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RESEARCH

## Identifying Health Beliefs Influencing Hispanic College Men's Willingness to Vaccinate against HPV

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### ABSTRACT

This study identifies health beliefs influencing Hispanic college men's human papillomavirus (HPV) vaccine uptake decision making processes. Hispanic college men were interviewed about their HPV vaccine knowledge, and information seeking behaviors. Overall, participants did not view HPV infection or vaccination as an immediate concern or priority; belief that it was a virus that only affected women, and a sense of invulnerability informed their positions. Despite these issues, most men were willing to consider getting the HPV vaccine if they received more education from health care providers, and cost concerns were addressed. These findings pointed to gaps in our understandings of Hispanic college men's HPV vaccination beliefs and provided insight into the importance of integrating this population's unique beliefs into campus health providers efforts aimed at increasing vaccination rates.

### KEYWORDS

Hispanic men; HPV vaccine; masculinity

The most common sexually transmitted infection is human papillomavirus (HPV), which nearly all sexually active people will get at some time in their life (Centers for Disease Control [CDC], 2015). HPV causes most cervical and anal cancers, as well as genital warts. It can also lead to other such types of cancers as penile and throat (CDC, 2015). Fortunately, the HPV vaccine has been approved in the United States for young people ages 9–26, and has been identified as a safe and effective approach to preventing cancers and other HPV-related illnesses (Elbasha & Dasbach, 2010).

However, preliminary studies indicate that young men are not as willing as young women to be vaccinated (Elbasha & Dasbach, 2010; Jones & Cook, 2008; Katz, Krieger, & Roberto, 2011; López, Tanjasiri, & McMahan, 2008; Trad, Reardon, & Caraveo, 2013). As a result, between 65% and 93% of college men have HPV (Elbasha & Dasbach, 2010; Katz et al., 2011; López et al., 2008). This is concerning not only for men but also for women, as male-to-female transmission is the most common way women acquire the virus (Fontenot & Morelock, 2012; López, Tanjasiri, & McMahan, 2008).

Some barriers to HPV vaccination among males include gaps in knowledge about HPV, vaccine advertising focused on women, lack of vaccine recommendations from men's health care providers, and vaccination cost (Ferris et al., 2009; Fontenot & Morelock, 2012; Katz, Kam, Krieger, & Roberto, 2012; Reiter et al., 2013). These barriers are especially concerning when considering Hispanic<sup>1</sup> men, as they experience significantly higher rates of HPV-associated cancers than White men (CDC, 2008). Although Hispanic students are now the largest minority group attending four year colleges in the United States, reasons for the low vaccination rates among Hispanic college men remain unknown (Fry & Lopez, 2012).

Recognizing this, researchers and practitioners need to identify the subjective health beliefs of HPV vaccination perceptions and attitudes specifically among Hispanic college men. This is particularly important given that college is a critical time period for health decision making and engagement in sexual behaviors (Davies et al., 2000; Del Pilar, 2009; Downing-Matibag & Geisinger, 2009; Eisenman & Dantzker, 2004). Unfortunately, no studies examining HPV beliefs among college samples have focused exclusively on Hispanic men. The present study addresses this void in research by specifically identifying Hispanic male college students' subjective health beliefs about their understanding and willingness to receive the HPV vaccine.

## Review of the literature

In 2009 the CDC approved the HPV vaccine for men. Information about and availability of this vaccine quickly spread to college campuses, as most male college students were eligible to receive it (Katz et al., 2011) and were old enough to make the vaccination decision independently (Crosby et al., 2012). When specifically considering Hispanic populations, it is important to note that Hispanic women have the highest rates of HPV-related cervical cancer in the United States (Stephens & Thomas, 2014). Researchers often inferred that this trend is reflective of the incidences of infection among Hispanic men as the primary mode of acquisition for women is male-to-female contact and lack of access to health care (Franceschi et al., 2001; López et al., 2008). Further, Hispanic men have higher rates of HPV-associated penile cancer than other groups of men.

Thus, HPV vaccination in college has been promoted as a proactive approach to protecting Hispanic college men and their partners from HPV-related genital warts and other HPV-related illnesses (Jones & Cook, 2008; Katz et al., 2011; López et al., 2008). Researchers have also endorsed vaccination as an effective way to decrease the prevalence of such cancers as penile, rectal, and prostate, as well as head, neck,

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<sup>1</sup> We recognize that there is a debate between the use of the terms Hispanic and Latino. The term Hispanic was created by the U.S. government to identify people "who speak, are affected by or are Spanish-like" (Suro, 2006). It is incorrectly used to also identify other non-Spanish speaking nationalities such as Brazilians; this lack of cultural appropriateness is one of the critiques raised about the term Hispanic. However, as interviews for the present study were conducted in an urban center where the majority of residents—including the study participants—primarily self-identify as Hispanic, we use this term in the present paper (Fry & Lopez, 2012).

and throat associated with HPV among men (CDC, 2008; Franceschi et al., 2001; McPartland, Weaver, & Koutsky, 2005). Yet despite evidence of the effectiveness and importance of the HPV vaccine, Hispanic college men, and men in general, continue to have lower rates of HPV vaccination as compared to women (Ferris, Horn, & Waller, 2010; Jones & Cook, 2008).

