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# Salient Factors Among Hispanic Parents for Vaccinating Children Against HPV

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UNIVERSITY OF MIAMI

SALIENT FACTORS AMONG HISPANIC PARENTS FOR VACCINATING  
CHILDREN AGAINST HPV

By

Madeline Fernandez

A DISSERTATION

Submitted to the Faculty  
of the University of Miami  
in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy

Coral Gables, Florida

December 2018

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Salient Factors Among Hispanic Parents for  
Vaccinating Children Against HPV

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The human papillomavirus (HPV) is the most common sexually transmitted infection (STI) among sexually active men and women in the U.S. HPV can lead to several types of cancers (e.g., cervical, penile, and anal cancers) that affect the Hispanic community disproportionately. In the U.S., Hispanic women have the highest rate of HPV incidence and the second highest death rate due to HPV-related cervical cancer, and Hispanic men are most affected by HPV-related penile cancers. In 2006, the HPV vaccine (HPV2) was released and recommended for girls and boys between the ages of nine and 26. Unfortunately, more than a decade later the HPV vaccination rates for Hispanics (45.9% for Hispanic female and 37.2% for Hispanic male adolescents) remain below the Healthy People 2020 goal (80%) and HPV-related cancer rates remain high. As expected, Hispanic parents have been found to influence HPV vaccination among their children. Therefore, the purpose of this qualitative descriptive study was to identify salient factors for Hispanic parents considering the HPV2 for their children and determine important components and strategies for implementing HPV-prevention interventions for this population.

The theoretical basis for this study was the Theory of Planned Behavior (TPB). Convenience and snowball sampling were used to recruit participants in Homestead and nearby suburban areas. Inclusion criteria for study participants were parents between ages

18 and 50 years who self-identified as Hispanic and reported being sexually active three months prior to recruitment. The final sample included 23 Hispanic parents, ages 22 to 49 years, who had an annual household income ranging from \$8,400 to \$48,000. Most participants were born in Mexico, followed by the U.S. and Guatemala. Four focus groups were conducted, with two groups consisting only of mothers, one group only of fathers, and one mixed group.

A directed content analysis of the data was performed based on the TPB as well as the other themes that emerged spontaneously. Seven overarching themes related to the TPB were identified: background factors, attitudes towards the behavior, perceived norms, perceived behavioral control, actual control, intention, and behavior. The following two overarching themes not related to the TPB also were identified: parental motivation and the HPVV as optional or mandatory. Additionally, three themes related to designing and implementing an HPV-prevention intervention were identified: intervention preferences for adults, youth, and families.

Analysis indicated that nine factors positively influenced Hispanic parents' decision about obtaining the HPVV for their children: HPVV awareness and knowledge, perceived social pressure from healthcare providers (HCPs), perceived social pressure from acquaintances, family as referent, positive attitudes towards HPV vaccination, cultural beliefs (*familismo*, *simpatia*, *confianza*, and *respeto*), the changing nature of sexual taboos, and paternal motivation. In contrast, eight factors negatively influenced Hispanic parents' decision about obtaining the HPVV for their children: negative attitudes towards HPV vaccination, cultural beliefs (*marianismo* and *machismo*), sexual taboos, child age, fear of the unknown, past experiences, lack of HPVV supply, and low

perceived risk for contracting HPV. The findings also provided several possible strategies for developing and evaluating future HPV-prevention interventions based on participants' preferences. The three most popular strategies were HCP-facilitated informational sessions (known by participants as *charlas*) held in the community after working hours; informational presentations at high school freshmen orientations; and short informational videos played at health clinic waiting/examination rooms.

These study findings provide important insight into the salient factors for HPVV uptake among Hispanics and have implications for practice, policy, education, and research. In the practice setting, nurses should apply the concepts of cultural diversity and sensitivity to effectively deliver HPVV health messages to Hispanics in a culturally appropriate manner. Nurses also should urge legislators to provide universal HPV vaccination coverage for all children and young adults who could be affected by HPV and its sequelae. Additionally, nurses can help educate Hispanic parents and their children by partnering with schools to implement several methods of HPVV information dissemination. Finally, nurse researchers should continue to develop and evaluate HPV-prevention interventions that could help increase HPVV uptake among Hispanics. Researchers also should explore alternative forms of vaccine administration that could be less deterring than the current two-injection method.

## DEDICATION

*This dissertation is dedicated to:*

- 1) *My loving, supportive, and patient husband Ivan Pineda who is the reason I began, continued, and completed this doctoral program. I really could not have done it without you. As you keep reminding me, we are a team. I am lucky to be on your team and I owe much of my current and future success to you. I love you.*
- 2) *My parents and grandparents who at times may not have understood the madness I was putting myself through but kept cheering me on anyway. Thank you mom and dad for feeding and sheltering me for so many years while I completed my education. I love both so very much.*
- 3) *To my friends and other family members who actually cared and took the time to listen to me explain and re-explain exactly what I was doing and what a Ph.D. was and how it is done all while you had these confused looks on your faces. Hahaha thanks for trying to understand and show you care.*

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## **Chapter One**

### **Background**

#### **HPV Worldwide**

The human papilloma virus (HPV) is a group of over 150 related viruses named after the warts (papillomas) caused by HPV strains 6 and 11 (CDC, 2016a). This group of viruses is extremely common in countries worldwide including the United States (US). According to the World Health Organization (WHO) and the National Cancer Institute, about 12 HPV strains have been identified as cancer-causing in the US and worldwide (National Cancer Institute (NCI), 2016; WHO, 2016). The most recent global data indicate that cervical cancer is the fourth most common cancer in women with about 530,000 new cases and an estimated 270,000 deaths from cervical cancer every year (WHO, 2016). Cervical cancer is by far the most common HPV-related disease and because it affects women at higher rates than any other HPV-related cancer, much of the existing research covers only cervical cancer among females (WHO, 2016). Therefore, data on other HPV-related cancers (e.g., vaginal, oral, anal, and vulvar) or on HPV-related cancers affecting males (e.g., penile, anal, and oral) is very limited worldwide.

#### **HPV in the United States**

In the US, HPV is the most common sexually transmitted infection (STI) among sexually active men and women (CDC, 2017a). Currently, about 79 million individuals in the US are infected with HPV and about 14 million individuals become newly infected every year (CDC, 2017a). There is paucity in the report of data related to HPV infections and HPV-related cancers in general, particularly among racial and ethnic minorities due to a lack of standardized HPV tests (CDC, 2017b). In addition, data reported for cancers,

such as cervical, penile, oral, and vaginal cancers, include cases not related to HPV infection. This has led to difficulty in conducting and evaluating research and clinical interventions for HPV-related cancers which contribute to disparities regarding the HPV infection burden among racial ethnicities in the US (CDC, 2017c). Nonetheless, HPV infection rates among Hispanic men and women contribute significantly to the burden of HPV in the US (CDC, 2017c).

### **HPV Among the US Hispanic Population**

Hispanic females in the US are 1.7 times more likely to develop high-risk HPV infections than any other racial/ethnic minority groups (Seal, Garces-Palacio, Halanych, & Scarinci, 2012). In 2013 and 2014, the prevalence of high-risk genital HPV for Hispanic men and women were 21.8% and 21.6% respectively (National Center for Health Statistics (NCHS), 2017). Furthermore, Hispanic women in the US have the highest rate of incidence (about 9 per 100,000 women) and second highest rate of deaths (about 2.5 per 100,000 women) due to HPV-related cervical cancer in comparison to women of other ethnicities/races (CDC, 2017d). Additionally, Hispanic men in the US are most affected by HPV-related penile cancers when compared to non-Hispanic men with an incidence rate of 1.3 vs 0.7 per 100,000 (CDC, 2017c). The abovementioned data is alarming because Hispanics are the fastest growing population in the US. Between 2000 and 2010, the Hispanic population increased by 43%, accounting for more than half of the total growth of the US population (Pew Research Center, 2011). As of 2017, Hispanics accounted for 17.8% of the US population and in 2060 are expected to account for 28.6% of the US population (US Census Bureau, 2017a).

There are several factors that make Hispanic men and women more vulnerable to HPV. Hispanic men and women experience high rates of poverty, income inequality, unemployment, immigration, lack of legal documentation, and low educational attainment (CDC, 2017e). Limitations, such as language and cultural barriers, immediate survival problems (e.g., child care, transportation, housing, family dislocation, working conditions, disempowerment), limited access to sexual health services and information, lack of knowledge on the health care system and free services, and stigma surrounding sexually related topics, fuel the high rates of HPV infection and its related cancers in the Hispanic population (CDC, 2017e; Rapid Response Service, 2013). The risk for HPV infection and the abovementioned HPV-related cancer incidence rates among US Hispanics have also been associated with several Hispanic cultural norms and traditional gender role beliefs which include *fatalism*, *machismo*, *marianismo*, and *familismo* (Cianelli, Ferrer, & McElmurry, 2008; Cleveland & Horner, 2012; Rapid Response Service, 2013; Seal, Garces-Palacio, Halanych, & Scarini, 2012).

### **HPV Primary Prevention Practices**

There are several sexual health practices that can help prevent or lower the risk of contracting HPV. Most of them include safe sexual practices such as being in a faithful and monogamous relationship, being abstinent, limiting sex partners, choosing a partner who has had few to no prior sex partners and using condoms correctly (CDC, 2017f). However, abstinence is not always possible and it is difficult to ascertain a partner's fidelity or past sexual history (CDC, 2017f). Also, condoms are limited due to the possibility that they can break during intercourse and do not cover the entire genital area (CDC, 2017f). Therefore, primary prevention efforts against HPV infection are now

focused on education and the promotion of the HPV vaccine (National Foundation Infectious Diseases (NFID), 2014). The HPV vaccine (HPVV) helps to make up for the deficits of the previously mentioned HPV primary prevention practices and has been reported to be 97-100% effective in protecting against the two HPV strains that cause genital warts and the seven main strains that lead to several HPV-related cancers (NCI, 2016).

The HPVV, available since June 2006, is recommended for males ages 9 to 21 and for females ages 9 to 26 (CDC, 2016b). The optimal ages recommended by the CDC for vaccination are 11 and 12 or before the child's first sexual activity (NCI, 2016). These age groups, particularly children of 11 and 12 years of age, are significantly impacted by the beliefs, experiences, and actions of their parents especially when it comes to their health care (Chando, Tiro, Harris, Kobrin, & Breen, 2013). In addition, most states in the US require parental consent before a child can receive any vaccine, including the HPVV (Chando et al., 2013).

The HealthyPeople 2020's goal for HPV vaccination coverage in the nation is 80% (Office of Disease Prevention and Health Promotion [ODPHP], 2017). Currently, 37.2% of Hispanic adolescent girls and 51.7% of Hispanic adolescent boys have received all 3 doses of the HPVV in the US (CDC, 2018). The Hispanic adolescent percentages are suboptimal compared to the Healthy People 2020's recommendation for HPV vaccination. Due to the low HPV vaccination rates in the US, the CDC, the President's Cancer Panel, and the National Foundation for Infectious Diseases (NFID) have identified increasing the uptake of the HPVV as a significant public health concern (NFID, 2014). The suboptimal HPV vaccination rates among Hispanic children and

adolescents as mentioned above are mainly affected by parents' decision towards vaccinating them against HPV (NFID, 2014; ODPHP, 2017). Hispanic parents have specific considerations with regards to the vaccination of their children against HPV.

However, an insufficient number of studies have been conducted on Hispanic parents perceptions of the HPV and HPV vaccination of their children. One consistent finding across the current literature is that Hispanic parents do not vaccinate their children against HPV due to lack of awareness and lack of knowledge of the HPV (Aragones, Genoff, Gonzalez, Shuk, & Gany, 2016; Brueggmann et al., 2016; Kepka, Ding, Bodson, Warner, & Mooney, 2015a; Kepka, Coronado, Rodriguez, & Thompson, 2012a; Kepka, Warner, Kinney, Spigarelli, & Mooney, 2015b; Ramirez, Jessop, Leader, & Crespo, 2014; Warner et al., 2015).

Other factors that have been assessed, such as perceived behavioral control/ self-efficacy, demographic characteristics, and perceived subjective norms have been understudied and/or resulted in contradictory findings which leaves gaps for future research (Aragones et al., 2016; Chando et al., 2013; Gerend, Zapata, & Reyes, 2013; Kepka, Ulrich, & Coronado, 2012b; Kepka et al., 2015a; Morales-Campos & Parra-Medina, 2017; Parra-Medina, Morales-Campos, Mojica, & Ramirez, 2014; Stevens, Caughy, Lee, Bishop, & Tiro, 2013).

### **Problem Statement**

HPV vaccination rates among Hispanic females and males are concerning because they are significantly lower than the Healthy People 2020's recommendations. The HPV is essential for preventing HPV infections among children and adolescents. Suboptimal vaccination rates are problematic because unvaccinated children and

adolescents run the risk of becoming infected, thus it is essential that those who are age-eligible become fully vaccinated before engaging in any sexual behavior. This is important because the prevalence of ever having had sex was higher for Hispanic adolescents when compared to the prevalence of White adolescents (CDC, 2017g). Hispanic girls, ages 15 to 19, have the highest number of live births (35/1,000) when compared to teenage girls of other races and ethnicities (CDC, 2017h). In addition, the percent of adolescent Hispanic males and females in grades 9-12 who have had intercourse with 4 or more persons throughout their high school years are 15.3% and 6.7% respectively, which is concerning because 37.5% of Hispanic adolescent males and 51.7% of Hispanic adolescent females reported not using a condom during their last sexual intercourse (CDC, 2017g). Furthermore, Hispanic adolescents ages 15 to 19 have higher rates of other STIs such as chlamydia (1081.1/100,000 vs 834.7/100,000), gonorrhea (170.8/100,000 vs 111.6/100,000), and primary and secondary syphilis (6.4/100,000 vs 2.3/100,000) when compared to their white counterparts (CDC, 2017i). Hispanic adolescents are engaging in sexual behaviors at an early age, with four or more partners throughout their high school years, and are not using condoms consistently which increases their risk for contracting and spreading HPV (CDC, 2017g). Therefore, vaccinating Hispanic children against HPV at the recommended ages of 11 and 12 or before they become sexually active would help prevent the spread and burden of HPV among the Hispanic population.

As previously noted, Hispanic parents play a significant role in influencing the vaccination of their children against HPV. In addition, the Hispanic population is the fastest growing group in the US, engage in risky sexual behaviors at a young age, and is

disproportionately affected by several HPV-related cancers (CDC, 2017c; CDC, 2017d; CDC, 2017g; Pew Research Center, 2011). Therefore, it is fundamental to identify the salient factors that influence US Hispanic parent's decision in regards to vaccinating their children against HPV. Since Hispanic parents are the primary decision makers for their children's health and vaccination status, they were the target sample for this study. In this study, Hispanic parents refer to any individual between the ages of 18 and 50, who is the main caretaker of a child or adolescent of any age.

### **Significance of the Study**

This study significantly contributes to the current body of knowledge regarding factors that influence Hispanic parents' decision to vaccinate their children against HPV and provides important future implications for clinicians, researchers, and policymakers. The findings of this study help clinicians provide culturally-tailored information regarding the HPVV to their clients and inform policies to fund interventions to facilitate HPV vaccination among the Hispanic population. Currently, there is a lack of validated culturally-tailored interventions for Hispanics to improve HPVV uptake (Brueggmann et al., 2016; Kepka et al., 2015b). Findings from this study also allowed researchers to identify the factors that influence the decision of Hispanic parents to vaccinate their children against HPV and as well as determine the salient factors and strategies for implementing an HPV prevention intervention for this population.

### **Purpose of the Study**

The purpose of this study was to investigate factors that are salient for Hispanic parents when deciding to vaccinate their children against HPV and to determine the main

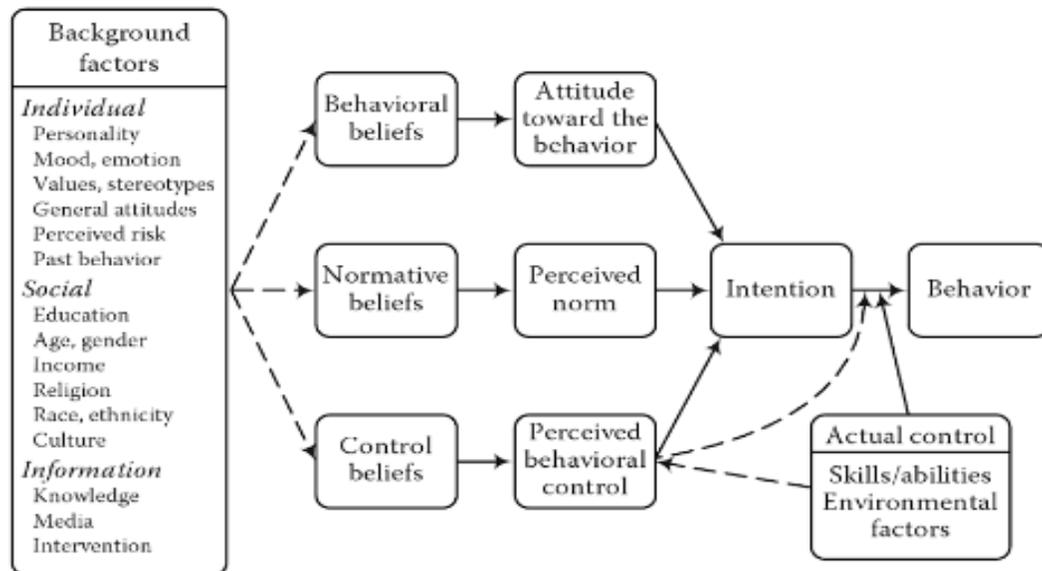
components and strategies for implementing an HPV prevention intervention for this population.

This study was based on the Theory of Planned Behavior (TPB). This theory was chosen because its constructs have been used to study health-promoting behaviors and have informed health promotion interventions (Ajzen, 1991; Fishbein & Ajzen, 2010). This study used the qualitative data collected from the parent study titled SEPA Men and Women.

### **Theoretical Framework: Theory of Planned Behavior**

In order to better identify and understand the factors that influence a Hispanic parent's decision to vaccinate their children against HPV, the TPB was used to guide this study. TPB has its theoretical foundation in the Theory of Reasoned Action (Glanz, Rimer, & Viswanath, 2008). The TPB proposes that parental decisions is influenced by the following constructs: a) background factors, which describe demographic, relational, and informational factors that influence a behavior, b) attitudes toward the behavior, which describes an individual's perceptions towards performing a behavior, c) perceived norm, which accounts for the individuals that can influence a person into performing a behavior, d) perceived behavioral control, which describes an individual's self-efficacy towards performing a behavior, e) intention, which describes an individual's motivation to perform a behavior, f) actual control, which describes environmental factors or an individual's skills that may facilitate or deter them from performing a behavior regardless of their intention, and g) behavior, which describes the health promoting actions (Ajzen, 1991). Figure 1 below shows the TPB model.

**Figure 1.** Theory of Planned Behavior



**Figure 1.** Schematic presentation of the reasoned action model by Fishbein, M. and Ajzen, I., 2010, *Predicting and Changing Behavior: The Reasoned Action Approach*. New York, NY: Psychology Press.

## Study Aims

The specific aims of this study were to:

1. Investigate the factors that influence Hispanic parent's decision to vaccinate their children against HPV.
2. Determine the salient factors for designing an HPV prevention intervention for Hispanic parents.
3. Determine the strategies for implementing an HPV prevention intervention for Hispanics. The components that were assessed include a) place, b) time, c) facilitator, d) modality, e) duration, f) content, g) location, h) language, and i) demographic characteristics.

## **Study Questions**

**Research Question 1:** What are the salient factors that influence Hispanic parent's decision to vaccinate their children against HPV?

**Research Question 2:** What are the salient factors for designing an HPV prevention intervention for Hispanic parents?

**Research Question 3:** What are the strategies for implementing an HPV prevention intervention for Hispanics?

## **Summary**

The US Hispanic population is disproportionately affected by HPV-related cervical and penile cancers. It is fundamental to study this population as it is the fastest growing population in the US who tend to engage in pre-teen risky sexual behaviors and experience a multitude of socioeconomic barriers which increases their risk for HPV infections. The HPVV, available since 2006, is an effective form of prevention for HPV and HPV-related cancers, however, Hispanic HPV vaccination percentages are still much lower than the HealthyPeople 2020 goal of 80%. Hispanic parents are the main decision-makers in regards to their children's health, thus it was essential to identify the factors that influence their decisions for vaccinating their children against HPV.

## **Chapter 2**

### **Review of the Literature**

For this chapter, a review of the literature was done to understand the factors that influence HPV vaccination decision making among Hispanic parents in the United States (US). The review begins with a description of the state of HPV infection among the Hispanic population and is followed by a discussion of different factors believed to influence Hispanic parent's decision regarding the HPV vaccine (HPVV) for their children. The TPB constructs were used to guide the presentation of the findings from the review. The gaps in the literature are discussed in addition to how this study would build on previous research.

#### **HPV Infection Burden in the US**

HPV is spread via skin to skin contact or via vaginal, anal, or oral sexual intercourse (CDC, 2017a). There are currently over 40 distinct strains of HPV that can infect the genital tract; about 90% of these infections will not present symptoms (CDC, 2016b). Although some of these asymptomatic infections can resolve on their own within two years in healthy individuals, persistent infection with specific strains of HPV can lead cell changes that can progress to cancer if left untreated (CDC, 2016b).

Every year, about 17,600 women and 9,300 men are diagnosed with HPV-related cancers (CDC, 2017a). Two strains of the virus, strains 16 and 18, account for 70% of cervical cancers for women in the US (National Cancer Institute (NCI), 2016). HPV is also responsible for 69% of vulvar cancers, 75% of vaginal cancers, 91% of rectal cancers in men and women, 70% of oropharyngeal cancers in men and women, 91% of anal cancers in men and women, and 63% of penile cancers in men (CDC, 2017c).

Florida has one of the highest rates of HPV-related cancers (13.91 per 100,000) when compared to the rest of the states (CDC, 2017j).

### **HPV Infection Burden on the US Hispanic Population**

Hispanics account for 17.8% of the US population (US Census Bureau, 2017a). More than one-third of Hispanics (34.5%) are immigrants born in countries outside the US and its territories (US Census Bureau, 2017a). The state of Florida has a Hispanic population of 20,612,439 residents and 19.7% are foreign-born (US Census Bureau, 2017a). In Southern Florida, within Miami-Dade County, where this study was conducted, there are several suburban cities that are heavily populated by Hispanics (US Census Bureau, 2017a). In Miami-Dade County, Hispanics account for 66% of all the residents in the county (Pew Research Center, 2017a). The Hispanic population is the fastest growing racial group in the US and is currently affected by health disparities, including higher rates of HPV infection.

The prevalence of genital HPV between 2013 and 2014 among Hispanic men and women in the US was 44.4% and 38.5% respectively compared to their white male and female counterparts which were 43.7% and 36.5% respectively (National Center for Health Statistics (NCHS), 2017). There are several factors that affect the health care access of Hispanics in the US which consequently influences access to HPV treatment and preventative care. Factors that contribute to HPV infection and HPV-related cancers among Hispanics include poverty, unemployment, immigration issues, lower education, and cultural beliefs (CDC, 2017e).

The poverty rate for US Hispanics is about 21.4% compared to about 10% for Whites (CDC, 2017d). Lower income makes it difficult for them to afford health

insurance (CDC, 2017e). US Hispanics have a median household income of about \$47,475 compared to the median household income of Whites which is about \$65,041 (US Census Bureau, 2017b). Hispanics in the US also have the highest uninsured rate (16%) compared to other races and ethnicities (CDC, 2017e; US Census Bureau, 2017b). Low rates of health insurance coverage make access to preventative health care difficult (Velasco-Mondragon, Jimenez, Palladino-Davis, Davis, & Escamilla-Cejudo, 2016). About 15.5% of US Hispanics reported delayed or lack of health care due to cost concerns (Velasco-Mondragon et al., 2016). Lack of access to health care is further exacerbated by the population's low education and employment levels (CDC, 2017e). Only 14.8% of US Hispanics, aged 25 and older, have completed education beyond high school while 33% of Hispanics ages 16 and older are not part of the civilian labor force (US Census Bureau, 2017a). Many Hispanics also face language barriers that prevent them from properly navigating the health care system (Velasco-Mondragon et al., 2016). The majority of Hispanics in the US (74%) speak another language that is not English at home (Pew Research Center, 2017b).

Hispanics also face barriers to health care due to their cultural beliefs and norms (Velasco-Mondragon et al., 2016). One culture-specific norm known as fatalismo is the belief that some health problems, particularly cancer, are not within human control and there is little anyone can do to change their predetermined fate set by God (Cleveland & Horner, 2012; Madhivanan, Valderrama, Krupp, & Ibanez, 2016). Traditional gender roles in the Hispanic community are known as machismo and marianismo. Machismo defines the role of a man in the Hispanic culture as being providers, self-governing, dominant, macho, aggressive, in control of women, and tough (Cianelli, Ferrer, &

McElmurry, 2008; Ferrer et al., 2016). Marianismo defines the role of a woman in the Hispanic culture as being submissive to men, untainted, dependent, susceptible, abstinent until after marriage, naïve, silent, and altruistic (Cianelli et al., 2008; Ferrer et al., 2016). The negative aspects of machismo lead Hispanic males to engage in early sexual initiation, unprotected sexual intercourse, and sexual coercion with multiple partners (Seal et al., 2012). The negative aspects of marianismo lead Hispanic females to be submissive and sexually naïve, which places them at a disadvantage when negotiating protective sexual practices with their partner (Cianelli et al., 2008; Seal et al., 2012).

Familismo is the strong bond and attachment to immediate and extended family members (Seal et al., 2012). Hispanics have collectivist values and look to each other for advice and opinions (Rapid Response Service, 2013; Seal et al., 2012). The loyalty to the extended family is more important than the needs of the individual and decisions are made as a family rather than alone (Garcia, Zuniga, & Lagon, 2017). Relying on the opinions of family members can either help in the dissemination of good health habits or lead to acceptance of misconceptions or negative health habits (Seal et al., 2012). Instead of seeking care from a health care provider (HCP), Hispanics may turn to more traditional practices which include home remedies and consulting with relatives, neighbors, or friends (Seal et al., 2012).

### **HPV Vaccine as Primary Prevention for HPV Infection**

As previously mentioned, condom use, monogamy, abstinence, and limited sexual partners are several preventive practices that can lower the risk of contracting HPV (CDC, 2017f). However, condoms can tear or break, increasing the risk of HPV infection. Similarly, monogamy/limited sex partners are limited because they underestimate the

other sexual partners' risky behaviors. Abstinence is the only way that HPV infection risk is completely reduced, and this is not always possible (CDC, 2017f). The limitations of primary prevention methods make the HPVV the most effective way to prevent HPV infection. The HPVV is 97-100% effective in protecting against several HPV-related cancers (NCI, 2016). HPV infections, genital warts, and cervical dysplasia prevalence have all decreased since the HPVV has been in use in the US (CDC, 2016c). Furthermore, studies assessing the long-term effectiveness of the HPVV have found no evidence of a decrease in protection over a ten year period (CDC, 2016c).

The HPVV is recommended for males ages 9 to 21 and females ages 9 to 26 (CDC, 2016c). The HPVV is extended up to age 26 for individuals who are at higher risk of contracting HPV, such as gay and bisexual men, other men who have sex with men, transgender individuals, and those with specific immune compromising conditions (CDC, 2016c). The HPVV has been strongly recommended for girls and boys between the ages of 11 and 12 or before their first sexual activity (NCI, 2016). The target ages for HPV vaccination are 11 and 12 because at these ages children are also receiving other scheduled vaccines (Amanna & Slifka, 2010; NCI, 2016). Additionally, younger adolescents (ages 11-15) end up with two to three times as many HPV antibodies compared to older children after receiving the vaccine, which may result in longer-lasting immunity (Amanna & Slifka, 2010). The HPVV also offers protection to individuals who may have already been exposed to HPV (CDC, 2016c). The current HPVV guidelines recommend each child, adolescent, or young adult to receive 2 doses over six months (CDC, 2016c). The current guidelines are targeted to improving uptake of the HPVV and consequently reduce HPV transmission (CDC, 2016c).

