine. . . main goal is just to make money.

The side effects of the vaccine were an element that was brought up a few times by participants, "The potential symptoms and side effects is always a good hesitation" and "I mean hearing the potential side effects is always a little bit of a hinderance. . ." Lack of knowledge acting as a barrier for participants was a common theme, "You know like a flu vaccine or a COVID vaccine I have no problem taking cause I know it is pretty widespread but for that one I would just need to learn more about it before getting it." This theme continued, "Like honestly I am not that worried about it just because I don't know what it is" and "Like since I have never heard of HPV I don't think I am going to get the vaccine."

Health Belief Model Construct 5: Cues to Action

1. Participants recognized factors that would prompt action.

More than half of the participants acknowledged that recommendations to get the vaccine and if someone they knew had HPV would possibly prompt them to receive the vaccine. Recommendations from trusted family members were a compelling aspect for participants in deciding whether to receive the vaccine. One participant stated, "If my parents told me I would consider it more than just from a commercial. And like if my doctor told me it would depend on like why he thinks I need to get it." Another participant recognized that if the protection of others was emphasized, they might be prompted to receive the vaccine:

> I would say talk more about the protection of others in it, because that was the main thing I think would make me personally want to get it. Like if that was brought up to me yeah whatever it's a shot and it will protect other people and myself so why not.

This theme of the protection of others continued:

> And then if like a significant other wanted me to get it, one, it's safety for them and two, it's safety for me. So win win. So well yea a combination of those would like make me want to get the vaccine I think.

2. Participants did not recognize specific factors that would prompt action.

Less than half of the participants stated there was nothing that would prompt a response or action from them to get vaccinated. Participants either admitted that the advertisement did not catch their attention, or they do not feel at risk enough to act. One participant reflected on this idea, "But the advertisement didn't really spark anything in me, like to want to dive deeper into and figure out how serious it is." This continued, "Like I would probably watch this advertisement and just move on to be honest."

3. Participants recognize information would prompt action (tips).

Some participants acknowledged that if certain information in the advertisement was emphasized, it could prompt them to act and receive the vaccine. Participants continually mentioned making the advertisement more relatable and including current data and statistics about HPV and the Gardasil vaccine. To demonstrate one of these feelings, the following is a quote from a participant, "Just like I feel like more of the base details. The ad needs to be more real life, like relatable." This continued with participants stating, "Probably if there were like statistics, that were backed up with sources. Like if I just saw numbers I am more interested in that" and ". . . they just need to educate a little bit more and then I would be more interested."

Lack of Knowledge

1. Does not have knowledge about HPV.

A large majority of participants recognized they did not have a basic understanding of HPV. Most participants did not know how to answer certain questions because they did not have a

basic knowledge and understanding of HPV. The following quote from a participant acknowledges this idea, “I mean, I don’t know enough about the disease to actually give a good answer on that in general. I don’t know if I have good enough knowledge.” This statement reflected the opinions of multiple other participants as well. One participant acknowledged that while a doctor has provided information about HPV it was not in a manner that addressed all aspects of HPV, “Like I remember my doctor told me and was just like oh if you get this vaccine you can’t give cervical cancer. So you know that like I never actually understood if I could get HPV.” While information has been provided to this participant in the past it did not address the aspects of how HPV can affect males.

2. Lack of knowledge about HPV causes apprehension.

Some participants felt because they did not know the details of HPV that it would be a barrier to them getting the vaccine. Participants' lack of knowledge about HPV in terms of susceptibility and severity acted as a barrier to getting the vaccine. Participants did not know how susceptible they were or how it could personally impact their lives. To reflect this, the following is a quote from a participant, “I would need to learn more about it before I like made that decision” and “. . . I would kind of need more information about stuff before I decided to put it in my body.” This continued, “I think maybe not knowing much about it in general. I don’t think I would just go and get like the Gardasil vaccine. I would have to do my own research.” Participant’s lack of knowledge was a theme permeating across the data that acted as a form of barrier within all of the constructs.

Table 2: Summary of Interview Results

CONSTRUCT	SUBTHEME	EXAMPLE
Perceived Susceptibility	Does not feel susceptible.	"But I think in my mind, I don't feel like necessarily like susceptible to it." - **Roy**
	Recognizes susceptibility but not on a personal level.	". . . I think if someone was susceptible to HPV, it might be a good idea to get the vaccine." - **Jo**
	Feels susceptible.	"Well me because I am under 45. . ." - **Finnley**
	Include susceptibility in the advertisement.	"So I think that like talking about like if you are doing these things, this could put you at risk." - **Colten**
Perceived Severity	Does not feel that HPV is serious.	". . . I don't really think its super serious." - **Finnley**
	Recognizes that HPV is serious but not on a personal level.	"But I think in my mind, I don't feel like necessarily like susceptible to it so it doesn't seem that serious to me." - **Roy**
	Feels that HPV is serious.	"I think anything health-related is serious. . ." - **Milo**
	Does not know about the severity of HPV.	"So I guess that I really have no idea because I don't know much about HPV." - **Roy**
	Include severity in the advertisement.	"I would probably try to like make it a little bit more obvious, like what the ramifications of the disease are." - **Finnley**
Perceived Benefits	No benefits to the vaccine.	"But if you are like healthy and not at risk for anything, then I don't think its necessary." - **Colten**
	Recognizes the benefits.	"Like, I think it was talking about cancer, obviously so taking that would probably prevent it which would be a benefit." - **Holden**
	Recognizes benefits but not on a personal level.	". . . I'm not personally worried about it enough to get it, but I think if someone were, I think, again that extra layer of security wouldn't be a bad thing." - **Milo**

Table 2: (Continued).

Perceived Barriers	No barriers to the vaccine.	". . .I guess nothings preventing me from getting the shot." - **Morley**
	Barriers to the vaccine.	". . . So I don't often go out of my way to get vaccines." - **Cayson**
Cues to Action	Factors that would prompt action.	"Like, I personally don't think I would unless I was recommended by someone to get it." - **Cayson**
	Did not recognize factors that would prompt action.	". . . I would probably watch this advertisement and just move on to be honest." - **Jo**
	More info would prompt action.	"You would need to show more side effects or long term effects of a vaccine to change my mind on getting the HPV vaccine." - **Elvin**
Lack of Knowledge	Does not have knowledge about HPV.	"Oh, I don't think I know anything about HPV." - **Raleigh**
	Lack of knowledge about HPV causes apprehension.	"I'd never really heard of HPV that much before so you know I just didn't know the details of how I could be influenced by it." - **Roy**

Textual Analysis

To build upon the data from interviews a textual analysis was conducted to better understand the history of Gardasil advertisements, which constructs of the health belief model were being utilized, and thus making more well-rounded recommendations for future Gardasil/HPV advertisements to increase male vaccination rates. The results of the textual analysis will be further developed in the following section based on the five constructs of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action. An overview of the role each construct played in the advertisements will be given. Various elements that stood out during the first phase of the coding process will be mentioned as well.

