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Examining Two Structural Equation Models to Determine the Effect of Parental Practices and Familial Cultural Values on Mexican Adolescents' Sexual Health

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EXAMINING TWO STRUCTURAL EQUATION MODELS TO DETERMINE THE EFFECT
OF PARENTAL PRACTICES AND FAMILIAL CULTURAL VALUES ON MEXICAN
ADOLESCENTS' SEXUAL HEALTH

A dissertation submitted in partial fulfillment of the requirements required for the degree of
Doctor of Philosophy at Virginia Commonwealth University.

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Abstract

EXAMINING TWO STRUCTURAL EQUATION MODELS TO DETERMINE THE EFFECT OF PARENTAL PRACTICES AND FAMILIAL CULTURAL VALUES ON MEXICAN ADOLESCENTS' SEXUAL HEALTH

By Efren A. Velazquez, M.S.

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Sexual behavior is a normative part of adolescence and it is important to understand how familial factors influence Latina/o adolescents' sexual health. The current study examined two structural equation models (SEM) and the associations between familial cultural values (i.e., familismo and filial piety), maternal and paternal monitoring (i.e., disclosure and solicitation) and Latina/o adolescent's sexual behavior (i.e., intentions to have sex, sexual behavior, sexual responsibility). A hypothesized SEM examined whether paternal/maternal monitoring mediated the relation between familial cultural values and adolescents' sexual health, while an alternative SEM examined whether familial cultural values mediated the association between paternal/maternal monitoring and adolescents' sexual health. Participants included 1,024 Mexican adolescents (54% female) between the ages 12-18. Results showed that the overall hypothesized SEM had excellent fit indices. Filial piety was associated with favorable sexual health outcomes and increased parental monitoring. Maternal disclosure was associated with lower intention to have sex and more sexual responsibility, while paternal solicitation was associated higher intention to

have sex. Sex differences were found after conducting a chi-square difference tests and partially constraining the model. For Latino adolescents, paternal child disclosure and solicitation was associated with intentions to have sex. For Latina adolescents, familismo was associated with more maternal disclosure. Mediation analysis showed that for Latino adolescents, more reported filial piety was associated with more paternal solicitation and disclosure, which was then associated with lower and higher intentions to have sex, respectively. The alternative SEM had excellent fit indices, however, no sex differences were found. Mediation analyses were conducted with the unconstrained model while controlling for sex. Mediation pathways showed that maternal disclosure was positively associated with filial piety, which was associated with lower intention to have sex sexual intention and more sexual responsibility. Findings indicate that family cultural values and paternal monitoring may influence Latino adolescent's intention to have sex. Additionally, filial piety should be considered as a protective factor for Latina/o adolescents' sexual health. These findings can inform prevention programs targeting Latina/o families. Furthermore, a greater emphasis should be placed on the importance paternal monitoring and filial piety given their associations with Latino adolescents' sexual health.

Introduction

For many years, adolescent sexual behaviors were examined from a risk model. Scholars were interested in learning about the prevalence of negative sexual risk outcomes such as the frequency of unintended teenage pregnancy and contracting sexually transmitted infections (STIs), including HIV. Identifying factors that increased the risk of these negative sexual outcomes became a priority. Robust findings in the literature were that some sexual behaviors (e.g., initiating sex at early ages, having multiple sexual partners, not using condoms or using them inconsistently) placed adolescents at increased risk of negative sexual health outcomes, such as having an unintended pregnancy or contracting an STI (CDC, 2016; Garces-Palacio, Altarac, & Scarinci, 2008; Sangi-Haghpeykar, Ali, Posner, & Poindexter, 2006; Tschann, Flores, De Groat, Deardorff, & Wibbelsman, 2010; U.S. Department of Health and Human Services, 2016), which negatively affected their overall health (e.g., mental health) and educational attainment (Huang, Costeines, Ayala, & Kaufman, 2014; Lanzi, Bert, & Jacobs, 2009; Shrier, Harris, & Beardslee, 2002).

More recently, scholars have noted that engaging in sexual behavior is a normative part of adolescence. It is during this period that adolescents develop their attitudes about sexual behaviors, their sexual self-concept, develop intimate partner relationships and explore their sexuality (Tolman & McCelland, 2011; Steinberg, 2014). Adolescents engage in different dating and sexual behaviors throughout their development. Dating relationships, for example, progress from mixed group dating to more intimate partner relationships, and early dating relationship are often less stable than older dating relationships (Collins, Welsh, & Furman, 2009; Connolly & McIsaac, 2011). The types of sexual behaviors that adolescents engage in also show a developmental progression. In general, adolescents engage in oral sex before they have vaginal

sex (Cornell & Halpern-Felsher, 2006; Halpern-Felsher, Cornell, Kropp, & Tschann, 2005; Halpern-Felsher & Reznik, 2009). It is possible that adolescents engage in oral sex before vaginal sex because they believe having oral sex is associated with fewer negative sexual health outcomes (i.e., pregnancy, STI) (Cornell & Halpern-Felsher, 2006; Halpern-Felsher et al., 2005).

A robust finding in the literature is that older adolescents are more likely to be sexually active than younger adolescents (DiClemente et al., 2002; Espinosa-Hernandez & Vasilenko, 2015; Espinosa-Hernandez, Bissell-Havran, & Nunn., 2015; Kann et al., 2016; Martinez, Copen, & Abma, 2011; Miller, Clarke, & Moore, 1997). For example, in a nationally represented sample of high school students, Kann et al. (2015) reported that 46% of 12th grade students reported being currently sexually active compared to 15.7% of ninth grade students. In another national sample of 2,271 adolescents, ages 15-19, Lindberg et al. (2008) found that youth between 18-19 were more likely to report engaging in vaginal sex (68.4%), oral sex (70.8%), and anal sex (16.8%), compared to adolescents between the ages 15-17 (vaginal sex 36.3%, oral sex 42%, and anal sex 6.9%).