**HPV vaccination rates among Hispanics in Florida.** The HealthyPeople 2020 goal for HPV vaccination in the US is 80% (ODPHP, 2017). Despite the recommended goals and guidelines for HPV vaccination, the Hispanic population still has suboptimal HPV vaccination rates. In Florida, percent of HPVV initiation for Hispanic adolescent girls is at 56.1% and for adolescent boys, it is at 75% (CDC, 2018). Data also shows that only 37.2% of Hispanic adolescent girls and 51.7% of Hispanic adolescent boys in Florida have completed the HPVV series (CDC, 2018). Hispanic parents have been found to significantly influence HPV vaccination among their children (NFID, 2014; ODPHP, 2017). The TPB was used to synthesize and present findings from the literature on the beliefs and considerations of Hispanic parents regarding vaccinating their children against HPV.

### **Theory of Planned Behavior**

The TPB was developed from the TRA by Icek Ajzen (Fishbein & Ajzen, 2010). A fundamental assumption of the TPB is that individuals are rational and process information that motivates them to perform a behavior (Fishbein & Ajzen, 2010). The underlying reasons for a behavior influence an individual's behavioral, normative, and control beliefs, which in turn determines their attitudes, perceived norms, and behavioral control (Fishbein & Ajzen, 2010). The TPB also assumes that the best predictor of an actual behavior is an individual's intention to perform that behavior (Fishbein & Ajzen, 2010).

Behaviors are observable events directed at a specific target that occur within a certain context and within a given point in time (Fishbein and Ajzen, 2010). Conducting direct observations for a behavioral category is difficult and rare in a cross-sectional

study, therefore many social science studies rely on self-reporting of behaviors from participants (Fishbein and Ajzen, 2010). Intentions are indications of an individual's effort towards performing a behavior (Fishbein and Ajzen, 2010). This construct is assumed to capture motivational factors that influence a person to perform a behavior (Fishbein and Ajzen, 2010). The TPB model proposes that the stronger the person's intention is, the more likely they will perform the behavior (Ajzen, 1991).

Intention to perform a behavior is influenced independently by the theory's three main constructs: 1) attitude towards conducting the behavior, 2) perceived norm regarding the behavior and 3) perceived behavioral control over performing the behavior (Fishbein & Ajzen, 2010). Attitude towards a behavior refers to an individual's positive or negative evaluation of performing a behavior (Ajzen, 1991). If the perception of performing a behavior or of its consequences is positive, the individual is more likely to perform the behavior (Glanz, Rimer, & Viswanath, 2008). Perceived norm is a social factor that refers to the perceived social pressure from referent individuals about a behavior (Ajzen, 1991). The belief that referent individuals approve or support a behavior facilitates the actions towards the behavior (Glanz et al., 2008). Perceived behavioral control is an individual's perception of the ease or difficulty of performing a behavior (Fishbein and Ajzen, 2010). This construct is most compatible with Bandura's concept of perceived self-efficacy (Ajzen, 1991; Fishbein and Ajzen, 2010). Self-efficacy is the perception of skills and abilities that influence the performance of a behavior (Bandura, 1982). Perceived behavioral control can also assess the likelihood of specific factors interfering with or facilitating the performance of the behavior (Fishbein and Ajzen, 2010). Another construct that may influence an individual's ability to perform a behavior

is known as actual control. Actual behavior refers to environmental factors or an individual's skills that may either facilitate or hinder them from performing a behavior regardless of their intentions (Ajzen, 1991; Fishbein and Ajzen, 2010).

In the TPB model, background factors are proposed to influence the performance of a behavior through the mediating relationships of attitude towards the behavior, social norms, and perceived behavioral control (Fishbein & Ajzen, 2010; Glanz et al., 2008). Background factors describe demographic, relational, and informational factors that influence a behavior (Fishbein & Ajzen, 2010). The number of background factors is unlimited as long as there's reason to believe that those factors will influence the individual's intention to perform a certain behavior (Fishbein & Ajzen, 2010). According to Fishbein and Ajzen (2010), demographic characteristics are associated with differences in behaviors. Individuals with positive attitudes perceived norms, and greater perceived behavioral control towards a behavior, are more likely to perform the behavior (Ajzen, 1991). However, if individuals believe that they don't have control over the performance of the behavior they may not report strong intentions to perform it even if the attitudes and perceived social pressure is strong (Fishbein & Ajzen, 2010).

The TPB's constructs have shown to explain a large proportion of variance in intentions to perform a behavior and predict different behaviors including HIV and STD prevention behaviors (Bandawe & Foster, 1996; Fishbein, 1993) and use of contraceptives (Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Bogart, Cecil, & Pinkerton, 2000; Bosopmra, 2001). More significantly, it has been used in various studies to assess HPV vaccination (Askelson et al., 2010; Ratanasiripong, Cheng, & Enriquez, 2013; Ratanasiripong, 2015). These studies consistently found that the TPB constructs

influence the intention to vaccinate against HPV (Askelson et al., 2010; Ratanasiripong et al., 2013; Ratanasiripong, 2015). These authors also reported that the findings from these studies should be used to develop HPVV promotion strategies and interventions (Askelson et al., 2010; Ratanasiripong et al., 2013; Ratanasiripong, 2015). The TPB has also been used among Hispanic women/Latinas regarding cervical cancer screening, a secondary prevention practice related to HPV (Roncanrio et al., 2015). This is the first study that used the TPB to qualitatively investigate the factors that influence Hispanic parent's decision to vaccinate their children against HPV. Understanding how Hispanic parents' beliefs and considerations influence HPV vaccination with the aid of the TPB, can inform multilevel interventions to facilitate HPV vaccination among Hispanic youth.

### **Literature Review Findings Guided by the TPB**

This section presents findings from the literature, guided by the TPB, from studies that have assessed the relationship between several factors and HPVV uptake among Hispanic parents for their children.

**Background factors.** According to the TPB, background factors are characteristics or traits of people that influence behavior (Fishbein and Ajzen, 2010). Several background factors have been assessed in the literature for association with HPV vaccination of children among Hispanic parents and include gender, age, marital status, language preference, religion, employment status, occupation, household income, country of origin, years living in the US, acculturation, education, health insurance status, health history, use of technology/media, awareness, and knowledge.

**Gender.** The findings from this review revealed varying results for the influence of gender on HPVV uptake. Studies showed no relationship between gender of Hispanic

parents and HPV vaccination of their children (Aragones, Bruno, Ehrenberg, Tonda-Salcedo, & Gany, 2015; Kepka et al., 2015b; Ramirez's et al., 2014). For example, Aragones et al. (2015), conducted an educational intervention study with a 6 month follow up using a nonequivalent group design. The researchers surveyed 69 Hispanic parents of Mexican origin (79.9% Hispanic mothers and 20.1% Hispanic fathers) who were at the Mexican consulate in New York City. Results, using binary logistic regression, demonstrated that gender of parent had no significant association with HPV vaccination ( $\beta = 1.25, p = .13$ ). Aragones et al. (2015) also reported no association between gender of child and HPVV uptake ( $\beta = -.06, p = .56$ ).

However, two other studies found an association between gender of the child and HPVV uptake (Kepka et al., 2015a; Warner et al., 2015). Both of these studies recruited samples of Hispanic parents that had 11-17-year-old children from community events in Salt Lake City, Utah. After adjusting for household income and running a multivariate logistic regression, Kepka et al.'s (2015a) cross-sectional study with a sample of 67 Hispanic parents, demonstrated a significantly higher intent to vaccinate sons rather than daughters among lower acculturated parents when compared to higher acculturated parents (OR = 4.04, 95% CI [1.06, 15.44],  $p = .041$ ). In contrast, some parents in Warner's et al., (2015) qualitative study believed boys were less likely to get HPV than girls, thus vaccinating them was not necessary. Authors reported that this belief was impacted by cultural perceptions such as machismo (Warner et al., 2015).

In one qualitative study, conducted in the neighborhoods of New York City, a sample of 36 Hispanic parents were recruited who were mostly Hispanic mothers (91%) with an average age of 42, of Ecuadorian descent (36%), that preferred to speak Spanish

(97%), were married (58%), had high school education or less (65%), less than \$35,000 in household income (52%), had health insurance for themselves (53%) and for their children (94%), and had unvaccinated children of ages 9-17 (Aragones et al., 2016). In contrast to the two previous studies presented, these Hispanic parents reported intentions of vaccinating both sons and daughters equally (Aragones et al., 2016).

*Age.* Hispanic parents' age was found to be an influential factor for HPV vaccination. In three separate studies, that had a sample of mostly Spanish speaking Hispanic mothers, with an average age of 34-46, and less than high school education, the authors reported that older Hispanic mothers were more likely to initiate HPV vaccination, complete the HPV series, or intend to vaccinate their children against HPV than Hispanic parents who were younger (Aragones et al., 2015; Brueggmann et al., 2016; Gerend et al., 2013). In Aragones et al.'s (2015) study, older Hispanic parents (average age of 38) were significantly more likely to vaccinate their children against HPV than younger Hispanic parents (average age of 34) ( $p = .012$ ).

However, several other studies, where samples consisted mostly of Hispanic mothers of Mexican origin, with an average age of 34-49, and less than \$35,000 in household income, did not find any association between Hispanic parent's age and HPV uptake (Kepka et al., 2012b; Kepka et al., 2015b; Morales-Campos & Parra-Medina, 2017; Yeganeh, Curtis, & Kuo, 2010). One cross-sectional study with a sample size of 78, with an equal amount of Hispanic mothers in each age group (<34, 34-45, and >45), who were mostly married (71%), unemployed (54%), and had low US acculturation (56.4%), reported no significant association between Hispanic mother's age groups and HPV vaccination of their daughters ( $p = .22$ ) (Kepka et al., 2012b). Similarly, in another

cross-sectional study that used two sample T-test and Pearson chi-square, with a sample of 95 Hispanic mothers who were mostly Catholic (77%), ages 45-54 (59%), and had less than high school education (60%), reported no significant association between Hispanic mother's age and vaccination of daughters against HPV ( $p = .277$ ) (Yeganeh et al., 2010).

The age of the child at the time of vaccine administration was found to be related to HPV uptake (Gerend et al., 2013; Kepka, Coronado, Rodriguez, & Thompson, 2011; Kepka et al., 2012a; Kepka et al., 2012b; Sanderson et al., 2009; Yeganeh et al., 2010). Some Hispanic mothers were hesitant to vaccinate their child because they perceived the age of 10 to be too young (Morales-Campos, Markham, Peskin, & Fernandez, 2013). One cross-sectional study, conducted in southwestern Florida, recruited a sample of 200 Hispanic mothers who were mostly of Mexican origin (74%) and between the ages of 23-61. These mothers had daughters whose ages ranged from 9 to 18 with an average age of 13. Results, using multivariate logistic regression, showed that for every year increase in the daughter's age, the Hispanic mother's intention to vaccinate them significantly increased by 32% (OR = 1.32, 95% CI [1.02, 1.72],  $p \leq .05$ ) (Gerend et al., 2013). This was in contrast to a study conducted in Los Angeles whose 95 participants had daughters between the ages of 11 and 17 and reported no significant association between daughter's age and HPV vaccination ( $p = .56$ ) (Yeganeh et al., 2010).

Personal experience with HPV was also reported to influence Hispanic parent's decision of when to vaccinate their child (Sanderson et al., 2009). In another cross-sectional study, conducted in the Texas-Mexico border with a sample of 190 HPV positive and 215 HPV negative women (> 77% were mothers) who were mostly married, had less than high school education, and were an average of 25-34 years old, authors

reported that 42.5% of HPV positive women would vaccinate their daughters at ages 11 and 12, while 46.6% of HPV negative women would vaccinate their daughter's at ages 13 to 26 (Sanderson et al., 2009).

***Marital status.*** Hispanic parent's marital status was reported to not be associated with HPVV uptake (Kepka et al., 2012b; Kepka et al., 2015b; Parra-Medina et al., 2014; Yeganeh et al., 2010). For instance, one longitudinal intervention study was conducted in South Texas with 372 Spanish speaking Hispanic mothers who were mostly of Mexican origin (85.2%), married (79.9%), had less than high school education (83.4%), and had no health insurance (89.8%) or employment (83.7%). Using univariate logistic regression, researchers found that although married Hispanic mothers had greater odds of vaccinating their daughters when compared to non-married Hispanic mothers, it was not a statistically significant relationship (aOR = 1.44, 95% CI [0.76, 2.73],  $p = .27$ ) (Parra-Medina et al., 2014).

***Language preference.*** Findings for Hispanic parent's language preference and its association with HPV vaccination were contradictory. Three studies whose sample consisted of mostly Hispanic mothers that preferred to speak Spanish instead of English reported no association between language preference and HPVV uptake (Aragones et al., 2015; Stevens et al., 2013; Parra-Medina et al., 2014). Stevens et al., (2013) surveyed 288 mothers or guardians of girls ages 8 to 22 from clinics or community health fairs in Dallas, Texas. Most participants were between the ages of 31 and 40 (51.7%), had less than high school education (74.9%), preferred to speak Spanish (69%), and had health insurance for their child (87.1%). Authors conducted a univariate logistic regression and found that only 14.8% of English speakers and 21% Spanish speakers had initiated the

vaccine for their daughters (OR = 0.65, 95% CI [0.33, 1.29],  $p = .216$ ) (Stevens et al., 2013). Likewise, although Parra-Medina et al. (2014) reported that Hispanic mothers who preferred to speak Spanish had greater odds of vaccinating their daughters when compared to Hispanic mothers who preferred to speak English, the authors did not find this relationship to be statistically significant (aOR = 0.97, 95% CI [0.31, 3.05],  $p = .96$ ).

In contrast, other authors reported that Hispanic parents who preferred to speak English were more likely to have already vaccinated or intend to vaccinate their children against HPV in comparison to parents who preferred to speak Spanish (Chando et al., 2013; Gerend et al., 2013). One cross-sectional study that surveyed 1,090 Hispanic parents from California that identified with the white racial group, consisted mostly of Hispanic mothers (65.5%), with more than high school education (62.6%), who had health insurance (62.1%), preferred to speak English at home (67.1%), and were between the ages of 40 and 49 (43.9%) (Chando et al., 2013). Authors performed a univariate logistic regression with this large sample and found that Spanish speaking parents were significantly less likely to have vaccinated their daughters against HPV when compared to the English speaking parents (12% vs 20%, OR = 0.55, 95% CI [0.31, 0.98],  $p = .041$ ) (Chando et al., 2013). Similarly, Gerend et al. (2013), using a bivariate logistic regression, reported that Hispanic mothers who preferred to conduct the interview in English or in combination of English and Spanish had significantly higher intentions to vaccinate their daughters than Hispanic parents who preferred to do the interview in Spanish (OR = 2.82, 95% CI [1.30, 6.10],  $p \leq .05$ ).

**Religion.** Only one study examined the relationship between religion and HPVV uptake for children of Hispanic parents (Brueggmann et al., 2016). This cross-sectional

study aimed to assess an educational tool that was delivered to participants, assess how easy it was for participants to understand the HPV information given, and measure the acceptance and willingness to vaccinate their child. The sample consisted of 418 Spanish speaking Hispanic mothers, ages 18 to 65 who were recruited from a waiting area in a woman's clinic, who mostly had less than an 8<sup>th</sup>-grade level education (55%), and were mostly Catholic (80.6%). Authors performed bivariate analyses and found no significant relationship between Hispanic parent's religion and HPV vaccination of their children ( $p = .58$ ) (Brueggmann et al., 2016).

***Employment status and occupation.*** The influence that parental employment status has on the uptake of the HPVV among the children of Hispanic parents is unclear. In one longitudinal intervention study conducted in south Texas/Mexican border, 317 Hispanic mothers were recruited if they had unvaccinated daughters between 11 and 17 years old. Participants were mostly of Mexican origin (86%), married (71%), had less than high school education (81%), less than \$10,000 in household income (72%), no health insurance (90%), spoke Spanish (84%), were unemployed (85%), and were an average of 38 years old (Morales-Campos & Parra-Medina, 2017). The researchers provided an educational intervention and then conducted a 6 month follow up phone call to ask if the Hispanic mothers had vaccinated their daughters. The authors performed multivariate logistic regression and found no significant association between Hispanic mother's employment status and HPVV initiation (OR = 1.22, 95% CI [0.62, 2.38],  $p \geq .05$ ) or completion (OR = 0.53, 95% CI [0.25, 1.11],  $p \geq .05$ ) for their daughters (Morales-Campos & Parra-Medina, 2017). In addition, Kepka et al. (2012b) assessed the relationship between Hispanic parent's type of occupation and HPV vaccination but did

not find a significant association between the two variables ( $p = .66$ ) (Kepka et al., 2012b). In contrast, after conducting a longitudinal intervention study, Parra-Medina et al. (2014) found that unemployed parents (83.7%) were significantly more likely to complete the vaccine series for their children when compared to employed parents (OR = 0.45, 95% CI [0.21, 0.96],  $p = .04$ ).

**Household income.** Several studies examined the influence of Hispanic parent's household income on the uptake of the HPVV (Chando et al., 2013; Gerend et al., 2013; Kepka et al., 2012b; Kepka et al., 2015b). The majority of the studies found no significant association between Hispanic parent's household income and HPVV uptake among their children (Gerend et al., 2013; Kepka et al., 2012b; Kepka et al., 2015b). For example, Kepka et al. (2015b) wanted to explore factors related to HPVV uptake among Hispanic parents in Salt Lake City, Utah that could read and speak in Spanish and who had at least one child between the ages of 11 and 17. The sample consisted of 118 Hispanic parents who were mostly mothers (84.4%), between the ages of 40 and 49 (47.1%), of Mexican origin (72.4%), had more than high school education (60.4%), less than \$35,000 in household income (77.7%), and had been living in the US for more than 15 years (55.8%). After performing univariable analyses and Fisher's exact test, the researchers reported that household income was not significantly associated with the HPV vaccination of daughters ( $p = .961$ ) or sons ( $p = .784$ ) (Kepka et al., 2015b). However, one study using multivariate logistic regression observed significantly lower vaccination rates among children of parents whose income was 100% to 199% of the federal poverty level when compared to parents whose income was 300% or greater of

the federal poverty level (OR = 0.41, 95% CI [0.20, 0.86],  $p = .019$ ) (Chando et al., 2013).

**Country of origin.** Most of the Hispanic participants found in the literature were of Mexican origin; therefore results for participants of other countries of origin are limited (Aragones et al., 2015; Gerend et al., 2013; Kepka et al., 2011; Kepka et al., 2012b; Kepka et al., 2015a; Kepka et al., 2015b; Morales-Campos & Parra-Medina, 2017; Parra-Medina et al., 2014; Roncancio et al., 2016; Roncancio, Ward, Carmack, Munoz, & Cribbs, 2017a; Roncancio et al., 2017b; Warner et al., 2015). Several studies reported no significant association between Mexican origin and HPV uptake ( $p \geq .05$ ) (Kepka et al., 2012b; Morales-Campos & Parra-Medina, 2017; Parra-Medina et al., 2014; Yeganeh et al., 2010). Although, no significant association was reported between Mexican origin and HPV vaccination, all of the studies showed a trend where a higher percentage of Hispanic parents of Mexican origin were more likely to vaccinate, to have previously vaccinated, or intended to vaccinate their children against HPV (Kepka et al., 2012b; Morales-Campos & Parra-Medina, 2017; Parra-Medina et al., 2014; Yeganeh et al., 2010).

In contrast, two studies whose samples consisted of mostly Mexican mothers, who have lived in the US for an average of 15 years, and had a household income of less than \$35,000, reported that Hispanic parents born in Mexico were significantly less likely to have vaccinated their son prior to participating in the study ( $p = .049$ ) or to have significantly less intention of vaccinating their children (OR = 3.34, 95% CI [1.53, 7.31],  $p \leq .05$ ) when compared to parents born in the US or elsewhere (Gerend et al., 2013; Kepka et al., 2015b).

***Years living in the US.*** Few studies have assessed the relationship between the number of years Hispanic parents have lived in the US and HPV vaccination of their children. One cross-sectional study reported that living in the US for more than 15 years was associated with HPVV uptake for daughters of Hispanic parents ( $p = .035$ ) but not for sons ( $p = .484$ ) when compared to Hispanic parents who had lived in the US for less than 15 years (Kepka et al., 2015b). However, two other studies found no significant association between the number of years Hispanic parents have lived in the US and HPVV uptake for their children (Aragones et al., 2015; Gerend et al., 2013). Gerend et al. (2013) performed bivariate analyses and reported that among the foreign-born there was no significant association between the number of years they had been living in the US and HPVV uptake (OR = 1.04, 95% CI [0.97, 1.12],  $p \geq .05$ ). Similarly, Aragones et al. (2015) who used chi-square or Fischer's exact test, reported no significant association between Hispanic parents who have lived in the US for less than 5 years and HPVV uptake when compared to Hispanic parents who have lived in the US for more than 5 years ( $p = .59$ ).

***Acculturation.*** Several studies reported on the relationship between Hispanic parents levels of acculturation and HPVV uptake for their children (Gerend et al. 2013; Kepka et al., 2011; Kepka et al., 2012b; Kepka et al., 2015a; Kepka et al., 2015b). For instance, in one interventional randomized study, that was conducted in Washington state on 88 Hispanic parents of daughters ages 8 to 17, the sample consisted mostly of Hispanic mothers (88.6%) of Mexican origin (72%), who were married (72%), scored low on the language acculturation scale (59%), had less than \$20,000 in household income (51%), and had an average age of 39.9 with an average of 9.4 years of education

(Kepka et al., 2011). The researchers used the short acculturation scale by Marin et al. (1987) and noted that regardless of the degree of acculturation, there was no significant difference in HPV vaccination intentions between those in the intervention and control groups ( $p \geq .05$ ). There was also no significant difference noted for these groups of Hispanic parents when comparing their pre- and post-test HPV vaccination intentions ( $p \geq .05$ ) (Kepka et al., 2011).

However, contradicting results were reported among Hispanic parents with high US acculturation levels (Gerend et al. 2013; Kepka et al., 2015a). Kepka et al. (2015a) conducted a cross-sectional study in Salt Lake City, Utah with 67 Spanish speaking Hispanic parents who had children between 11 and 17 years old. Most of the sample consisted of Hispanic mothers (89.5%), who were born in Mexico (71.2%), with high US acculturation (52.2%), which had lived in the US for more than 15 years (61.2%), had less than \$35,000 in household income (67%), and an average age of 42.9. The researchers used Marin et al.'s (1987) validated 5-item acculturation scale (Cronbach  $\alpha = 80.4$ ) and reported that after adjusting for household income, no association was reported between Hispanic parent's acculturation level and HPV vaccination of daughters (aOR = 1.88, 95% CI [0.52, 6.76],  $p = .334$ ) (Kepka et al., 2015a). However, Hispanic parents who were less acculturated had significantly higher intentions to vaccinate their sons against HPV when compared to Hispanic parents who were more acculturated (aOR = 4.04, 95% CI [1.06, 15.44],  $p = .041$ ) (Kepka et al., 2015a).

In contrast, Gerend et al. (2013) who used the abbreviated multidimensional acculturation scale (US American items  $\alpha = .91$  and Latina items  $\alpha = .77$ ), reported that Hispanic mothers who were more acculturated had significantly higher intentions to

vaccinate their children against HPV when compared to Hispanic mothers who were less acculturated (OR = 1.86, 95% CI [1.07, 3.25],  $p \leq .05$ ). Location of recruitment could explain these contradicting results since according to Kepka et al. (2015), HPV vaccination was described as a highly controversial topic in Salt Lake City, Utah where their study was conducted. Therefore, it is possible that more acculturated Hispanic parents are mirroring the social norms of their surrounding communities (Kepka et al., 2015a).

**Education.** Contradictory results have also been reported among studies that examined the relationship between Hispanic parent's level of education and HPV vaccination among their children. Most studies did not find a significant association between Hispanic parent's level of education and HPV vaccination ( $p \geq .05$ ) (Brueggmann et al., 2016; Kepka et al., 2015b; Morales-Campos & Parra-Medina, 2017; Parra-Medina et al., 2014; Stevens et al., 2013; Yeganeh et al., 2010).

One cross-sectional study had a sample of 118 Hispanic parents in which the majority (60.4%) had high school education or greater (Kepka et al., 2015b). Regardless, Fisher's exact test showed no significant association between Hispanic parents education level and HPV vaccination of daughters ( $p = .950$ ) or sons ( $p = .872$ ) (Kepka et al., 2015b). In contrast, both Parra-Medina et al., (2014) and Morales-Campos and Parra-Medina (2017) had samples in which the majority of the Hispanic parents had high school education or lower. However, even though neither study reported a significant association between Hispanic parents level of education and HPV vaccination, some trends in the data were noted. Parra-Medina et al. (2014) noted that after adjusting for all other demographic confounders, Hispanic parents with high school education or higher

reported lower intentions to vaccinate their children than Hispanic parents who had less than high school education (aOR = 0.89, 95% CI [0.41, 1.95],  $p = .78$ ). In contrast, Morales-Campos and Parra-Medina (2017) noted that Hispanic parents with more than high school education had higher HPVV initiation (OR = 1.01, 95% CI [0.53, 1.93],  $p \geq .05$ ) and completion (OR = 1.44, 95% CI [0.73, 2.83],  $p \geq .05$ ) percentages for their children when compared to Hispanic parents with less than high school education.

Furthermore, two studies stated that Hispanic parents who had a high school level education or higher were significantly more likely to have vaccinated their children against HPV or had higher intentions of doing so in comparison to Hispanic parents with less than high school level education (Chando et al., 2013; Gerend et al., 2013). Gerend et al. (2013) had a sample of 200 Hispanic mothers with an average of 7.6 years of education. Using a bivariate logistic regression, the researchers noted that Hispanic mothers who had more years of education had significantly higher odds of vaccinating their child against HPV compared to those with fewer years of education (OR = 1.11, 95% CI [1.02, 1.22],  $p \leq .05$ ). Further, Chando et al. (2013) who had a sample of 1090 Hispanic parents who mostly had high school education or greater, performed a bivariate logistic regression and reported that Hispanic parents with no formal education had significantly lower odds of intending to vaccinate their children when compared to Hispanic parents who had some level of formal education (OR = 0.18, 95% CI [0.04, 0.92],  $p = .04$ ).

***Health insurance status.*** Findings for health insurance status and its association with HPVV uptake were varied. In several qualitative studies conducted in Houston, TX, researchers used in-depth interviews on Spanish speaking Hispanic mothers with an

average age ranging from 39.6 to 42.1 years (Roncancio et al., 2016; Roncancio et al., 2017a; Roncancio et al., 2017b). The sample sizes ranged from 32 to 51 and the majority of the participants were of Mexican origin, married, had less than high school education, and had children who were covered by government-subsidized health insurance. All three studies reported that Hispanic mothers were more willing to vaccinate their children if the children had health insurance (Roncancio et al., 2016; Roncancio et al., 2017a; Roncancio et al., 2017b). In one cross-sectional study, 87.2% of Hispanic mothers had children who were covered by some form of insurance (Stevens et al., 2013). Although Hispanic mothers whose daughters had public (OR = 3.16, 95% CI [0.93, 10.80],  $p \geq .05$ ) and private (OR = 2.32, 95% CI [0.58, 9.23],  $p \geq .05$ ) health insurance had higher odds of initiating the HPV series for their daughters when compared to Hispanic parents whose daughters had no health insurance, none of these trends were statistically significant (Stevens et al., 2013). Similarly, 71% of Hispanic mothers in Yeganeh et al.'s (2010) cross-sectional study reported that their daughters had some form of health insurance. However, among the Hispanic mothers whose children had health insurance, there was no significant difference noted between those who had vaccinated their daughters and those who had not ( $p = .101$ ) (Yeganeh et al., 2010).