Health Belief Model Construct 1: Perceived Susceptibility

Perceived susceptibility is defined in the codebook as statements made about the prevalence of HPV. Perceived susceptibility was the second most cited construct in the advertisements throughout the analysis. An example of a perceived susceptibility code from the "One Less" advertisement is, "Each year in the US thousands of women learn they have cervical cancer. I could be one less." The "One Less" advertisements have a high level of perceived susceptibility elements to them, more so than the other advertisements within the sample. The phrase "One Less" was often displayed prominently throughout the advertisement accompanied by close-ups of multiple women with a frustrated and concerned tone to their body language. The "One Less" advertisements focused on emphasizing the susceptibility that women have to HPV and then offering up the Gardasil vaccine as the solution. Perceived susceptibility was also present within the "I Choose" advertisement, "Every day about 30 women in the U.S. learned that they have cervical cancer." The "I Choose" advertisement followed a similar pattern of introducing how widespread the problem is and offering the solution as the Gardasil vaccine. As

time went on the advertisements, beginning again in 2016, began to veer from this pattern and did not place as much emphasis on the susceptibility construct. Perceived susceptibility is still included within most of the advertisements but in contrast to the "One Less" campaign, it is not the overarching priority. Subtle statements are still included like, "Get in its way. HPV can affect males and females" and "I knew how widespread HPV is."

Health Belief Model Construct 2: Perceived Severity

Perceived severity is defined in the codebook as statements reflecting the serious nature of HPV and its consequences. This construct was found to be the most prevalent health belief model construct across all advertisements. It was present in all advertisements but featured the most in the "Did You Know", "I Knew", and "Helping Protect" advertisements. A common theme pulled from the perceived severity constructs was the threat that HPV can have on girls, specifically in terms of cervical cancer. In every advertisement that was analyzed the threat of developing cancers was mentioned and the majority of advertisements placed a heavy emphasis on cervical cancer. When Gardasil was still in the phase where it was only approved for female use one of its main marketing tactics was on the prevention of cervical cancer. For example, in the "One Less" advertisement, "Because now there is Gardasil, the only vaccine that may help protect you from four types of HPV that may cause 70% of cervical cancer." This statement appeared in both of the "One Less" advertisements. The main slogan of the campaign was centered around perceived severity, "I want to be one less woman who will battle cervical cancer. One less." In 2016 when the Gardasil advertisement featuring men and women was released the emphasis was on the severity of the disease, "Who knew HPV could lead to certain cancers? Who knew HPV could cause certain cancers and diseases in girls and boys?" In this instance the use of hypothetical questions to stress that HPV can cause cancers connects it to the perceived severity construct.

This continued, “Who knew that virtually all cases of cervical cancer are caused by HPV?” and “Maybe they didn’t know I would end up with cancer because of HPV.” The “Did You Know” advertisements were told through the perspective of a college-aged male and female who now have cancer because of HPV because they were not vaccinated as a child. The blame is placed heavily on the parental figures hence the tagline, “Did you know? Mom? Dad?” The severity of the male and female now having cancer, because they were not vaccinated, is a main point of emphasis. In the newer Gardasil advertisements, “Helping Protect” and “Numbers Move You”, severity was emphasized by specifically listing what cancers that HPV can cause, “. . . including cervical, vaginal, vulvar, anal, and certain head and neck cancers, such as throat and back of mouth cancers and genital warts.” Unlike advertisements in the past, these ads specifically addressed the kinds of cancers that HPV causes and directly connected it to a level of severity. The actions of the actors within these advertisements oftentimes did not reflect a level of severity as they were shown to be completing everyday activities like running, yoga, lifting weights, and walking. Oftentimes the perceived severity construct would follow a similar pattern to the perceived susceptibility construct by emphasizing the severity of HPV early in the advertisements and then following it up by presenting the vaccine as the solution.

Health Belief Model Construct 3: Perceived Benefits

Perceived benefits, as defined in the codebook, are statements regarding the medical benefit of using the vaccine and/or other methods of preventing HPV. Perceived benefits are slightly evident in all advertisements but are not a point of focus like perceived susceptibility and perceived severity. Perceived benefits came from the viewpoints of parents and individuals. In the older advertisements like “Tell Someone”, “One Less”, and “I Knew” the perceived benefit of the vaccine was targeted towards the mother as the benefit being a way to protect her

daughter. A statement from "One Less" reflects this, "With Gardasil my daughter can be one less, your daughter can be one less." An example of a perceived benefits code from the "I Knew" advertisement is, "I knew there was a vaccine available that could help protect her before she could be exposed to HPV." In this instance, the perceived benefit is the fact that this child will be presumably protected because they received the vaccine. In the newer "HPV Helping Protect" advertisement this marketing towards parents for the benefit of their child continues, "Now as the dad cab, it's my cue to help protect them" and "Embrace this phase, help protect them in the next." Oftentimes, when a parental figure is included in the advertisement there is a statement made about protecting their child from HPV thus connecting the vaccine as a benefit to preventing cancer.

Health Belief Model Construct 4: Perceived Barriers

Perceived barriers are defined in the codebook as statements made about conditions and/or side effects that might prevent vaccine usage. Perceived barriers played a similar role in how benefits were utilized as they were present in all advertisements but never the main focus. Perceived barriers were incorporated within advertisements when symptoms and conditions were mentioned. For example, "The most common side effects include injection site reactions, headache, fever, nausea, dizziness, tiredness, diarrhea, abdominal pain, and sore throat" and, "Fainting can also happen after getting Gardasil 9". In these instances, it can be presumed that the list of symptoms/conditions can be taken as a perceived barrier to receiving the vaccine.