Studies have also demonstrated that Latino adolescents are more likely to initiate sexual behaviors at younger ages and to be sexually active compared to female adolescents. For example, Ma et al. (2014) found, from a sample of 254 Latina/o adolescents, males were more likely to report engaging in sexual intercourse and initiating sexual intercourse at a younger age compared to Latina adolescents. In reference to sexual behaviors, Cabral et al. (2017) found in a sample of 1,790 Latina/o adolescents living in the U.S., males were more likely to initiate oral, vaginal and anal intercourse in 7th and 10th grade compared to females. In a study examining sexual initiation with African American and Latina/o adolescents, O'Donnel, Myint-U, O'Donnell, and Stueve (2003) reported that by 8th grade, 49.4% of Latino adolescents reported

having engaged in sex, while only 8.8% of Latina adolescents reported having engaged in sexual behavior.

Latina/o Adolescents. There are some racial/ethnic and cultural differences in dating and sexual behaviors that are important to note as well. Findings from a national survey of high school students living in the U.S. were that 3.1% of Latina and 6.8% Latino students reported having had sexual intercourse before the age of 13 compared to 1.6% and 3.5% of female and male students of European American descent (Kann et al., 2016). Additionally, more African American adolescents (48.5%) were currently sexually active compared to Latina/o (42.5%) and European American adolescents (39.9%) (Kann et al., 2016). Rothman, Wise, Bernstein and Bernstein (2006) found that Latina/o adolescents living in the U.S., a proxy measure of acculturation, were more likely to initiate sexual intercourse at a younger age compared to European American adolescents. While some Latina/o adolescents are more likely than their peers to engage in sexual behaviors, other Latina/o adolescents (e.g., females, immigrants) are less likely to be sexually active (Cavazos-Rehg et al., 2009; Haderxhanaj et al., 2014; Kann et al., 2016).

Despite these racial/ethnic differences in the rates of sexual behavior, scholars have found that age and adolescent sex influence Latina/o adolescents' the timing of Latina/o adolescents' sexual activity and also the types of sexual behaviors they engage in. O'Donnell et al. (2003), in a sample of 849 African American and Latina/o youths, found that the majority of adolescents in their sample who were sexually active began having sex during high school, while a small percentage began during their middle school years. In a sample of Mexican origin female adolescents, Espinosa-Hernandez, Bamaca-Colbert, Vasilenko, & Mirzoeff (2013) reported higher rates of oral sexual behavior and engagement in vaginal sex for adolescents 17-19 years

of age compared to those that were 14-16 years of age. In a sample of 15,241 Mexican adolescents, Gonzalez-Garza et al. (2005) found that both older male and female adolescents were more likely to engage in sexual intercourse compared to younger male and female adolescents. They reported that, of the sexually active adolescents, only 16.6% males and 16.7% female adolescents between 15-17 years of age had engaged in sexual intercourse, compared to 47% males and 39.3% females, ages 18-19 (Gonzalez-Garza et al., 2005).

It is more common for Latina adolescents to have sex during late adolescence, while Latino adolescents are more likely to start having sex at a young age (Espinosa-Hernandez, Vasilenko, & Bamaca-Colbert, 2015b; Ma et al., 2014). In the U.S., 39.8% of Latina (i.e., female) and 45.1% of Latino (i.e., male) adolescents reported having ever had sex (Kann et al., 2016). Additionally, Latino adolescents are also more likely than Latinas to report multiple sexual partners and to initiate sexual intercourse at earlier ages (Ma et al., 2014; Martinez et al., 2011; Miller, Sabo, Farrell, Barnes, & Melnick, 1998; Santelli et al., 2004).

Differences in sexual attitudes and intentions are also evident. Latino adolescents are often more sexually active, which is acceptable in the Latina/o culture (Gilliam, 2007; Ma et al., 2014; Villarruel et al., 2007). By the age of 15, there is a 20% increase in the probability that Latino adolescents want to engage in sexual intercourse for the first time, while that probability increases 20% for Latinas when they are 16 and older (Cavazos-Rehg et al., 2009). Latino adolescents living in the U.S. who are older are more likely to report more intention to engage in sexual intercourse compared to younger adolescents (Barman-Adhikari, Cederbaum, Sathoff, & Toro, 2014; Killoren et al., 2011). Further, adolescents that reported higher intentions to engage in sex focused on the positive outcome of having sex (i.e., physical pleasure, feeling attractive, feeling emotionally close to their partner) instead of the concerns (unplanned pregnancy &

HIV/AIDS) (Guilamo-Ramos et al., 2007). Thus, adolescents that have a higher intention to engage in sexual intercourse also have favorable attitudes towards having sex as well (Barman-Adhikari et al., 2014).