Other studies examined the effect of Hispanic parent's health insurance status on child HPV vaccination. Results showed that Hispanic parents with health insurance were significantly more likely to have vaccinated their children against HPV prior to participating in the study, but significantly less likely to initiate and complete the HPV series after participating in a study when compared to uninsured Hispanic parents (Chando et al., 2013; Morales-Campos & Parra-Medina, 2017; Parra-Medina et al.,

2014). In Parra-Medina et al.'s (2014) study, 89.8% of participants were uninsured, however insured Hispanic mothers had significantly lower odds of completing the HPV series for their daughters when compared to uninsured Hispanic mothers (OR = 0.29, 95% CI [0.12, 0.68],  $p = .01$ ) including after confounding demographic variables were added into the model (aOR = 0.36, 95% CI [0.13, 0.98],  $p = .05$ ). Likewise, in Morales-Campos and Parra-Medina's (2017) interventional study, 90% of the sample was uninsured pre-intervention, however post-intervention, insured Hispanic mothers had lower odds of initiating (OR = 0.21, 95% CI [0.09, 0.48],  $p \leq .01$ ) and completing (OR = 0.25, 95% CI [0.08, 0.73],  $p \leq .05$ ) the HPV series for their daughters when compared to uninsured Hispanic mothers. In contrast, after conducting a univariate analysis, Chando et al. (2013) reported that uninsured Hispanic parents had significantly lower odds of having previously vaccinated their daughters when compared to insured Hispanic parents (OR = 0.41, 95% CI [0.25, 0.68],  $p < .001$ ). This finding was still significant even after income, education, and language were added into the model (OR = 0.48, 95% CI [0.29, 0.80],  $p = .005$ ) (Chando et al., 2013).

**Health History.** In one ethnographic qualitative study, conducted in underserved areas of Pennsylvania, PA, 17 Hispanic mothers and grandmothers, with an average age of 30, who cared for at least one girl ages 8 to 17, were interviewed. The majority of the participants were of Puerto Rican origin but born in the US, not married, had less than high school education, preferred to speak Spanish, and were employed. A few mothers in this study stated that they would give their daughter the HPV because they or someone they knew had been diagnosed with cervical cancer and they wanted to protect their daughters from that (Ramirez et al., 2014). Most Hispanic mothers in Morales-Campos et

al.'s (2013) study also vaccinated their daughters against HPV because they or a family member had a history of cancer. In Gerend et al.'s (2013) quantitative study, 14% of the 200 Hispanic mothers had a history of cervical cancer and 6% had a history of genital warts. However, having a history of cervical cancer (OR = 1.99, 95% CI [0.79, 5.06],  $p \geq .05$ ) or genital warts (OR = 2.43, 95% CI [0.67, 8.83],  $p \geq .05$ ) among their participants was not found to be significantly associated with HPV vaccination (Gerend et al., 2013).

Similarly, Brueggmann et al. (2016) reported that Hispanic mothers who had a history of abnormal pap smears ( $p = .34$ ), colposcopy ( $p = .36$ ), and hysterectomy's ( $p = .24$ ) were not significantly more likely to vaccinate their children against HPV when compared to Hispanic mothers who did not have those experiences. In addition, in another cross-sectional study, a pap smear within the last year ( $p = .405$ ), concern about getting cervical cancer ( $p = .334$ ), or a family history of cervical cancer ( $p = .815$ ) were not associated with HPV vaccination either (Yeganeh et al., 2010). However, Hispanic mothers who had a pap smear within the last 12 months were significantly more likely to agree that the HPVV should become mandatory for children to enter into middle school ( $p = .036$ ) (Yeganeh et al., 2010).

***Use of technology/media.*** Use of technology has been understudied and findings are varied (Aragones et al., 2015; Stevens et al., 2013). In one study, 4 or more hours of watching TV among Hispanic mothers was associated with higher odds of initiating the HPVV when compared to zero hours of watching TV; however this finding was not reported to be statistically significant (OR = 3.00, 95% CI [0.62, 14.47],  $p \geq .05$ ) (Stevens et al., 2013). Internet use among Hispanic mothers was also not significantly associated with increased odds of initiating the HPVV series for their daughters ( $p \geq .05$ )

(Stevens et al., 2013). In one longitudinal intervention study, researchers reported that sending weekly text message reminders to Hispanic parents in the intervention group regarding their child's eligibility for receiving the HPVV resulted in a significant increase of HPVV completion percentages ( $p = .004$ ) but not initiation percentages ( $p = .11$ ), when compared to the control group that received no weekly text messages (Aragones et al., 2015).

*Awareness of the HPV vaccine.* Awareness of the HPVV is quite high for the samples of Hispanic parents studied. The percentages of Hispanic parents aware of the HPVV at the beginning of the study ranged from 49% (Gerend et al., 2013) to 96.1% (Roncancio et al., 2017b). Only two qualitative studies reported that few participants were aware of the HPVV (Aragones et al., 2016; Barnack-Tavlaris, Garcini, Sanchez, Hernandez, & Navarro, 2013). Aragones et al. (2016) reported that only a few of the 36 Hispanic parents in their study were aware of the HPVV. Similarly, Barnack-Tavlaris et al. (2013), who conducted a community based participatory study, recruited Hispanic community health advisors who were mothers or caregivers of children ages 9 to 26 that lived near the US/Mexico border. These women were mostly Mexican American (100%), married (70.6%), spoke only Spanish or spoke Spanish better (87.5%), and had an average age of 62.7. Only 29.4% of these Hispanic mothers and caregivers reported being aware of the HPVV at the start of the study (Barnack-Tavlaris et al., 2013).

However, being aware of the HPVV was found to be positively associated with HPVV initiation, completion, intention to vaccinate, and past HPV vaccination among children of Hispanic parents (Aragones et al., 2015; Gerend et al., 2013; Kepka et al., 2012b; Stevens et al., 2013). For example, Hispanic mothers in Gerend et al.'s (2013)

study, who were aware of the HPVV (49%) had significantly higher odds of vaccinating their daughters (OR = 7.9, 95% CI [2.89, 21.57],  $p \leq .05$ ) when compared to Hispanic mothers who were not aware of the HPVV (51%). Likewise, 70.5% of Hispanic mothers in Kepka et al.'s (2012b) study were aware of the HPVV and 57.9% had heard of the HPVV via radio or television. Being aware of the HPVV ( $p = .002$ ) and having heard of it over the radio or television ( $p = .009$ ) were both reported to be significantly associated with HPVV uptake (Kepka et al., 2012b). Furthermore, parents born in Mexico or who were of Mexican descent were significantly more likely to report that not being aware of the HPVV was the main barrier to vaccinating their children against HPV when compared to parents born elsewhere ( $p < .05$ ) (Kepka et al., 2015b).

***Knowledge of the HPV vaccine.*** Many Hispanic parents cited lack of information as one of the main reasons for not vaccinating their child against HPV and reported wanting more information on the HPVV in order to make a decision (Kepka et al., 2015a; Roncancio et al., 2016; Roncancio et al., 2017a; Roncancio et al., 2017b; Yeganeh et al., 2010). For instance, Yeganeh et al. (2010) reported that 55% of Hispanic parents in their study did not vaccinate their child because they needed more information on the HPVV. Also, in Kepka et al.'s (2015a) study, Hispanic parents with low acculturation scores reported that lack of information about the HPVV was one of the reasons for not vaccinating their sons when compared to Hispanic parents with higher acculturation scores (OR = 8.59, 95% CI [2.11, 34.92],  $p = .003$ ).

Limited knowledge among participants lead to much concern over safety, effectiveness, purpose, benefits, number of doses, dosing schedule, eligibility, cost, and coverage of cost of the HPVV (Aragones et al., 2016; Barnack-Tavlaris et al., 2013;

Bodson, Warner, & Kepka, 2016; Kepka et al., 2012a; Kepka et al., 2015a; Morales-Campos et al., 2013; Ramirez et al., 2014; Roncancio et al., 2017b; Warner et al., 2015). In a qualitative study using grounded theory, 24 Hispanic mothers who had daughters ages 11 to 17 were interviewed via focus groups (Morales-Campos et al., 2013). These Hispanic mothers were recruited from high schools in an urban school district in southeast Texas and had been living in the US for an average of 17 years. Most were married (54.2%) and had an average age of 39.8. Many of these Hispanic mothers, who were at least aware of the HPVV, still reported having mixed knowledge on vaccine the number of HPVV doses, schedule of administration, and purpose of the vaccine (Morales-Campos et al., 2013).

Hispanic parents were also unsure if the HPVV was for girls, boys, or both (Bodson et al., 2016; Warner et al., 2015). A mixed-methods study was conducted on Hispanic parents who were mostly mothers, born in Mexico, who have lived in the US for more than 15 years, were married, had high school education or less, had less than \$35,000 in household income, and were mostly between the ages of 40 and 49. The article that published the qualitative findings of the study reported that Hispanic parents believed boys were at lower risk for contracting HPV and believed that cervical cancer is in the cervix, thus it can only affect girls and therefore did not see the need to vaccinate boys against HPV (Warner et al., 2015). The quantitative data supported this finding by showing that only 47.3% of Hispanic parents in this study believed that the HPVV was for girls and only 35.5% believed it was for boys (Bodson et al., 2016).

Among Hispanic parents who had already vaccinated their child against HPV, knowledge was also limited (Aragones et al., 2016; Kepka et al., 2015a). Aragones et al.

(2016) reported that even among their participants who had already vaccinated their child against HPV, they had limited knowledge on the vaccine's purpose, eligibility, and dosing schedule. Similarly, in Kepka et al.'s (2015a) study, 92.6% of Hispanic parents who reported that their daughter had received the HPVV did not know that the vaccine required 3 doses. However, in other studies, most participants were quite knowledgeable about the number of doses, vaccine coverage, age eligibility, and where to get the vaccine (Kepka et al., 2011; Kepka et al., 2012a; Kepka et al., 2012b). For example, Kepka et al. (2012a) conducted in-depth elicitation interviews with 36 Hispanic parents who had daughters ages 9 to 14. These parents were mostly low acculturated (83.8%), Hispanic mothers (69.4%), who had been living in the US for an average of 20 years, were mostly of Mexican descent (61%), had less than high school education, less than \$30,000 in household income (57.1%), and were mostly between the ages of 31 and 50 (88.9%). Authors reported that 67% of the participants knew the cost of the vaccine and 69% knew the number of doses the HPVV required (Kepka et al., 2012a).

Furthermore, in several studies, knowing about the HPVV and searching for information about HPV were reported to be significantly associated with HPVV uptake (Brueggmann et al., 2016; Kepka et al., 2012b; Stevens et al., 2013). In Kepka et al.'s (2012b) study, 70% of the Hispanic parents knew that more than one dose was needed for the HPVV ( $p = .009$ ) and 62.3% knew that medical plans or coupons covered the vaccine's cost ( $p = .001$ ). Also, Hispanic mothers who actively scanned (75.7%) and sought (24.7%) for HPV information had significantly greater odds of initiating the HPVV series for their daughters when compared to Hispanic mothers that did not actively scan and seek for HPV information ( $p < .05$ ) (Stevens et al., 2013).

In addition, Brueggmann et al. (2016) provided their participants with HPVV educational information and reported that 12% of their participants felt that they already knew all of the information that they were provided with, 40% felt that they already knew some of the information that they received, 34% felt that they had only heard about the HPVV but did not know much about it, and 14% felt that they did not know any information about the HPVV that they received. Participants who understood most or all of the information that they were given in the study were significantly more willing to vaccinate their children against HPV than Hispanic parents who understood little or none of the information they received about the HPVV ( $p = .001$ ). In contrast, having knowledge about the HPVV prior to participation in the study was not found to be significantly associated with willingness to vaccinate (Brueggmann et al., 2016; Gerend et al., 2013; Morales-Campos & Parra-Medina, 2017). This finding could be a result of biased population samples where the majority of the participants in the study were unaware of the HPVV or inclusion criteria demanded that participants have unvaccinated children, therefore increasing the chances of having a sample of Hispanic parents that did not know anything about the HPVV (Gerend et al., 2013; Morales-Campos & Parra-Medina, 2017).

**Attitude toward the behavior.** A variety of positive and negative attitudes of Hispanic parents towards HPV vaccination were reported in the literature. Although Hispanic parents reported positive attitudes towards vaccinating their children against HPV due to the vaccine's positive consequences, such as its ability to prevent and protect their child against HPV, cervical cancer, and future health related problems and the belief that the vaccine is good and necessary for their child's health, these attitudes were not

significantly associated ( $p > .05$ ) with HPVV uptake among the studies that tested the relationship (Aragones et al., 2016; Gerend et al., 2013; Kepka et al., 2012a; Kepka et al., 2012b; Morales-Campos et al., 2013; Ramirez et al., 2014; Roncancio et al., 2016; Roncancio et al., 2017a; Roncancio et al., 2017b; Sanderson et al., 2009; Yeganeh et al., 2010). However when just looking at Hispanic parents who were aware of the HPVV, those who believed that the vaccine prevents cervical cancer ( $p < .01$ ) and those who believed that vaccines in general are safe ( $p = .026$ ) were significantly more likely to vaccinate their child against HPV than those that did not have those beliefs (Yeganeh et al., 2010). In several studies, Hispanic parents also reported being in favor of mandating the HPVV for children for entry into schools (Sanderson et al., 2009; Yeganeh et al., 2010). Mandating the HPVV for children for entry into school was significantly approved by Hispanic parents that believed vaccines in general are safe ( $p = .033$ ) and among Hispanic mothers who had received a Pap smear within the last year ( $p = .01$ ) (Yeganeh et al., 2010).

Several negative attitudes were also reported in the literature due to Hispanic parents' concern of the vaccine's cost, necessity, possible side effects, safety, age eligibility, efficacy, and inability to keep appointment times due to working hours, lack of transportation, and fear that their child will initiate sexual disinhibition (Aragones et al., 2016; Barnack-Tavlaris, et al., 2013; Brueggmann et al., 2016; Gerend et al., 2013; Kepka et al., 2011; Kepka et al., 2012a; Kepka et al., 2012b; Kepka et al., 2015a; Morales-Campos et al., 2013; Ramirez et al., 2014; Roncancio et al., 2016; Roncancio et al., 2017a; Sanderson et al., 2009; Warner et al., 2015; Yeganeh et al., 2010). However, only Hispanic parent's concern over the child's age, cost of the vaccine, and necessity of

the vaccine were found to be associated with HPV vaccination (Kepka's et al., 2012b; Kepka et al., 2015a; Gerend et al., 2013). Concern over the child being too young for the vaccine was significantly associated with increased HPVV uptake ( $p = .005$ ) while concern over how to pay for the HPVV was significantly associated with a decrease in HPVV uptake ( $p \leq .05$ ) (Gerend et al., 2013; Kepka et al., 2012b). In addition, believing that the vaccine was unnecessary was reported to be significantly associated with a decrease in HPVV uptake ( $p = .017$ ) among lower acculturated Hispanic parents only (Kepka et al., 2015a).

**Perceived norm.** Hispanic parents reported several individuals whose opinion influenced or could influence their decision regarding the HPV vaccination of their children, such as health care providers (HCPs), the child's other parent, other relatives, the child themselves, and friends (Aragones et al., 2016; Brueggmann et al., 2016; Gerend et al., 2013; Kepka et al., 2012a; Kepka et al., 2012b; Kepka et al., 2015a; Morales-Campos, 2013; Ramirez et al., 2014; Roncancio et al., 2016; Roncancio et al., 2017a; Roncancio et al., 2017b; Warner et al., 2015; Yeganeh et al., 2010). For instance, 97% of Hispanic parents in Kepka et al.'s (2012a) study, felt comfortable speaking with a HCP, 25% felt comfortable speaking with the daughter's other parent, 19% felt comfortable speaking with their daughter, and 25% felt comfortable speaking with friends or other relatives prior to deciding whether to vaccinate their daughter or not. Most parents in another study who had already vaccinated their child, reported doing so without being educated on the HPVV first solely because the HPVV was recommended to them by the HCP (Aragones et al., 2016). In another study, however, Hispanic mothers who had initiated the HPVV for their daughter had concerns about their child not wanting

the vaccine, lack of the father's support for vaccination, and lack of trust with the clinic personnel (Roncancio et al., 2017b).

Out of all of the previously mentioned individuals, the opinions of the HCPs and the child's other parent in regard to the HPVV were found to be significantly associated with increased HPVV uptake (Gerend et al., 2013; Kepka et al., 2012b). In Kepka et al.'s (2012b) study, 76.6% of Hispanic mothers felt that the father of their daughter would want their daughter to be vaccinated against HPV which was reported to be significantly associated to HPV vaccination ( $p = .004$ ). HCP recommendation was the most cited reason by Hispanic parents for vaccinating or intending to vaccinate their children against HPV (Aragones et al., 2016; Brueggmann et al., 2016; Gerend et al., 2013; Kepka et al., 2012a; Kepka et al., 2012b; Morales-Campos, 2013; Ramirez et al., 2014; Roncancio et al., 2017a; Roncancio et al., 2017b; Warner et al., 2015; Yeganeh et al., 2010). Hispanic parents who received physician recommendation for the HPVV had 400% higher intentions of vaccinating their child against HPV than Hispanic parents who did not receive a recommendation from a physician ( $p \leq .05$ ) (Gerend et al., 2013). However, one other study reported no significant association between HCP recommendation and HPVV uptake even though 93% of the participants reported following the advice of the child's HCP (Brueggmann et al., 2016).

**Perceived behavioral control.** As previously mentioned, self-efficacy is a proxy for perceived behavioral control (Ajzen, 1991; Fishbein and Ajzen, 2010). Few studies in the literature examined the relationship between self-efficacy and HPV vaccination for children of Hispanic parents. However, among those few studies, many Hispanic parents showed high self-efficacy for vaccinating their children against HPV (Aragones et al.,

2016; Kepka et al., 2011; Morales-Campos & Parra-Medina, 2017; Roncancio et al., 2016; Sanderson et al., 2009). More than 95% of the HPV-positive and HPV-negative participants in Sanderson et al.'s (2009) study reported that they would vaccinate their children against HPV even if they had to pay for the vaccine. Similarly, many Hispanic parents in Aragonés et al.'s (2016) study felt strongly about being able to take their child to get the HPV vaccine in the near future and reported that lack of access, cost, and lack of insurance were not barriers for them to do so. These same Hispanic parents also reported that they had the resources to get their child vaccinated and felt capable of taking their child to the doctor's clinic to get the vaccine (Aragonés et al., 2016).

Morales-Campos and Parra-Medina (2017) adapted and used a pap-test self-efficacy scale by Fernández et al. (2009) that had an internal consistency of 0.92. The possible scores ranged from 7 to 35. Their participants scored an average of 31.02/35 but no significant association between parent's self-efficacy for vaccinating their children and HPV vaccine initiation or completion was found even after controlling for demographic characteristics (Morales-Campos & Parra-Medina, 2017). In contrast, in Kepka et al.'s (2011) interventional study, several significant relationships were reported. The intervention consisted of a radionovela about a young girl that learns about the HPV vaccine from a friend at school. The McNemar chi-square test was used to compare pre- and posttest responses for both the interventional and control groups. A significant improvement for self-efficacy from pre- to posttest was reported for the Hispanic parents in the control group when compared to those in the intervention group in regards to vaccinating their daughters against HPV ( $p = .008$ ). Among Hispanic parents with low acculturation, those who were in the intervention group showed a significant

improvement in self-efficacy for vaccinating their daughter against HPV when comparing their pre- to posttest responses ( $p = .045$ ). Also, among Hispanic parents with high acculturation, those in the control group showed a significant improvement in self-efficacy for vaccinating their daughter against HPV when comparing their pre- to posttest responses ( $p = .03$ ) (Kepka et al., 2011).

**Intention and behavior.** Results from the abovementioned studies showed that percentages of Hispanic parents who initiated the HPVV for their children were low compared to the HealthyPeople 2020's goal of 80%. A range of 16.6% to 55% of Hispanic parents had vaccinated their daughters with at least the first dose of the vaccine. Only two studies reported that 20.7% and 23.5% of Hispanic parents had vaccinated their sons with at least the first dose of the vaccine (Kepka et al., 2015b; Roncancio et al., 2017b). However, the percentages of Hispanic parent's intention to vaccinate their children in the future were higher than actual vaccination percentages. A range of 51.2% to 100% of Hispanic parents reported an intention to vaccinate their daughters against HPV in the future. The study that reported 100% intention from Hispanic parents was a qualitative study with a total of 36 participants (Aragones et al., 2016). Only two studies reported that 53.3% and 79% of Hispanic parents intended to vaccinate their sons against HPV in the future (Kepka et al., 2015a; Brueggmann et al., 2016).

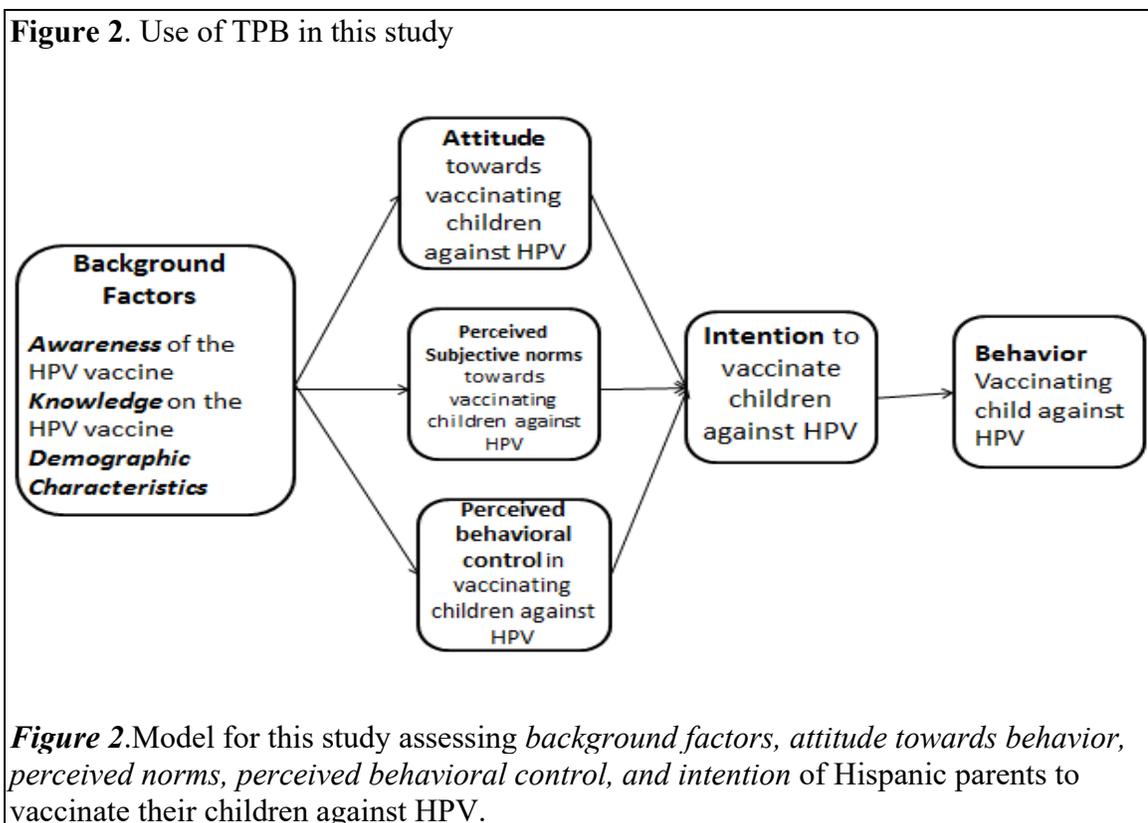
### **Summary and Gaps in the Literature**

The TPB provides a framework that allows for the understanding of beliefs relevant to individuals or groups regarding their reasons for performing a certain behavior (Glanz et al., 2008). A review of the most recent research, guided by the TPB constructs, has provided a broader view regarding Hispanic parent's perceptions on vaccinating their

children against HPV. Some of the factors assessed were consistently positively associated with HPVV uptake among Hispanic parents for their children, such as actively seeking and scanning for HPV information, reminder text messages, awareness and knowledge of the HPVV, understanding the educational material received on the vaccine, and approval of the child's other parent. Negative attitudes produced by the concern of side effects, cost, and necessity of the vaccine were consistently negatively associated with HPVV uptake among Hispanic parents for their children. Results for other variables such as marital status, health history, and positive attitudes consistently showed no association to HPVV uptake for this population. The remaining factors were more complex or understudied; therefore findings in recent studies are not consistent or clear which lead to several factors in the literature still needing to be further investigated.

Based on the current literature and the TPB, the constructs that were assessed in this study are background factors (awareness and knowledge of the HPV vaccine and demographic characteristics), attitude towards the behavior, perceived norms, perceived behavioral control, intention, and behavior. Assessing the constructs of the TPB provided researchers with a better sense of what factors are significant to the Hispanic parents' in South Florida when deciding to vaccinate their children against HPV. The TPB was used to guide the parent study's survey questions and focus group questions and informed the current study's research questions, aims, and analysis. Figure 2, below, shows the TPB model adapted for this study.

**Figure 2.** Use of TPB in this study



The proposed qualitative research study includes Hispanic parents from diverse countries of origin (living in southern Miami-Dade County). This study added to the body of knowledge by discussing Hispanic parent's beliefs, perceptions, and experiences regarding the HPV vaccine in regards to their children. As previously mentioned, validated interventions to increase HPV vaccination among the Hispanic population are limited (Brueggmann et al., 2016; Kepka et al., 2015b). Using a qualitative approach guided by TPB, this study assessed the salient factors related to HPV vaccination among Hispanic parents and determine the main factors to design an HPV prevention intervention and the appropriate strategies for implementing an HPV prevention intervention for Hispanics. This study is important for future design, development, and implementation of a

culturally-tailored educational intervention to increase awareness and knowledge of the HPVV and decrease barriers to vaccination.

## **Chapter 3**

### **Methods**

#### **Research and Design**

This chapter introduces the parent study, SEPA Men and Women (SEPA-MW), and outlines the research approach, setting, participants, inclusion criteria, data collection and data analysis for this qualitative descriptive analysis study. The parent study SEPA-MW is the most recent study out of a series of SEPA studies. SEPA stands for Salud, Educacion, Prevencion y Autocuidado, which translates to Health, Education, Prevention, and Self-Care. The author of this qualitative descriptive study participated in all of the research activities of the parent study SEPA-MW.

#### **Evolution of the SEPA Studies**

The original SEPA study (SEPA I), conducted between 1998 and 2002, was a randomized clinical trial of an HIV prevention intervention among low income Mexican and Puerto Rican women living in Chicago (Peragallo et al., 2005). The aim of this study was to assess the efficacy of a culturally tailored and theoretically designed HIV prevention intervention for Hispanic women. Inclusion criteria were: (a) self-identifying as a Hispanic woman, (b) being between 18 and 50 years of age, and (c) being sexually active three months prior to recruitment. The sample consisted of 657 Hispanic women between the ages of 18 and 44. Results included increased HIV knowledge, condom use, and communication with partner, as well as a reduction in risky behavioral intentions and perceived barriers to condom use (Peragallo et al., 2005).

SEPA I was then adapted to be used with Hispanic women from different countries of origin and became known as SEPA II. SEPA II was conducted among Hispanic women in South Florida between 2007 and 2010 (Peragallo et al., 2012). This second randomized control trial aimed to assess the efficacy of the SEPA intervention on biological, behavioral, and socio-cognitive risks for HIV prevention (Peragallo et al., 2012). Inclusion criteria remained the same as the original SEPA study. The sample consisted of 548 women who were mainly Colombian, Cuban, and Peruvian. Results indicated that the SEPA II intervention increased condom use, communication with partner, HIV knowledge, and community prevention attitudes, as well as decreased substance abuse, intimate partner violence, perceived barriers to condom use (Peragallo et al., 2012).