In our effort to identify the Hispanic male college students' beliefs and their attitudes about the HPV vaccine, we rely on the Health Belief Model (HBM; Hochbaum, 1958). The HBM is one of the most commonly used theories in health education and promotion (Carpenter, 2010; Glanz & Bishop, 2010; National Cancer Institute, 2003), particularly in regard to the uptake of health services and health-promotion behaviors. In fact, Mehta, Sharma, and Lee's (2014) preliminary study found it to be an effective guide for an HPV intervention targeting primarily White college males. The HBM asserts that people's health behaviors are influenced by their perceptions of health threat, perceived benefits minus perceived barriers to performing the health-promoting behavior, and behavioral self-efficacy (Champion & Skinner, 2008) in the presence or absence of a cue to action.

The perceived threat construct in this model asserts that health-promoting behavior is dependent upon the degree to which a person does or does not see health care behavior as threatening. Perceived threat is explained by two constructs: perceived susceptibility and perceived severity (Champion & Skinner, 2008). Susceptibility refers to how much risk people believe they are in, while severity refers to how serious the consequences might be. Thus, perceived threat is influenced by the extent to which a person believes a health problem is personally relevant and critical enough to result in serious complications (Champion & Skinner, 2008).

The perceived benefit minus perceived barriers construct refers to an individual's assessment of the value of engaging in a health-promoting behavior versus the perceived barriers to behavioral change and action. HBM asserts that in order for an individual to engage in a health-promoting behavior they must see the benefits of the behavior as outweighing the barriers (Carpenter, 2010; Champion & Skinner, 2008). The third and fourth predictions of likelihood of engaging in health-promoting behaviors are self-efficacy, which is a person's perception of his or her ability to successfully perform the health behavior, and the presence or absence of a cue to action, such as physical cues or suggestions from a physician.

According to the HBM, contextual influences serve as modifiers of threats, beliefs about benefits and barriers, and potentially also as cues to action, as these have been found to contribute to men's willingness to engage in protective behaviors against acquiring sexually transmitted infections (STIs), including HPV (Champion, & Skinner, 2008; Courtenay, 2000; Eisenman, & Dantzker, 2004; Fernandez et al., 2009; Larkey, Hecht, Miller, & Alatorre, 2001). It would be particularly important to examine the relevance of contextual influences focused on community samples given the majority of research emerging from adult Hispanic male sexual health (e.g., Cardoza, Documét, Fryer, Gold, & Butler, 2012; Herbst et al., 2007). While important, these studies fail to capture the very different contextual experiences

and resources that Hispanic college men may be privileged to access. For example, post-secondary institutions typically provide sexual health resources and information for their students which allow them to take control of health-related decisions without parental involvement (Shearer, Hosterman, Gillen, & Lefkowitz, 2005). Further, college culture can provide unique opportunities and spaces for students to engage in behaviors that put them at risk for STI acquisition, including HPV. Specifically, STI rates continue to climb among college male populations in part due to the normalization of risky sexual behaviors for men in these contexts, such as hypersexuality and multiple partnerships (Downing-Matibag & Geisinger, 2009; Eisenman & Dantzker, 2004; Inungu, Mumford, Younis, & Langford, 2009). Further, studies conducted with Hispanic samples that use this model have found mixed results. For example, Schwab, Meyer, and Merrell's (1994) study diabetes found that the HBM constructs of perceived susceptibility and severity were not reliable. Thus, this study will provide information about the HBM utility as it specifically relates to perceptions of HPV knowledge and vaccination uptake in this population.

While several studies have provided evidence of the importance of identifying beliefs about health that influence the decision-making processes (e.g., Courtenay, 2000; Fernandez et al., 2009; Fragoaso & Kashubeck, 2000; Kellogg, 2003; Stephens & Eaton, 2014; Maliski, Rivera, Connor, Lopez, & Litwin, 2008; Maharaj, 2000; Nicholas, 2000; Sobralke, 2006b), no HPV vaccination studies to date have been exclusively drawn from Hispanic college samples to identify these beliefs. While there has been work focused on Hispanic community-based samples, they fail to capture the unique college contextual experiences that could increase these men's risk for infection. To address this void in research, the present study identifies health belief frameworks influencing Hispanic male college students' HPV vaccine uptake decision-making process.

## Methods

A qualitative approach was used so that socially-constructed individual and collective health beliefs about HPV and vaccination specific to Hispanic college males could be comprehensively examined (Few, Stephens, & Rouse-Arnette, 2003). This approach addresses researchers' explicit call for qualitative research to examine differences in the predictors of White versus racial/ethnic minority men's HPV vaccination intent (Crosby et al., 2012). We specifically used a phenomenological approach as it allows the researcher to understand how individuals construct their worldview (Phillips-Pula, Strunk, & Pickler, 2011). This approach also acknowledges that the researcher is intimately involved in data collection and analysis; data collection requires the researcher to interact with the study participants and their social context, which allows some degree of mutual influence (Phillips-Pula, Strunk, & Pickler, 2011). Finally, studies have shown that the use of qualitative interviewing is particularly useful when addressing what could be considered a sensitive issue in racial/ethnic minority populations (Few, Stephens, & Rouse-Arnette, 2003).