Sex differences in adolescent sexual behavior in the Latina/o community may be related to parental socialization practices and cultural attitudes about sexual behavior. In the Latina/o culture, it is common for parents to have different expectations and treat their sons and daughters differently in regards to the topic of sexual behavior. This is explained by the double-standard hypothesis, where parents have different rules between their sons and daughters in regards to sexual behavior (Bouris et al., 2012; Crawford & Popp, 2003). Latina/o parents may have a more lenient attitude towards their sons being sexually active if they are in a romantic relationship, while having stricter expectations towards their daughter (Bouris, et al., 2012; Suarez-Orozco & Qin, 2006). These parenting differences may be related to the gender roles of *machismo* and *marianismo* (Cianelli Ferrer, & McElmurry, 2008; Lescano et al., 2009). Research has shown that adolescents who follow traditional gender roles may engage in riskier sexual behavior. For example, Latino adolescents with a high sense of machismo accept that having sex before marriage is fine, as it is a representation of their manhood (Cianelli et al., 2008). This can then lead to Latino adolescents having multiple sexual partners (Edwards et al., 2008; Ma et al., 2014). In the U.S., a higher percentage of Latino adolescents (15.3%) compared to Latina adolescents (6.7%) reported having had sexual intercourse with four or more individuals in their lifetime (Kann et al., 2016). Within a traditional Latina/o household, should a female family member become pregnant before marriage, a sense of shame is placed on the family (Guilamo-Ramos et al., 2006; Ma et al., 2014). This sense of shame can cause parents to feel disappointed for not properly teaching their daughters how to behave properly. This is also due to the great

emphasis placed on female virginity within the cultural value of *marianismo*. Furthermore, if the Latina adolescent becomes pregnant, they may be demonstrating a lack of respect towards their parents.

Ecodevelopmental Model: How It All Ties Together

Much of what we know about adolescent sexual behaviors and risk behaviors suggest that there are multiple levels of influence. Ecodevelopmental theory (see Figure 1; Szapocznik & Coatsworth, 1999) provides scholars, practitioners, and policy makers with a framework for understanding and identifying factors that may affect Latina/o adolescents' sexual behavior. Ecodevelopmental theory integrates Bronfenbrenner's (1979; 1986) seminal work on how social contexts and processes, including developmental and social-ecological processes, affect human development. Ecodevelopmental theory includes three social contexts: Macrosystem (e.g., cultural values), Mesosystem (e.g., parent-teacher interaction, parental monitoring of peers), and Microsystem (e.g., direct parent-child relationship, parental monitoring of adolescent) (Pantin, Schwartz, Sullivan, Prado, & Szapocznik, 2004; Prado et al., 2010; Szapocznik & Coatsworth, 1999). Each of these contexts has a direct impact on human development, and they also interact with one another to affect development.

To understand the ecodevelopmental model, we must first understand each of its four levels. The most outer level of the model is the macrosystem, which consists of the cultural values adolescents learn as they grow up (Killoren, Streit, Alfaro, Delgado, & Johnson, 2017; Pantin et al., 2004; Szapocznik & Coatsworth, 1999). For example, a robust literature demonstrates the role of the macrosystem factor of cultural orientation (e.g., Anglo orientation, Latina/o orientation) on Latina/o adolescents' sexual risk behaviors (Adam, McGuire, Walsh, Basta, & LeCroy, 2005; Afable-Munsuz & Brindis, 2006; Guilamo-Ramos et al., 2009b;

Killoren, Updegraff & Christopher, 2011; Lee & Hahm, 2009). Specifically, Latina/o adolescents that are oriented more to the Anglo culture are more likely to be sexually active (Adam et al., 2005; Afaible-Munsuz & Brindis, 2006; Guilamo-Ramos, Jaccard, Pena, & Goldberg, 2005), have more lifetime sexual partners (Becker et al., 2014; Lee & Hahm, 2010), and less likely to use condoms (Smith, 2017) compared to adolescents who are oriented less to the Anglo culture and/or more oriented to the Latina/o culture. An emerging literature has also explored the role of the macrosystem factor of cultural values. In fact, cultural values such as machismo (i.e., male gender role orientation), marianismo (female gender role orientation), and religiosity are also related to adolescent sexual behaviors (Cardoza, Documet, Fryer, Gold, & Buttler, 2012; Deardorff, Tschann, Flores, & Ozer, 2010; Velaz-Pastrana, Gonzalez-Rodriguez, & Borges-Hernandez, 2005; Espinosa-Hernandez, Bissell-Havran, & Nunn, 2015a; Velazquez et al., 2017; Villarruel, Jemmott, Jemmott, & Ronis, 2007). Of particular relevance to the current study, is the role of familial cultural values on adolescents' sexual behaviors.

The exosystem focuses on the parent's environment and the social support they may receive; however, the adolescent will not directly participate in this level (Prado et al., 2010; Szapocznik & Coatsworth, 1999). At the exosystem, the resources the parents receive may then influence the adolescent's life indirectly (Pantin, Schwartz, Sullivan, Coatsworth, & Szapocznik, 2004). For example, Latina/o parents may rely on the social support from the local church community they attend. If the churches emphasize the discouragement of parents teaching sexual information to adolescent, this may indirectly affect the adolescents by not receiving the proper information about proper safe sex practices. The mesosystem is the relation between the adolescent's surroundings (i.e., peers and family, family and school, school and peers) (Coatsworth, Pantin, & Szapocznik, 2002; Pantin et al., 2003; Szapocznik & Coatsworth, 1999).

Common examples that can be seen in this level are the interaction between the adolescent's parents and peers. Explicitly, parents will pay attention to the adolescent's social interactions at this level by monitoring their adolescent's friends (Pantin et al., 2003; Prado et al., 2010).