The next study was SEPA III, a randomized controlled experimental study with Hispanic women in Miami-Dade County conducted between 2012 and 2017. The aim of this study was to evaluate the effectiveness of SEPA when delivered by community agency personnel. This study had an intervention group (which received the SEPA intervention) and a delayed intervention control group with a total sample size of 300 participants that were interviewed three times over a one year period. Inclusion criteria remained the same as the previous two SEPA studies. Results for this study included increased reports of condom use, HIV knowledge, and condom use self-efficacy, as well as, decreased reports of intimate partner violence, moderate depressive symptoms, and getting drunk (Peragallo et al., 2018).

**The parent study.** As previously stated, SEPA-MW is the fourth SEPA study. SEPA-MW is a mixed methods pilot study that consisted of face to face interviews and

focus groups. The purpose of SEPA-MW was to explore the feasibility and preferences of both Hispanic men and women in Homestead for participating in the SEPA intervention which was originally developed just for Hispanic women. The study was conducted between February 2017 and November 2017. Inclusion criteria were (a) self-identifying as a Hispanic man or woman, (b) being between 18 and 50 years of age, and (c) being sexually active three months prior to recruitment.

Convenience and snowball sampling were used in SEPA-MW (Creswell & Poth, 2018). Recruitment for the parent study was done by bilingual study personnel from the University of Miami School of Nursing and Health Studies (UM SONHS) and from MUJER. MUJER is a non-for profit agency that promotes wellness, provides services for victims of domestic and sexual abuse and provides services to strengthen families in Homestead. Study personnel from UM SONHS and MUJER reached out to Hispanic women and men living in southern suburban cities of Homestead where 66% of the population is Hispanic (Pew Research Center, 2017a). Homestead is the second oldest city in Miami-Dade County (a large metropolitan area) (City of Homestead Florida, n.d.). It is located just 30 miles south of Miami and although more housing has been built in the last few years, slowly increasing Homestead's population, it is an area that still has a lot of farmland, nurseries, and packing warehouses (City of Homestead Florida, n.d.). Sites used for recruitment include popular gathering spots for Hispanic people in the community, such as churches, community centers, grocery stores, service agencies, laundromats, and libraries.

Recruiters used flyers that contained the study name, description, inclusion criteria, and phone number. Recruiters also used a verbal consent script to determine the

interest of the individuals in participating and their eligibility to participate in the study. Potential participants were either screened on the spot in private or were given the option to call the study phone number to be screened at a more convenient time. Once the participant was deemed eligible, they were given an appointment when most convenient for them. The interviews were conducted at MUJER in two of their locations making it easier for participants to meet at the one which was most convenient for them. Retention strategies used included multiple telephone numbers for the participant, an alternative contact person in case the participant could not be reached, flexible scheduling/re-scheduling, and reminder phone calls/text message of appointments.

A bilingual member of the UM SONHS research team met with each participant in private, discussed the details of the study, and had participants sign the consent form if they agreed to participate. Researchers then collected participant personal contact information before beginning the face to face interview. The interview consisted of several sub-measures assessing topics, such as acculturation, condom use, domestic violence, knowledge, perceptions, and beliefs regarding HIV and the HPV. Demographic information on all participants was also collected using the Demographic Intake Form (DIF) and the General Questions regarding You Child/Children's Health questionnaire which can be found in Appendix A. Participants who completed the interview were later invited to participate in one of the four focus groups. Open-ended questions and a semi-structured interview guide were used. All documents and questions were forward translated by two individual native-Spanish speakers and back-translated by two different individual native-English speakers. The final sample size for the interview was  $n = 71$  ( $n = 35$  women,  $n = 36$  men) and for the four focus groups was  $n = 23$ . The

following section discusses the research design, setting, sample, inclusion criteria, and data collection and data analysis methods for the current qualitative descriptive study.

### **HPV Vaccine Qualitative Descriptive Study**

This qualitative descriptive study only used the information from the four focus groups, field notes taken during the focus groups, and demographics for participants who participated in those focus groups. The purpose of this study was to investigate factors that are salient for Hispanic parents when deciding to vaccinate their children against HPV and to determine the main components and strategies for implementing an HPV prevention intervention for this population.

### **Philosophical Assumptions**

There are four important philosophical assumptions which serve as the foundation for qualitative research and include the ontological, epistemological, axiological, and methodological assumptions (Creswell & Poth, 2018).

The ontological assumption refers to the nature of reality. It attempts to answer the question: “when is something real?”. In qualitative research, there is more than one reality because reality is constructed in the minds of each of the individuals involved in the research (e.g., participants, researchers). Therefore, the researcher reported multiple points of view for each major finding or theme presented (Creswell & Poth, 2018).

The epistemological assumption refers to understanding and explaining what counts as knowledge and what the relationship is between the researcher and the population being studied. In qualitative research, this is done by understanding the subjective experiences of each participant. The relationship between the participant and the researcher is not seen as independent but rather interrelated. Thus, it is suggested that

researchers become as close as possible with the participants and conduct the study in the participant's environment, so as to become an "insider" (Creswell & Poth, 2018). All research activities were conducted in the same neighborhoods that participants were recruited from and at the times and days most convenient for them.

The axiological assumption states that all research is biased by values. These values can come from the researcher, the theory, participants, and paradigm. The researcher should admit and discuss these values and how the values might influence their study findings (Creswell & Poth, 2018).

Lastly, the methodological assumption refers to the research process. The researcher should use inductive reasoning and study the population and topic within its context. Also, the researcher should move from details provided by the participants to more abstract findings and continually revise their questions accordingly (Creswell & Poth, 2018).

### **Approach**

A qualitative descriptive design was used for this study. This design allowed the researcher to investigate questions using field notes, interviews, conversations, recordings, and memos to self which involves an interpretive and naturalistic approach to analyzing the information on a particular phenomenon (Creswell & Poth, 2018). The qualitative descriptive approach entails that the researcher collect the information in the participant's natural environment and attempt to analyze the phenomenon of interest using the meanings that the participants give to it (Creswell & Poth, 2018). The researcher should also stay close to the raw information and analyze it without much modification and interpretation which could lead to biased reported findings

(Sandelowski, 2000). Another reason for using a qualitative descriptive design is because it allows researchers to develop an all-encompassing summary on the topic under investigation, highlighting variables or factors that may need further investigation either qualitatively or quantitatively (Sandelowski, 2000).

### **Participants and Setting**

Inclusion criteria for this qualitative descriptive study were (a) self-identifying as a Hispanic man or woman, (b) being between 18 and 50 years of age, (c) having a son or daughter of any age, and (d) being sexually active three months prior to recruitment. The total sample for this qualitative descriptive study was  $n = 23$ . A total of four focus groups were conducted: two groups of only Hispanic mothers ( $n = 13$ ), one group of only Hispanic fathers ( $n = 3$ ), and one mixed group of Hispanic mothers and fathers ( $n = 7$ ). As aforementioned, the focus groups were held in either of two private rooms provided by MUJER, located in Homestead, making them accessible to the participants recruited for this study.

### **Data Collection**

After participants signed the informed consent form in their language of preference, the participant's demographic information was collected. Demographics collected of parents included: gender, age, country of birth, years living in the US, preferred language, relationship status, living with partner, number of children, living with children, religion, years of education, employment status, occupation, monthly family income, and health and insurance status. Demographics collected from parents also included their children's ages, gender, and health insurance status.

Focus groups (FG's) were conducted by trained UM SONHS bilingual research data collectors in English or Spanish, depending on the preference of the participants. One FG was conducted in English and the other three were conducted in Spanish. Up to 10 participants were invited to participate in each FG. FG's were held until data saturation was reached (until no new themes emerged) and lasted between 60 to 90 minutes (Sandelowski, 1995). A semi-structured interview guide was used containing open-ended questions which allowed the participants to guide the conversation and allowed the data collector the flexibility of inserting pertinent probe questions throughout the conversation. Two audio recorders were used in order to ensure that all that was said by participants was captured. Questions regarding the HPVV were guided by the TPB constructs, review of the literature, and by questions used in previous SEPA studies. An example of a question used in the focus groups is: "*How comfortable do you feel talking about the Human papilloma virus vaccine?*". Some probe questions that were used include: "Do you know what the benefits of the vaccine are?" and "What information about the vaccine is important to share with parents?". A sample of the FG interview guide can be found in Appendix B.

All UM SONHS research members that participated in the FG's are bilingual and include the author, the chair of the dissertation committee, and one member of the dissertation committee. Throughout the FG's, the UM SONHS research team took field notes which included recurring words, observations made, clarifications needed, or future questions to follow up on with the participants (Creswell & Poth, 2018). The field notes allowed for the questions to be adjusted if needed for the next FG in order to further explore or elicit more information on specific themes or topics (Creswell & Poth, 2018).

At the end of every FG, participants were provided with information on the HPV. The information sheets were printed directly from the CDC website in Spanish or English. The researcher went over this material with the participants and answered all of their questions. Participants were also given a \$40 incentive each for participating in the FG.

### **Protection of Human Subjects**

The parent study obtained Institutional Review Board (IRB) approval from the UM prior to beginning recruitment. For this study, the IRB review was requested after the author defended the dissertation proposal. Informed consent for SEPA-MW was obtained face to face, and the documents were provided in the language of preference of the participant (English or Spanish). The UM SONHS bilingual researcher thoroughly explained the study and answered all questions that the participants had. A signed copy of the consent was given to each participant to take home. A copy of the informed consent can be found in Appendix C.

Participant's risk was considered to be low for this study, however, participants were informed that they could stop participating in the FG at any time and that they did not have to answer any questions they felt uncomfortable answering. Counseling services were also available to participants by staff from MUJER who are trained professionals. In addition, each participant was assigned an identification number and only the researchers have access to the master list associating the identification numbers with the participant names. FG audios were transcribed verbatim, in the language that the FG's were conducted, by a bilingual transcriber. All data, transcripts, and collected information were de-identified and password protected.

## Data Analysis

The researcher read the de-identified transcripts several times over and became immersed in the information. The analysis was conducted using an approach known as directed content analysis (Elo & Kyngas, 2007). This approach is selected when a researcher wishes to test categories, concepts, models, or hypothesis (Marshall & Rossman, 2016). This approach was chosen because this study is guided by the TPB in order to determine what factors are salient for Hispanic parent's decision to vaccinate their children against HPV as well as to determine which factors are salient for developing an HPV prevention intervention for this population. The TPB was selected to guide this study because it allows for the understanding of beliefs and reasons of a certain individual or group for performing a behavior and its constructs have informed health promotion interventions (Glanz et al., 2008).

Thus, the researcher used directed content analysis and adhered to the following procedures. Firstly, an unconstrained categorization matrix was created using operational definitions of the constructs of the TPB and is part of the researcher's codebook (Elo & Kyngas, 2007). An *unconstrained* categorization matrix allowed for themes not fitting into the pre-determined constructs of a theory to be created (Elo & Kyngas, 2007; Sandelowski, 1993). The operational definitions for each construct were used to help identify sub-themes and categories that fit into each construct (Hsieh & Shannon, 2005). Secondly, the transcripts were coded line by line into key thoughts or keywords (Elo & Kyngas, 2007). Thirdly, similar key thoughts or keywords were grouped into categories which were further grouped into sub-themes. Finally, similar sub-themes were grouped under one of the pre-determined TPB constructs (Elo & Kyngas, 2007). Relevant sub-

themes or themes that did not fit into the predetermined constructs of the TPB or address the strategies for implementing a future HPV prevention intervention were included in the results of this study after discussion with the chair of the committee and one other member of the committee who participated in the coding process.

All coding was done in English, however to ensure that the themes were representative of what the participants were expressing, specific participant quotes chosen to provide evidence for the themes reported, were translated and back-translated by the author, the author's committee member, and the author's dissertation chair who are all bilingual UM SONHS researchers. Furthermore, in the following chapter where the results of this study are presented, the participant's quotes appear first in the original language spoken followed by its translated version.

### **Rigor**

In order to assess and ensure trustworthiness in the findings of qualitative research, several components were addressed which include dependability, credibility, confirmability, and transferability.

**Dependability.** Dependability of the findings refers to how well the results of a study hold up over time and under different contexts (Lincoln & Guba, 1985). The researcher has to provide proof of consistent practices during the analysis of the information. To do this, the researcher maintained documentation of the analysis via an audit trail that consists of the raw data such as direct quotes from the FG transcripts, drafts of the codes and categories created during the analysis process, a codebook, the unconstrained categorization matrix, and code sheet (Creswell & Poth, 2018). This allowed the researcher to track and show how the final themes were arrived at and

allowed for the documentation of the procedures for checking and rechecking the data throughout the study. This type of documentation also made it easier for a mentor or other researchers to later confirm the results (Colorafi & Evans, 2016).

**Credibility.** Credibility refers to the researcher's confidence in the truth of their findings (Guba & Lincoln, 1994). To establish credibility, triangulation was used. Triangulation is a method where the researcher analyzes several different sources of information, comparing and contrasting findings. There have been four types of triangulation identified and include the participants (transcripts), theories (TPB), field notes, and different researchers (the researcher and one of the researcher's committee members) (Patton, 1999). Comparing the different views that participants reported across the FG's added insight to the multiple realities that Hispanic parents perceived in regards to vaccinating their children against HPV. Field notes that were taken during the FG's were used to add meaning to the findings from the transcripts or point out factors that may need further research in the future (Patton, 1999). Comparing the findings to the constructs of the TPB allowed the researcher to assess the data through yet another perspective and highlight factors that the theory did not account for. Lastly, the researcher worked with another researcher, who was a member of her dissertation committee and has expertise in qualitative research, in order to assess the accuracy of the findings (Colorafi & Evans, 2016; Patton, 1999). The researcher and dissertation committee researcher independently coded the four FG transcripts and then compared and contrasted findings to improve credibility. The final themes were also reviewed by the chair of the dissertation committee (Patton, 1999).

**Confirmability.** Confirmability refers to the neutrality of the study's findings (Guba & Lincoln, 1994). The findings should be representative of the views of the participants and unbiased due to the views of the researcher. As aforementioned, the researcher maintained an audit trail to document the procedure of analysis and a second researcher reviewed the transcripts, codes, and findings for authenticity. The researcher also used participant quotes, which contained their thoughts, perceptions, and opinions, directly from the transcripts as proof of the findings reported (Guba & Lincoln, 1994).

**Transferability.** Transferability refers to the ability of data to be applied or generalized to other settings or groups (Colorafi & Evans, 2016). To ensure transferability, the researcher described the demographics of the participants from the focus groups so that comparisons with other groups of individuals can be made (Colorafi & Evans, 2016). The researcher also described findings consistent with the TPB and how the findings from this study can be used for further testing (Colorafi & Evans, 2016).

### **Summary**

A qualitative descriptive design was chosen for this qualitative descriptive study with a directed content analysis approach. The qualitative descriptive method was chosen because it aided in providing an in-depth description of the salient factors for Hispanic parents when deciding to vaccinate their children against HPV. This chapter described the proposed study's setting, inclusion criteria, and study procedures. The TPB was used to guide this study's research questions and aims and was used in the analysis of the transcripts. This chapter also provided a detailed description of the proposed study's data collection and analysis methods, precautions taken for the protection of human subjects, and steps for ensuring rigor. Establishing rigor during the analysis ensures the quality of

the findings reported. Rigor was established by addressing the dependability, credibility, confirmability, and transferability of the study findings.

## **Chapter 4**

### **Results**

This chapter presents the findings of the qualitative secondary data analysis using data collected from the transcribed focus groups conducted in SEPA-MW. As previously stated, the aims of this study were to 1) investigate the factors that influence Hispanic parent's decision to vaccinate their children against HPV, 2) determine the salient factors for designing an HPV prevention intervention for Hispanic parents, and 3) determine the strategies for implementing an HPV prevention intervention for the Hispanic population. Demographic information is also presented to show the characteristics of the Hispanic parents who participated in the focus groups.

#### **Description of the Sample**

Participants for this study consisted of 23 Hispanic parents, specifically 18 mothers and 5 fathers between the ages of 22 and 49, who had an annual household income ranging from \$8,400 to \$48,000. All of the mothers preferred to speak in Spanish while all of the fathers preferred to speak in English. The majority of parents were born in Mexico, followed by the US and Guatemala. The foreign-born Hispanic parents had resided in the US for an average of 14.5 years. Most parents had between two and three children between the ages of 9 months and 20 years, who were mostly daughters with health insurance coverage, specifically Medicaid. Appendix D displays a table containing all of the demographic information collected for this sample.

#### **Research Findings**

Directed content analysis was used to analyze the transcripts using the theory of planned behavior (TPB) constructs as pre-determined themes (Elo & Kyngas, 2007).

Furthermore, an unconstrained matrix was used so that additional themes could arise from the data that the theory may not have accounted for (Elo & Kyngas, 2007). After analyzing the data, seven overarching themes from the TPB were identified as salient factors for this sample of Hispanic parents: 1) *Background factors*, 2) *Attitudes Towards the Behavior*, 3) *Perceived Norms*, 4) *Perceived Behavioral Control*, 5) *Actual control*, 6) *Intention* and 7) *Behavior*. Several of the overarching themes were made up of sub-themes and categories. The sub-themes identified under background factors include: a) parental demographics, b) child demographics, c) awareness, d) knowledge, e) culture, f) emotion, g) perceived risk, and h) past experiences. Several of these sub-themes broke down further into categories, such as parental demographics which consisted of two categories titled gender and religion, child demographics consisted of one category titled age, and culture was made up of three categories titled traditional gender roles and sexual taboos, changing nature of sexual taboos, and HCPs seen as paternalistic figures. The sub-themes identified under attitude towards the behavior include a) positive, b) negative, and c) neutral. In addition, four sub-themes were identified under perceived norm and include: a) perceived social pressure from HCPs, b) perceived social pressure from acquaintances, c) no perceived social pressure, and d) family as referents. Lastly, two sub-themes were identified under perceived behavioral control and include: a) motivators to vaccination and b) barriers to vaccination.

Two additional overarching themes, not accounted for by the TPB, were also identified: 8) *Parental motivation* and 9) *HPV optional vs mandatory*. Furthermore, three overarching themes which addressed the strategies for designing and implementing a future HPV prevention intervention were identified and include: 1) *Intervention*

*preferences for adults*, 2) *Intervention preferences for youth*, and 3) *Intervention preferences for families*. These three overarching themes were made up of several sub-themes each. The theme, *intervention strategies for adults*, is made up of seven sub-themes which include: a) interest, b) target audience, c) mediums for HPVV information, d) duration, e) availability, f) facilitator, and g) content. *Intervention preferences for youth*, consists of the following sub-themes: a) target audience, b) mediums for HPVV information, c) facilitator, and d) content. Lastly, three sub-themes were identified for *intervention preferences for families* and include: a) target audience, b) mediums for HPVV information, and c) suggestions for videos in clinics. Below are two figures, Figure 3 and Figure 4. Figure 3 displays a thematic scheme containing the TPB major themes, sub-themes, and categories. Figure 4 displays a thematic scheme of the major themes and sub-themes for the additionally identified salient factors and intervention strategies.

Figure 3. TPB Thematic Scheme

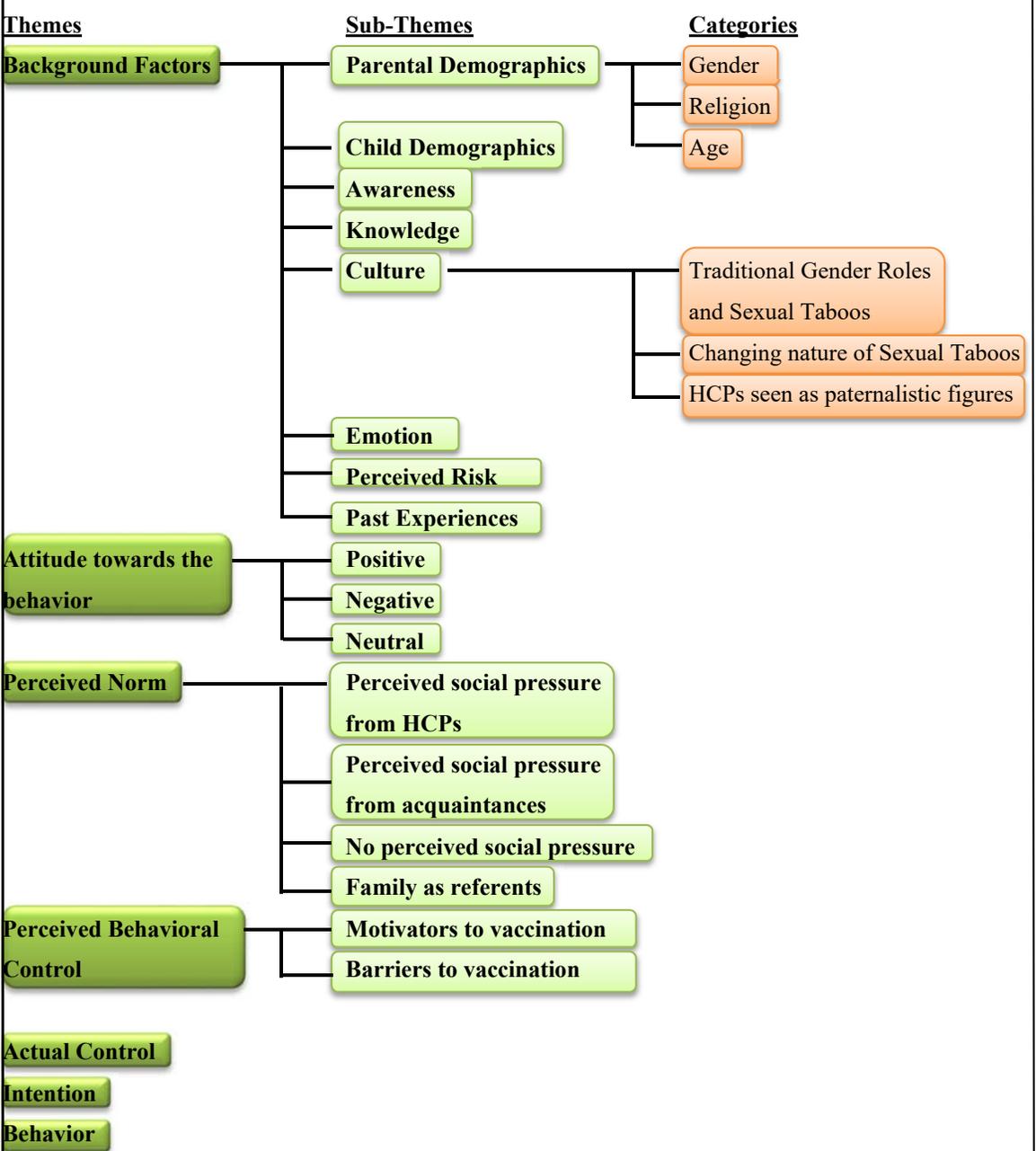
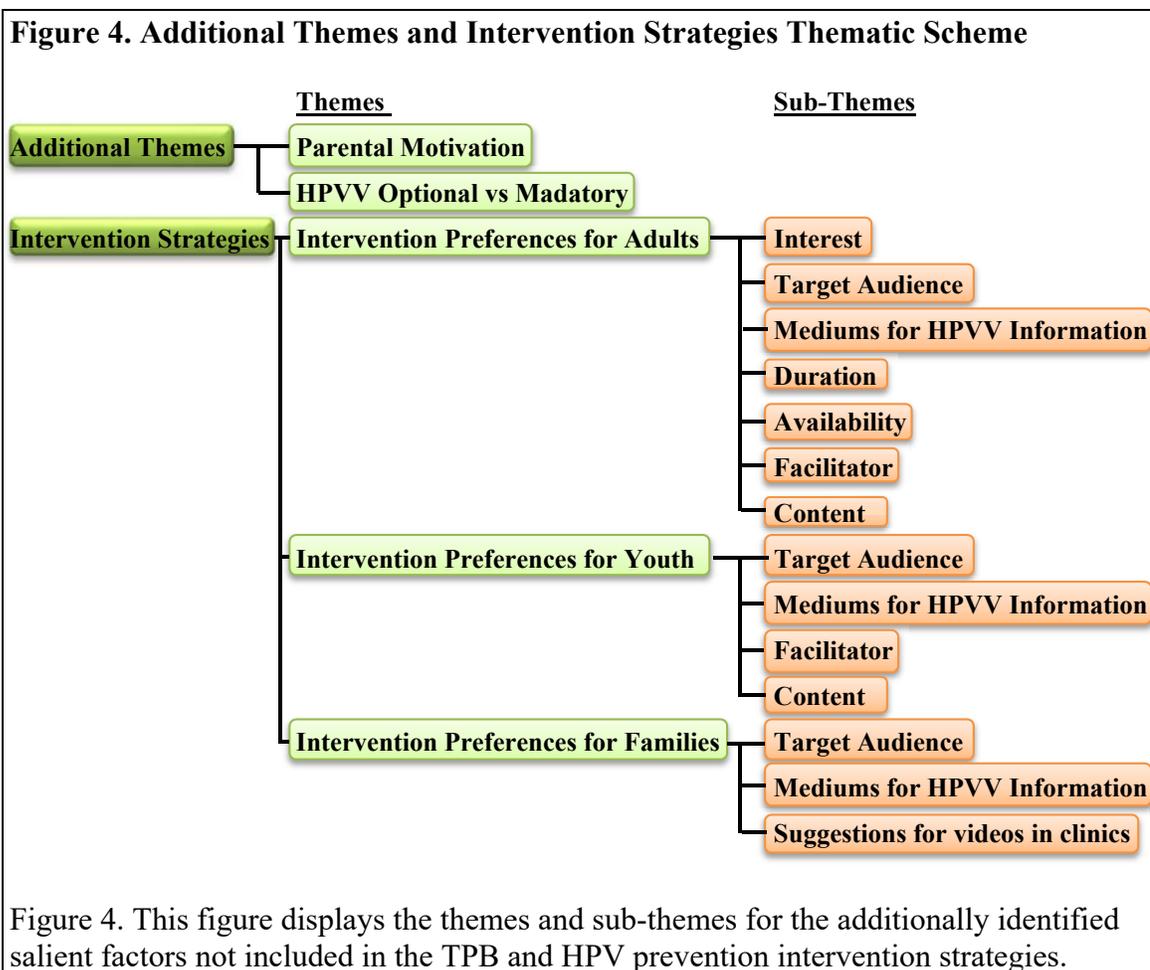


Figure 3. This figure displays the unconstrained matrix of themes, sub-themes, and categories identified based on the TPB.



### Findings Based on the TPB

**Background factors.** Background factors, based on the TPB, that were found to be salient for Hispanic parents when deciding to vaccinate their child against HPV included parental and child demographic characteristics, awareness and knowledge of the HPV, emotion, perceived risk, and past experiences. Specifically, the demographic characteristics that had an influence on Hispanic parent's decision included parent's gender and religion and the child's age. All other demographic characteristics were not found to be salient.

***Parental demographics.***

*Gender.* Although the gender of the child was not a concern among the Hispanic parents in this study in regards to the HPVV, parents did make a distinction in regards to their own genders. Among participants, it was well understood that each parent had a set role and set responsibilities. Participants explained that fathers are supposed to be concerned about going to work and paying the bills while the mothers are to raise and care for the children. In this study, both mothers and fathers agreed that mothers are the main decision makers when it comes to a child's health: "...I think the mom convinces the dad because usually, I don't know, I'm always working so I don't usually take my son to the doctor or anything like that..." ["... creo que la madre convence al padre porque, por lo general, no sé, siempre estoy trabajando, así que generalmente no llevo a mi hijo al médico ni nada de eso..."] (Father). Although fathers do want to be consulted or at least told about any decisions the mother makes in regard to their child's health, parents explained that for the most part, the fathers trust the mothers to make those decisions:

I do, I trust her and she tells me whatever happens and 'cause I trust her I know she's, the right things for our kids and I trust her to make decisions. But like to not, to make a decision and not telling me then that's [an issue]...[Sí, si confío en ella y ella me dice todo lo que pase y porque confío en ella, sé que ella es, lo correcto para nuestros hijos y confío en ella para tomar decisiones. Pero como

no, tomar una decisión y no decirme entonces eso es [un problema]] (Father).