**Table 1.** Hispanic male college students' reported familial nation of origin.

	<i>N</i>	%
Cuba	16	31.3
United States	12	23.5
Colombia	8	15.6
Puerto Rico	4	7.8
Brazil	3	5.8
Costa Rica	2	3.9
Mexico	2	3.9
Venezuela	2	3.9
Honduras	1	1.9
Peru	1	1.9

## **Participants**

A convenience sample was recruited using the psychology research pool at a public, urban Hispanic Serving Institution in the southeast. All studies in the university's psychology subject pool, including the present study, are required to be approved by the university's Institutional Review Board (IRB). Students taking approved upper- and lower-division psychology classes select the studies they wish to participate in to earn course credit via the pool's online registration system. Participants were screened for Hispanic ethnicity, age (18–24 years old), and gender (male) eligibility prior to registration for the present study; to utilize this system students must select a racial/ethnic identity and gender category, which match those used by the United States census. Only those meeting these three criteria were able to access information about this study and schedule an interview using the online appointment scheduler.

The 51 Hispanic male study participants ranged in age from 18–24 years old, with a median age of 19.8 years. Familial nations of origin were diverse with the majority of participants identifying as Cuban (see Table 1). Only eight participants had resided more than five years outside the United States. When asked about their lifetime sexual experiences, the participants noted having had only women ( $n = 45$ ), only men ( $n = 2$ ), or both men and women ( $n = 4$ ) as partners. The average number of sexual partners in a lifetime was 5.2. However, more than half ( $n = 29$ ) had two or fewer partners, with 10 stating that they never had sex. None of the participants had started or completed the HPV vaccination series.

## **Data collection and analysis**

The Principle Investigator (PI) and two undergraduate research assistants conducted the individual interviews at a time selected by the participant. After reading the study consent form approved by the IRB, participants completed a demographic questionnaire to gather information on age, race, ethnicity, nationality, and place of birth. They also completed a brief HPV vaccine questionnaire that specifically asked them to rank their current HPV knowledge, vaccination status, and general health seeking behaviors. Once completed, these documents were placed in sealed

envelopes opened by members of the data analysis team at a later date for creating a demographic profile of each participant.

The one-on-one interviews commenced after survey data collection and began with focused questions about participants' HPV vaccination knowledge and beliefs. A questioning route was developed using HBM constructs; it was pilot tested on eight Hispanic college men whose responses were not included in the analyzed data. The questioning route provided a framework for developing and sequencing a series of semi-structured yet flexible questions. Interviews were audio taped and lasted between 14 and 36 minutes. Some questions included: Tell me what you know about the HPV vaccine? What have you heard about the HPV vaccine? Why are you willing or not willing to be vaccinated against HPV? Where would you go to find out more about the HPV vaccine when making your decision?

Data collection and analysis proceeded simultaneously using a modified version of the constant comparative method to identify patterns of the health decision-making process in the context of HPV vaccination (Corbin & Strauss, 2007). A preliminary coding framework was constructed after an in-depth reading of the transcripts. The interviews were transcribed by six research assistants, and verified by four additional assistants to ensure completeness, discussion content accuracy, and a high quality of transcription.

Two research assistants and the PI independently coded the data and created a comprehensive list of themes they identified in the data. The study investigator and three research assistants then met to discuss and further refine each set of themes, resolve differences, and reach consensus on a coding scheme. Themes and categories were examined across the whole dataset, as well as in relation to each specific interview. Then, sections of text were coded by issue or theme; additional codes were added as new themes emerged from the PI discrepancies and were resolved by first revisiting and reviewing the data, followed by group discussion.

Efforts were made to ensure rigor given the subjective nature of qualitative data collection and analysis. Specifically, emergent ideas were authenticated in order to assure that findings represented the perspectives of the participants using peer debriefing (Corbin & Strauss, 2007). Peer debriefing, the checking of participants' ideas and statements against previous comments throughout the interview processes, allows for the rechecking of responses for clarity and accuracy (Corbin & Strauss, 2007). Three research assistants, not involved in the interviewing and transcribing process, read through transcripts prior to analysis to identify discrepancies in comments within an interview. In the two cases where this occurred, the research team met to review the transcripts and interviewer notes to decipher the meanings. These interviewer notes were also used to enhance credibility, as they helped to capture and document immediate insights and thoughts regarding the interview sessions. These processes facilitated our ability to ensure credibility of the data collection, note data variations, and differences in interpretations. This modified constant comparison analysis further enhanced and confirmed the interpretation of the data, increasing rigor and credibility in the analysis process.