Finally, the microsystem is the direct interaction of the adolescent with a particular social context (i.e., parents, schools, peers) (Coatsworth et al., 2002; Pantin et al., 2003; Szapocznik & Coatsworth, 1999). At the microsystem level, prior work has shown the importance of parenting practices such as parental monitoring of adolescent's activities and peers for adolescents' sexual behaviors. For example, Wight, Williamson, and Henderson (2006) found that adolescents that report less parental monitoring are more likely than their peers to initiate sex at a younger age, and female adolescents are more likely to have more sexual partners and less likely to use a condom. Numerous other studies have shown that when parents monitor their adolescent's activities (i.e., supervise them), adolescents are less likely to engage in sexual risk behaviors (Dogan-Ates & Carrion-Basham, 2007; Lescano et al., 2009; Nappi et al., 2009; Velez-Pastrana et al., 2005). Additionally, increased parental monitoring is associated with adolescents reporting lower intentions to have sexual intercourse (Sieverding, Adler, Witt, and Ellen, 2005).

Early work on parental monitoring primarily focused on maternal monitoring of their adolescents. While mothers do play an integral role in Latina/o adolescents' development and engagement in health behaviors (Gilliam, 2007; Guilamo-Ramos et al., 2007; Romo, Bravo, & Tschann, 2014), fathers relationships with their adolescents also have unique effects above and beyond mother-adolescent relationships (Cabrera, Aldoney, & Tamis-LeMonda, 2013; Coltrane, Parke, & Adams, 2004; Cruz et al., 2011). For example, when fathers monitor less, adolescents report a greater likelihood of engaging in risky behaviors such as substance use (Chassin, Curran, Hussong, & Colder, 1996) and risky sex (Killoren & Deutsch, 2014). Also, adolescents that

report more connectedness with their father are likely to decrease deviant behavior as they get older (Fosco, Stormshak, Dishion, & Winter, 2012). As such, it's important to explore the role of maternal and paternal monitoring on adolescents' sexual outcomes.

In the current study, I will use the ecodevelopmental model as a framework for the study hypotheses and levels of influence. Prior studies have explored the direct effect to familial cultural values (macrosystem level) and parenting practices (microsystem level) on Latina/o adolescents' sexual behavior. In the next few paragraphs, I will review this literature. Building on prior literature, however, I propose a mediational model in which macrosystem factors (cultural values) affect microsystem factors (parenting practices), which in turn predict adolescents' engagement in sexual behavior, intentions to have sexual intercourse, and their sexual responsibility.

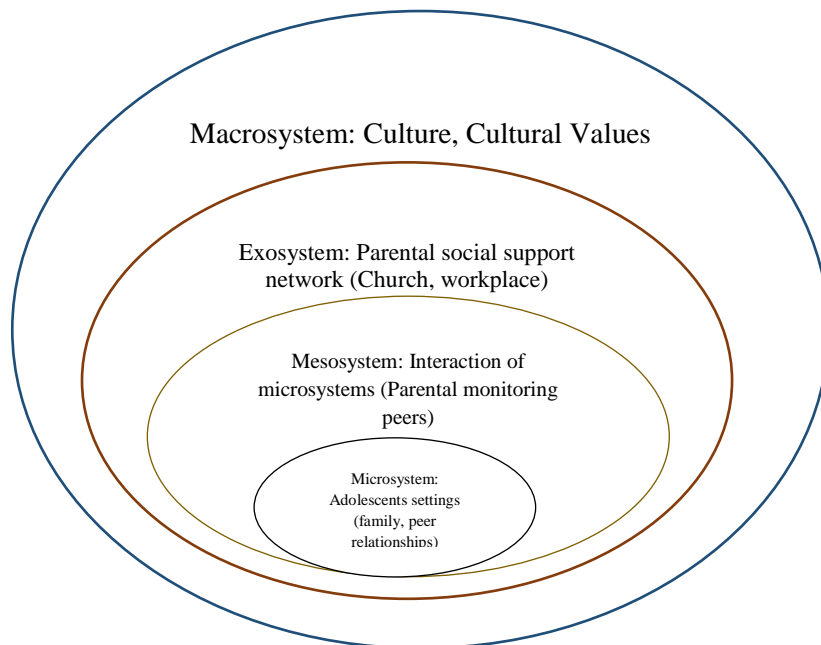


Figure 1. Ecodevelopmental model among parental practices and cultural variables

Macrosystem Level: Familial Cultural Values and Latina/o Adolescent Sexual Health

The familial cultural value, familismo, has been an understudied cultural value when examining Latina/o adolescent sexual behavior (Guilamo-Ramos et al., 2009a). Furthermore, research on familismo has primarily focused within the Latina/o adult populations, especially those living in the U.S., with recent research focusing on youth (Stein et al., 2014). However, familismo is an important culture value that has been associated with sexual health for Latina/o adolescents (Espinosa-Hernandez et al., 2015b; Guilamo-Ramos et al., 2009a; Stein et al., 2014). For example, Mexican adolescents that endorse familismo are less likely to engage in oral sex, vaginal intercourse, and are more likely to feel sexual guilt (Espinosa-Hernandez et al., 2015b). Buhi and Goodson (2007) found, through a systematic review of the literature, that a component of familismo, familial support, has been associated with a lower likelihood to engage in sexual behavior and delayed initiation of sexual intercourse.

Familismo can serve as a protective factor for Latina/o adolescent that live in the U.S. and their sexual outcomes. For example, Latina/o adolescents that have a high sense of familismo are less likely to engage in risky sexual behavior, such as unprotected sex (Guilamo-Ramos et al., 2009a; Velez-Pastrana et al., 2005). Moreover, endorsing more familism has been shown to be associated with lower intention to engage in sex for Latina adolescents living in the U.S. (Killoren et al., 2011). In a sample of 425 Puerto Rican adolescents, Velez-Pastrana et al (2005) found that parent that acted cold towards their child or displayed uncharacteristic traits that do not represent familismo, the adolescents were more likely to report having engaged in sexual intercourse at an early age. Additionally, in a sample of 995 Latino youth living in California, Becker et al. (2014) found that higher endorsement of familismo is also associated with lower odds of Latina/o adolescents having multiple sexual partners.