*Religion.* Religion was briefly mentioned throughout two of the focus groups as an influential factor. However, parents did share the belief that churches would not allow anyone to discuss the HPVV because they would think it was to promote sex among the youth as shown below by several quotes from participants:

Lo que pasa es que las iglesias, eso es como que tu... [ What happens is that with the churches, it is like if you...] (Mother)  
 Es como promoviendo el sexo [It's like promoting sex] (Mother)  
 ...como promover el sexo “ah, ya me pusieron la vacuna, ahora puedo hacer sexo” o tu sabes confundirlo y estar con el libertinaje, y hacer el sexo “porque no me va a dar esa enfermedad”, me entiende? Y yo no creo que ellos [la iglesia] vayan a poner panfletos acerca de eso [...like promoting sex “ah, they gave me the vaccine, now I can have sex” or you know confuse it and engage in debauchery, and have sex “because I won't get that disease”, do you understand me? And I don't think that they [the church] will put pamphlets regarding that] (Mother)

Nevertheless, giving out informational pamphlets outside of a church where many Hispanics gather was believed to be acceptable.

***Child demographics.***

*Age.* Having older children who are vaccinated against HPV first can have an impact on the decision to vaccinate one's younger children. In the case of one mother in the focus group, it had a negative impact because the eldest child blamed the mother for being unable to get pregnant due to the HPVV. Another mother said that by the time she learned of the HPVV, her daughters were older and told her that they did not want the vaccine: "Ya no quisieron ellas ponersela, porque me dijeron que ya eran grandes y ya eran mayor de edad" ["They did not want to get it anymore, because they told me that they were already big and they were already of legal age"] (Mother). When asked at what ages children should be taught about the HPVV, parents were divided between pre-teen and teenagers years, however the majority agreed that highschool freshmen should be the targetted age group.

*Awareness.* More than half of Hispanic parents in the focus groups had become aware of the HPV vaccine (HPVV) prior to participation in the study. The remaining parents admitted being unaware of the HPVV until they participated in this study and believed that their friends, relatives, and neighbors were also unaware of the existence of the HPVV. Those who were aware of the vaccine said they had gone straight to their child's HCP for more information. However, in two cases, when parents asked their child's HCP about the HPVV, either the HCP was not aware of the vaccine or the HCP was aware of the vaccine but had failed to tell the parent about it, therefore the parents had been unable to vaccinate their

child against HPV. Ways in which parents became aware of the HPVV included, informational sessions known as “charlas” by the participants, media outlets (e.g., radio and TV), internet (e.g., videos and web pages), word of mouth by spouse, child, and relatives from other countries, flyers given at schools, pamphlets given by HCPs, community health fairs, and simply by participating in this study.

Lack of awareness was mentioned during the focus groups as a factor that led to consequences, such as parents not being able to vaccinate their children against HPV. One mother said: “No, tampoco me habían informado, yo no se las puse a mis hijas...No, nunca me dijeron de la inyección esa, nunca” [“No, they had not informed me either, I did not put it to my daughters...No, they never told me about that injection, never”] (Mother). Among those who had not previously been aware of the HPVV, an increase in interest on the vaccine was noted during their participation in the study. Several mothers even asked if they could get the HPVV for themselves. Yet, it was evident during the focus groups that parents had not taken the time to learn more about the HPVV since first hearing about it during the interview portion of the study: “Oh I'm sorry I thought I told you I didn't know anything about it when we first had the [interview]...Yea I still don't know anything...Oh, I've heard about [the vaccine] but I don't know [about it]...” [“Oh, lo siento, pensé que te había dicho que no sabía nada al respecto cuando tuvimos la [entrevista] ... Sí, todavía no sé nada ... Oh, he oído hablar de [la vacuna], pero no sé [sobre eso]...”] (Father).

**Knowledge.** There were about five parents who were quite knowledgeable about the HPVV. However, all stated having trouble recalling what they had

learned. For example, one mother stated: “Por ejemplo en ese tiempo, en eso que me explicaron de la vacuna, me lo explicaron ahí en el momento, entendí...pero preguntame ahora, no me acuerdo el todo lo que me [explicaron], soy olvidadiza” [“For example in that time, in that they explained the vaccine to me, they explained it to me at that moment, I understood...but ask me now, I don’t remember completely what they [explained to me], I am forgetful”] (Mother).

Even though they claimed to have trouble recalling what they had learned on the vaccine, they were still quite knowledgeable about it and helped others in their groups learn more about the vaccine as the discussion went on. They stated knowing that the vaccine was for both girls and boys, protects against HPV, and was recommended for youth ages 9 to 26 but not for adults of their age. One mother was even aware of the sex-myth surrounding the HPV: “Por mitos a veces...es como pensar que se le está dando la, perdón, el permiso para que sean activos. Pero viéndolo bien ya cuando uno pasa por una mala experiencia pues prevenir es mejor” [“Sometimes due to myths... it's like thinking that you are giving them, sorry, the permission to be active. But seeing it clearly after one goes through a bad experience, it is better to prevent”] (Mother). Other vaccine facts that were shared are found in Table 1.

There were also parents who had misperceptions about the HPV, such as the belief that the vaccine was just for girls, affects the ovaries and causes sterility, prevents many STI’s, and that eligibility starts at ages 11 and 12. Other misperceptions and confusion arose due to contradicting information that participants received from HCPs:

Y también como dice usted que su doctor le dijo que, que se la puso a lo mejor a su niña no le bajo su periodo y a mí me dijo mi doctor que cuando le bajara el periodo ya él le podía poner la vacuna. Ósea no se le entiende. [And also as you say that your doctor told you that, he put it probably to your daughter her menstrual cycle had not started yet and my doctor told me that after [my daughter] got her menstrual cycle he could put the vaccine to her. I mean it doesn't make sense] (Mother).

Furthermore, among parents who had little to no previous knowledge on the vaccine they stated not knowing what side effects the HPVV might have, what the vaccine prevents specifically, and what the vaccine age eligibility is among other things. One mother felt that perhaps HCPs themselves were insufficiently informed about the vaccine, thus could not educate their patients: “Como que los médicos deberían estar más informados, para informar a uno” [“It's like the doctors should be more informed, so they can inform us”] (Mother).

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Table 1

*Knowledge of HPVV*

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Correct Knowledge	Vaccine is free with Medicaid
	Vaccine could cause side effects
	Vaccine is expensive
	Vaccine Schedule
	No booster needed later in life
	Vaccine prevents HPV
	Vaccine protects against certain cervical cancers

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	Vaccine given before engaging in sexual behaviors
Incorrect Knowledge	If parental consent is required
	Number of vaccine doses
	How long vaccine has been available

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Additionally, it was evident that HPVV knowledge had an influence on Hispanic parent's decision to vaccinate their children as one mother stated:

Si la persona conoce [sobre la vacuna] y tal cosa, alguien que siempre esta al cuidado de sus niños le va a colocar [la vacuna], porque algo que pueda prevenir un contagio, alguna cosa o enfermedad, la mayoría de las mamas lo hacemos siempre [If the person knows [about the vaccine] and stuff, someone who is always involved in the care of their children will put [the vaccine], because something that can prevent a contagion, something or a disease, the majority of the mothers do it always] (Mother).

Moreover, one father explained that due to his lack of knowledge on the HPVV, he did not feel comfortable even talking about it with others in his community which presents as a barrier to vaccination: "You know I would have to learn more about it before... Yea, I wouldn't speak or talk about it unless I find more [information]..." ["Sabes que tendría que aprender más al respecto antes... Sí, no diría ni hablaría de eso a menos que encuentre más [información]..."] (Father).

### *Culture.*

*Traditional Gender Roles and sexual taboos.* During the focus groups, parents came to understand that the HPVV was to protect against an STI. However, according to participants, in the Hispanic culture there is

the belief that sex and sex-related topics and therefore the HPV, are taboo. When asked if there was a cultural or religious component to why the HPV was not more known in their community, one mother explained: "...por un tabú...un temor o una falta de confianza de hablar con los hijos. Entonces todo lo que es sexual como que te da miedo de ponerle así...tapar, de tapar el tema y no hablar" ["...because of a taboo... a fear or lack of confidence to talk with the children. Then everything that is sexual, it like scares you to put it like this,... cover, to cover up the topic and not talk"] (Mother). There were about three to four parents who also admitted to being closedminded and protective of their children regarding sexually related topics:

Yo sí, en la parte sexual, yo estoy un poquito más cerrada porque es que yo no me imagino, ay no sé, a mis hijos, ay son tan tiernitos ellos...[I am, about the sexual stuff, I am a bit more closed because I cannot imagine, oh I don't know, my children, oh they are so cute...] (Mother).

I know, I'm trying to avoid those conversations...its just the thought of my child being sexually active is just like crazy to me, like no, no... I know, I mean, it's going to happen it's just, I guess its just to have that talk along with the, you know like vaccine and what not, its, to talk about it, I mean to get to that point is like...[Lo sé, estoy tratando de evitar esas conversaciones... es sólo la idea de que mi hijo sea sexualmente activo es como loco para

mí, como no, no ... Yo sé, ósea, va a suceder solo que, supongo que para tener esa charla junto con la, sabes, con la vacuna y no sé qué, es, para hablar sobre eso, ósea para llegar a ese punto es como que...] (Father).

Both traditional gender roles, *marianismo* and *machismo*, also influenced the perceptions and behaviors of the participants regarding the HPVV. For example, when asked for ideas to increase the number of children getting the second or third doses of the vaccine on schedule, one mother explained: “ ...si el papa es muy machista que no le gusta hablar de eso, que si la mama no obedece al papa, y que no lo hace porque el papa se enoja” [“...if the father is very machista he does not like to speak about it, if the mother does not obey the father, [or] she will not do it because the father will get upset”] (Mother). In addition, the belief that men would be too shy to openly discuss these topics with others especially in front of women was widely shared among mothers across focus groups. All mothers also said that they felt comfortable speaking openly about these topics whether there were men present or not except for one mother:

Y los papas a veces son, que si hay mujeres, algunos como que “no, no”...[And sometimes the fathers are, if there are women, some are like “no, no” ...] (Mother).

Les da pena, en el caso de mi esposo. [They feel shame, like in the case of my husband] (Mother).

Si exacto. Tendría que ser varones [con] varones y mujeres con mujeres porque si estuvieran ósea que mixed como que no. Y las mujeres, a mí no me, cuando me dijeron que a lo mejor habían hombres, yo pensé que... porque no estoy acostumbrada a ver a hombres... [Yes, exactly. It would have to be males [with] males and females with females because if they were like mixed they would not. And the women, I don't, when they told me that maybe there were men, I thought that ... because I'm not used to seeing men ...] (Mother).

Furthermore, two mothers also showed dominant and machista-like behaviors in order to ensure that their daughters behaved in marianismo-like manners and therefore did not see the need for vaccinating their daughters against HPV. For example, one of the mothers said:

...y yo le dije [a la pediatra] que todavía no, que todavía yo no fui a que le pongan la vacuna [a mi hija] y que me voy a esperar otros años más, como yo estoy con ella, yo sigo sus pasos bien, estoy con ella entonces yo sé que ella no, no se me puede escapar o así sexualmente entonces eh, yo le dije [a la pediatra] que voy a esperar otros años más... [... and I told [the pediatrician] not yet, that I did not go so they would vaccinate [my daughter] and that I'm going to wait a few more years, since I am with her, I follow her steps closely, I'm with her so I know that she does not, cannot

escape me or sexually so, uh, I told [the pediatrician] I'll wait a few more years...] (Mother).

*HCPs seen as paternalistic figures.* For Hispanics, HCPs are seen as authority figures who are to be respected and according to mothers in this study are expected to take on a paternalistic role. One mother expressed how important it was for her child's pediatrician to be involved:

Yo por mi parte siempre la pediatra del niño juega un papel muy importante. Cuando son vacunas, cuando se tiene que hacer el chequeo y todo eso, la pediatra siempre está pendiente y está llamando "oye, el niño no se ha, tal cosa, oye le falta no sé qué, le falta refuerzo". A mí eso me hace ruido muchísimo porque la pediatra todo el tiempo esta 100% allí [For my part, the child's pediatrician always plays a very important role. When there are vaccines when you have to do the checkup and all that, the pediatrician is always on top of things and is calling to say "hey, the child has not, such thing, hey he is missing I don't know what, he lacks reinforcement". That means a lot to me because the pediatrician is 100% there all the time] (Mother).

However, three mothers felt that the responsibility was entirely theirs to ensure that their children had received all the vaccines and were up to date on the doses. Nonetheless, for the majority of mothers, HCPs were expected to either be fully or equally responsible for making sure that children get fully vaccinated against HPV:

Yo pienso que ya sería un poquito más responsabilidad de parte del médico o de la oficina del médico. Porque a veces uno, como ella dice, a veces uno, la mama, yo le pongo una [vacuna] y le pongo la otra, ya con esa tiene. Entonces sería, también yo pienso eso que sería responsabilidad también todo, de la parte médica, que uno siga el esquema [de la vacuna] [I think that it would be a little more responsibility on the part of the doctor or the doctor's office because sometimes one, as she says, sometimes one, the mother, I put one [vaccine] and put the other, and that is enough. Then it would be, also I think that it would all be responsibility on the medical part, for one to follow the [vaccine]scheme] (Mother).

*Changing nature of sexual taboos.* As foreign-born Hispanics begin to have US-born children and acculturate to the US over the years, their perceptions and behaviors also begin to change. Participants agreed that many Hispanic parents used to be more closed-minded regarding sexual topics in the past but that Hispanic parents today are more open-minded:

Y las relaciones hoy en día de uno con los hijos son mucho mejores que en tiempos anteriores. Por lo menos antes uno ni loco que ni se atrevía a preguntarle [sobre temas sexuales] a la mama por vergüenza, por respeto, por lo que fuera [And today's relationships with the children are much better than in the past. At least before not even crazy one dared to ask [about sexual topics]

to one's mother out of shame, out of respect, out of whatever]  
(Mother).

Furthermore, one mother stressed the importance of making sex-related topics less taboo among one's family: "... si debería, todo ese tipo de temas realmente deberían ser hablados abiertamente y no tratarse como un tabú siempre como lo hemos hecho. Hablar de relaciones sexuales debe ser en la hora del desayuno" ["...yes it should, all those types of topics really should be spoken openly and not treated as a taboo as we have done [in the past]. Talking about sexual relationships should be at breakfast time"] (Mother). Four parents also believed that openness about sexually related topics starts at home, in how one is raised and whether or not the head of the household shows interest in the vaccine:

...a los niños para hablar de sexualidad uno siempre trata de taparlo, también tiene mucho que ver cómo fue tu niñez. Eso tiene mucho que ver y donde fuiste criado también para que tú puedas ser una mujer para hablar con tus hijos así como debe ser. Eso viene desde abajo, tienes que aprender a hablar con ellos, desde la educación que uno recibe [...for the children to talk about sexuality one always tries to cover it, it also has much to do with how your childhood was. That has a lot to do with it and where you were raised too so that you can be a woman to talk to your children like that, how it should be. That comes from below, you

have to learn to talk to them, from the education that one receives]  
(Mother).

...porque vamos a empezar desde la cabeza, desde que están los encargados, porque el que está encargado del lugar es el papa. ¿Y si al papa no le gusta hablar sobre el tema...me entiendes?"

["...because let's start from the head, from the people in charge, because the one in charge of the place is the father. And if the father does not like to talk about the topic ... you understand me?"]

(Father).

In addition, across all focus groups, parents felt it was their responsibility to and admitted to openly discussing sexually related topics with their children so that their children could be informed, engage in preventative behaviors, and be protected against acquiring STI's.

Entonces a veces, yo personalmente digo, es mejor que estén informados porque la ignorancia es un peligro y no sé, ahora hablo más abiertamente con [mi hija], con la mayor más que todo de que esto que hace, más que todo por las enfermedades...[So sometimes, I personally say, it is better they are informed because ignorance is a danger and I do not know, now I speak more openly with [my daughter], with the eldest most of all about what that this does, most of all because of the diseases...] (Mother).

**Emotion.** Fear was the most commonly mentioned emotion among participants and acted as a barrier for HPV vaccination. For one mother, fear of the unknown was a barrier to vaccinating her child against HPV:

...pero no me he adrentado bien al tema a investigar por un poquito de temor, porque realmente lo que es desconocido siempre le tenemos miedo porque no sabemos que causes va a tener... yo en mi caso, en el temor de esa decisión de ponerle la vacuna a mi hija, por lo que acabo de decir que no conozco del tema...[...but I have not properly addressed the issue to investigate due to a little bit of fear, because what is unknown we are always afraid of because we do not know what causes it is going to have ... in my case, in fear of that decision to give the vaccine to my daughter, because of what I just said, that I do not know about the topic...]

(Mother).

Fear prevented another participant's daughter from seeking medical help when she was feeling ill and fear prevented the discussion of the HPVV between another mother and her daughters: "No, yo con ese susto porque era todo el dia "ay no y tengo pendiente una conversación [con mi hija]". Ósea sí, porque no sabía si explicarle todo o decirle no sé qué..." ["No, I was scared because it was all day "oh no and I have a conversation pending [with my daughter]". I mean yes, because I did not know whether to explain everything to her or tell her I do not know what"] (Mother).

**Perceived risk.** Among parents who were unfamiliar with the HPVV, three believed the vaccine to be unnecessary since their children were not yet sexually

active or perhaps would choose to be in monogamous relationships. One father believes:

...if its something that kids can't get or something like that, then why would you give it to them?... I feel like if they're not sexually active and this is something only you would get if, you know if its, I feel, why get it? You don't need to get it, don't get it [...si es algo que los niños no pueden adquirir o algo así, entonces ¿por qué se lo darías?... Siento que no son sexualmente activos y esto es algo que solo podrías adquirir si, si es, siento, ¿por qué obtenerlo? No necesitas obtenerlo, no lo obtengas] (Father).

However, the majority of parents perceived a real risk for their children to contract HPV. They agreed that children grow and become independent therefore they understood that they could not always control their children's actions nor what their children will be exposed to especially outside of the home:

Yo creo que a veces lo que, como a lo mejor muchas personas piensan "oh mi hija o hijo no va a hacer eso" porque a veces en la casa es diferente, pero ya cuando ellos están en la escuela es totalmente diferente [I think sometimes that, like maybe many people think "oh my daughter or son is not going to do that" because sometimes in the house it's different, but when they're in school it's totally different] (Mother).

...pero como dice ella, a veces uno por más que supervise a sus hijos, les habla en el día, todas aquí fuimos adolescentes y de una forma u otra sabemos que siempre hay una maña o una excusa para escaparse de los

papas [...but as she says, sometimes even though one supervises their children, talks to them in the day, all of us here were teenagers and in one way or another we know that there is always a trick or an alibi to escape from the parents] (Mother).

Parents also understood that boys and girls are equally susceptible to acquiring and spreading any disease, including HPV.

*Past experiences.* Many past experiences of relatives and acquaintances regarding HPV and the HPVV were shared and are further discussed in the section titled perceived norm. Only one mother shared a personal past experience that has now affected her future decision regarding the HPVV for her younger children. This mother had four daughters, she had previously vaccinated the two eldest against HPV. She shared with the group that the oldest daughter could not get pregnant and after much research, her daughter told her that she read online that the HPVV can leave women sterile. The mother, however, says that her other vaccinated daughter had been able to have children. The children's pediatrician had also told the mother that the HPVV does not cause sterility. Regardless, she decided not to vaccinate her two younger daughters out of fear of exposing them to side effects from the vaccine and told the pediatrician "no, deme tiempo para pensar porque la otra me echa en cara de que por mi culpa por haberle puesto esa vacuna ella no puede salir embarazada" ["no, give me time to think because the other one throws it in my face that because of me, for having put that vaccine to her, she cannot get pregnant"] (Mother).

**Attitude towards the behavior.** This sample of Hispanic parents expressed positive, negative, and neutral attitudes towards the HPVV, HPV vaccination, and towards its consequences.

*Positive attitudes.* Positive attitudes mentioned in regards to the HPVV included: peace of mind, prevention was better than suffering the disease and its sequelae, and that advanced products of science should be taken advantage of.

One mother said:

Bueno no sabemos qué va a proteger 100% pero por lo menos eh, seguridad para sentirme yo más tranquila porque uno no siempre esta con los hijos. Entonces uno les puede hablar, les puede decir pero ya cuando es de tomar una decisión pues por lo menos ya hizo algo para ellos [Well we do not know that it will protect 100% but at least uh, security to feel calmer because one is not always with children. And you can talk to them, you can tell them but when you are making a decision, at least you have already done something for them] (Mother).

*Negative attitudes.* Negative attitudes mentioned in regards to the HPVV included: concern of physical or emotional harm to the child and belief that the HPVV was unnecessary. The majority of parents across focus groups expressed concern over the possibility of the HPVV causing side effects and harming their child. One mother who had seen several videos on Youtube said: “Pero ya la vacuna del papiloma humano, hay niñas o adolescentes que quedan en sillas rueda, que no pueden moverse la columna, son efectos bien fuertes, que se quedan definitivamente en una silla ruedas, hay otras que no” [“But already the human

papilloma vaccine, there are girls or teenagers who end up in wheelchairs, they can not move the spine, they are very strong effects, they definitely end up in a wheelchair, there are others that do not”] (Mother). Her comments got many of the other mothers in her group more concerned. Furthermore, as previously mentioned, there were a few parents who had not grasped the purpose of the HPVV and felt that the vaccine was unnecessary particularly for children who were not yet sexually active.

*Neutral attitudes.* Two mothers had a neutral attitude towards the HPVV, saying that side effects can happen to anyone and during any procedure. They did not seem to either be in favor of nor against the HPVV, pointing out only that everyone is different and have different reactions to different things: “El cuerpo mío no va a reaccionar igual que el suyo, ni igual que ella. Entonces a mí me aplican la vacuna, puede que a mí me cae bien, puede de que a otra persona no” [“My body is not going to react the same as yours nor like hers. So they apply the vaccine to me, maybe it sits well with me, it may be that for another person it does not”] (Mother).

**Perceived norm.** Despite the traditional cultural beliefs which dictate that the Hispanic mother makes all of the children’s health care decisions on her own, mothers in these focus groups reported perceived social pressure from their acquaintances and children’s HCPs when deciding to vaccinate their children against HPV. Although no social pressure was perceived from their child or their child’s other parent regarding the HPVV, participants believed that the opinions of these referent individuals were still

important to consider in their decision-making process. Only about four mothers said they did not perceive any social pressure from any referent individuals.

*Perceived social pressure from HCPs.* HCPs were one of the individuals who parents considered to be influential in their decision to vaccinate their children against HPV. Perceived social pressure from a HCP was found to either hinder or promote HPV vaccination among participants. In the focus groups, parents said that they felt more trusting of HCPs who they had known for some time, took the time to explain things to them, listened to them, and took the time to create a relationship with them. One mother explained how she preferred the older pediatricians because:

...antiguos pediatras y eran muy buenos pediatras, que les gustaba hacer su trabajo y se tomaban el tiempo para explicarte, para decirte las cosas. Y el actual que yo tengo, ósea nada que ver. Es como que “tengo ya el otro paciente” y es rápido. “Le tocan las vacunas, que le pongan las vacunas” esto y aquello [...old pediatricians and they were very good pediatricians, who liked to do their job and took the time to explain, to tell you things. And the current one that I have, I mean nothing compared. It's like "I already have the other patient" and it's fast. "The vaccines are due, give him the vaccines" this and that] (Mother).

Among parents who had already vaccinated their children against HPV, many reported that nurses and other HCPs had taken the time to educate them on the vaccine or at least provided them with informational sheets. A few examples of this can be seen below by quotes from various participants:

Yo si sé que la enfermera me dijo rápidamente, la pediatra o la enfermera, me dijo que ahora existe esa vacuna para los adolescentes, para cierta edad de 26 años...la enfermera me dijo que ya mi niña estaba en la edad de ponerse la vacuna [I know that the nurse told me quickly, the pediatrician or the nurse, told me that there is now that vaccine for teenagers, for a certain age of 26 years ... the nurse told me that my daughter was already at the age of getting the vaccine] (Mother).

Me dieron allá el papel para que leyera, y [me preguntaron] si estaba de acuerdo, si se la quería poner [They gave me the paper there to read, and [they asked me] if I agreed, if I wanted to put it] (Mother).

A través del pediatra...si el me recomendó que le pusiéramos la vacuna a mi hija porque, este, existía el riesgo y el peligro de cuando estuviera más grandecita...para eh, adquirir el papiloma” [“ through the pediatrician ... he recommended for me to give the vaccine to my daughter because, this, there was the risk and danger of when she was bigger ... to uh, acquire the papilloma] (Mother).

HCP interventions such as reminder phone calls for upcoming appointments were also believed to increase HPVV initiation and completion rates.

In contrast, occasions where HCPs were unsuccessful in promoting the HPVV, included times where the HCP failed to have a reminder service available for upcoming appointments or failed to educate on or recommend the HPVV. Two mothers complained that some clinics did not call parents to remind them about upcoming vaccines or doses, making it difficult for children to be up to date

on their vaccines because, with their busy lives, parents tend to forget. One mother was told by her friend who is a pharmacist: “que no le pusiera la vacuna a mi hija de 15 años, esa vacuna... porque me dijo que no hacia ningún resultado y que tiene efectos secundarios” [“to not put the vaccine to my 15-year-old daughter, that vaccine ... because she told me that it did not produce any results and that it has side effects”] (Mother). Another mother said that her child’s pediatrician did not mention the HPVV at the 11-year health assessment visit and so she had to ask if her child could have it. However, the pediatrician responded: “si, si tú quieres porque muchas mamas no quieren, entonces si tu autorizas pues...” [“yes, if you want because many moms do not want, so if you authorize then...”] (Mother).

Furthermore, if a HCP was perceived to be unreliable or untrustworthy, parents sought other sources for information, such as health fairs or the internet which led to confusion and inconsistent information from varying sources. One father shared his frustration saying:

Pero yo he descubierto cosas que me dice el doctor a todo lo contrario que me dice el internet y me he encontrado muchas cosas que el internet me dice la verdad y el doctor me fallo porque todo lo que, mira, todo lo que es hecho en laboratorio, todo va a tener side effects...por eso como digo el internet te da otras cosas y el medico te da otra. ¿Entonces a quien se le va a entender? [But I have discovered things that the doctor tells me contrary to what the internet tells me and I have found many things that the internet tells me the truth [about] and the doctor has failed me because everything,

look, everything that is done in a laboratory, everything will have side effects ... that's why as I said [before] the internet gives you other things and the doctor gives you another. Then who is going to understand?]  
(Father).

As previously mentioned, some HCPs were telling mothers that the vaccine should be administered when girls and boys are 11 years old while others were saying that it should be given after the girls start menstruating and after boys reach puberty which confused the participants and led them to lose trust in the HCPs.

*Perceived social pressure from acquaintances.* Many past experiences that participants had heard from relatives or acquaintances regarding HPV and the HPV were also discussed. These experiences had influenced their decision or intention to vaccinate their children against HPV or not. Most experiences consisted of acquaintances or relatives who had gotten some type of cancer, uterine cancer caused by HPV, or genital warts caused by HPV. One example is of a mother who had a relative diagnosed with cancer:

...viéndolo ya cuando uno pasa por una mala experiencia pues prevenir es mejor...a tener un familiar que haya pasado por una enfermedad de cáncer...no [relacionado al VPH] pero de todas maneras ya queda uno con la expectativa de que es mejor prevenir. [... seeing it after one goes through a bad experience well, it is better to prevent ... to have a family member who has dealt with cancer ... not [related to HPV] but in any case, one is left with the expectation that it is better to prevent] (Mother).