Health Belief Model Construct 5: Cues to Action

Cues to action are defined in the codebook as statements reflecting a level of action being taken against HPV. This construct was not evident in all of the advertisements and only played a small role within the advertisements it was included in. It played a large role in the early "Tell

Someone" advertisements as the main purpose of that ad was to prompt women to spread the word about HPV. The focus of spreading the word was illustrated by, "I'm gonna tell someone that I love" and "I'm gonna tell my daughter." However, as more advertisements came out its role became more subtle and took shape in the form of, "Talk to your doctor or pharmacist about Gardasil" and "The CDC recommends HPV vaccination for 11- and 12-year-olds." Cues to action became evident by prompting action through speaking to a doctor about the vaccine and its potential benefits.

Other Elements

During the textual analysis phase, emphasis was placed on the code book grounded in the health belief model. However, an effort was made to stay open to new possibilities that could arise in the data. Upon review of each advertisement, it became apparent that while HPV is an STI there was never any mention of sexual transmission or how receiving the vaccine can protect those you come in sexual contact with. A key component of this vaccine is receiving it before sexual activity however sex is never referenced in any advertisement. It is critical to include this topic within the advertisement as college-age males have a high risk of STIs and have a low level of awareness of HPV (Goldfarb & Comer, 2022; Laserson et al., 2020; Tatar, 2017). Also apparent throughout the analysis was the lack of male figures within the advertisements. In the early advertisements, Gardasil had not yet been approved for male use; the only relationships shown were mother-daughter. There was never any relationship depicting a father and his daughter talking about Gardasil/HPV. This continued emphasis on the femininity of HPV is reinforced by the decision-making to not include fathers in a conversation about the Gardasil vaccine. It was not until much later in the "Get Out of My Face" advertisement that a father was shown with his

daughter in a Gardasil advertisement. This hesitation to incorporate males and females together in a topic about HPV further adds to the overall thinking that Gardasil is just for women.

Table 3: Summary of Textual Analysis Results

CONSTRUCTS	DEFINITION	EXAMPLE FROM ADVERTISEMENTS
Perceived Susceptibility	Statements and/or visual cues regarding people at risk of the disease	"I chose to get my daughter vaccinated because I want her to be one less woman affected."
Perceived Severity	Statements and/or visual cues reflecting the serious nature of HPV and its consequences	"Who knew that HPV can cause certain cancers and diseases in females and males?"
Perceived Benefits	Statements and/or visual cues regarding the medical benefit or other prevention method for HPV	"Gardasil is the only cervical cancer vaccine that helps protect against four types of HPV."
Perceived Barriers	Statements about conditions/side effects that might prevent vaccine usage	"Gardasil is not for women who are pregnant."
Cues to Action	Statements and/or visual cues reflecting a level of action being taken against HPV	"What will you say? Don't wait talk to your child's doctor today."

Chapter Five: Discussion

In the past, Merck HPV advertisements have consistently targeted their messages toward women, thus females have a greater understanding and knowledge about HPV and the vaccine than men (Daley et al., 2017). For college-aged males, the HPV vaccination rates are only 46 percent, while female vaccination rates continue to be higher at 55 percent (American College Health Association, 2023). The health belief model was the foundation of this study as the model is often incorporated within vaccination behavior research (Champion & Skinner, 2008). The model gives a framework of constructs that seek to predict behavior change which was directly applied to the interviews and textual analysis methods used in this study. To gain a better understanding of which elements of the health belief model are influential toward male vaccination behavior this study exposed participants to the "Numbers Move You" Merck Gardasil advertisement. Upon the conclusion of interviews, a textual analysis was conducted of all Merck Gardasil/HPV advertisements to further understand what constructs of the health belief model have been utilized. In conjunction with the interview data, the data uncovered from the textual analysis is used to make knowledgeable recommendations for future advertisements. To make Gardasil more of an accepted tool for male HPV prevention, this study expands on Daley et al. (2017) calls to make HPV communication tools more accessible to males and Malkowski's (2013) calls to study how to re-classify HPV more inclusively. By using multiple methods of analysis this study determined what is influential for males in intent to vaccinate and thus make practical recommendations for practitioners to use in pharmaceutical advertisements in the

future. Each theme and construct, alongside recommendations, will be explained in more detail in the following section.

Constructs and Themes

This study identified the five constructs of the health belief model that were apparent in the data including perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action. According to the literature on the health belief model, for a person to effectively change their behavior, there needs to be a degree of perceived susceptibility and severity and a level of perceived benefits (Champion & Skinner, 2008).

Concerning the interviews, many study participants were lacking in the degree of perceived susceptibility, perceived severity, and perceived benefits. There was a high degree of perceived barriers. The theme that was apparent throughout all participants' feedback was that lack of knowledge on the topic is a main factor hindering the intention to receive the vaccine.

Regarding the textual analysis phase, perceived severity was the most emphasized construct throughout the advertisements. Perceived susceptibility was heavily emphasized in the early advertisements which solely targeted women. As the advertisements became more recent and in 2016 began featuring men and women the perceived susceptibility construct became less apparent. Newer advertisements have a common theme of focusing on perceived severity and perceived benefits. All of the advertisements within the textual analysis sample lacked educational information about HPV. A more detailed explanation of the roles these constructs had to play will be developed in the following sections.

These findings can be useful for future HPV pharmaceutical advertisements to increase male engagement and thus increase their vaccination rate.

Role of Perceived Susceptibility

The results of these interviews show that a little under half of the participants do not feel a degree of susceptibility to HPV. Participants did not feel at risk because they did not know enough about HPV to determine their risk level, and some participants believed the vaccine was more for older men and women. Participants also recognized a level of susceptibility but did not make the connection it could have on their own present lives. The data shows that the advertisement did not make an impact on participants susceptibility levels as they were not able to personally identify with the cause. A subset of participants felt that if the advertisement referenced how one contracts HPV, showed vaccination rates, and showed HPV infection rates, it could prompt action. These findings suggest that the participants did not feel high susceptibility levels because of their lack of knowledge. The connection between sexual behavior and HPV is lacking thus the misunderstanding of susceptibility levels (Grandahl et al., 2018). The advertisement did not make enough strides to be informative. With the majority of males not having an accurate understanding of HPV, the ad needs to include more general knowledge to capture the attention of the male audience and connect with them on how they are susceptible because of sexual transmission (Dodd et al., 2014). The lack of perceived susceptibility hinders the intention to vaccinate. Weinstein (1988) suggested that the perceived susceptibility construct should be broken down into three categories with the first category involving the awareness of a threat (Conner & Norman, 2015). From there, the second category involves the extent of how many people are likely at risk (Conner & Norman, 2015; Weinstein, 1988). The third and final category that Weinstein (1988) suggests is that only after those two stages have been completed will the susceptibility become personalized and the perceived susceptibility will be acknowledged (Conner & Norman, 2015).