**Table 2.** Hispanic male college students' perceptions of HPV knowledge and intentions to vaccinate.

	<i>N</i>	%
Perception of their own HPV knowledge		
Very knowledgeable	2	3.9
Fairly knowledgeable	18	32.2
Somewhat knowledgeable	21	41.1
No knowledge	10	19.6
Perception of their own HPV vaccine knowledge		
Very knowledgeable	0	0.0
Fairly knowledgeable	18	32.2
Somewhat knowledgeable	5	9.8
No knowledge	28	54.9
Intent to be vaccinated		
I definitely will get the HPV vaccine	25	49.0
I may get the HPV vaccine	21	43.1
I definitely will not get the HPV vaccine	4	7.8

## Results

Three themes relevant to understanding Hispanic male college students' HPV vaccine decision-making processes emerged from the analysis. Constructs related to HBM frameworks informed the organization of these key findings, which included (a) current HPV vaccine knowledge, (b) perception of HPV risk, and (c) perceived benefits and barriers of vaccination. We discuss each of these below.

### **Current HPV vaccine knowledge**

When asked to rate their own knowledge of HPV and the vaccine using 4-point scales, men's reports were variable (see Table 2). However, men's interview responses indicated that their knowledge about both was consistently low. When asked to elaborate on what they knew about HPV and the vaccine, only three men reported knowing about the HPV vaccine for men. During these interviews, the majority of men's comments indicated that (a) they had no knowledge about the HPV vaccine for men ( $n = 49$ ), (b) "guessing" that HPV was sexually transmitted ( $n = 26$ ), or (c) assuming that the vaccine is intended for those that already have HPV ( $n = 18$ ).

So there is a vaccine for men? I thought it was just for women.

*Interviewer:* Do you know any men who have been vaccinated?

No—no guys. I mean I've never talked 'bout it to anyone so no one said they got [vaccinated]. But, I didn't even know there was a vaccine for men.

### **Perceptions of HPV risk**

A key health belief theme that emerged in the data was men's perception that they were not at risk for HPV, and thus did not need the vaccine. Although 16 of the men reported knowing someone with an STI, 17 did not feel HPV was something they should be concerned about.

There are so many things out there, this is just another thing we can sit and worry about or just try to do what we can, but live our lives. I can't worry about this—we already have to worry about AIDS and other stuff. It may happen, it may not. [The vaccine] could work, it could not.

I guess I could get [vaccinated]. But I haven't heard much about it so it is not as common, right? So, we'll see.

These men's lack of concern may be partly attributed to the fact that most did not know HPV affected men ( $n = 42$ ). Participants made statements indicating that HPV is perceived as a "woman's disease," and that men are not susceptible to HPV infection. Instead, women were viewed as having to be concerned and responsible for protecting themselves from HPV infection, even if men are the primary source of transmission.

It's a woman's disease right? Women get it and it causes cancer. I don't think it really affects men.

Well, if women will have to be careful if it causes them to have cancer in their cervix. We don't have [a cervix] so it's not really as bad a thing for us. Maybe—except ... I guess we can carry it to them. But it won't hurt us.

### ***Perceived benefits of and barriers to vaccination***

Although most men did not view HPV infection or vaccination as an immediate priority, the majority would consider getting the HPV vaccine (see [Table 2](#)). This is particularly important given 10 men were eligible for vaccination at the time of the interview, as they had yet to start having sexual intercourse and were within the CDC's recommended age range of 9–26 years old. Reasons men gave for being vaccinated when responding to the HPV vaccine survey included: (a) as a precaution against infection ( $n = 42$ ), (b) if it were recommended by a physician ( $n = 32$ ), and (c) as an easy preventative health effort ( $n = 11$ ).

Despite their willingness to be vaccinated, several barriers to actually following through existed in this sample. On the HPV vaccine survey men were asked to list all reasons why they would not get vaccinated. Cost was cited as the most common reason they may not get vaccinated ( $n = 43$ ), followed by concerns about negative symptoms ( $n = 41$ ), and accessibility to accurate information about the vaccine ( $n = 39$ ).

Ultimately, most concerns about the HPV vaccine boiled down to cost. As they were often unaware of the vaccine, these men reported being skeptical about whether their health insurance provider would pay for vaccination.

I have to see if my insurance covers it.

*Interviewer:* And if it doesn't?

Well, no. I'm a student so I can't pay extra. I have to pick and choose what [health issues] I am going to pay for. So [HPV vaccination] isn't a priority for me if it's not covered.

Potentially negative outcomes, or the lack of identifiable and problematic symptoms, emerged as the second most common barrier to HPV vaccination. The majority of the participants were concerned about whether or not testing of the vaccine was adequate at this point in time ( $n = 26$ ). They were concerned about the lack of longitudinal information to show what health benefits the vaccine could have in the next five or 10 years. A smaller number of participants also pointed to a lack of information about symptoms they could experience immediately after vaccination ( $n = 18$ ). Specifically, these men felt there was not enough information available about how the HPV vaccine could potentially affect their current day-to-day functioning and general health.