On the other hand, parents who had heard of experiences where the HPVV could have produced side effects were more afraid to vaccinate their children now. One father became hesitant to vaccinate his children against HPV after hearing of a bad experience that another participant had regarding the HPVV and her daughter being unable to get pregnant:

“...no sé qué hacer. Ósea, hacerlo o no hacerlo, como ella dice que la niña se lo tira en la cara y eso es duro. Uno no quiere que tengan niños todavía pero algún día va a pasar y si no puede, te lo tiran en la cara, es duro” [I don't know what to do. I mean, do it or not do it, as she says her daughter throws it in her face and that's hard. You do not want them to have children yet but someday it will happen and if they cannot, they'll throw it in your face, it's hard] (Father).

*No perceived social pressure.* In accordance with the cultural norms previously discussed, when asked if there was any one person's opinions who they sought in order to make a decision regarding the HPVV for their children, four mothers stated “no”, that they did not rely on anyone's opinions or recommendations. Rather these mothers stated that they would take the decision to vaccinate their children against HPV themselves: “Yo siempre he sido la que decido, no yo en, con las cosas de los niños casi siempre soy yo la que decido, y ahora soy madre soltera entonces soy yo la que decido” [“I've always been the one who decided, no I in, with the things of the children almost always I'm the one who decides, and now I'm a single mother so I'm the one who decides”] (Mother).

*Family as referents.* Unlike the four mothers mentioned in the section above, several other participants valued the opinion of their child's other parent and felt it was necessary to include them in all decisions regarding their child's health including the HPVV. When the interviewer asked the group of fathers about who takes the final decision in regards to the children's health, one father said: "Well, both right. I mean at the end of the day there's nothing she can really do without me saying yes. I mean or without her saying yes" ["Bueno, ambos cierto. Quiero decir, al final del día, no hay nada que ella realmente pueda hacer sin que yo diga que sí. Quiero decir o sin ella diciendo que sí"] (Father). One mother also expressed:

...si es un papa hay que involucrar al papa en cualquier decisión, porque ya eso hace falta en la vida de ellos, ósea las vacunas y todo eso... [...if he is a father, one has to involve the father in any decision, because that is necessary in [the children's] lives, like the vaccines and all that...]  
(Mother).

Other individuals whose opinions were valued included that of the children's. Since the child was the one getting the vaccine, mothers believed that the child should be included in the decision as well. Mothers who had already vaccinated their children against HPV said that they explained the HPVV to their child or had the nurse explain it and would later ask their child if they wanted to get the vaccine or not. For example, one mother shared her experience:

...en el caso de la niña la enfermera le explico algo a ella antes de todo. Y no fue ese mismo día que yo se la puse, pero pues me dijo "léete esto y

piénsalo” y le explicaron a la niña y todo y yo le pregunte a la niña y me dijo que estaba bien [...in the case of my daughter, the nurse explained something to her first of all. And it was not the same day that I put it on, but she told me to “read this and think about it” and they explained it to my daughter and everything and I asked my daughter and she told me it was fine] (Mother).

Parents who had not yet vaccinated their children against HPV also said that they would include their child in the decision making for the vaccine as one father stated: “la vida es de ellos, también tienen que opinar” [“it is their life, they also have to give an opinion”] (Father).

**Perceived behavioral control.** As mentioned in chapter 2, this concept is made up of the participant’s perceived self-efficacy in vaccinating their children against HPV and of specific factors that interfere with or facilitate that decision. Although participants did not mention their perceived self-efficacy in vaccinating their children against HPV, they did mention several factors that interfered with or facilitated their decision to vaccinate.

***Motivators to vaccination.*** When asked to give suggestions on how to increase the HPV vaccination rates of children, parents provided several suggestions including giving the HPVV in a bundle with other vaccines that are administered at the ages of 11 and 12 but with more information and schools requesting the HPVV for entry. Schools offering to administer vaccines, including the HPVV was perceived as a motivator for vaccination, as one mother explained: “yo creo que estaría bien porque es, más que nada que lo ofrecieran en la escuela

porque en la escuela les enseñan mucho” [“I think it would be good because it is, more than anything, that they offered it at school because at school they teach them a lot”] (Mother). HCP accessibility and convenience was another facilitating factor for HPV vaccination. A school nurse who could vaccinate the children at school was perceived as great for Hispanic parents who work or for Hispanic parents whose children may not have legal documents:

Es bueno para algunos papas, por ejemplo, que trabajan y no pueden llevarlos a las clínicas. Yo creo que eso sería bueno porque hay mucha gente que trabaja y no tiene tiempo para llevarlos [It is good for some parents, for example, who work and cannot take them to the clinics. I think that would be good because there are many people who work and do not have time to take them] (Mother).

Yo creo que supuestamente es una enfermera certificada y está trabajando con muchos niños, no van a tenerla allí por alguna razón. Y aparte otra cosa que mis hijos no son nacidos aquí, so a mí me conviene que se la pongan allí porque no me van a cobrar la consulta [I believe that she is supposedly a certified nurse and is working with many children, they will not have her there for any reason. And another thing, is that my children are not born here, so it's good for me to put it there because they will not charge me the consultation] (Mother).

Additional facilitators for HPV vaccination that were provided by parents can be found in Table 2.

***Barriers to vaccination.*** The most frequently mentioned barriers to HPV vaccination were lack of HPV awareness and knowledge, lack of HCP recommendation, and concern of potential side effects. Several other barriers that were mentioned throughout the focus groups include work hours and pain at the injection site. Both mothers and fathers agreed that working hours were a barrier for fathers to be able to take the children to get vaccinated. One father explicitly stated: "...I'm always working so I don't usually take my son to the doctor or anything like that..." ["...siempre estoy trabajando, así que generalmente no llevo a mi hijo al médico ni nada de eso..."] (Father). Also, the youngest father in the sample explained that his child screams a lot while getting vaccines which made him feel bad: "...when it comes to the shots [my wife] is cool and I cry so you know, I don't like shots for the kids so" ["...cuando se trata de las inyecciones [mi esposa] es genial y yo lloro, ya sabes, no me gustan las inyecciones para los niños, así que"] (Father). Additional barriers to HPV vaccination mentioned by participants are listed in Table 2 below.

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Table 2

*Barriers and Facilitators to HPV Vaccination*

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Facilitators	Barriers
-Parents willing to pay out of pocket cost	-Lack of child health insurance
-Convenient and accessible clinics	-Lack of trust in HCP
-Vaccine reminder systems	-Lack of transportation
-Mobile clinic offering the HPV	-Older children make their own
-Educating parents and children on	decisions

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 sex-related topics at school orientation

 -Children too shy to talk about sex-related topics with parents
 

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**Actual control.** There was only one, yet vital, environmental factor reported by a mother that prevented her from being able to vaccinate her child which included the lack of HPVV supply at the clinic:

...la niña mía cumplió 13 años pero yo hable con el pediatra y le dije que yo quería que se la pusieran. Pero me dijo que no la tenían en ese momento, que después cuando la lleve a otra cita, si la tienen se la ponen [...my daughter turned 13 but I spoke with the pediatrician and told them that I wanted them to give it to her. But they told me that they did not have it at that moment, that later when I took her to another appointment if they had it they would give it to her] (Mother).

**Intention.** For the most part, participants who had not yet vaccinated their children against HPV expressed their intention of vaccinating them in the future and of completing the HPVV dose series. One mother shared that with the little information gained from discussing the HPVV during the focus group, she would most likely vaccinate her daughter: "...pero lo poco que se ya es, yo creo que si le voy a poner [la vacuna]. Yo tengo una pediatra que ella me de información" [...but the little that I already know, I think I am going to put her [the vaccine]. I have a pediatrician that she gives me information"] (Mother). One father intended to vaccinate his children but specified that it would most likely be when the children become sexually active like in high school. In addition, one mother who had already given her daughter the first dose says she intends on giving her the second and third doses: "...yo tengo que llevar a que le pongan la tres dosis. Ya voy por la primera entonces me dan la segunda cita la voy a

llevar, la tercera cita igual” [“I have to take her so they put the three doses. I’m already by the first one, so they give me the second appointment and I’m going to take her, the third appointment the same”] (Mother). There was, however, one mother who showed no intention of vaccinating her daughters against HPV due to her lack of trust in the HCPs:

No, no estoy segura. Yo tengo una niña de 15, una de 12, y una de 9 años y no estoy segura de ponerle, de quererle poner la vacuna...no sé. La verdad es que yo he llegado a un punto de que he dejado de creer en los doctores, no les tengo tanta fe como antes [No, I'm not sure. I have a girl of 15, one of 12, and a girl of 9 years old and I'm not sure about putting her, of wanting to give her the vaccine ... I don't know. The truth is that I have reached a point where I have stopped believing in doctors, I do not have as much faith in them as before] (Mother).

**Behavior.** Since the majority of parents were just learning about the HPVV, many had not yet vaccinated their children prior to the study. Four of the fathers in the focus groups did not know if their children had received the HPVV since they were unaware of the HPVV prior to the study. One father explained:

Bueno yo tengo una niña que va a cumplir 10, pero ella vive con su mama, so yo no sé si la mama ya, me entiendes, tomo la decisión de vacunarla. Lo que estoy escuchando aquí voy a tener que hablar con ella primero porque, esa es la única información que yo tengo, lo que he escuchado hoy [Well I have a girl who is going to turn 10, but she lives with her mother, so I do not know if the mother already, you know, took the decision to vaccinate her. What I'm listening to here, I'm going to have to talk to her first, because that's the only information I have, what I've heard today] (Father).

The fifth father reported he knew for sure that his child had not yet been vaccinated against HPV. However, among the 18 mothers in the focus groups, there were six who had already vaccinated their age-eligible children against HPV with at least the first dose. Table 3 below demonstrates how many children got vaccinated and the number of doses they received.

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Table 3

*Behavior: No. of children vaccinated against HPV*

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Gender	Age	No. of doses
Estrella	13	2
Juana	14	1
Maria	18	2
Juliana	19	3
Josephina	20	3
Jose	12	3
Alejandro	18	2

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Note. The names of the children listed are not real.

One mother attested that neither one of her children had any side effects when given the HPVV: “En mi caso yo sí, a la mayor si se la pusieron a los 9 [años] y a la que tengo de 12, se la acaban de poner la semana pasada” [“In my case, yes, they did put it to oldest at 9 [years old] and the one I have who is 12, they just put it last week”] (Mother). Regardless, there were two mothers who had already decided not to vaccinate their children against HPV. One because her friend, a pharmacist, recommended her not to vaccinate her daughter and the second because her daughters were already old enough to make their own decisions.

### **Additional Relevant Findings**

**Parental motivation.** Parental motivation refers to the initiative that Hispanic parents took by seeking out information on the HPVV on their own and taking the lead on getting their child vaccinated against HPV. A sense of responsibility to be informed about the vaccine and the belief that HCPs were not effectively diffusing the information led participants to seek information on their own, such as conducting online searches. Parental motivation also led parents to make appointments and ask the pediatricians or nurses more about the vaccine:.

Yo fui la que le propuse, le dije “¿pero los varones también?” “Si, los varones”, yo fui la que tuve que decirle del tema porque la doctora a mí no me hablo absolutamente nada de eso. Yo investigando y leyendo y me di cuenta [I was the one that asked, I said: "but the boys too?" "Yes, the boys", I was the one that had to tell her about the topic because the doctor did not speak to me at all about it. I researched and read and realized it] (Mother).

Two mothers went even further; one mother asked the pediatrician if they were going to vaccinate her child against HPV while the other mother had to find out when the next dose for her child was due and make the appointment because the pediatrician did not do so. However, participants also noted a lack of parental motivation to learn among Hispanic parents in their community even though information on the HPVV was available and accessible:

No, los padres no nos informamos sobre las vacunas. Solamente [vacunamos] porque es como una tradición y aparte si no tienes las vacunas no te lo reciben en la escuela. So tú vas y le pones las vacunas y de verdad no te tomas el tiempo para

leer de la vacuna solamente te mandan un papel de la escuela, tú vas y se la pones y la niña va a la escuela [No, parents do not inform themselves about vaccines. We only [vaccinate] because it's like a tradition and also if you don't have the vaccines, they do not receive you at school. So you go and put the vaccines and really don't take the time to read about the vaccine they just send a paper from school, you go and put it on and the girl goes to school] (Mother).

...bueno es que en la comunidad siempre hay información. La cosa es...la cosa es buscar [...well the thing is that in the community there is always information. The thing is ... the thing is to search] (Mother).

**HPVV optional vs mandatory.** When asked if the HPVV should be optional or mandatory for school entry like other vaccines, the majority of parents felt that the HPVV should be optional due to fear of its side effects. Participants generally agreed that the decision to vaccinate should be left up to informed parents, to the child (since they are the ones getting the vaccine), or to the school principal (who knows the needs of the children in their community best). However, there was one mother who was in favor of making the HPVV mandatory, yet she did not believe that other Hispanic parents would accept it, thus believed it should be left as optional:

...en mi opinión que ya estoy adentrándome un poquito más de lo que es la vacuna yo diría que sí. Pero vamos a toparnos con papas que por algún, que el sexo, que no quieren hablar porque les da pena, que no quieren, es igual, va a haber muchos que a decir que si y muchos que se van a negar [...in my opinion, since I am already getting a little more [understanding] into what the vaccine is, I would say yes. But we are going to run into parents that for some [reason], that

the sex, that they do not want to talk because they are shy, that they don't want, it's the same, there will be many who say yes and many who will refuse]

(Mother).

Another mother also felt that the HPVV should be mandatory because it is more cost-effective: "...yo pienso que si es necesario...la vacuna...porque así no va a pasar por la dificultad de tener que tratarse y no tener un seguro médico...sale más económico prevenir...que después tratar la enfermedad" ["...I think that it is necessary ... the vaccine ... because like that you won't go through the difficulty of having to get treated and not have medical insurance ... it's cheaper to prevent ... than to treat the disease later"]

(Mother).

### **Findings for Intervention Strategies**

Participants offered many suggestions for future educational interventions to help disseminate information on the HPVV and help prevent HPV. Specific suggestions were provided for interventions targetting adults only, children only, or adults and children together.

**Intervention preferences for adults.** This section presents findings of Hispanic parent's preferences for future HPV prevention interventions targetting an adult audience only. Suggestions were made regarding: the level of interest on HPV and the HPVV of other adults in their community, the target audience for the intervention, mediums to use for distributing information, duration of intervention, availability of Hispanic parents in their community, facilitator for the intervention, and content that should be included.

**Interest.** There was an immense interest in learning more about the HPVV as well as immense frustration about the lack of available information on the

vaccine among participants in this study. Below are several examples based on participant's quotes:

Vuelvo a repetir, así como la violencia domestica esta ya, todo el mundo ya sabe defenderse, como ayudarse, como ayudar al vecino. Y así debe de ser la vacuna [I repeat again, just like domestic violence is already, everyone knows how to defend themselves, how to help themselves, how to help the neighbor. And the vaccine should [also] be like that] (Mother).

Para mi que hubiera más divulgación del tema también [For me, there should be more dissemination of the topic too] (Mother).

Más divulgación del tema, que hubiera expertos compartiendo las opiniones [More dissemination of the topic, there should be experts sharing their opinions] (Mother).

Como que debería de haber un poco más de información [Like there should be a little more information] (Mother).

Parents were requesting more information on the HPVV in order to facilitate their decision about vaccinating their child:

Entonces estoy en eso, investigando para enfocarme bien en el tema y entonces tomar ya la decisión junto a mi esposo también...entonces voy a empaparme más del tema, platicarlo con mi esposo, y ya de ahí tomar la decisión [Then I am in that, researching to focus well on the subject and then take the decision with my husband too ... then I will [inform] myself well on the topic, talk with my husband, and then take the decision] (Mother).

**Target audience.** For the most part, parents did not have a preference for the gender of other parents who might attend future “charlas” as one mother stated: “No, yo hablo del tema abiertamente” [“No, I talk about it openly”] (Mother). However, as previously mentioned, mothers felt that fathers would feel more comfortable discussing sex-related topics in groups of just men. When mothers were asked if future “charlas” on HPV prevention should target only mothers since they had stated that mothers were the main decision-makers, they responded “yes”. However, one mother also believed that men who had children might also be interested in participating in these “charlas” and, thus should also be invited: “Es más, hay algunos papas que son solos con su familia. Pienso que ellos serían los más interesados...” [“Moreover, there are some fathers who are [single fathers] alone with their family. I think they would be the most interested...”] (Mother).

**Mediums for HPV information.** Although “charlas” were suggested for educating adults on the HPV, it was also pointed out that for parents who work it might become a challenge for them to attend either because of the hours or because they would be too tired after work, particularly those who work in the farmlands or nurseries, and just want to go home. One mother felt that the HPV should be known just like the flu vaccine: “...es algo que debería ser como cuando uno va y dice “ah viene la temporada del flu, hay que ponerle refuerzo”, entonces debería ser algo así” [“...it's something that should be like when you go and say “the flu season is coming, we have to put reinforcements”, so it should be something like that”] (Mother). Pamphlets were also suggested as a good way to

disseminate information, however, parents also admitted that many adults would probably not read them and just toss them out as they got busy doing their daily activities. Another popular medium for providing HPVV information was to have a video created and uploaded on social media:

...también sería bueno con videos...porque eso si te ayuda mucho, se te queda. Pero también, las, las figuras porque tu miras algo y tu transmites a alguien más de lo que tu miraste, como tú ves una película y le dices a alguien “mira, tu sabes que yo ya fui a ver esta película y pasa esto y esto”. Porque tú lo ves en imágenes y entonces como que tu también transmites eso, en mi opinión [...it would also be good with videos ... because that helps you a lot, it stays with you. But also, the, the figures because you look at something and you transmit to someone more than what you saw, like you see a movie and you tell someone "look, you know that I went to see this movie and this happens". Because you see it in images and then like you also transmit that, in my opinion] (Mother).

Yet, one mother also pointed out: “¿...si tengo dudas como le pregunto al video? Si soy de lento aprendizaje, el video no va a contestar” [...if I have doubts, how can I ask the video? If I am of slow learning, the video will not answer”] (Mother). Other suggestions made for disseminating information on the HPVV can be found below in Table 4.

Table 4

*Mediums for HPPV information for adults*


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Social Media	Healthcare Provider
TV	Internet (wikileaks, facebook, twitter)
Telephone (texts)	Email
TVs in health clinics	Mail
Health Fairs	CDs/DVDs
Word of mouth	Health Centers/Clinics
Child's Schools	Research Studies
Radio	Pharmacy

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**Duration.** “Charlas” on the HPVV were suggested to be no longer than 30-45 minutes, with five to twelve people, so that there is enough time for all to share opinions. One mother also felt that the session must remain short enough for those who have been working long hours: “Si porque es que para personas que trabajan, llegan demasiado cansadas porque trabajan de sol a sol” [Yes because for people who work, they arrive too tired because they work from sunrise to sunset] (Mother).

**Availability.** In order to include Hispanic parents that work long hours, one mother suggested putting out a survey to see what the best times for a “charla” would be. Another suggestion was that the “charlas” should be held at around 8:00 pm, 8:30 pm, or on the weekend so working parents could attend because as one mother explained: “...si yo estuviera trabajando y vinieran para

acá, uno tampoco se va arriesgar a perder su trabajo por venir a una platicas de estas...únicamente por mis hijos yo faltó al trabajo” [“...if I was working and you came here, one is not going to risk losing their job to come to one of these discussions ... only for my children do I miss work”] (Mother).

**Facilitator.** A preference for receiving information directly from a pediatrician or doctor was frequently brought up throughout the focus groups. For example, one father said: “Lo mejor es el pediatra. Hoy en día puedes leer cosas en un website que no son verdad. Es mejor que te diga un médico, alguien con experiencia” [“The best is the pediatrician. Nowadays you can read things on a website that are not true. It's better to be told by a doctor, someone with experience”] (Father). Parents did not have a preference for the gender of the facilitator providing the information, but one mother thought that her husband would probably prefer a male HCP if he were to attend a “charla”. Among those who had suggested for a video to be made, one mother suggested that the video be done by a serious entity in order to make it believable: “Pero es mejor como cuando lo hace una entidad seria porque así como ella dice, hay muchos videos pero igual tu puedes encontrar mucha información errónea. Es diferente cuando lo hace una entidad seria ósea que tiene todo el respaldo” [“But it's better like when a serious entity does it because, as she says, there are many videos but even so, you can find a lot of erroneous information. It's different when a serious entity does it that has all the support”] (Mother).

**Content.** The top three most frequently mentioned pieces of information that parents would like to leave any future intervention knowing regarding the

HPVV included: knowing what side effects the vaccine produces, the age eligibility for receiving the vaccine, and what the vaccine prevents exactly. One mother, in particular, wanted it to be made clear that "...esa vacuna te, te protege o para eso, para esa enfermedad pero no para las otras enfermedades que son de transmisión sexual...creo que sería bueno también que se explique eso, porque a lo mejor la gente se confunde" ["...that vaccine it, it will protect you or for that, for that disease but not for the other diseases that are sexually transmitted ... I think it would be good to explain that, because maybe people get confused"] (Mother). Other pieces of information that parents listed when asked what they would like to know about the HPV vaccine included: what the virus consists of, what the virus does, what the vaccine schedule is, how many doses are required, if the vaccine affects girls' menstrual cycles, and what is in the vaccine.

Using a catchy slogan on a pamphlet or web page was suggested so that Hispanic parents, especially fathers, would become interested in learning more for the sake of the health of their children. It was also suggested that the pamphlet contain few words, images, and a phone number at the back so that parents can call in case they had questions or concerns. However, one mother explained that she learns better visually because she sometimes has a hard time understanding things when they are written too complexly or in another language: "...viendo, como que capto más que leyendo. Lo leo y a veces no entiendo...que sea visual y que el vocabulario sea en el idioma que uno entiende y las palabras más sencillas para que uno las comprenda fácilmente" ["...seeing, its like I capture more than reading. I read it and sometimes I don't understand ... it should be visual and that

the vocabulary be in the language that one understands and the simplest words [used] for one to understand them easily”] (Mother). In addition, for a “charla”, parents insisted on hearing experiences from other Hispanic parents, the opinions of HCPs, and for images to be shown so that they wouldn’t get bored.

**Intervention preferences for youth.** This section presents findings of Hispanic parent’s preferences for future HPV prevention interventions that would target the youth only. Suggestions were made regarding: the target audience, mediums to use for distributing HPV information, facilitator for the intervention, and content that should be included.

**Target audience.** In all four focus groups, parents suggested that interventions be targeted directly at the children as long as the interventions were age-appropriate. One mother explained:

Pues preguntarle a los niños, porque nosotras estamos diciendo lo que queremos, pero tal vez como los niños están más avanzados, más informados, ellos les pueden decir a uno que les gustaría, que medio, o como quisieran recibir, quien mejor que ellos le pueden decir a uno [So ask the children, because we are saying what we want, but maybe since the children are more advanced, more informed, they can tell you what they would like, what medium, or how they would like to receive, who better than them can tell us] (Mother).

Interventions without parents present were believed to be best so that the children would not feel shy to give their opinions or ask questions. Also, although a few parents admitted that children as early as age six begin to ask sex-related

questions, parents across all focus groups preferred HPV prevention interventions to target adolescents in high school.

*Mediums for HPVV information.* The three mediums that parents suggested for teaching children about the HPVV included school, their phones, or “charlas”. However, school-based interventions seemed to be the most popular among parents. For example, two mothers suggested creating a school campaign:

Una campaña de los colegios, como de educación sexual [A campaign from the schools, like about sexual education] (Mother).

Como hacen la semana de libre de drogas, deberían hacer algo así como eso [Like they do the drug-free week, they should do something like that] (Mother).

Another frequently shared idea was offering sexual education courses in all schools and discussing the HPVV in those courses. When parents were asked to provide more details about what they had in mind regarding the educational interventions for children at schools, they suggested having someone go to the schools to explain things to the students and to go classroom by classroom:

“...hacer un mes una aula, por aula. Y hacer una como conferencia con preguntas y respuestas, así también uno aprende” [“...in one month do a classroom, per classroom. And do like a conference with questions and answers, one also learns like that”] (Mother). Others suggested teaching the children in a large auditorium “...deberían usar los auditorios por lo menos una vez al mes, para informar a los muchachos en la escuela, porque el auditorio es un salón grande entonces por lo menos hacer un meeting ahí” [“...they should use the auditoriums at least once a

month, to inform the kids in the school, because the auditorium is a big room so at least do a meeting there”] (Father).

Among this sample of Hispanic parents, it was widely believed that children are better informed these days because of their access to all kinds of information via the internet on their phones. However, one father implied that unless there is a flash post or catchy phrase, children will not willingly look up information about the HPV on their own:

...it has to be like a flash post and it has to be like I said, like a picture of something they don't want to see and like “want to find out how to prevent this?”...like on Instagram, then its interesting and then like, I've learned about so many things on Facebook just cause' I saw a picture and clicked it. Better than actually looking it up on Google... [...tiene que ser como una publicación flash y tiene que ser como dije, como una imagen de algo que no quieren ver y como "¿quieres saber cómo prevenir esto?"... como en Instagram, entonces es interesante y luego yo eh aprendido de tantas cosas en Facebook simplemente porque vi una imagen y le hice clic. Mejor que buscarlo en Google] (Father).

Participants also did not believe that an educational video game or sending text messages to children would be very effective:

Funcionaria, si el mensaje de texto fuera animado o algo así, porque si fuera leer solamente, no lo leen. Tendría que ser como dije, animado [It would work, if the text message was animated or something like that

because if it were to read-only, they would not read it. It should be like I said, animated] (Mother).

Video games would work for like a week or two, but even the greatest video game, you get bored [Los videojuegos funcionarían por una semana o dos, pero hasta del mejor videojuego te aburres] (Father).

Now, not all kids like video games [Ahora, no a todos los niños les gustan los videojuegos] (Father).

**Facilitator.** Parents were asked if they had any preference on the gender of the facilitator who would teach their children about the HPV. Although parents stated they did not have a preference, three mothers implied that their children would probably prefer for the facilitator of any intervention discussing sex-related topics to be the same gender as them: "...cuando es un chequeo normal y eso, con el doctor. Pero cuando son preguntas de por ejemplo la vacuna o ya cosas más personales, [mi hija] prefiere ir con la doctora" ["...when it's a normal check-up and stuff, with the [male] doctor. But when there are questions of for example the vaccine or more personal things, [my daughter] prefers to go with the [female] doctor"] (Mother). Having HCPs, school nurses, or teachers to help educate their children about the vaccine and any other sex-related topic was viewed positively because parents felt that they lacked the knowledge and skills to do so on their own. For example, one mother said:

...son palabras que las maestras saben cómo manejar supuestamente.

Porque [mis hijas] tienen la duda y uno les habla pero no es lo mismo como, profesionalismo diría yo, [las maestras] tienen la experiencia y poco

a poco [mis hijas] van aprendiendo... [...these are words that teachers know how to handle supposedly. Because [my daughters] have a doubt and one speaks to them but it is not the same as, professionalism I would say, [the teachers] have the experience and little by little [my daughters] are learning...] (Mother).

In addition, one father believed that kids pay more attention to what a doctor says than to what their parents tell them: "...I don't think kids listen to us that much, I think, I think a doctor telling the kids something would make them more like "oh ok he's right, I mean he's a doctor, he knows what he's talking about", so" [...no creo que los niños nos escuchen tanto, creo, creo que un doctor diciéndoles a los niños algo les haría más como "oh, él tiene razón, ósea es un médico, sabe de lo que está hablando", entonces"] (Father). In contrast, a second father, who admitted to being overprotective with his children, implied that he did not trust any HCPs capability of educating his children on the vaccine: "I feel like, yea they can talk to my child, but do I feel like they can do it? No, but yea they can talk to them" ["Siento que sí, pueden hablar con mi hijo, pero ¿siento que pueden hacerlo? No, pero sí pueden hablar con ellos"] (Father).