Research has shown an association between familismo and condom use or condom use attitudes. Latina/o adolescents that endorse familismo is associated with high condom use self-efficacy (Ma et al., 2014) and are less likely to engage in unprotected oral and vaginal sex (Espinosa-Hernandez et al., 2013; Espinosa-Hernandez et al., 2015b; Prado et al., 2007). Velazquez et al., (2017) found in a sample of 128 Latina/o adolescents, those that endorse more familismo were more likely to have favorable condom use attitudes. These findings are important as it shows how Latina/os families can play an important role in using a condom if sexually active.

Though familismo may be considered a protective factor, there may be some negative effects towards endorsing familismo, which is related to familial shame. Ma and Malcolm (2016) found in a sample of 51 Latina/o adolescents living in the U.S., those who endorsed more familismo reported lower rates of having an HIV test. This can be connected with the fear of dishonoring their family should they test positive for HIV (Ma & Malcolm, 2016). This is not surprising given the traditional beliefs associated with familismo (i.e., respecting family). Should they test positive for HIV, the adolescent may fear the loss of support or sense that they have disrespected their family given the stigma HIV has within the Latina/o community (Munoz-Laboy, 2008).

An important component of familismo is respect. In a traditional Latina/o culture, respecting household figures, such as your parents, is very important (Guilamo-Ramos et al., 2006). For Latina mothers, it is important that their adolescent demonstrate respect within the household as it encompasses the values of obedience and loyalty towards the family (Guilamo-Ramos et al., 2007). Respecting family and listening to parents is one of the greater values emphasized in the Latina/o culture, and as we saw in the literature, will promote healthier sexual

attitudes within Latina/o adolescents. In fact, respecting the household has been associated with adolescent sexual behavior and health. For example, in a study where 226 Latina/o adolescents living in the U.S. completed a survey with cultural and sexual behavior variables, those that endorse more familial respect were less likely to engage in sexual intercourse and more likely to have condom use self-efficacy (Ma et al., 2014). It also may be a case where Latina/o adolescents that give great importance towards respect within their household may also have high value on their own self-health and avoid engaging in risky sexual behaviors (Ma et al., 2014).

Filial piety, a familial cultural value in Asia, is also an understudied variable in relation to adolescent risky behavior. Filial piety is very similar conceptually to familismo by emphasizing the importance of respecting and obeying family (Schwartz et al., 2010; Stein et al., 2014). Further, both familismo and filial piety are highly associated with being collectivistic cultural values given their cultural constructs (Unger et al., 2002). However, the significant difference between filial piety and familismo, other than being an Asian and Latina/o familial cultural value respectively, is that filial piety also emphasizes the importance of patrilineal in the family (Ko & Muecke, 2005). Patrilineal is defined as continuing the male lineage by having children (Koe & Muecke, 2005). This belief is more common within the country of China, where having a male heir to continue the family lineage is important.

While most studies examining filial piety have been conducted with Asian populations, Kao et al. (2007) developed a filial piety measure for use with Latinas/os living in the U.S. The original measure was derived from a filial piety measure used for Asian-American samples and modified to fit the Latina/o culture appropriately. The measure has been shown to be a reliable and valid measure of filial piety for both Spanish and English-speaking participants (Kao &

Travis, 2005; Kao et al., 2007). Although this measure is not used in the current study, Kao and colleagues (2007) provide justification for assessing filial piety amongst Latina/os. No prior work has been done with Mexican adolescents, it is still important to explore filial piety with Mexican adolescents given the large population of Mexican and Mexican Americans living in the U.S.

Filial piety may also be synonymous with the Spanish term, *respeto*, which means translates to respect in English (Espinosa-Hernandez, Bissell-Havran, Van Duzor, & Hulgundeth, 2016). It is a term used to describe adherence to authority based on social position and age (Lefkowitz, Romo, Corona, Au, & Sigma, 2000; Zayas & Solari, 1994). In traditional Latino/a culture, respecting household figures, such as parents, is very important (Guilamo-Ramos et al., 2006). The cultural value of *respeto* has also been associated with adolescent sexual behavior and health. For example, in a study where 226 Latino/a adolescents completed a survey with cultural and sexual health variables, those that endorse more *respeto* were less likely to engage in sexual intercourse and more likely to have condom use self-efficacy (Ma et al., 2014). Latino/a adolescents that give great importance towards respect within their household may also have high value on their own self-health and avoid practicing risky sexual behaviors (Ma et al., 2014).

Parents also value the demonstration of respect by the adolescent within the household. For Latina mothers, it is important that their adolescent demonstrate respect within the household as it encompasses the values of obedience and loyalty towards the family (Guilamo-Ramos et al., 2007). Adolescents that respect the household are more likely to follow the values their parents may try to pass on to them (Guilamo-Ramos et al., 2006). This is especially important for Latina adolescents, as higher expectations are placed on them to not become pregnant until marriage (Guilamo-Ramos et al., 2006; Ma et al., 2014). Becoming pregnant before marriage may look

bad on the family, and it may also be a sign of disrespect for not following the rules in the household. However, to fully understand respeto and how it may influence adolescent sexual health, further research is needed.