Finally, the majority of these men did not recall receiving messages from typical sources of information about HPV identified in the literature—peers, family members, media, or health care providers—either endorsing or rejecting the HPV vaccination ( $n = 39$ ). As accessibility to accurate information was the third most reported barrier to HPV vaccination, researchers must acknowledge that this is problematic. All participants reported that their health care providers had not shared information about the HPV vaccine with them. Further, none had peers or family members who had received the vaccine, nor had they seen any media campaigns specifically promoting the HPV vaccine for men (e.g., brochures, posters, television campaigns). Only 19 men recalled media messages advertising HPV vaccination, and all participants noted these were targeted to women.

The men themselves engaged in behaviors that also limited their accessibility to information. When asked where they would go to find out more about the virus and/or vaccine, the majority of these men ( $n = 42$ ) said they would most likely seek information online, as the Internet is more convenient, private, and easily accessible.

I would just go to Google or something. It's just faster and easier to get information online. I check everything online when I want to find things out. I'm going to check this [vaccine] out on my [cell] phone when we're finished [with the interview]!

However, 37 men stated that they perceived health care providers as being the most reliable source of accurate HPV vaccine information. Yet, they were not willing to seek out their input because of the time it takes to book an appointment, travel to the office, and the wait to see a health care provider. Over one third of the men ( $n = 18$ ) reported that they would be more likely to wait to find out more about the vaccine the next time they had to “go in for something” else.

I guess next time I go to the doctor I will check it out.

*Interviewer:* But, would you go specifically to find out more about the HPV vaccine or HPV?

No, the next time I have to go. Like if I am sick or something I'll ask [about HPV and the HPV vaccine] while I'm there. But I won't go out of my way just for it.

## Discussion

This study is the first to exclusively focus on Hispanic male college students' perceptions of HPV vaccination, and their beliefs about related preventative behaviors

using the HBM framework. The results support prior research findings that indicate Hispanic men are willing to be vaccinated, yet need more information about the virus and vaccine to increase understandings of related HPV risks and vaccination uptake (Fernandez et al., 2009; Kornfeld et al., 2013).

### ***HPV vaccine knowledge***

As was found in prior research, these men's self-perceptions of HPV and HPV vaccine knowledge tended to be higher than their actual knowledge levels (Jones & Cook, 2008; Reiter, Brewer, & Smith, 2009). Despite their high levels of risk, college male samples and data drawn from community samples of Hispanic men indicate that both have very limited knowledge about HPV, their role in its transmission, and its relationship to cancers (Fernandez et al., 2009; Jones & Cook, 2008; Katz et al., 2011; López et al., 2008; Reiter et al., 2009). Similarly, these participants were unable to provide accurate information about the virus and vaccine when asked in their interviews, leading many to acknowledge they knew less than they thought. When specifically asked about men's HPV symptoms, outcomes, and vaccination, the majority had no knowledge. In fact, only three of the 51 participants were aware that there was a vaccine specifically for men.

Unfortunately, few studies have explored Hispanic men's knowledge of the HPV vaccine intended for them, despite the fact that increasing knowledge has been noted as being a critical piece to increasing vaccination uptake among Hispanic college men. Research has consistently shown that knowledge is an important tool in altering risky sexual behaviors and increasing willingness to engage in preventative practices (Katz et al., 2011; López et al., 2008; McPartland et al., 2005; Reiter et al., 2009). When specifically looking at HPV transmission rates, men who are knowledgeable about HPV and its links to cancer intend to reduce their number of sex partners, and use condoms with new partners (López et al., 2008; McPartland et al., 2005).

### ***Perception of risk***

Men's comments indicate lack of knowledge contributed to their perception that their risk for HPV infection is low. Their low levels of HPV and vaccine knowledge lead them to admit a lack of awareness of their own HPV status and possible risk. This supports research findings that men have consistently been found to hold incorrect perceptions of their own and their peers' susceptibility to HPV and transmission risks (Katz et al., 2011; Reiter et al., 2009). These inaccurate perceptions are concerning as individuals who are not infected or are unaware of their HPV status are less likely to recognize that they are at some risk of infection (Katz et al., 2011; Lewis, Bernstein, Rosenthal, & Stanberry, 1999).

Several men in this study made additional statements noting that there was no need to worry about HPV and that vaccination was not an immediate priority as STI infection is a common occurrence. Some men note that they were not going to worry about becoming infected because there were more important things to worry

about; if they were to become infected, many noted that they will not be stressed as “it is part of life.” This supports prior research findings that have shown that men are less likely to report negative emotional reactions to news that they have been infected with an STI or express concern over others’ reactions about infection (Lewis et al., 1999). College men are more likely to engage in behaviors that put them at risk for HPV due to beliefs that men should not be fearful of negative outcomes (e.g., Eisenman & Dantzker, 2004; Jemmott, Jemmott, & Villarruel, 2002). Similarly, male participants’ denial and minimization of risk may reflect beliefs about how men (vs. women) are supposed to respond to and cope with health matters (e.g., “engendered health beliefs”). Specifically, research indicates men and boys experience comparatively greater social pressure than women and girls to endorse gendered societal prescriptions such as the strongly endorsed health-related beliefs that men are independent, self-reliant, strong, robust and tough (e.g., Downing-Matibag & Geisinger, 2009). Within college contexts, there is the normalization of sexual invulnerability. Thus, the influence of gendered health beliefs cannot be ignored when addressing HPV preventative efforts as men’s willingness to get vaccinated increases if they believe that there is the likelihood they could get an HPV-related disease (Reiter et al., 2009).