**Content.** Mothers and fathers suggested for images to be used when educating children because: "...a veces las fotos o eso, aprenden más porque están mirando porque si, tú le puedes explicar en palabras como palabras que "esto, esto" a veces ellos no lo van a entender, no lo van a entender igual que al mirarlo" [...sometimes the photos or that, they learn more because they are looking because yes, you can explain to them in words like "this, this" sometimes

they will not understand it, they will not understand it the same as if they see it”] (Mother). The material being shown was also recommended to be something in style or popular in order to catch and maintain the attention of the students. For “charlas”, a time for the children to ask questions and share opinions was important for a group of mothers: “Una mesa abierta, como preguntas y respuestas. Ósea, preguntar y alguien que responda, porque tú le das la charla y ellos también, es bueno que ellos expresen lo que ellos, como, sus opiniones” [“An open table, like questions and answers. I mean, ask and someone responds because you give them the talk and they too, it's good that they express what they, like, their opinions”] (Mother). One mother also advised for any educational information to be provided in the children’s preferred language: “...tomar en cuenta que hay muchas frases que los niños, ellos hablan el idioma inglés, hay frases en español que no entienden” [“...take into account that there are many phrases that children, they speak English, there are phrases in Spanish that they don’t understand”] (Mother). Parents all stressed that the educational information should also be appropriate for the children’s ages.

**Intervention preferences for families.** This section presents findings of Hispanic parent’s preferences for future HPV prevention interventions that would target parents and children together. Suggestions were made regarding: the target audience, mediums to use for distributing HPV information, and content for videos in clinics.

**Target audience.** Three mothers felt that if HCPs gave information on the HPV to both child and parent or if the children attended the “charlas” with their parents, it would facilitate a discussion between the child and parent: “Yo en lo

personal me gustaría que mi hija estuviera aquí presente porque las dudas que ella tenga, este, las van a motivar para hacer preguntas y ahí me va a facilitar a mi poder tener una conversación con ella” [“Personally, I would like my daughter to be here because the doubts she has, this will motivate her to ask questions and there it will make it easier for me to have a conversation with her”] (Mother). In addition, one father, who admitted to being overprotective, repeated multiple times that he preferred to be present if his child was receiving any sex-related information.

***Mediums for HPVV information.*** Once again, school was suggested as the best medium for disseminating education on the HPVV. One father said:

I feel like, if you, if you put the information in like a high school orientation for like freshmen, becoming freshmen, every parent and every kid always go to that because they don't know the new school and you know a lot of stuff. Like, I think that would be the most effective way [Siento que, si tú, si pones la información como en una orientación de la escuela secundaria para los estudiantes de primer año, convirtiéndose en estudiantes de primer año, todos los padres y todos los niños siempre van a eso porque no conocen la nueva escuela y muchas cosas. Ósea, creo que esa sería la forma más efectiva] (Father).

Another idea generally accepted by all participants was to create short educational videos regarding the HPVV and play them on the TV's in clinic waiting rooms. In addition, providing information at the regular community health fairs for parents and children was also suggested as a great way to distribute the information: “Yo

creo que tambien seria bueno cuando hay ferias de salud” [“I think it would also be good when there are health fairs”] (Mother).

*Suggestions for videos in clinics.* When asked how long the video clips showing in the TV’s of the clinic waiting rooms should be, one mother said: “dos minutos estaría bien” [“two minutes would be fine”] (Mother). However, one mother did not want the videos to contain images that would be inappropriate for children: “Pero imágenes mejor no, solamente que hablen sobre el, que existe esta vacuna para prevenir algo, esta cosa, pero prefiero que no haya imágenes” [“But images better not, just talk about it, that there is this vaccine to prevent something, this thing, but I prefer that there are no images”] (Mother). Nonetheless, another mother wanted the videos to have step by step images to help explain the HPVV information: “...seria como cuando tu compras un producto de un tinte o algo, otra cosa que te da por paso número 1, paso número 2 con, con, como decirte..., con imágenes” [“... it would be like when you buy a product of a hair dye or something, another thing that gives you step 1, step 2, with, with, how do you say..., with images”] (Mother).

## **Chapter 5**

### **Discussion**

This qualitative, descriptive study addressed three research questions: What are the salient factors that influence Hispanic parents' decision to vaccinate their children against HPV?, What are the salient factors for designing an HPV-prevention intervention for Hispanic parents?, and What are the strategies for implementing an HPV-prevention intervention for Hispanics? This chapter includes discussions of salient HPV vaccination factors that address the research questions; study implications for practice, policy, education, and research; as well as limitations and strengths.

#### **Salient HPV Vaccination Factors and HPV Prevention Intervention Strategies**

Despite the fact that Hispanics are disproportionately affected by HPV-related cancers, few interventions exist for increasing HPVV uptake in the Hispanic population and even fewer are validated and culturally tailored (Brueggmann et al., 2016; CDC, 2017c; CDC, 2017d; CDC, 2017g; Kepka et al., 2015b; Pew Research Center, 2011). Therefore, it is important that effective interventions be developed and evaluated for widescale use with this population. Because the factors and themes presented in chapter 4 (background factors; attitudes, norms, and behavioral control; intention and behavior; and additional relevant themes) were found to influence Hispanic parents' decision about obtaining the HPVV for their children, they are important to consider when designing and implementing an HPV intervention for this population. While several identified themes are consistent with evidence in the literature, some are new and different, thereby providing an important novel contribution to the existing literature.

## **Background Factors**

The influence of several background factors was considered in light of their potential influence on Hispanic parents considering the HPVV for their children. These factors include child age, child gender, religion, HPVV awareness and knowledge, and culture.

**Child age.** For Hispanic parents considering the HPVV for their children, child age was found to be an influential factor. About half of the parents in the current study thought that middle school children did not need to be educated about the HPVV because they were not sexually active yet and were too young to understand sex-related concepts. Therefore, parents preferred that older children, particularly high school freshmen, be targeted for HPVV education and promotion (Gerend et al., 2013). This finding indicates the need to educate parents about early vaccination benefits and recommended HPVV guidelines (Gerend et al., 2013; NCI, 2016).

**Gender.** In contrast to child age, child gender was not found to be an influential factor for Hispanic parents in this study (Aragones et al., 2016; Sanderson et al., 2009). Parents in the current study did not bring up any different concerns regarding the HPVV based on the gender of their children. This finding differs from those of several other studies in which Hispanic parents had concerns about the HPVV based on their child's gender (Kepka et al., 2015a; Kornfeld, Byrne, Vanderpool, Shin, & Kobetz, 2013; Warner et al., 2015). The current finding might suggest that Hispanic parents have a growing understanding that STI risk, including HPV, is equal for girls and boys, with both benefiting from the HPVV (Aragones et al., 2016; Sanderson et al., 2009).

On the other hand, parent's gender did have an influence on the HPV vaccination of children because mothers were identified as the main decision-makers in regards to their children's health. Even if the mother decides to include the child or the father of the child in the decision making process, according to participants, the mother makes the ultimate decision. Future interventions should target HPVV education and promotion to the mothers of children and young adults.

**Religion.** In this study, Hispanic parents' religion or religious beliefs did not influence their decision-making process regarding the HPVV (Brueggmann et al., 2016), a finding contrary to those of other studies (Clevenger et al., 2012; Warner et al., 2015). Parents in the current study reported that churches are not open enough to allow discussion of the HPVV, a fact that could make it harder to reach and educate parents who frequently participate in religious services.

While the majority of participants felt that giving out educational pamphlets on the HPVV outside of churches would be acceptable, several admitted that they probably would not have time to read such a pamphlet and would, therefore, throw it away, or they might not understand the text if it was too complex or not written in Spanish. Therefore, researchers or health clinic staff planning to use pamphlets, flyers, or brochures to provide educational information on the HPVV in Hispanic communities should ensure that the material is culturally tailored to their intended audience and written at an appropriate vocabulary level in their preferred language. Future studies should investigate the effectiveness of using pamphlets to increase HPVV awareness and education among Hispanic parents as well as vaccine uptake.

**HPVV awareness and knowledge.** In this sample, more than half of the participants' were aware of the HPVV prior to study participation, a common finding in the literature (Kepka et al., 2011; Kepka et al., 2012a; Kepka et al., 2012b; Kepka et al., 2015a; Lechuga et al., 2014). However, HPVV awareness did not seem to have a strong influence on the participants' decision to vaccinate, as very few who were aware of the HPVV prior to study participation, had initiated the vaccine for their children (Morales-Campos et al., 2017; Warner et al., 2015). While other studies have found a positive association between HPVV awareness and intention to vaccinate, parents in the current study wanted more information on the HPVV before making their decision (Aragones, 2016; Kepka et al., 2012a; Kepka, 2012b; Luque, 2012; Warner et al., 2015; Yeganeh et al., 2010). Moreover, parents unaware of the HPVV prior to study participation recognized this lack of awareness as a barrier to HPV vaccination (Aragones et al., 2015; Gerend et al., 2013; Kepka et al., 2012b). Many blamed their lack of awareness on their child's HCP who failed to tell them about the HPVV (Aragones et al., 2016; Warner et al., 2015). Among parents who were aware of the HPVV prior to study participation, HCPs were their main source of information.

Among the study participants who were aware of the HPVV, only a few were knowledgeable about it. The majority of participants said that they preferred to learn about the HPVV from an HCP, so they could ask questions via face-to-face informational sessions (known by participants as *charlas*). One informational session strategy shown to be quite successful for increasing HPVV rates is for researchers to partner with HCPs or community workers who have formed trusting relationships with the Hispanic population in their community (Aragones et al., 2015; Barnack-Tavlaris et al., 2013; Parra-Medina et

al., 2014; Morales-Campos et al., 2017). In several studies, HPVV knowledge was found to be positively associated with the intention to vaccinate (Brueggmann et al., 2016; Kepka et al., 2012b; Stevens et al., 2013). These findings support the need for more culturally tailored educational interventions to increase Hispanic parents' knowledge about the HPVV's purpose and benefits (Aragones et al., 2016; Bodson et al., 2016; Gerend et al., 2013; Warner et al., 2015).

One unexpected finding that emerged from the analysis was Hispanic parents' inability to recall certain HPVV details the HCPs had taught them (either via conversation or an informational sheet/brochure). Even the few parents knowledgeable about the HPVV could not remember what they had been taught or recall the information correctly. This is the first qualitative, descriptive study on Hispanic parents considering the HPVV to report this finding. This finding might indicate that having a conversation or reading an informational sheet are not the most effective methods for Hispanic parents to receive important health information. Several studies have shown that the teach-back method is effective in engaging clients and family members in the learning process, ultimately leading to increased knowledge and subject matter retention (Juckett, 2013; Caplin & Saunders, 2015). Teach-back or having clients explain instructions repeatedly until they do so correctly also has been documented as the most useful technique for enhancing understanding among Hispanics (Juckett, 2013). Therefore, interventions should incorporate and test return-demonstration or teach-back exercises to help ensure that Hispanic parents understand the educational material and can later recall and share it with family and community members.

Another education strategy warranting further investigation is the use of webnovelas, radionovelas, photonovelas, and telenovelas, which are popular information mediums among Hispanics (Kepka et al., 2012a; Kepka et al., 2011; Macario and Matiella, 2015). This study's findings support using webnovelas, photonovelas, and telenovelas in future interventions because the participants felt that viewing videos, images, and others' experiences are vital to capturing Hispanic parents' attention and facilitating learning. Hearing about the experiences of people they could relate to might be more effective for learning than simply reading facts or statistics. Additionally, several parents stated that they learn better visually and suggested that videos, produced by a known and serious entity, be uploaded to social media. However, because very few studies have assessed these mediums specific to the HPVV, more research is needed to determine how effective webnovelas, photonovelas, radionovelas, or telenovelas could be for increasing HPVV uptake.

**Culture.** Study participants identified several Hispanic cultural beliefs and social norms that influenced their decision to vaccinate their children against HPV. The negative aspects of TGRs (*marianismo* and *machismo*) were found to influence Hispanic parents' perceptions, beliefs, and behaviors towards the HPVV in a negative way. For example, several mothers said that machista fathers would not want to talk about the HPVV. Additionally, if the father did not want the child to receive the vaccine, he would get upset if the mother disobeyed him. Several of the fathers wanted to be told about the mother's decision regarding the HPVV and indicated they would be upset if she did not at least inform them of that decision.

In addition, some mothers believed that if they taught their daughters to behave in a marianista manner, they would not need the HPVV because they would not be sexually active while in her care. Although not stated directly, there have been similar examples throughout the literature of the negative influence TGRs have on Hispanic parents' decision to vaccinate their children against HPV (Ramirez et al., 2014; Warner et al., 2015).

It is important for HCPs to be culturally competent in their practice. Being aware of the effects that TGRs have on their Hispanic clients' behaviors could help HCPs strategize their care delivery efforts. For example, HCPs might avoid discussing the fact that the HPVV is related to an STI with clients who embrace TGRs. This practice also might help HCPs avoid another potential barrier to HPV vaccination identified by this study's participants, sexual taboos.

According to participants, sexual taboos are beliefs that deter Hispanics from openly discussing sex-related topics, such as the HPVV (Barnack-Tavlaris et al, 2013; Clevenger et al., 2012; Ramirez et al., 2014; Warner et al., 2015). Several participants admitted to being closed-minded and overprotective with their children regarding sex-related topics. Specifically, fear of not knowing what or how to communicate with one's children about sex-related topics was reported as a barrier to HPV vaccination (Clevenger et al., 2012; Ramirez et al., 2014; Warner et al., 2015). However, participants also stated that they have begun to understand the importance of and the need for open communication regarding such topics (Aragones et al., 2016). Participants recognized that parents in the past were more closed-minded than they are today. They also noted that making sex-related topics less taboo starts at home in how they raise their children

and with the head of the household setting an example (Aragones et al., 2016; M-C, 2012, Kepka, 2015B; Ramirez et al., 2014). Parents felt responsible for educating their children so they could make informed decisions and engage in preventative behaviors. Despite this, they remained unsure of how to educate their children on these topics.

These findings indicate the need to train and equip Hispanic parents with the words and skills they need to discuss HPV and the HPVV with their children (Roncancio et al., 2016; Roncancio et al. 2017b). One strategy involves incorporating role-playing exercises into interventions to increase family communication skills regarding HPV and the HPVV (Barnack-Tavlaris et al., 2013). Study participants suggested another strategy for facilitating communication: having HCPs provide education at community health fairs. While providing culturally tailored information at local health fairs could help increase HPVV awareness and knowledge, there is not enough evidence that it leads to increased HPV vaccinations. Future research could document any effect that providing HPVV information at health fairs together with teach-back strategies or a strong HCP recommendation have on HPV vaccination rates among Hispanic attendees.

The trend of becoming more open about sex-related health topics could be due to the acculturation of the foreign-born Hispanic parents in this study, who lived in the U.S. for an average of 14.5 years (Gerend et al., 2013). However, contradicting results where Hispanic parents with lower acculturation had higher intentions to vaccinate their children against HPV have been documented in the literature (Kepka et al., 2015a), therefore, further investigation is needed to document any influence acculturation has on Hispanic parents' HPV vaccination intentions and actions.

Contrary to previous studies' findings, the majority of Hispanic parents in this study did not believe that vaccinating their children against HPV would cause them to engage in sexual behaviors (Gerend et al., 2013; Lechuga et al., 2014; Kepka et al., 2015a; Kornfeld et al., 2013; Morales-Campos et al., 2013; Ramirez et al., 2014). Instead, they recognized that this belief is a myth created by sexual taboos. Such awareness indicates that the sexual misperceptions surrounding the HPVV held by some Hispanic parents are being dispelled (Aragones et al., 2016). However, participants indicated that other parents in their community might still believe this myth, a documented barrier to HPV vaccination (Gerend et al., 2013; Lechuga et al., 2014; Kepka et al., 2015a; Kornfeld et al., 2013; Morales-Campos et al., 2013; Ramirez et al., 2014). Efforts to dispel this misconception should continue through educating and encouraging Hispanic parents to focus on HPVV benefits.

#### **Attitudes, Norms, and Behavioral Control (HPVV barriers and motivators)**

**Attitudes towards the behavior and HPVV barriers.** In this study, Hispanic parents' positive attitudes acted as motivators to HPV vaccination while their negative attitudes acted as barriers. When promoting the HPVV, the focus should be on its benefits and the positive feelings of parents who have already vaccinated their children. For example, some parents in this study felt calm and secure after vaccinating their children, which brought them peace of mind because they were able to protect their children against HPV and its sequelae (Roncancio et al., 2016). However, fueled by their lack of HPVV knowledge, most parents expressed fear and concern about potential side effects (Aragones et al., 2016; Kepka et al., 2012a; Kepka et al., 2015a; Lechuga et al., 2014; Luque et al., 2012; Ramirez et al., 2014; Reiter et al., 2014; Warner et al., 2015). This

negative attitude led many participants to postpone vaccination until they knew more about the vaccine (Yeganeh et al., 2010). A dearth of culturally appropriate HPVV educational material might explain why lack of knowledge and fear of side effects are frequent barriers to HPV vaccination among Hispanic parents. Providing parents with both effective HPVV education and a HCPs recommendation might help eliminate concerns about potential side effects, ultimately leading to increased intentions to vaccinate.

Another commonly mentioned negative attitude towards vaccinating their children against HPV was the belief that the HPVV was unnecessary, particularly for children who were not sexually active and for those who may decide to be in monogamous relationships (Warner et al., 2015; Wu et al., 2010). Although most parents perceived and understood the real risk of their children acquiring HPV, a few parents did not perceive that risk because their child was not yet sexually active (Kornfeld et al., 2013; Warner et al., 2015; Wu et al., 2010). In one study, believing the HPVV to be unnecessary was reported to be significantly associated with a decrease in HPV vaccination (Kepka et al., 2015a). Educating parents about the high risk of acquiring HPV, the most common STI in the U.S., and the benefits of vaccinating children who are not sexually active yet might be necessary to counter parents' disbelief about the necessity of the HPVV (CDC, 2017a).

One unexpected study finding was two participants' neutral attitudes about the HPVV. Two mothers did not have a positive or negative attitude towards vaccinating their children against HPV. Rather, they stated simply that side effects could happen to anyone during any procedure. No other qualitative descriptive studies were found in the

literature reporting neutral attitudes towards the HPVV similar to those of the two Hispanic mothers in this study. Perhaps these mothers felt they did not know enough to give an opinion one way or another. Future studies should investigate the reasons participants may take a neutral stand on the HPVV and how this attitude affects their ultimate vaccination decision.

**Perceived norms and HPVV motivators.** Perceived social pressure from HCPs was a dominant theme across focus groups. For these Hispanic parents, HCPs were one of the most influential individuals regarding children's health issues, including HPV vaccination (Aragones et al., 2016; Lechuga et al., 2014; Morales-Campos et al., 2017; Roncancio et al., 2017a; Warner et al., 2015; Yeganeh et al., 2010). Parents who had already vaccinated their children said that a HCP had educated them about the HPVV and recommended it for their children (Gerend et al., 2013).

It is important to note that there are several Hispanic cultural social norms HCPs are expected to embrace to gain Hispanic clients' trust and compliance. These social norms include *personalismo* (Hispanics prefer warm relationships in which the HCP shows they care and accepts them and their circumstances), *simpatia* (Hispanics prefer a relationship with no conflict or criticism in which a likable HCP shares common interests), *confianza* (Hispanics prefer a trustworthy HCP), and *respeto* (HCPs are seen as authority figures who are to be respected due to their social position and economic status) (Flores, 2000; Garcia et al., 2017).

In line with these social norms, parents in the current study trusted HCPs who explained new procedures or products to them, performed thorough assessments, and answered their questions. Furthermore, parents also placed paternalistic expectations on

their children's HCPs. Due to the *respeto* social norm, HCPs were seen as authority figures to be respected. Many parents in this study felt their child's HCPs should be fully or equally responsible for their children's health. Indeed, many parents trusted and expected their child's HCPs or the HCPs clinic to remind them about upcoming appointments and pending vaccine doses so that their child could stay up to date (Morales-Campos et al., 2017; Roncancio et al., 2017b).

Knowing how much Hispanic parents value their advice, HCPs bear a vital responsibility to educate and promote the HPVV for the benefit of their clients. Unfortunately, more than a decade after HPVV approval, many Hispanic parents, including those in this study, still are not receiving an HPVV recommendation from their HCP. Due to this fact, Hispanic parents are losing trust in their children's HCPs and therefore having to turn to other information sources such as the internet (Aragones et al., 2016; Warner et al., 2015; Yeganeh et al., 2010).

It is essential that HCPs form and maintain culturally informed and trusting relationships with their clients and their family members. HCPs (e.g., physicians and nurses) should coordinate and collaborate with each other on client education so that Hispanics feel that they have spent quality time with them and addressed all of their concerns in a caring and sincere manner. Additionally, HCPs need to promote the HPVV at every child visit after age 9 in order to increase HPV vaccination rates.

HCPs or their clinic staff should provide reminder phone calls, texts, or letters for future client appointments. In other studies, reminder systems have been shown to significantly increase HPVV completion and therefore should be implemented by health clinics providing the HPVV to Hispanic community members (Aragones et al., 2015;

Morales-Campos et al., 2017; Roncancio et al., 2017b). In addition, longitudinal interventions assessing HPVV uptake should incorporate a reminder system for parents, which increases HPVV initiation and completion rates (Aragones et al., 2015; Morales-Campos et al., 2017; Roncancio et al., 2017b).

Regarding another effective HPVV promotion strategy, parents agreed that offering the HPVV in a bundle with other adolescent vaccines (e.g., meningococcal and tetanus/diphtheria/pertussis vaccines) helped increase HPV vaccination rates (Aragones et al., 2016). This bundling method, combined with a strong HCP recommendation, has already shown promising results for increasing HPVV uptake among Hispanics, Spanish speakers, and individuals with lower incomes (Farrar et al., 2016). Another strategy proposed by this study's participants was to have school nurses offer and administer the HPVV to children at school with the parent's permission. This strategy might be well received by parents who work long hours (e.g., in fields or nurseries) and do not have time to take their children to health clinics during normal business hours. Researchers should consider investigating the effects that offering the HPVV at schools has on HPVV uptake rates.

Another possible strategy identified in the analysis was the use of mobile clinics. One mother in this study got her children vaccinated at a mobile clinic. Parents reported that they were too tired to attend an informational session due to working long hours or that those without transportation needed other options. Mobile clinics that visit underserved communities on the weekends when parents can be educated and children can be vaccinated might be one solution. Results from a systematic review indicated that mobile clinics are effective in removing the above-mentioned barriers, particularly for

Hispanics in farm-working communities (Luque & Castañeda, 2013) such as the participants in the current study who live in or near the farm-working communities of Homestead, Florida.

An important finding was the influence that personal experiences, as well as those of relatives or acquaintances, have on Hispanic parents' HPVV perceptions. This study's participants explicitly stated that they wanted to hear different HCPs opinions of and other parents' experiences with the HPVV. Several parents shared stories that they had heard from others and how these stories influenced their perceptions of HPV, cancer, and the HPVV. In previous studies, this finding has been mentioned but not given as much importance as it might warrant (Lechuga et al., 2014; Ramirez et al., 2014).

Hispanics are culturally collectivist: they turn to each other for advice and opinions. This practice can promote the dissemination of good health habits or lead to the acceptance of misconceptions or negative health habits (Rapid Response Service, 2013; Seal et al., 2012). Therefore, including other parents' opinions and experiences in HPVV promotion and education might help increase Hispanic parents' positive perceptions of the HPVV. Previous studies that have tested social network and peer-driven interventions to promote HIV prevention have shown promising results that also might work for HPV prevention (Ramos, Green, & Shulman, 2009; Ramos, Ferreira-Pinto, Rusch, & Ramos, 2010).

In addition to being culturally collectivist, some study participants placed more value on the cultural belief of *familismo*, thereby undermining the beliefs tied to the TGRs in which mothers alone make all of her children's health care decisions (Garcia, Zuniga, & Lagon, 2017). Although parents did not perceive any social pressure from their

child or their child's other parent, they still considered these opinions important, a phenomenon substantially documented in other studies (Kepka et al., 2011; Kepka et al., 2012a; Kepka et al., 2012b; Lechuga et al., 2014; Morales-Campos et al., 2013; Ramirez et al., 2014; Roncancio et al., 2016; Roncancio et al., 2017a; Roncancio et al., 2017b).

In two other studies, children of Hispanic parents stated that they wanted to participate in the decision and would ask for and follow their mother's advice about getting the HPVV (Morales-Campos et al., 2013; Stephens & Thomas, 2014). Given these findings, efforts should be made to include and educate the child and the child's father on the HPVV or provide Hispanic mothers with the skills to communicate the benefits of and need for the HPVV to their child and their child's father (Barnack-Tavlaris et al., 2013; Kepka et al., 2012b). Parents in the current study proposed several possible venues for future interventions in which parents and children would be present together. Aside from the previously discussed health fairs, all focus group participants recommended high school freshman orientations as a promising venue for future educational interventions. To this researcher's knowledge, no study has been conducted to determine if educating parents and children at a freshman orientation is an effective strategy for HPVV uptake among Hispanics.

Another popular suggestion made by study participants was to develop short educational videos and play them on the TVs in waiting and examination rooms at pediatrician clinics. The video could introduce parents to the HPVV and give a brief overview of its purpose, facilitating a conversation about the vaccine between HCPs, parents, and children. In another study, such an intervention led to increased conversations about STI prevention between HCP and client, increased positive attitudes

towards STI prevention practices, increased knowledge on STI prevention, and increased recall on the information presented (Besera et al., 2016). Researchers should investigate the efficacy of using educational videos in clinic waiting/examination rooms to increase communication between HCPs, Hispanic parents, and children, regarding the HPVV which in turn could help increase HPV vaccination.

**Actual control.** One participant was unable to vaccinate her child because the clinic did not have the HPVV in stock (Yeganeh et al., 2010). A missed opportunity to vaccinate the children while they are at the clinic could result in the parent not returning in the future to get the HPVV for the children. This is an essential modifiable environmental factor for increasing HPV vaccination among the Hispanic population, as several programs provide health clinics with reduced cost or even free HPVVs for lower income clients (Clevenger et al., 2012). For example, the Vaccine for Children (VFC) program supplies healthcare providers with free HPVVs to administer at no cost to patients who meet their criteria of being under age 18, uninsured, Medicaid-eligible, or American Indian/Alaska Native (CDC, 2016d).

### **Intention and Behavior**

Intention to vaccinate and actual HPV vaccination rates were not high among this study's participants because they wanted more information about the HPVV before making their decision (Yeganeh et al., 2010; Kepka et al., 2012a). Unfortunately, low HPV vaccination rates are a typical finding of research studies conducted in suburban and rural areas (Chando et al., 2013; Kepka et al., 2011; Kepka et al., 2012a; Kepka et al., 2012b; Kepka et al., 2015a; Kepka et al., 2015b). In this study, only six of the 14 children between the ages of 13 and 17 had initiated the HPVV, a much lower percentage (42.8%)

than the rate of HPVV initiation for children 13–17 years old in Florida in 2017 (65.7%) (CDC, 2018).

To increase vaccination uptake, after focus group completion, participants were given an information sheet printed from the CDC website in both Spanish and English. This study's researcher reviewed the material with the participants and answered all of their questions. Participants were grateful for the information and became more motivated to vaccinate their children against HPV when they learned about the link between HPV and several types of cancer (Aragones et al., 2016). This increase in the intention to vaccinate after learning more about HPV and the vaccine is an encouraging finding, as the intention to perform a behavior has been documented as the best indicator for the actual performance of that behavior (Ajzen, 1991). Therefore, educating Hispanic parents about the HPVV's ability to prevent several types of HPV-related cancers is vital when recommending the vaccine to this ethnic group.