Given the similarities between familismo and filial piety, it would be expected that filial piety would positively promote healthier behaviors among individuals. For example, in a sample of 881 Hungarian adolescents, those that endorsed the value of filial piety were less likely to binge drink (Piko & Kovacs, 2009). Unger et al., (2002) found that adolescents that endorsed more filial piety were less likely to drink alcohol. In relation to sexual behavior, Asian women that endorsed filial piety were more likely to have favorable condom use attitudes (Lee, 2000). In a sample of 16,554 Asian youth (ages 15-24), endorsing filial piety would decrease the likelihood of having premarital sex (Gao et al., 2012). However, there remains a gap in the literature in regards to filial pieties relation to Latina/o adolescent sexual behavior. A reason for this gap may be due to the focus being more on familismo, though it is also an understudied cultural value. To the knowledge of this author, filial piety has yet to be examined with Latina/o sexual behavior, which is why it is important to examine whether it can be a familial cultural value of consideration when examining familial cultural values and adolescent sexual health.

Microsystem Level: Parental Monitoring and Latina/o Adolescent Sexual Health

It is very important for parents to know where their child is at, as it can prevent them from engaging in risky behavior. In fact, the more parents monitor their adolescent the less likely they will engage in risky sexual behavior (Longmore, Eng, Giordano & Manning, 2009). More parental monitoring may prevent adolescents from having any free time to engage in sexual intercourse as their parents may require them to be home directly from school. For example, parents monitoring has been negatively related to teen pregnancy and contracting an STI

(Guilamo-Ramos & Bouris, 2008). Meaning that the more parents monitor their adolescents, the less likely they will become pregnant or get an STI (Guilamo-Ramos & Bouris, 2008). Li, Feilgelman, and Stanton (2000) found in three cohorts of African American families, between the years of 1992-1996, that low parental monitoring was associated with adolescents engaging in more unprotected sex.

Adolescents who are not sexually active are more likely to go home after school than those that are sexually active (Velez-Pastrana et al., 2005). It is more common for sexually active Latina/o adolescents to report that their parents do not know where they are at, or do not know what they are doing in their household, compared to sexually abstinent adolescents (Velez-Pastrana et al., 2005). The level of supervision when examining parents monitoring and its association with an adolescent's sexual behavior is important to note (Davila, Champion, Monsivais, Tovar, & Arias, 2017; Malcolm et al., 2013; Metzler, Noell, Biglan, Ary, Smolkowski, 1994). In fact, research has shown that more parental monitoring has been shown to have positive outcomes for adolescent sexual health (Dogan-Ates & Carrion-Basham, 2007; Lescano et al., 2009; Nappi et al., 2009; Sieverding et al., 2005; Velez-Pastrana et al., 2005).

Similar findings can be seen between parental monitoring and Latina/o adolescent sexual health. Research has shown that higher parental monitoring within the Latina/o adolescent household will lead to fewer risky sexual behaviors (Dogan-Ates & Carrion-Basham, 2007; Lescano et al., 2009; Nappi et al., 2009; Van Ryzin, Johnson, Leve, & Kim, 2011; Velez-Pastrana et al., 2005). For example, research done with Latina/o parents living in the U.S. has shown that those parents that supervise their adolescent more have adolescents who report lower number of sexual partners, compared to those adolescents that are not monitored as much (Kerr, Beck, Shattuck, Kattar, Uriburu, 2003; Van Ryzin et al., 2011). Likewise, Le and Hahm (2010)

reported from a sample of 1,073 Latina adolescents living in the U.S., those that reported less parental monitoring were more likely to have had four or more sexual partners. Additionally, in a sample of 176 African American and Latina mother-daughter dyads, Barman-Adhikari et al. (2014) found a positive association between parental monitoring and adolescent sexual intention. The more parental monitoring is reported the lower the adolescents' intention to engage in sexual intercourse within the next three months (Barman-Adhikari et al., 2014).

Research has also shown an association between parental monitoring and condom use for Latina/o adolescents. For example, adolescents that are monitored less are less likely to use condoms when they have sexual intercourse (McCauley, Shadur, Hoffman, MacPherson, & Lejuez, 2016; Wight et al., 2006). Additionally, parental monitoring is also positively associated with Latina/o adolescents using a condom consistently if sexually active (Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003). However, Gillmore, Chen, Haas, Kopak, and Robillard (2011) found from a sample of 1,011 Mexican-American adolescents, those that reported more parental monitoring reduced by 14% the probability that adolescents would use a condom consistently.

For Latina/o parents, knowing where their adolescent is and checking on them consistently may prevent them from engaging in sexual intercourse (Velez-Pastrana et al, 2005). Yet, strict parenting may also lead adolescents to engage in sexual behavior as well. Furthermore, intense parental monitoring can cause tension in the relationship between Latina adolescents and their parents, and the Latina adolescent could begin to date in secrecy of their parents (Raffaelli & Ontai, 2001). Latina adolescents may also become pregnant in order to leave a strict household and find a sense of liberation (Gilliam, 2007). Unfortunately, decisions like these may not always seem the most prudent. Latina/o parents are then forced to find a balance

between following traditional values they grew up with, and giving their adolescents, especially their daughters, the freedom to make decisions (i.e., have a boyfriend) they seek.

The literature showed that parents who monitor their adolescent closely were more likely to have positive sexual outcomes as well. Overall, the studies showed the importance Latina/o parents have on their adolescent in relation to the adolescent's sexual health. Practicing good parenting skills can further prevent Latina/o adolescents from engaging in risky sexual behaviors and ideally decline rates of STI's and unplanned pregnancies. That is why it is important to further examining parental supervision and how that is associated with Latina/o adolescent's sexual behavior. Furthermore, it is important to see any other further associations it may have with cultural values, such as familismo and filial piety. This is done in consideration that it has yet to be done in the literature to our knowledge.