The influence of engendered health beliefs becomes even more salient when one considers that HPV has been presented and promoted as a woman’s issue in the media. For example, 66.7% of television coverage of HPV focuses on cervical cancer, women’s vaccine labeling information, the impact of the vaccine on women, and concerns about the vaccine for women (Stephens & Thomas, 2014; Wallace & Ache, 2009). This lack of broad media coverage may contribute to why the men in this study all initially assumed that the interview questions about HPV and vaccination were about women. Further, men’s knowledge about HPV vaccination for women was much higher than their knowledge about men’s vaccination. Presenting HPV vaccination from only the perspective of women’s options reinforces the stereotype that views men as less vulnerable to the disease than women (Nicholas, 2000; Stephens & Thomas, 2014). Consequently the need to focus on and be accountable for HPV prevention becomes less salient for men.

Results of this study highlight the necessity of integrating the ways in which beliefs about gender roles contributed to efforts seeking to increase Hispanic male college students’ awareness of HPV risk and the importance of vaccination. Thus, promoting this as a socially acceptable behavior for men may also decrease other HPV risk behaviors, as health actions that give men a sense of control have been found to increase men’s condom use and change attitudes regarding appropriate numbers of sexual partners—all factors associated with increased risk for HPV transmission (e.g., Eisenman & Dantzker, 2004; Fernandez et al., 2009).

### ***Perceived benefits of and barriers to vaccination***

Clearly, this group of Hispanic college men is willing to be vaccinated, a finding that supports prior research on noncollege samples. (Ferris et al., 2009; Kornfeld

et al., 2013). HPV vaccination cost, accessibility to accurate HPV vaccine information, and potential negative symptoms were also identified as key barriers influencing men's ability to be vaccinated. The fact that men are less likely to seek preventative health services when both physical and psychological barriers exist means that health providers must take extra steps to highlight the importance of vaccination within this population. This resistance to seeking preventative health services is a particular concern when considering HPV, as Hispanic men are 7 times less likely to know early warning signs of the cancer (Larkey et al., 2001). College educators must provide cross-cultural curricula and educational materials that adequately address Hispanic men's distinct needs, both on college campuses and in their communities. Approaches that integrate engendered beliefs about health will provide Hispanic male college students with culturally appropriate information and help increase their HPV knowledge, which in turn will influence their willingness to be vaccinated. Further, highlighting options for having the costs covered would be key, particularly at institutions where the vaccine is readily availability, and financially subsidized (e.g., student health insurance, student fees).

However, simply providing this information does not address concerns of emotional avoidance. The men in the present study illustrated elements of these concepts when discussing possible negative symptoms and long-term consequences associated with vaccination. They noted that the vaccine was new and not properly tested. Thus, they argued that it may be better to just let things happen "as they are supposed to," or that they wanted to put emotional energy into other things they felt they had control over. Studies have shown that it is not uncommon for men to engage in this kind of emotional avoidance of health issues. By evading thoughts, feelings, or conversations about a particular behavioral choice or outcome, men can more easily disregard emotions of fear or sadness associated with a health concern (Larkey et al., 2001; Nicholas, 2000). Nicholas (2000), for example, found that beliefs about appropriate emotion expression are a strong indicator of when men sought assistance for cancer-related health issues. The present study asserts that men dealing with cancer-related issues may repress emotions, not report symptoms and side-effects from treatments, not ask for help, or not seek out help in general because they do not want to be seen as "unmanly" (Nicholas, 2000). Traditional frameworks of masculinity require that men outwardly ignore or minimize their fear of negative health outcomes, even if they feel different internally (MacNaughton, 2008; Maliski et al., 2008; Maharaj, 2000; Nicholas, 2000). Thus, this need to present as invulnerable, emotionless, and physically strong may lead some Hispanic college men to deny their own level of risk for HPV and related illness, even when faced with clear and irrefutable evidence.

Our findings reinforce the importance of acknowledging engendered health beliefs when attempting to address HPV vaccination uptake within this population. Related programming and educational efforts must address unique gender and culture health beliefs, because these are directly related to health disparities affecting men cross culturally (Courtenay & Keeling, 2000; Davies et al., 2000). When targeting Hispanic college men, researchers and educators must communicate to them

using approaches and frameworks that provide culturally appropriate comprehensive information to assist them in their own decision-making processes.

Overall, men's willingness to get vaccinated appears to be affected by their perceptions of appropriate health care seeking behaviors. Unfortunately, it reflects a larger health care trend among men in the United States. Research has consistently demonstrated that men tend to seek access to health care providers less often than women (e.g., Guendelman, & Wagner, 2000; Kellogg, 2003). Over the past year, only two men in the study sought health-related information from their provider, while the remaining scheduled appointments to address symptoms, annual checkups, or due to institutional requirements (e.g., military mandated vaccines, or job required drug tests). Given the rates of HPV infection among Hispanic college men, this apparent lack of health care concern is alarming. It has been suggested that taking steps to address sexual health problems, in particular, places men in a position where they are vulnerable on multiple levels—disclosure, admitting lack of knowledge, acknowledging a “private” problem, or facing the reality that they are not in control of their bodies. These experiences are inconsistent with assertions that men are invulnerable, strong, and have full control of themselves, particularly their physical bodies.