From the textual analysis, perceived susceptibility was a construct that was strongly associated with advertisements from 2006-2008. During this time Gardasil was only being targeted towards women as it was not approved for male use at the time. With the strong emphasis on perceived susceptibility in the early advertisements, it solidified in the minds of the audience as HPV being a vaccine for girls/women. Perceived susceptibility was often the focus of how girls are at risk of HPV through visual cues as well as through the language used. The early advertisements used many references/words that focused on females' risk levels and the need for mothers to protect their daughters. Furthermore, the visuals accompanying this language were often mother-daughter figures, males were not included. The emphasis on perceived susceptibility in the early advertisements aided in the overall stereotype of Gardasil being a vaccine for women and girls. With Gardasil being approved for male use in 2009 (Markowitz et al., 2007) more advertisements were released and in 2016 the first ad featuring boys and girls presumably infected with HPV was shown. In contrast to the earlier advertisements first released about the Gardasil vaccine, these newer advertisements placed more of an emphasis on perceived severity and neglected perceived susceptibility. It is important to note the seven-year gap between approval for male use and a subsequent advertisement finally featuring men and women.

Due to the significant presence of susceptibility in the early advertisements featuring just women it is important to carry that over to the newer ads featuring men and women to show the same levels of susceptibility to HPV for men. Based on the interview data participants needed more explanation of what HPV is and if they are susceptible to becoming infected. The recent advertisements have not included enough components to link the male audience watching to their understanding of their susceptibility levels. As participants did not glean enough information

from the advertisement, they were not able to accurately assess their susceptibility levels thus the susceptibility construct did not contribute to their decision-making process. To make the personal connection of susceptibility levels to HPV an awareness/knowledge of the disease needs to be evident (Weinstein, 1988). To combat the stereotype of Gardasil being a "girls' vaccine" more of an effort is needed to incorporate perceived susceptibility as once this construct is increased there is potential for HPV vaccination uptake (Alsulami et al., 2023). Specifically, this includes stating how high the susceptibility levels are for males and more general information about HPV. This area of development coincides with the role that lack of knowledge plays across the entire study, which will be further developed later in this section.

Role of Perceived Severity

Results of the interviews show that a minuscule number of participants believe that HPV is serious and could influence their day-to-day life. The remainder of the participants either felt that HPV was not serious, or they did not know the severity of HPV. Like the perceived susceptibility construct participants believed a level of severity addressing HPV should be included in advertisements so that they could accurately understand the threat level. This data suggests that the advertisement, which shows people doing everyday activities like lifting weights and yoga, is not enough to catch the attention of these viewers as it avoids addressing the possible severity of the situation. The "Numbers Move You" advertisement did mention the types of cancers that HPV causes, but many of the participants either did not realize this as it blended in with the ad or it did not stand out to them as potentially affecting their lives. Due to this, future advertisements should focus on the setting of the ad, the actions being taken, and the actors incorporated in the advertisement. The normal activities shown in the "Numbers Move You" ad did not resonate

with this audience in terms of severity levels for HPV. A lack of perceived severity hinders the intention to vaccinate.

From a textual analysis standpoint, it was found that perceived severity was the most common construct incorporated into the advertisements. In the early advertisements, including "Tell Someone", "One Less", "I Choose", "Who Knew", and "Did You Know" the threat of cervical cancer was often the main point of focus. When Gardasil was only approved for female use, the narrative often followed along the lines of opening with a threat on perceived susceptibility moving into a perceived severity role of cervical cancer, and following up with Gardasil being the solution (perceived benefit). These advertisements excluded any information about how HPV is spread through sexual contact resulting in many unknown variables about HPV other than Gardasil being a cervical cancer prevention tool. By mentioning cervical cancer, it specifically connects the disease to females and excludes males. While still vague in the specifics about HPV the connection of cervical cancer makes it a more relevant issue to the female audience watching. However, as the advertisements started focusing on both males and females, as Gardasil became approved for male use, this same specification of cancers for males did not continue. Specifically, the "Did You Know" campaign in 2016 was the first Gardasil advertisement that included males and females (Grantham et al., 2020). During the advertisement, the female actor specifically addresses that she has been infected with HPV resulting in the fact that she now has cervical cancer. The specific connection between HPV and cervical cancer in a female has been made. The females watching this advertisement can clearly and explicitly see how HPV can have a serious effect on their bodies. However, when the male actor speaks, he addresses that he has HPV and now has cancer. The specifics of what cancer he has been infected with are not included. A severity construct is addressed as the cancer diagnosis

is continually a point of emphasis, however, the specifics of how it connects to males are not being conveyed. The differences in gender portrayal within HPV advertisements are being continued through the language used. In recent advertisements perceived severity is still the main construct of emphasis by focusing on the types of cancers that HPV can cause. The most recent advertisements "Numbers Move You" and "Helping Protect" addressed other cancers that HPV can cause like. "head and neck cancers", "throat cancers", "back of mouth cancers", and "genital warts". This was the first time that cancers other than cervical cancers have been addressed.

Based on the interview data, perceived severity could be a potentially influential factor for vaccination behavior change however the way it is presented within the advertisement is not capturing the attention of the male audience. A personal connection between the severity of HPV and the potential infliction on their own lives is missing. This is a crucial construct to include within advertisements as studies have found that a level of perceived personal severity of the disease can affect health behavior change (Carpenter, 2010; Jones et al., 2015; Rollins et al., 2014; Shmueli, 2021; Zampetakis & Melas, 2021). With the focus of early advertisements on cervical cancer, more emphasis on how HPV can affect the male body is needed. With newer advertisements beginning to specifically address other cancers besides cervical cancer, it needs to be in conjunction with actions/settings that reflect this severity rather than actors carrying out normal activities that blend into the background. Due to the past aggressive targeting of Gardasil for cervical cancer prevention in women, it is paramount that future advertisements be re-storied dramatically to include men and women on an equal severity level (Malkowski, 2013). Furthermore, the continuing theme of lack of knowledge plays a pivotal role within the perceived severity which will be developed further in a later section.