Paternal vs. maternal monitoring. An area that is still under researched is paternal parental monitoring within the Latina/o population. Given that mothers are expected to be the primary caregiver within the household for the children, they are more likely to interact with their adolescent compared to fathers (Crockett, Brown, Russell, & Shen, 2007; Guilamo-Ramos et al., 2007; Romo et al., 2014). This association can also be seen in regards to maternal involvement and adolescent sexual health. Latina mothers rely on traditional cultural beliefs regarding pregnancy and sexuality to dissuade their adolescents, especially their daughters, from engaging in behavior that may cause unplanned pregnancy (Gilliam, 2007). In fact, they are more likely to talk to their adolescent about the consequences of engaging in sexual intercourse and will encourage abstinence, over discussing birth control or actual sexual intercourse (Guilamo Ramos et al., 2006; Meneses et al., 2006). Further, it is more common for mothers to

monitor their adolescent sexual behavior, compared fathers (Barman-Adhikari et al., 2014; DiClemente et al., 2001).

Latino fathers are examined less than mothers and future research should examine the relation between fathers-daughter dyads to further examine potential sex differences in parenting practices (Cruz et al., 2011; Guilamo-Ramos et al., 2009a; Killoren et al., 2011). Prior research has found that Mexican origin adolescents are more likely to report higher levels of trust and communication with their mothers compared to their fathers (Crockett et al., 2007). Latina/o adolescents may also perceive their relationship with their fathers as being more distant compared to their relationship with their mother (Antshel, 2002; Crocket et al., 2007). However, Coltrane et al., (2004) did find that Latino fathers that endorse more familismo characteristics are more likely to predict higher parental monitoring and parental involvement with their child (Coltrane et al., 2004). Fathers are perceived to show their form of caring about the adolescent just by being present in the household and by providing financial support to the family (Crockett et al., 2007).

Further exploration of father-adolescent monitoring is needed to better understand the influence fathers may have on adolescent sexual health (Guilamo-Ramos et al., 2009b). In a recent study, Killoren and Deutsch (2014) found in a sample of 1,899 Latina/o youth that Latino fathers who monitor their adolescents more will decrease the likelihood the adolescent will engage in risky sexual behavior in the future. Gonzalez-Lopez (2004), in a qualitative study with 20 Mexican fathers living in the U.S., they found that fathers focused more on their daughters having on being safe from risky behaviors (i.e., unplanned pregnancy, STD's, substance use, causal sex) and complete their goals (i.e., obtain a college degree) so they can have a better life. The emphasis for their daughters to remain virgins becomes of secondary importance as long as

their daughters have a better life (Gonzalez-Lopez, 2004). However, researchers have had a difficult time involving fathers in research projects given the lack of interaction they may have with their adolescents compared to the mothers (Guilamo-Ramos et al., 2006; 2009b).

Information on paternal involvement would greatly assist interventionists in applying components for fathers to improve their relationship with their adolescents. It is also important to see if there are any differences in maternal and paternal parental monitoring and how that may be associated with Latina/o adolescent sexual health (Huebner & Howell, 2003). In this study we asked adolescents their perspective on how paternal supervision, which we will include in the structural equation models.

Building the Case for Mediation: Associations between Familial Cultural Values and Parental Monitoring

Child rearing practices, such as the way Latina/o parents try to control their adolescent (i.e., rules, demands), have been found to have cultural roots related to familismo (Halgunseth, Ispa, & Rudy, 2006). Latinas/os that maintain their traditional family orientation report more parental involvement and monitoring with youths (Denner, Kirby, & Coyle, 2001). Within the Latina/o culture, parental monitoring and familial cultural values, especially familismo, can be associated with each other (Van Campen & Romero, 2012; Guilamo-Ramos et al., 2007; Taylor et al., 2012; Romero & Ruiz, 2007). For example, Romero and Ruiz (2007) found that higher levels of familismo within the household significantly predicted a higher likelihood parents would monitor their adolescent more in the future. Similarly, Sotomayor-Peterson, Figueredo, Christensen, and Taylor (2012) found that in a sample of Mexican American families, cultural factors (i.e., familismo, simpatia), were positively associated with shared parenting such that Mexican American families that endorsed more cultural factors reported a more positive family

climate. These findings are consistent with the ecodevelopmental theoretical standpoint given that familismo is a cultural value (macrosystem), which has direct influence on different levels of the ecodevelopmental model. Thus, it is anticipated that familismo (and filial piety) would have an association with parental monitoring, which would be within the mesosystem.

However, other studies have used parental monitoring as a predictor rather than an outcome when examining its association with familismo. For example, Bush, Supple, and Lash (2004) found that fathers that monitored their sons more were more likely to have sons who reported a higher sense of familismo (Bush et al., 2004). In another study, German et al., (2009) reasons that Mexican fathers who follow traditional familismo values may be associated with being more involved with their adolescent's lives, which may serve as a favorable factor against negative peer influences.