While this gendered health expectation may explain in part why men are not taking steps to gather HPV vaccine information, there is the added pressure of meeting sexuality expectations, which are tied to vaccination suitability. Specifically, vaccination guidelines target men who have not yet had sexual activity or are under the age of 26, given the vaccine is most effective prior to exposure to the virus. It is important to consider this last requirement, given that a man choosing to be vaccinated in college could be incorrectly assumed to be a “virgin”; vaccination after the onset of sexual activity is still possible as the vaccine can still be effective if an individual has not been exposed to the virus. Some of the specific attitudes about male sexuality include that men are always ready for sex, and are hypersexual (Glass & Owen, 2010; Sobralske, 2006a,b). Accepting this phallogentric ideal of male sexuality is incompatible with preventative health behaviors, particularly those that highlight delayed sexual engagement. In fact, men are expected to actively pursue their first sexual encounter in college, as part of a rite of passage into true manhood and college life (Downing-Matibag & Geisinger, 2009). Thus, a man who has not had sex may be reluctant to admit or take steps to be vaccinated as it would be evidence of late sexual activity.

Clearly, it is important to target social networks that recognize and integrate Hispanic male college students' specific health beliefs involving HPV health service provisions. Due to their medical skills, education, and training, health care providers are viewed as respected authority figures. As such, these men were willing to follow physicians, nurses or other clinicians' health directives, particularly when seeking advice on addressing HPV concerns. Prior research has similarly shown that individuals, particularly racial/ethnic minorities, value health care provider initiated discussions and advice due to the perception that they are more knowledgeable and have expertise (Guendelman & Wagner, 2000). Further, due to a belief that

they are more likely to keep health information confidential, males are also more likely to accept directives from health professionals (Guendelman, & Wagner, 2000; Kellogg, 2003; Maharaj, 2000; Nicholas, 2000). Efforts to increase vaccine uptake among Hispanic college men must target physicians, nurses, sex educators, and other health personnel if they hope to be successful.

Despite their preference for health provider disseminated HPV information, only two men in the entire sample reported seeking any form of information about health issues from providers in the past year; only information about current symptoms was sought. The primary reasons men gave for not going to health care providers for any type of information included inconvenience (e.g., having to book an appointment, travel to the office, or wait to see a doctor), and lack of necessity (Guendelman & Wagner, 2000; Kellogg, 2003). Prior research also found that patients with higher valuation of time—like students—are more likely to cancel appointments or seek alternative care (Guendelman & Wagner, 2000). The issue of time and accessibility support prior research on men's routine health care seeking, which has found that convenience of scheduling and attending appointments directly influenced men's willingness schedule appointments with healthcare providers (Kellogg, 2003; Nicholas, 2000).

Similarly, perceptions of the necessity of monitoring and engaging in health care maintenance behaviors emerged as a barrier. Prior research suggests that men avoid putting time and energy into seeking health services because it is not a “male priority” (Courtenay, 2000; Kellogg, 2003; MacNaughton, 2008). As discussed in the previous section on emotional avoidance, this may be a type of coping strategy that allows them to ignore potentially threatening health outcomes. What is unfortunate is that these attitudes are more salient among men who are less likely than women to seek routine care to identify STI symptoms before they occur, and are more likely to delay addressing STI symptoms—including HPV—even when they become severe (e.g., Courtenay, 2000; Maharaj, 2000; Nicholas, 2000).

However, research on college enrollment and graduation rates shed light on unique factors that can increase Hispanic male college students' likelihood to delay addressing health issues, including not prioritizing HPV vaccination. For example, Hispanic students typically finance their own academic career while contributing to the financial needs of their family (Harvey, 2002). Those Hispanic students with financial problems, and simultaneous work, school, and family obligations often take priority over educational and health needs (Del Pilar, 2009; Gardner, 2003; Harvey, 2002). This is particularly more likely to occur among Hispanic students as research has found they are more likely to live at home when attending post-secondary school (Del Pilar, 2009). In fact, the majority of men ( $n = 42$ ) indicated on the demographic questionnaire that they lived with their parents and attended a high school located in one of three counties closest to the university ( $n = 48$ ). Thus, it could be inferred that these men do not fit the traditional profile of college students live independently from their families and community. Rather, these participants are significantly influenced by direct familial and community demands that can take priority over health concerns.