Role of Perceived Benefits

The perceived benefits of the vaccine were not an influential factor in the participants intention to get vaccinated. As the data shows, half of the participants recognized that they acknowledge the personal benefits that come alongside vaccines, but they did not have high levels of concern due to their low levels of susceptibility and severity. Before perceived benefits can play a role in behavior change, there needs to be a high degree of susceptibility and severity (Champion & Skinner, 2008). The behavior intentions, in terms of health behavior, increase when the perceived susceptibility and severity are higher (Rollins et al., 2014). Once these constructs are at play the personal connection of the benefit of the recommended action will be more influential. These findings further suggest that the advertisement needs to place more emphasis on how people are at risk of HPV, and if infected with HPV, how it could affect one's life. Once those aspects are included in the advertisement then the benefits of partaking in the vaccine could be increased dramatically.

From the textual analysis findings perceived benefits were a construct that was present throughout all the advertisements but was not the main focus as perceived susceptibility and severity often were the points of emphasis. Perceived benefits were incorporated within the advertisements as a personal benefit due to the prevention that Gardasil can have against certain cancers. Oftentimes the susceptibility of HPV was introduced, the severity of HPV was presented, and then followed up with the Gardasil vaccine being the benefit of protecting against the severity of HPV. In the early “One Less” advertisements the benefits of the advertisement would shift from the mother’s perspective and then back to the individual. The mother saw the benefit of the vaccine to protect her child and the girl saw the vaccine as a benefit to protect herself. This strategy of shifting between parents and the individual continued throughout the

newer advertisements. In the "Side Hug" and "Dinner Child" advertisements featuring young children, the benefits were narrated through the role of the parent. Thus, the parent sees the benefit of the vaccine as a way to protect their child. In the "Numbers Move You" and "HPV Helping Protect" advertisements the intended audience is not children thus benefits are seen as individual benefits. There is a pattern of when young children are the focus of an advertisement having an authority figure, like parents, being the voice of reason. While advertisements featuring older adults leave that parental figure behind. Due to the nature of HPV and its sexual transmission aspect, the benefit of protecting those around you is a prominent feature missing. The HPV vaccine has altruistic benefits including preventing the transmission of HPV and protecting sexual partners which has the potential to affect the decision-making process in males (Grandahl et al., 2018). Including this element in HPV advertisements have the potential to capture the attention of a new male audience by addressing the benefits of protection for not only the individual but others as well.

Based on the interview data the benefits of the vaccine are acknowledged but because there is still a lack of knowledge about the severity and susceptibility levels that are relevant to males the perceived benefits alone are not an influential factor for behavior change. There is a positive correlation between those who have an accurate understanding of HPV and thus attitudes toward vaccination (Cipriano et al., 2018). Across all advertisements, the role that perceived benefits played was in personal protection from HPV excluding the fact that it can help protect those who you come in sexual contact with. This benefit of protecting others is an element that can be utilized in future advertisements, alongside perceived severity, and susceptibility constructs as a combination of these can result in behavior change (Champion & Skinner, 2008). Furthermore, the full extent of the perceived benefits of the vaccine will not be

understood effectively until the audience understands what HPV is from an educational standpoint (Read et al., 2010). Once informational elements are included the full extent of the benefits of the vaccine can be understood regarding personal protection as well as protection for others. Once the perceived benefits of the vaccine are understood, in conjunction with personal threat, the potential for behavior change is realized (Shmueli, 2021).

Role of Perceived Barriers

The role of perceived barriers was extremely high for the majority of participants as most acknowledged some form of barrier inhibiting them from getting the vaccine. These barriers included reasons such as the participants being worried about the side effects, the inconvenience aspect of getting a vaccine, personal reasons, and a lack of knowledge about the vaccine and virus. The data suggests that if the advertisement includes an informative/educational aspect, there is the potential to reduce participant barriers (Grandahl et al., 2018) With the perceived barriers decreased it could potentially lead to behavior change, assuming that there is a level of susceptibility, severity, and benefits. Based on the data, the perceived barriers of these participants are a crucial explanation for their lack of intention to get the vaccine.

From the textual analysis, the perceived barriers were evident within all advertisements. This is to be expected due to the regulation requirements of pharmaceutical advertisements. The perceived barriers were evident in the forms of listing the side effects of the vaccine and listing conditions for those who are not able to receive the vaccine. However, information not included in the advertisements can also be classified as a barrier. Across all the advertisements included in the textual analysis, there was never any information about the sexual transmission of HPV. This is critical information that could better inform the audience and overall aid in decreasing barriers because they are more informed.

Based on the interview data, cited reasons for barriers included a scope of reasons including lack of knowledge, personal biases regarding vaccines, and inconvenience. The advertisements reflected barriers when it came to listing side effects, which due to requirements cannot be withdrawn from advertisements. However, as uncovered through the textual analysis there are other opportunities to decrease the level of perceived barriers by including educational aspects of HPV within the advertisement. Educational components included in advertisements can help aid in the acceptance of the vaccine and overall perception of HPV, thus decreasing perceived barriers (Grandahl et al., 2018; Sitaresmi et al., 2020). From the interview data, a common barrier mentioned was lack of knowledge presenting a clear opportunity and the need to include information in the ad about specifics of HPV to decrease these levels of barriers. Information presented within HPV advertisements focusing on increasing awareness and knowledge can lead to more positive beliefs about potential HPV vaccination behavior among males (Grandahl et al., 2018).

Role of Cues to Action

The majority of interview participants believed in the role cues to action played in vaccination and most mentioned the importance of a family or doctor recommendation. Participants are far more likely to receive the vaccine if a trusted family member or doctor has recommended it. Healthcare provider recommendations have a positive connection to addressing those with vaccine hesitancy (Grandahl et al., 2018). Some participants mentioned that a family member's recommendation would be more influential to them than a doctor’s. Trust was a common thread to whom the participants respected the opinion. The data suggest that personal recommendations could be more influential than an advertisement. Due to this information, Merck could go a different route and target parents of college-aged males in hopes that they would pass the

information and recommendation along to their sons. Participants also recognized that if the advertisement included recent data and statistics about HPV, they would potentially be more open to receiving the vaccine. Furthermore, making the advertisement more informative about the general details of HPV could increase awareness and thus increase vaccination rates in males.

From the textual analysis, the cues to action construct were routinely evident near the end of the advertisements in the form of promoting the audience to talk to their doctor about HPV vaccination. In the very first advertisement "Tell Someone" an emphasis was placed on cues to action as the focus was on spreading awareness of HPV thus calling for the audience to spread the word about HPV. From then on many of the Gardasil advertisements targeted the cues to action construct to the parental figures often citing, "Don't wait talk to your child's doctor today." The recent advertisements of "Numbers Move You" and "HPV Helping Protect" took more of a direct approach to the individual with statements of "Talk to your doctor or pharmacist about Gardasil". This approach targets the individual rather than the parent first.