### **Additional Relevant Themes**

This researcher uncovered several additional themes that did not fit into the previous categories. These themes include parental motivation and optional vs. mandatory HPVVs.

**Parental motivation.** Data analysis uncovered the salient theme of parental motivation. The evidence showed that many study participants were self-motivated to find HPVV information and have their child vaccinated against HPV (Stevens et al., 2013). This self-motivation resulted from the parents' belief that HCPs were not doing enough about this issue (e.g., educating them about the HPVV and offering it when their child was eligible for it). However, the participants also believed that other parents in

their community did not have the necessary self-motivation to obtain HPVV information even when such information was available. This could potentially be related to Hispanic parents' lack of confidence in their information-seeking skills (Stevens et al., 2013). Therefore, designers of future educational interventions might need to consider ways to increase Spanish-speaking parents' self-efficacy in seeking HPVV information by offering strategies for improving their skills in this endeavor. Analysis of the information also indicated that distributing more educational information that is written in Spanish with culturally tailored verbiage and an appropriate vocabulary level could be a vital step for increasing HPV vaccination rates in the Hispanic population (Bodson et al., 2016; Kepka et al., 2015b). Hispanic parents who understand the HPVV information that they find may feel more confident in continuing to search for information on their own and may, in turn, be more willing to vaccinate their children against HPV (Brueggmann et al., 2016).

**Optional vs. mandatory HPVVs.** Another salient theme that emerged from the analysis was Hispanic parents' thoughts on whether the HPVV should remain optional or be made mandatory for school entry. Most participants felt that the HPVV should remain optional, allowing each parent to make the most appropriate decision for their child. Regardless, findings from several studies have shown no significant differences in HPV vaccination rates for adolescents ages 13–17 living in states that have mandated the HPVV for school entry compared to those living in states without such a mandate (Perkins, Lin, Wallington, & Hanchate, 2016; Pierre-Victor et al., 2017). Based on these findings, other strategies besides mandating the vaccine should be developed and evaluated to increase HPVV uptake.

Participants suggested an unexpected strategy for a future HPV prevention intervention: targeting children directly. Parents felt that children would be able to tell researchers what they know about the HPVV, their initial perceptions about it, and how they prefer to learn about it. The hope is that, after learning about the HPVV, children will tell their parents about it and want to get vaccinated. To this researcher's knowledge, no study has assessed the effects that educating Hispanic children under the age of 18 on the HPVV would have on HPV vaccination rates. Therefore, researchers should consider investigating such a strategy's effects on communication between children and their parents about the vaccine as well as HPV vaccination rates.

### **Study Implications**

While several researchers have conducted studies to understand the factors related to HPV vaccine uptake, few have focused on the Hispanic population. Although HPVV uptake improvements have been made among Hispanic youth, their HPVV rates remain suboptimal (45.9% for Hispanic female and 37.2% for Hispanic male adolescents) compared to the Healthy People 2020 goal of 80% (ODPHP, 2017). This study's findings of the salient factors affecting a sample of underserved Hispanic parents considering vaccinating their children against HPV have implications for practice, policy, education, and research.

### **Practice Implications**

This study's findings identified several factors that healthcare administrators and nurses from all settings and levels should consider when caring for Hispanic clients, specifically factors related to the TPB and parental motivation. Research has shown HCP recommendation is the main reason Hispanic parents decide to vaccinate their children

against HPV. Conversely, the two main reasons Hispanic parents decide not to vaccinate their children are lack of knowledge and concerns about side effects. Therefore, those seeking to increase HPVV uptake among Hispanics must take steps to address these two reasons by providing culturally-tailored education about HPVV benefits and positive outcomes. For HCP recommendation to carry the necessary weight to influence parents about the HPVV, these providers must first form trusting relationships with their Hispanic clients.

Another effective strategy for increasing HPVV uptake is bundling the HPVV with other childhood vaccines such as TDAP and MCV4. Additionally, HCPs can include immediate family members (e.g., the child and the child's other parent) in HPVV education and promotion discussions that describe other parents' positive experiences with the vaccine. Furthermore, to increase HPVV completion rates, reminder systems should be put in place to help Hispanic parents keep their children up to date and on schedule with the HPVV and other vaccines. Lastly, it is crucial that HCPs ensure Hispanic parents understand, retain, and recall the educational material being provided. To achieve this goal, the teach-back method should be used in all educational interventions.

### **Policy Implications**

Consideration of healthcare providers' opinions before designing public health strategies or introducing legislation may help to design new legislation that will increase vaccine uptake. Nurses can work together to influence legislators to expand the VFC program coverage of the HPVV to include all children and young adults who can be affected by HPV and its sequela. This strategy would allow college and university health

clinics to offer free HPVVs to students whose private or school insurance does not cover it.

A few weeks ago, the HPVV was approved by the Food and Drug Administration (FDA) for adults ages 27 and 45 who may also be protected against several of the cancer-related HPV strains (FDA, 2018). However, at this time, the HPVV is not covered by insurances for adults (FDA, 2018). This new development may have significant influences on the HPVV rates among Hispanic children and young adults. Nurses should influence legislators to provide universal coverage for all who qualify to receive the HPVV. The Hispanic mothers in this study were interested in receiving the HPVV for themselves and now that it may be possible, it could potentially lead to increased HPV vaccination among their children as well which may ultimately lead to reduced HPV-related cancer rates overall.

Legislation should also be enacted to make the HPVV more accessible to health clinics—both in terms of price and supply—so there is never a missed opportunity for HPV vaccination. Another policy that could improve HPVV access and uptake is widening the scope of practice for other healthcare providers to allow them to offer and administer the HPVV according to the CDC guidelines. Additionally, the Florida Department of Health (FDOH) could take steps to increase HPVV uptake, particularly in its most vulnerable counties and cities. First, to maximize vaccination access, the FDOH could allocate funds to increase the number of mobile clinics that are operational after regular clinic hours and on weekends. The FDOH—along with the CDC and other government websites—should ensure that the verbiage used in their Spanish HPVV educational materials can be understood by Hispanic parents with limited education.

## **Education Implications**

Cultural considerations are fundamental when recommending the HPVV since culturally knowledgeable nurses might increase the acceptance of the HPVV among minority groups. Nursing education has made several strides to help ensure that cultural humility and cultural sensitivity remain important concepts, however, more efforts are needed to ensure that nurses use and apply these concepts to effectively deliver HPVV health messages appropriate to the culture of the target audience. In addition, it is important for nurses to use theories or models that could allow to better understand behaviors related to HPVV uptake and completion among minority groups.

Furthermore, large public health campaigns directed to Hispanics are needed to increase HPV community awareness and to provide vaccine-specific information (e.g., related to vaccine safety and efficacy) as well as general information about HPV (e.g., HPV transmission, its link to cervical cancer, and other strategies for cervical cancer prevention). These campaigns can influence barriers and facilitators leading to HPVV initiation and adherence among Hispanic parents and children and can motivate HCPs who work with Hispanic populations to be more proactive in their education and promotion of the HPVV.

Although this study examined a specific population, it is imperative that all parents and children receive the most current HPV and HPV vaccination information. Nurses in Hispanic community settings could partner with schools, universities, and colleges to implement several avenues of HPV information reinforcement, such as sexual health information brown bag seminars, monthly HPV newsletters through student e-mail or text messaging bullet point information. Nurses can have a great impact on educating

Hispanic parents and their children who are in great need for education on the HPV and HPVV.

### **Research Implications**

Areas for future research include determining the reasons behind Hispanic parents' neutral attitudes towards the HPVV, the effectiveness of offering the HPVV at schools, and the efficacy of providing educational information to Hispanic parents at health fairs, schools (via sex education classes and orientations), or health clinics (via video clips in examination/waiting rooms). In addition, participants in the current study mentioned that educational videos should be created by a serious entity. Knowing who Hispanic parents consider to be a serious entity would allow researchers to form a partnership with that entity to develop an educational video that may lead to increased HPVV awareness among the Hispanic population.

Furthermore, cultural factors—such as sexual taboos, *marianismo*, *machismo*, *simpatia*, *respeto*, *confianza*, *familismo*, and *personalismo*—all were found to be relevant among this study's participants. In order to identify which of these cultural beliefs should be incorporated into culturally tailored HPV-prevention interventions, researchers should attempt to measure these beliefs' effects on Hispanic parents' decision-making process. Additionally, measuring the effects that educating children has on HPVV uptake also could lead to significant findings on which age groups to target in future HPV-prevention interventions for Hispanics.

Moreover, further investigation should be conducted on the use of webnovelas, telenovelas, radionovelas, or photonovelas for increasing HPVV awareness, knowledge and uptake among Hispanics. Other important areas for research are strategies related to

improving HPVV administration, that includes developing more friendly vaccination schedules, discovering oral or nasal administration of the vaccine, utilizing less painful injection systems, and combining the HPVV dose with other vaccines targeted towards children ages 11 and 12 (e.g., MCV4 and TDAP) to decrease the number of necessary injections.

### **Study Limitations**

A limitation of this study is that the results specifically represent the beliefs of the Hispanic parents from the selected sample population. Another potential limitation of this study includes the recruitment methods used (convenient and snowball) which could have led to less variability in the findings by including individuals who knew each other and potentially had similar knowledge, experiences, and beliefs. Nonetheless, the goal of a qualitative descriptive study is to capture the true beliefs of the population being studied regardless of recruitment method. Lastly, the underrepresented number of Hispanic fathers in this study was another limitation the researcher came across even after efforts of over-sampling for Hispanic males.

### **Study Strengths**

This study had several strengths related to its investigation of the perceptions of an underserved population at high-risk for HPV-related cancers. This study contributed new and rich descriptive information to the limited existing literature on factors salient to Hispanic parents considering the HPVV for their children, particularly by including Hispanic fathers' perceptions, which are even more limited. Valuable suggestions based on participants' opinions and identified themes were provided for investigators developing interventions to increase HPVV uptake among Hispanics. Another strength

was the study's use of a semi-structured interview guide with open-ended questions—which were edited by MUJER outreach workers to include more culturally tailored verbiage—that allowed participants to openly express their concerns and beliefs regarding the HPVV.

### **Conclusion**

This chapter synthesized the findings presented in chapter 4 and discussed them in relation to the research questions and study aims. This study's findings also were compared to those of previous studies. Most importantly, suggestions for future practice, policy, education, and research were offered to help promote HPVV uptake and reduce HPV-related cancers among underserved and disproportionately affected Hispanics in the U.S. The views of Hispanic parents, who have diverse experiences related to the HPVV, are extremely valuable in the design of practice-based strategies for effective HPV vaccine delivery among the Hispanic community.

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## Appendix A

### SEPA Demographic Intake Form

1a. What is your gender?:  Man  Woman

1b. How old are you? \_\_\_\_\_ years

1c. Please tell me where you were born (country of birth).

- |                                     |  |                                 |                                   |
|-------------------------------------|--|---------------------------------|-----------------------------------|
| <input type="radio"/> United States | <input type="radio"/> Costa Rica         | <input type="radio"/> Honduras  | <input type="radio"/> Puerto Rico |
| <input type="radio"/> Argentina     | <input type="radio"/> Cuba               | <input type="radio"/> Mexico    | <input type="radio"/> Uruguay     |
| <input type="radio"/> Bolivia       | <input type="radio"/> Dominican Republic | <input type="radio"/> Nicaragua | <input type="radio"/> Venezuela   |
| <input type="radio"/> Brazil        | <input type="radio"/> Ecuador            | <input type="radio"/> Panama    | <input type="radio"/> Other       |
| <input type="radio"/> Chile         | <input type="radio"/> El Salvador        | <input type="radio"/> Paraguay  | (Specify _____)                   |
| <input type="radio"/> Colombia      | <input type="radio"/> Guatemala          | <input type="radio"/> Peru      |                                   |

1a. Years living in US \_\_\_\_\_

2. What is your preferred language?  English  Spanish

3. What is your current relationship status?

<input type="radio"/> Single	<input type="radio"/> In a relationship, not legally married	<input type="radio"/> Married
<input type="radio"/> Divorced	<input type="radio"/> Separated	<input type="radio"/> Widowed

4. Are you currently living with your spouse or partner?  
 YES  NO  Not Applicable

5. How many children do you have? \_\_\_\_\_  None (**SKIP to 6**)

5a. I am going to ask you some questions about your children

Age	Do they live with you?	
	<input type="radio"/> Yes	<input type="radio"/> No
	<input type="radio"/> Yes	<input type="radio"/> No
	<input type="radio"/> Yes	<input type="radio"/> No
	<input type="radio"/> Yes	<input type="radio"/> No
	<input type="radio"/> Yes	<input type="radio"/> No

If there are more than 5 children, bubble here:

5b. Do any of your children live in another country?  YES  NO (**SKIP to 6**)



13. Last month, what was your family income? \$ \_\_\_\_\_ dollars (*provide an estimation of your monthly family income in dollars*)
14. How many people this money maintain? \_\_\_\_\_
15. Do you have health insurance?     YES                       NO
16. How do you usually pay for **your own** health care? (*Bubble only one*)
- Private Insurance Plan (not provided at work)                       Medicare
- Private Insurance Plan (provided at work)                       Out of Pocket
- Medicaid                       Don't Pay
- Other (Specify \_\_\_\_\_)
17. Where do you usually go when you are sick or want advice about your health?  
(*Bubble all that apply*)
- Yes     No    Clinic
- Yes     No    Nurse Practitioner
- Yes     No    Doctor's Office
- Yes     No    Emergency Room
- Yes     No    "Curandero"
- Yes     No    Family Member, Friend, or Neighbor
- Yes     No    Other  
     No    (Specify: \_\_\_\_\_)
18. Do you have a regular doctor or health care provider?                       YES                       NO
19. How many months have been since your last saw to the doctor or health care provider? \_\_\_\_\_ Months (*enter the response in number of months, if less than 1 month enter the appropriate number: 1 week= 0.25 months, 2 weeks=0.5 months, 3 weeks= 0.75 months*).
20. How many times were **you** in the emergency room in the past three months for **your** health problems? \_\_\_\_\_
21. How would you describe your health in the past three months?
- Poor                       Fair                       Good                       Very Good

### General Questions Regarding Your Child/Children's Health:

- 1) Do you have children of 21 years old or younger in the U.S. or any other country?

<input type="radio"/> Yes (go to #15)	<input type="radio"/> No (Go to #51)
---------------------------------------	--------------------------------------

- 2) Please tell me the ages and sex of those children and if they live with you. Please tell me in order of age, from the youngest to the oldest.

Your child's/ children's age	Do they live with you?		Sex	
1.	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Son	<input type="radio"/> Daughter
2.	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Son	<input type="radio"/> Daughter
3.	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Son	<input type="radio"/> Daughter
4.	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Son	<input type="radio"/> Daughter
5.	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Son	<input type="radio"/> Daughter

- 3) Who is the main caretaker that normally takes your child/children for health checkups when they are sick or need a vaccine?

<input type="radio"/> Me	<input type="radio"/> My spouse/partner	<input type="radio"/> Another family member
<input type="radio"/> A friend	<input type="radio"/> Other (specify) _____	

- 4) Does your child/children have a regular health care provider (physician or nurse) in the U.S.?

<input type="radio"/> Yes (go to #18)	<input type="radio"/> No (go to #17a)
---------------------------------------	---------------------------------------

- a. If no, why not? (select all that apply)

<input type="radio"/> You or the main caretaker do not have health insurance	<input type="radio"/> You or the main caretaker can't find a provider to trust	<input type="radio"/> You or the main caretaker have/has no money to pay
<input type="radio"/> You and your child/children migrate constantly	<input type="radio"/> Your child/children has a health care provider in another country	<input type="radio"/> Other (specify) _____

5) Where are your child/children usually taken when they are sick or when advice about their health is sought? (Select all that apply).

- Yes  No Clinic/ Physician's Office
- Yes  No Nurse/ Nurse Practitioner
- Yes  No Physician
- Yes  No Emergency Room
- Yes  No "Curandero"/ Tradicional medicine
- Yes  No Family Member, Friend, or Neighbor
- Yes  No Other

(Specify): \_\_\_\_\_

6) Who usually pays for your child's/children's health care? (Select only one).

<input type="radio"/> Me	<input type="radio"/> My spouse/partner	<input type="radio"/> A family member
<input type="radio"/> A friend	<input type="radio"/> Other	

7) How are your child's/children's health care usually paid for? (Select only one).

<input type="radio"/> Private Insurance Plan (not part of work)	<input type="radio"/> Out of Pocket/Cash
<input type="radio"/> Private Insurance Plan (part of work)	<input type="radio"/> Affordable Care Act /Obamacare
<input type="radio"/> Medicaid	<input type="radio"/> Don't Pay
<input type="radio"/> Medicare	<input type="radio"/> Other (Specify) _____

8) Do you or your child's/children's main caretaker involve your child/children when a decision about their health is made?

<input type="radio"/> Yes, if old enough to understand	<input type="radio"/> No, if too young to understand	<input type="radio"/> Other (specify) _____
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## Appendix B

### Interview Guide Questions

- 1) What do you know about the Human Papillomavirus vaccine?
  - a. Do you know what the benefits of the vaccine are?
- 2) How comfortable do you feel talking about the Human Papillomavirus vaccine?
  - a. Anyone?
  - b. With your partner?
  - c. With your children?
  - d. In a group with other couples in your community?
  - e. Other men and women of your community that are not couples?
  - f. Friends or family members?
  - g. Pediatrician?
  - h. Childs nurse?
  - i. Community outreach workers?
- 3) What have you heard about it in the community?
  - a. Is this something talked about?
  - b. By who?
- 4) Do you think the HPVV should be offered with other vaccines that are required for entering school?
- 5) What are some ideas that you have so that more children get vaccinated to prevent HPV? What information about the vaccine is important to share with parents?
- 6) What do you think should be done to make sure children in your community get all three doses of the vaccine?
  - a. What do you think the community can do to make this happen?
  - b. What do you think you can do to make this happen?
  - c. What can be done to make sure that the children get each dose of the vaccine at the time it is due?
- 7) Many of you during the interview told me you would like to learn more about the vaccine. Please give me more details about that.

- a. How would you prefer to learn about the HPVV (Via the TV, radio, face to face focus groups, computer, smartphone, Facebook, internet etc.)?
  - b. What types of materials do you prefer for receiving this type of information (Brochures, PowerPoint slides, discussion, handouts, videos, text messages, etc.)?
  - c. Where would you prefer to learn about these topics (Community places such as MUJER, at your home, public cafes, in your car, at your work office, health care provider clinics, child's/children's school, etc.)?
- 8) Who do you prefer to receive this information from? (Outreach workers, physician, school nurse, reporters, friends, family members, etc.).
- a. Do you prefer female or male?
- 9) I would like to hear about your preference about the days, time, and duration of any educational intervention that we would like to create.
- a. Day(s) of the week (Weekday vs weekend)?
  - b. What time during the day?
  - c. How many weeks? How many sessions per week?
  - d. How long do you think each session should last (30 min? 45min? 1hr? >1 hr?)
  - e. Do you prefer small groups of 5-7 or larger groups of 8-10?
- 10) What do you think about having your children learn about this vaccine at school?
- 11) Please is there anything else that you would like to share about the HPVV?
- a. Something that you think is important to discuss?
  - b. Is there something that you think I have forgotten to ask?

## **Appendix C**

### **CONSENT FORM**

#### **Adaptation and Pilot Testing of the SEPA intervention for Hispanic Women and Men in South Florida**

##### **Introduction:**

You are being asked to volunteer for a research study. This consent form contains important information, so that you can decide if you wish to take part in this study. Before you give your consent to be part of this study, please read the following and ask as many questions as necessary to be sure that you understand what your participation will involve.

If you agree to participate, you will be asked to sign this consent form. We will also give you a copy to keep.

##### **Purpose of the study:**

SEPA, “Salud, Educación, Prevención y Autocuidado”, is an HIV prevention intervention originally designed for Hispanic women. The purpose of this study is to adapt the SEPA intervention for HIV prevention among Hispanic men and women between 18 and 50 years old. You have been asked to join the study because you are an English or Spanish speaking Hispanic woman or man between the ages of 18 and 50 who has been sexually active within the past 3 months.

##### **Description of Study/Procedures:**

If you agree to participate in the study, we will ask you to do the following things:

##### **Interviews:**

After you sign this form, you will be asked to participate in a face-to-face interview that may last about 2 ½ hours. You will be asked questions about your lifestyle practices, including sexual behaviors, drug and alcohol use, experiences of violence, and knowledge about safer sex.

##### **Focus Groups:**

After the interview, you will be invited to participate in a focus group with 8 to 10 other women or men. Groups can include only women, only men, or both men and women. The focus group will last about 2 ½ hours and will be audio taped. The focus group will be conducted in a private room located in MUJER (27112 S Dixie Hwy, Naranja, FL 33032), or other community places in south Florida.

In the focus group we will ask questions to the group about Hispanic women and men’s preferences for learning about HIV prevention, HIV risks related to sexuality and

substance use of Hispanic women and men, and how to make the program meet your and your community's needs.

**SEPA group sessions:**

After the focus group, some of the participants will be invited to participate in 3 SEPA group sessions. Sessions will be held once or twice per week and each session will take 2 1/2 hours. In the sessions, a facilitator will talk about various topics related to how to help women and men protect themselves from HIV and other infections. The SEPA sessions will be audio recorded and notes will also be taken on participant suggestions and ideas. The SEPA sessions will also be conducted in a private room located in MUJER or other community places in south Florida.

**Risks & Discomforts:**

There are no anticipated serious risks related to participating in this study. However, you might get tired or stressed from answering questions, some of which are personal. You can take a break at any time. Also, you do not have to answer any questions that you do not want to answer. You may feel uncomfortable talking about sensitive or personal information regarding your lifestyle and behaviors. If you should become upset during any part of the study, a registered nurse or other licensed clinician will be contacted immediately and will speak with you. The nurse or clinician will be able to assess your needs and, if needed, refer you to health services. Although group members will be asked to keep what is talked in the focus group and SEPA sessions private, we cannot guarantee complete confidentiality.

**Expected benefits:**

No direct benefits are expected to you for your participation in the study. It is hoped that information obtained from this study will give new knowledge about how to prevent HIV among Hispanics.

**Compensation:**

All men and women who agree to participate in the study will receive \$50 for the interview, \$40 for the focus group, and \$60 for the 3 SEPA sessions.

**Confidentiality:**

The investigators and their assistants will consider your records confidential to the extent permitted by the law. Each person in the study will be given a code number that will be used to identify all interview data. All information will be maintained in locked cabinets or secure password-protected computer files. Only the study researchers will have access to the information. When we report the results of this study, we will be reporting group results. Your records and results will not be identified as pertaining to you in any publication without your expressed written permission.

Your records may also be reviewed for audit purposes by authorized University of Miami employees who will be bound by the same provisions of confidentiality as investigators

and their assistants. The researchers will report cases of abuse of minors or elderly persons to the authorities.

The opinion and experiences expressed during the focus groups and SEPA sessions should remain confidential. The need to respect one another's right to confidentiality will be stressed by the group facilitators. We also ask that you not use names of other people when speaking about your experiences. If the results of the study are published or discussed in conferences, no information will be included that would reveal your identity. However, confidentiality cannot be completely assured even though the group facilitator will ask group members not to discuss information outside the group.

**Right to Withdraw:**

Your participation in this study is voluntary. Your decision on whether or not to participate will not affect your current or future relations with the University of Miami or any other agency. If you decide to stop participating at any time, you may do so without any problems. The researcher may remove you without your permission at any moment if they feel it is best for you.

**Authorization For Recording:**

I hereby authorize the University of Miami, School of Nursing, to take still photographs, and/or sound recordings of me.

I authorize the University to use in any manner said photographs, or tape recordings, in whole or in part as follows: (Please read and check box next to appropriate permission statement):

- For the purpose of teaching, research, scientific meetings and scientific publications, including professional journals or medical books;
- For research purposes only.

I agree that the University of Miami, its Trustees, officers, employees, faculty and agents will not be responsible for any claims arising in any way out of the taking and use as described above of such photographs and/or recordings. I understand that I will not have an opportunity to inspect and approve such photographs or recordings prior to their use.

**Future Studies:**

We would like your permission to contact you at that future time to see if you would be interested in participating in future studies. If we have difficulty finding you, we might contact your emergency contacts to find you.

I agree that you may contact me and/or my emergency contacts regarding my further interest in any future studies related to this study. (Please read and check box next to appropriate response):

- Yes

- No

**Questions:**

Dr. Natalia Villegas, Project Coordinator, will gladly answer any questions you may have concerning research-related problems, concerns or complaints. Also, you may contact her in the event of a research-related injury. She can be contacted by phone at (305)-284-9069. You may also contact the Principal Investigator of the study, Dr. Nilda Peragallo, during the daytime at (919) 966-3731.

If you have any questions about your rights as a research participant, you may contact the University of Miami Human Subjects Research Office at (305) 243-3195.

**AGREEMENT OF DECISION TO PARTICIPATE**

I have read this consent form. This study has been explained to my satisfaction and all of my questions relating to the study procedures have been answered. If I have any further questions regarding this study, or in the event of a study-related problem, I should contact the appropriate person named above. Based on this information, I voluntarily agree to take part in this study. By signing this consent form, I have not given up any of my legal rights.

\_\_\_\_\_  
Participant Name (print)

\_\_\_\_\_  
Participant Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Person Obtaining Consent Name (print)

\_\_\_\_\_  
Signature of Person Obtaining Informed Consent

\_\_\_\_\_  
Date

----- Use the following only if applicable -----  
-----

If this consent form is read to the subject (because the subject is unable to read the form), an impartial witness not affiliated with the research or investigator must be present for the consent and sign the following statement: I confirm that the information in the consent form and any other written information was accurately explained to, and apparently understood by, the subject. The subject freely consented to participate in the research study.

\_\_\_\_\_  
Signature of Impartial Witness

\_\_\_\_\_  
Date

## Appendix D

<i>Demographic Characteristics</i>				
Demographic Characteristic	M	SD	N	%
<b>Parent</b>				
Age	35.83	5.93		
Years living in the US	14.50	2.93		
Annual Income				
<\$18,000			11	47.8
≥\$18,000			12	52.2
Gender				
Mother			18	78.3
Father			5	21.7
Relationship status				
Married			11	47.8
Single			3	13.0
In a relationship, not legally married			8	34.8
Divorced			1	4.3
Living with Partner				
Yes			20	87.0
No			2	8.7
No. of children				
1			2	8.7
2			7	30.4
3			7	30.4
4			4	17.4
5 or more			3	13.1
Preferred Language				
Spanish			18	78.3
English			5	21.7
Country of Origin				
US			5	21.7
Guatemala			4	17.4
Honduras			1	4.3
Mexico			9	39.1
Nicaragua			1	4.3
Colombia			2	8.7
Cuba			1	4.3
Religion				
None			3	13.0
Catholic			9	39.1
Christian			10	43.5
Evangelical/Pentecostal			1	4.3

Years of Education			
≤HS		16	69.6
>HS		7	30.4
Health Insurance Status			
Insured		5	21.7
Uninsured		18	78.3
Employment Status			
Employed		4	17.4
Unemployed		19	82.6
Occupation			
House Wife		9	39.1
Looking for work		1	4.3
Student		1	4.3
CNA		1	4.3
Warehouse Manager		1	4.3
Farmworker		3	13.0
Cook		1	4.3
Inventory		1	4.3
Clean Houses		2	8.7
Scheduler		1	4.3
Shipping		1	4.3
Mechanic		1	4.3
Children			
Age (Range: 9mo. - 20years old; Median: 10 years old)	9.34	4.84	
Gender			
Daughter		43	64.2
Son		24	35.8
Health Insurance Status			
Insured		22	95.7
Uninsured		1	4.3

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Note. Years living in the US was calculated excluding the five participants who were born in the US.