### ***Implications for campus health providers***

As culturally competent programming and resources have been found to be one of the most effective factors to decrease health care disparities among racial/ethnic minority students, campus programming must integrate unique populations' sexual health experiences and needs into their efforts (Ferguson & Candib, 2002; Thomas & Stephens, 2009). Cultural competency in the context of health and education services pertains to the appropriate provision of care to a diverse population, including gender, race, ethnicity, sexual orientation, age, religion, [dis]ability, language, national origin, immigration status, and socioeconomic status (Bassey & Melliush, 2013; Guntzviller, 2012). To meet the needs of diverse student bodies, health educators must acquire and integrate knowledge about specific cultural groups they are likely to work with, including knowledge of traditions, history, values, family systems, help-seeking behaviors, and communication styles, into health education efforts (Bassey & Melliush, 2013; Cross, Brazen, Dennis, & Isaacs, 1989). Examples of appropriate culturally relevant materials for Hispanic male college students would include those that feature images of diverse students, both English and Spanish language brochures, and programming that incorporates Hispanic educators or peer leaders (Guntzviller, 2012; Stephens & Thomas, 2011, 2014). Further, outreach efforts must target contexts (e.g., Hispanic fraternities and social organizations), and occur at times (around school and familial obligations) that are most convenient for this population (Bassey & Melliush, 2013).

Research has shown that the extent to which students perceive health information and resources as having cultural relevance for them can have a profound effect on their perception to provide information and their willingness to use it (e.g., Davies et al., 2000; Del Pilar, 2009; Hirschler, Hope, & Myers, 2015). Creating an environment that fosters acceptance, privacy, and safety can increase Hispanic men's usage of campus sexual health services (Thomas & Stephens, 2009). Stephens and Thomas (2014) found that Hispanic college women would be more willing to use campus-based health services if educators provided resources and information in a manner that is respectful—nonjudgmental and caring of their cultural values and experiences—as it contributed to the building of trust and comfort. For this reason, this study's results can contribute to our identification of approaches college health educators can use to increase Hispanic male college students' willingness to be vaccinated against HPV. This level of influence and health knowledge is particularly important for addressing concerns about the possible negative symptoms and long-term consequences associated with vaccination.

Beyond providing culturally appropriate or linguistically diverse outreach resources and programming, it would be useful for sexual health educators to develop accessible, culturally-targeted online information applications. As noted by these men and prior research, the Internet has emerged as a prominent source of accessible sexual health information among college students (Eysenbach, 2008; Rideout, 2001). The men in this study specifically reported that the fact the Internet could be accessed "anywhere and at any time" made it a desirable informational tool.

Racial/ethnic minority youth, in particular, are utilizing the Internet to access sexual health information as it often provides immediate, culturally competent information not readily available elsewhere (Boyar, Levine, & Zensius, 2011). Given their constant access to the Internet, it is not surprising that more than 70% of late adolescents and emerging adults report using it to look up health information (Hansen, Derry, Resnick, & Richardson, 2003).

Health service providers and educators must embrace this medium and harness the power of the Internet as an appropriate space for educating Hispanic college men seeking general health, and HPV vaccine-specific information. Studies specifically focusing on college students have similarly found that new media technologies, such as laptops, campus computer labs, cell phones, and other devices, are slowly changing the landscape of campus health service and information delivery (Boyar et al., 2011; Eysenbach, 2008; Rideout, 2001). In fact, four participants stated their intention to “look up” more about the HPV vaccine on cell phones and other mobile devices at the end of their interview; these comments were made without any prompts from the interviewer. This finding points to the need for future research into the development of accessible and accurate information as an important educational approach for increasing vaccination uptake. Ways in which this unique population can benefit from the integration of appropriate health beliefs, and Hispanic cultural cues (e.g., terminology, language, images) within online prevention efforts must be identified by researchers, practitioners, and educators seeking to improve their rates of HPV vaccine uptake.

## Limitations

While our findings provide new insights, there are limitations that must be addressed. Methodological considerations would require examining the use of individual interviews as a means of gathering information about these men’s sexual health beliefs and attitudes. In this kind of a face-to-face setting, there is the possibility of participants limiting or self-selecting the amount/quality of information they share. Finally, while acceptable for qualitative methodologies, this was a small sample that cannot be generalized to Hispanic college men across the country, given their unique demographic and social realities.

Specifically, these Hispanic college men were primarily from Caribbean familial nations of origin, and lived the majority of their lives in the United States. This, taken with the fact that they shared similar educational levels, acculturation experiences, community ethnic composition, and socioeconomic status points to a lack of diversity in the sample. It would be useful to examine Hispanic college men attending an institution where comprehensive health services or sexual health education programs are not provided.

Further, as college students at a large state-funded university they had access to health services, education, and programming through the campus health center, a reality that may not be shared by Hispanic men attending post-secondary institutions with fewer resources. It would be useful to examine these same experiences

with a comparative group of students to identify whether the findings are conclusive to this group.

## Conclusion

Despite these limitations, our exploratory study provides important new knowledge about the ways in which gender informs meanings Hispanic college men give to HPV vaccination. By increasing our understanding of this population's health decision making processes, campus-based educators, and researchers will be better equipped to address belief barriers and integrate cues to action that will increase HPV vaccine uptake. This is particularly important given this population is already experiencing significantly high rates of HPV-associated cancers (CDC, 2008). This is important not only for Hispanic college men themselves, but it may also have an indirect health benefit for broader campus health trends across the United States.

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