From the interview data for the cues to action construct to be effective more emphasis is needed on other factors than prompting the audience to talk to their doctor. Citing factors of including recent statistics of HPV aligns with the need for overall including more information so that the male audience can be better informed about what HPV is. The expression of more information about the disease to potentially prompt action (Grandahl et al., 2018) continues to be a consistent theme across the study and all of the constructs. A study conducted specifically on cues to action and HPV vaccination found that education cues were a prominent factor in willingness to receive the HPV vaccine (Morgan et al., 2010). An informative component included within the advertisements can add to the effectiveness of the cues to action construct.

Role of Lack of Knowledge

Lack of knowledge, which is not a construct of the health belief model but a modifying factor, is a theme prominent across all the data. Most participants mentioned they had a lack of knowledge about HPV and the Gardasil vaccine. Furthermore, among most participants, a group mentioned a direct correlation between their lack of knowledge about HPV and their apprehensions about getting the vaccine. A lack of knowledge was in connection with perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. The data shows that a significant number of participants are not receiving the vaccine since they do not have a full understanding of HPV and the Gardasil vaccine thus lacking that personal connection of how they can be affected. Furthermore from 2010-2020, lack of knowledge was one of the main trends that were listed for HPV vaccine hesitancy (Boakye et al., 2023).

Regarding the textual analysis, it became apparent that there was a consistent lack of educational component within the advertisements. HPV is a STI but the sexual transmission of this is never addressed. Not including any mentions of sexual transmission misses an opportunity to aid in educating the male public about a disease that is already lacking awareness (Laserson et al., 2020; Tatar, 2017). The education level for males, regarding HPV, is not sufficient. The data suggests that if the knowledge level of college-aged males is increased to have a fuller understanding of HPV, then they will be more receptive to receiving the vaccine. Because their knowledge has increased, they will have a more accurate understanding of the connection between their lives and the constructs of the health belief model. For example, if their knowledge increases, they will have a better awareness of their personal susceptibility levels to HPV (Weinstein, 1988). The lack of knowledge that the participants have about HPV has a direct effect on their comprehension of susceptibility, severity, benefits, and barriers (Champion &

Skinner, 2008). Individuals who lack knowledge about a virus cannot be expected to feel empowered to decide, since they do not know the extent of how they could be affected.

Regarding research question one, the data suggests that the majority of participants did not feel susceptible to HPV, did not feel that HPV could be a serious issue, recognized multiple barriers preventing them from getting the vaccine, and did not know enough about HPV to make an informed decision. Many participants acknowledged that they would be more likely to receive the vaccine if a doctor or trusted family member referred them. The common thread throughout the data was the lack of knowledge that the participants felt about HPV and the vaccine. The advertisement did not inform participants enough about HPV for them to feel empowered to decide. With a lack of knowledge, participants were not able to feel important levels of perceived susceptibility, severity, and benefits to change their behavior.

Concerning research question two, the data suggests that current Gardasil advertisements are utilizing a strategy of incorporating perceived severity and perceived benefits. In the recently released "Numbers Move You" and "Helping Protect" advertisements specific cancers that HPV causes are addressed. "Head and neck cancers", "throat cancers", "back of mouth cancers", and "genital warts" are specifically addressed in a Gardasil advertisement for the first time. Past advertisements did not include this severity construct but rather would allude to what cancers HPV can cause, without explicitly stating it. The script of the advertisement itself is playing on the perceived severity construct but the actions of the actors do not correlate as they are shown participating in normal activities. The newer advertisements follow a pattern of emphasizing perceived severity and then following it up in a perceived benefits manner by presenting the vaccine as the solution. The recently released advertisements continue to lack educational information in terms of what HPV is.

These results in combination with data from the textual analysis suggest that for future HPV advertisements, an educational aspect must be included. Similar health belief model studies found that educational interventions are a crucial component in prompting behavior change (Golshiri et al., 2023; Sharifikia et al., 2019; Vadhariya & Sansgiry, 2015). A brief description of HPV, its symptoms, and how it is transmitted are all crucial pieces of information that can make a viewer more informed and empowered about deciding to vaccinate. Future advertisements should also recognize that actors participating in normal activities like running and yoga are not capturing their audience's attention. The setting and environment of the advertisement should reflect the severity of the disease to catch the attention of the viewers about the perceived severity. A combination of showing and telling of the consequences should be incorporated. Once knowledge, perceived susceptibility, perceived severity, and perceived benefits have been increased, it is more likely one will act in favor of the recommended action (Champion & Skinner, 2008). Specifically, concerning the health belief model constructs, to increase levels of perceived susceptibility the advertisement should intervene by providing accurate representations of risk levels (Orji et al., 2012). For increasing levels of perceived severity, the advertisement can intervene by accurately demonstrating the consequences of the virus in conjunction with the vaccine as a solution (Orji et al., 2012). To increase perceived benefits, the advertisement can utilize techniques like positive reinforcement to demonstrate the positive aspects of getting the vaccine (Orji et al., 2012). To decrease levels of perceived barriers the continuation of including educational aspects is needed (Orji et al., 2012). Furthermore, to emphasize the cues to action construct a focus on how receiving the vaccine can protect others could improve males' attitudes toward receiving the vaccine (Laserson et al., 2020).

College-aged males are behind in their HPV vaccination rates compared to women (American College Health Association, 2023). Due to this, the assumption is made that a goal for the Gardasil vaccine is to equalize these rates. To accomplish this, advertisements targeting males are needed. Because of the dramatic fashion that Gardasil was marketed towards women a similar sense of commitment is needed to capture the male audience about the need to vaccinate (Malkowski, 2013). Future HPV and Gardasil campaigns need to make up for this by restoring the narrative and framing HPV as a disease that affects males, not just women (Laserson et al., 2020). For future advertisements, it is suggested the focus be solely on males to emphasize the notion that Gardasil is also a tool for cancer prevention in males. In addition to emphasizing cancer prevention, a focus on how the vaccine can protect sexual partners should also be included. Due to the effectiveness of the health belief model in predicting health behavior change the advertisement should ground their decisions based on the traditionally influential constructs of severity, susceptibility, and benefits (Champion & Skinner, 2008). A separate campaign, following a similar structure to the "Tell Someone" and then "One Less" advertisements is needed. Opening an awareness campaign that describes what HPV is and the susceptibility level that it has in males can be an efficient way to start the education process. From then on producing advertisements that focus on the specific severity levels that HPV can have on men and then presenting Gardasil as the benefit/solution. A key component to capturing the male audience is the initial awareness stage as the data has reflected that lack of knowledge is a factor hindering the influence of the health belief model constructs. The channels through which these ad campaigns are placed should cover streaming platforms as well as major networks during live sporting events. To further decrease barriers a separate website dedicated to this campaign should be created. The website can include learning resources about HPV, the Gardasil vaccine,

and where they can receive the vaccine. Once the education aspect of HPV has been fully covered it is more likely that the health belief model constructs will be effective. College-aged males have little awareness about the specifics of HPV and because of this are not acting as information seekers from any sources, like an advertisement (Grantham et al., 2020). With the education of HPV put in place thus decreasing barriers, advertisements can focus on emphasizing the constructs of perceived susceptibility, perceived severity, and perceived benefits in a manner that reaches the male audience. Education is a critical component to decreasing barriers that are preventing vaccine uptakes by males (McMahon, 2018). To better grasp the attention of the male audience, HPV advertisements need to employ these strategies in an effort to increase the rates of male vaccination for Gardasil. Furthermore, these strategies, based on the health belief model, can be expanded to other areas of vaccines seeking to market to newer audiences.

Limitations

A limitation of this study comes down to the interviewer and interviewee relationship. Due to the nature of this study, reflexivity was a priority. Berger (2013) eloquently describes reflexivity as:

> It means turning of the researcher lens back onto oneself to recognize and take responsibility for one's own situatedness within the research and the effect that it may have on the setting and people being studied, questions being asked, data being collected and its interpretation" (p. 220).

It can be assumed that a female interviewer asking male participants questions about HPV could cause at least low levels of embarrassment or discomfort from the male participant's perspective. Male participants might feel more at ease conversing with another male interviewer when discussing HPV. Further interviews should be conducted with a male moderator to test this.

Conclusion

This study suggests that for college-aged males' vaccination rates to increase, HPV advertisements need to elaborate on the general details of HPV and frame their messages emphasizing the susceptibility, severity, and benefits constructs of the health belief model. HPV advertisements should focus on educating the male-specific audience on the behavior that makes one susceptible to HPV and how it could impact their life. HPV advertisements that focus specifically on male health issues about HPV could potentially have more engagement from that targeted sample to thus seek out more information (Grantham et al., 2020). Due to the emphasis that HPV and Gardasil advertising placed on females in the early stages, a similar effort is needed towards males to potentially equalize the vaccination rates. HPV advertisements that do not address the sexual transmission aspect of the virus are doing a disservice to those who are not aware of the risk. Future HPV advertisements should focus on increasing males' knowledge by being more direct about HPV instead of hiding behind a farcical advertisement. HPV is a serious virus that people should be informed about to decide on their health.

Newer advertisements targeting the male population based on these health belief model constructs are important not only for individual health but for public health in general. With the history of HPV and the Gardasil vaccine being marketed towards women, it is crucial to get strategic messages out to the public that HPV can affect males. Depicting accurate messages to males about HPV is critical to stop the spreading of the socially constructed narrative that Gardasil is "the girls vaccine" (Andreou, 2018). It is crucial to continually strive to push for the public's improved health and overall well-being through a strategic messaging lens.

Future Research

Pursuing research within the DTCA field specific to vaccination behavior is a critical topic to research as it involves the overall safety of the public as well as keeping pharmaceutical companies accountable for what they are exposing the public to. Direct-to-consumer advertising has been shown to influence patients' behavior in terms of reaching out to their primary care provider, increasing awareness, and even removing the stigma of a disease (Sathorn et al., 2018). Due to this direct influence, this study examined the impact of HPV advertisements on male participants intent to vaccinate, through focusing on the health belief model constructs. College-aged males are a subset of the population that has high-risk levels of HPV combined with low levels of knowledge about how HPV can affect them (Laserson et al., 2020; Tatar, 2017). This study found that participants were consistently lacking awareness of their susceptibility and severity levels to HPV. Due to this lack of awareness, the discernable benefits of receiving the vaccine were unclear and not persuasive enough to change their behavior toward getting the vaccine. An overall lack of knowledge about HPV was a main factor hindering the intention to vaccinate. Furthermore, educational components within all past advertisements about HPV are lacking thus continuing this deficit of knowledge. Many participants were conscious of the fact that if they became aware of their susceptibility and severity levels it could potentially cause a behavior change towards taking the recommended health action. The data uncovered from this study supports the notion of the health belief model that when there is a level of perceived susceptibility and severity in conjunction with the benefits being identified, it can lead to a change of behavior (Champion & Skinner, 2008). Due to these findings, this study implores that in future HPV/Gardasil advertisements, an educational factor of HPV is introduced, including sexual transmission, then utilizing the severity and susceptibility constructs as the audience will

now have a better understanding after being informed of HPV. From there the perceived benefits of the vaccine will be increased as it will be offered as a personal solution to minimizing the risks of HPV.

Theoretical Implications

Knowledge affecting vaccination behaviors was a consistent theme at play throughout the study, more research needs to be conducted to determine how perceived knowledge can be specifically worked into the constructs. Knowledge is more than a modifying factor. Perceived knowledge is a significant determinant of behavior change that taps into all the constructs. Perceived knowledge, an individual having an accurate understanding of HPV, an inaccurate understanding of HPV, or a lack of knowledge about HPV are all significant determinants for behavior change. Population groups that have low levels or inaccurate levels of knowledge about a disease cannot be properly influenced by the health belief model because an understanding that they are at risk is missing. This study proposes further research to be done that specifically states perceived knowledge as an overarching construct that affects vaccination intention. Specifically, how individuals with low levels of knowledge, medium levels of knowledge, and high levels of knowledge regarding a disease are then influenced by the health belief model constructs after exposure to vaccination DTCAs. This study advances the notion that without proper knowledge levels of perceived severity, susceptibility, and benefits then the goal of a DTCA to influence vaccination uptake on its intended audience will not be achieved. Future research done in terms of DTCA should evaluate the intended audience's knowledge levels of a certain disease/drug to thus understand how to portray the influential constructs of the HBM within the ad more effectively. Perceived knowledge is a factor that has to be recognized and fulfilled before the constructs of the HBM can affect behavior change.

Policy Implications

The overarching theme of lack of knowledge being a determining factor in affecting vaccination behavior leads to another avenue of research to be done regarding FDA regulations on DTCA. Through a health belief model framework, the role that lack of knowledge plays in a person's desire to vaccinate is evident, so practically speaking it would be safe to assume that pharmaceutical companies should take advantage of this by incorporating awareness campaigns into their marketing and advertising strategies. Increasing knowledge of a disease can potentially increase vaccine uptake. However, within DTCAs educational aspects of the disease or drug are often lacking to target human emotions instead, the emphasis has been placed on persuasion rather than education (Hood, 2009). Overall, DTCA's are focusing more on emotional components than informational components (Applequist & Ball, 2018; Frosch et al., 2007). The large role that knowledge has been shown to have on participants' intent to vaccinate begs the question of whether stricter educational guidelines should be incorporated into the FDA regulations of DTCA. PhRMA has incorporated principles into their guidelines, for prescription drugs, emphasizing that they choose to go beyond what the FDA requires in terms of increased efforts in education and treatment options (Applequist & Ball, 2018). However, these self-imposed regulations have not improved the overall educational aspect of DTCAs as a strong emphasis on emotional components is still at large (Applequist & Ball, 2018; Frosch et al., 2007). This study advances the notion that educational/informational requirements should be reevaluated in terms of FDA regulations of DTCAs to ensure that accurate information about a disease is being presented to the public (Kaphingst & DeJong, 2004). As of 2023, the FDA released new guidelines for the "major statement" requirement in prescription drug advertisements (Food and Drug Administration and Department of Health and Human Services,

2023). This outlines that the information about the drug, including its side effects and any contradictions, must be addressed neutrally (FDA & HHS, 2023). This study advances that, specifically for vaccine advertisements, an educational component describing what the disease is, in this case HPV, is needed. More information than the side effects of the vaccine and what it claims to prevent is necessary in order to fill the knowledge gap. An educational component of the basics surrounding what HPV is and how it is transmitted is needed. With that information, the public can base their decision on vaccination behavior on facts rather than emotional manipulation. Information required for DTCA of vaccines should include information about causes, common misconceptions, risk factors, and in the case of HPV about sexual transmission (Kaphingst & DeJong, 2004). Further research should investigate the incorporation of stricter educational components in revised FDA regulations specific to DTCA's marketing of vaccines.

Managerial Implications

This study chose to specifically focus on the Gardasil vaccine through HPV advertisements to better understand what influences male vaccination behavior and to seek out ways to equalize the vaccination rates between males and females. Future HPV advertisements should include an educational component about the disease and then transition into the susceptibility and severity constructs. Once the educational component has been developed within the advertisement the public will potentially be able to have a personal connection to their own susceptibility and severity levels (Weinstein, 1988). With that personal connection, the vaccine being presented as a benefit will be increased thus potentially changing behavior to accept the recommended health action. These findings, while specific to the Gardasil vaccine, are based on the health belief model which can potentially be applied to advertising and marketing efforts attempting to increase vaccination uptake across a variety of vaccines like COVID-19. This study suggests a

model for vaccination DTCAs that has multiple stages. The first stage is the awareness and educational stage. Based on the findings from this study it is evident that the lack of knowledge about a disease is a defining factor in people's intention to vaccinate. The public needs to be educated about what a disease is before a vaccine is offered as the solution. This stage can take the form of an awareness campaign like Merck's "Tell Someone" HPV campaign but with an added emphasis on the educational aspects of the disease. For future advertisements that are promoting the Gardasil vaccine, this would include specifics about how HPV is spread through sexual transmission while for COVID-19 it could debunk common misconceptions that the public has about the disease. The specific information to include during the educational stage would depend on the vaccine being marketed. During the awareness stage, it is important to discern who the audience is to target the right media channels. For an awareness campaign of HPV focused on increasing vaccination rates in college males this might mean shifting from a broadcast advertising channel to a streaming services and social media channels. Once the targeted audience has been informed of the disease, the next stage, heavily influenced by the health belief model constructs, takes place. The awareness campaign sets the stage for the introduction of the vaccine as a benefit. Based on this study's findings once the audience has been sufficiently educated about the disease is when the constructs of the health belief model will have the most potential to influence behavior change. Incorporating accurate representations of susceptibility and severity and then utilizing perceived benefits, by offering up the vaccine as a solution to the threat, potentially leads to behavior change. It is important to note that while the intended audience should be accurately informed of their risk level the message should not turn into an overpowering fear appeal (Kim & Lee, 2012). It is of the utmost importance to thoroughly research the targeted audience for the advertisement and choose to depict the accurate

levels of risk based on the right match of emotional appeal that will not turn into unintended negative consequences (Kim & Lee, 2012). Presenting information that enlightens the audience about their severity and susceptibility levels, without manipulation or exaggerated emotional appeals, is a strategy future research can take.

Since the Gardasil vaccine in the past has traditionally, aggressively, been marketed towards females as a way to prevent cervical cancer this study suggests that future HPV/Gardasil advertisements focus on males. There is a socially constructed stereotype and misunderstanding of Gardasil being a "girls vaccine" (Andreou, 2018). Males are at risk of HPV but less has been marketed to them about this vaccine. By utilizing the health belief model in this qualitative study, it is recommended that future HPV advertisements target the male population through an educational stage and then through focusing on the proven influential constructs of an increased level of severity, susceptibility, and then an increased level of benefits as offering the vaccine as a way to prevent cancer within males.

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Appendix A: IRB Exempt Status

EXEMPT DETERMINATION

Dear Lauren Kierpa:
On 3/1/2023, the IRB reviewed and approved the following protocol:

Application Type:	Initial Study
IRB ID:	STUDY005396
Review Type:	Exempt 2
Title:	Influence of Merck Gardasil 9 Advertisements on Male Vaccination Behavior Through a HBM Framework.
Funding:	None
Protocol:	• Protocol ;

The IRB determined that this protocol meets the criteria for exemption from IRB review.

In conducting this protocol, you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Please note, as per USF policy, once the exempt determination is made, the application is closed in BullsIRB. This does not limit your ability to conduct the research. Any proposed or anticipated change to the study design that was previously declared exempt from IRB oversight must be submitted to the IRB as a new study prior to initiation of the change. However, administrative changes, including changes in research personnel, do not warrant a modification or new application.

Ongoing IRB review and approval by this organization is not required. 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 activities impact the exempt determination, please submit a new request to the IRB for a determination.

Sincerely,
Laura Alfonso
IRB Research Compliance Administrator