To my knowledge, there is less research simultaneously examining the effect of familismo and parental monitoring, and Latina/o adolescent sexual health. What has been found is a study done by Van Campen and Romero (2012), where they created a family involvement variable by combining parental monitoring and familism items from other measures together and running an exploratory factor analysis afterwards. Van Campen and Romero (2012) argue that Latina/o adolescents that are supervised more, which may be due to more parental monitoring and family proximity (a component of familismo), will decrease the likelihood they will engage in risky sexual behavior. From the family involvement measure they created, in a sample of Mexican-American and Indian-American adolescents, they found that more family involvement was associated with adolescent reporting few sexual partners and lower intention to have sex in the next three months (Van Campen & Romero, 2012). However, family involvement was not found to be associated with adolescents having more sexual self-efficacy (i.e., communication

about safe sex with partner and refusing to have sex) (Van Campen & Romero, 2012). In another longitudinal study, Roche, Ahmed, and Blum (2008) examined whether parental closeness and parental control together could be associated with the number of sexual partners a young adult reports, while being mediated by adolescents' sexual intention. Roche and colleagues (2008) found that for Latinas, lower endorsement of familismo and parental monitoring influenced their sexual health. Specifically, less family closeness and parental control was negatively associated with early sexual initiation, which then led to a higher likelihood of reporting more sexual partners as a young adult (Roche et al., 2008). For Latino adolescents, more family closeness and parental control was associated with having fewer sexual partners (Roche et al., 2008).

Given how familial cultural values, specifically familismo, and parental monitoring may be associated with one another, and how research has shown that they both can serve as protective factors for an adolescent's sexual health, it is important to further examine this relationship and how it is related to Latina/o adolescent sexual health specifically. Further, it can be argued that given how familism and parental monitoring has been shown to be associated with each other, and have served as a predictor for each other, they each can possibly serve as mediators. Even though we are proposing a hypothesized model based on ecodevelopmental and social ecological theory, in which familial cultural values are associated with parental monitoring, which in turn are associated with the adolescent's sexual health. We will also be testing whether familial cultural values can serve as mediators for the relation between parental monitoring and sexual health.

Current Study

Parents play an important role in their adolescents' sexual health. One important means of influence on adolescents' sexual health behaviors, attitudes, and intentions is through high

parental monitoring (Davila et al., 2017; Nappi et al., 2009). However, previous research has focused primarily on maternal parental monitoring while ignoring the role of paternal parental monitoring within the Latina/o population (Guilamo-Ramos & Bouris, 2008). Both the lack of participation from fathers in research (Jaccard et al., 2002) and the primary caregiver status of mothers in the Latina/o culture (Gallegos, Villarruel, Gomez, Onofre, & Zhou, 2007) may contribute to the inadequate information regarding paternal monitoring. Fathers are examined less than mothers and future research should examine the relation between fathers-adolescent dyads to further examine potential sex differences in parenting monitoring (Guilamo-Ramos et al., 2009b).

Understanding father-adolescent dyads and filial piety role in parent behavior towards adolescents and adolescent sexual health can further assist interventionists to understand the Latina/o culture. The Latina/o culture consists of different components, in which many have yet to be explored by researchers. To fully develop culturally appropriate interventions for Latina/o families, understanding different cultural values is important. Additionally, implementing interventions with culturally appropriate may be able to strengthen programs targeting Latina/o adolescents in teaching them proper self-efficacy for safe sex practices, and encourage parents to talk to their adolescents about sex (Ma et al., 2014). For Mexican American adolescents, having a good relationship with their fathers also consist of being open to discuss anything, however father-adolescent communication is not a common occurrence (Crockett et al., 2007). It is important to further examine the father-adolescent interaction when examining the paternal influences on the adolescent's sexual health.

Additionally, limited research has examined the associations these familial cultural values have with Latina/o adolescents' sexual health. Specifically, filial piety has been shown to

be a protective factor for adolescents and risky behavior in general. It is important to examine this construct that is similar to familismo to further understand the familial cultural values that may serve as promising factors for positive Latina/o adolescents sexual health behaviors. A critical aspect to further understand Latina/o adolescent sexual behavior is fully accepting cultural values as having an influential role, along with parental practices. Simply implying that parents or cultural values by themselves influence adolescent sexual health and behavior would be undermining the fact that there are many aspects that must be considered when examining Latina/o adolescent sexual health. Research was reviewed showing what cultural values and parental practices, when together, can influence Latina/o adolescent sexual health. Research also showed the gaps in the literature that need to be further examined, such as cultural values and parental monitoring. As we see in the ecodevelopmental model (refer to Figure 1), cultural values (macrosystem) influence not only adolescent sexual behavior, but parental practices as well. Parents, by talking to their adolescent or supervising them closely, will influence how adolescent's sexual attitudes and behaviors are formed; especially in the microsystemic level. In fact, one can argue whether the macrosystem or microsystem has more influence on the adolescent by examining specific main effects of each. However, through a social-learning theoretical perspective, it can be argued as well that parents may directly influence an adolescents' cultural values given that parents are teaching their adolescents these values, which then may affect their sexual health. Much work remains to be done to fully grasp what these interactions may entail.

The proposed study will address the above-mentioned research gaps pertaining to Latina/o adolescents' sexual behavior by capitalizing on a large sample of Latina/o adolescents sampled from Mexico ($n = 1,123$) and by conducting complex statistical analyses. The overall

purpose of the current project is to better understand whether familial cultural values or both perceived maternal and paternal parental monitoring serve as protective factors on adolescent sexual behavior and attitudes, through mediation. Furthermore, sex differences are expected and will be examined as well given how Latina and Latino adolescents sexual health may differ depending on parental behavior.

Specific Aims and Hypotheses

The specific aims of this project are:

Aim 1: To examine the hypothesized model, which is parental monitoring mediates the relationship between familial cultural values and adolescents' sexual health and determine if there are any sex differences (Figure 2).

I hypothesize that for male adolescents, endorsing more familial cultural values will be associated with decreased parental monitoring, which in turn will be associated with 1) a higher sense of sexual responsibility, 2) higher intentions to engage in sex, 3) higher likelihood to engage in sexual behaviors.

I hypothesize that for female adolescents, endorsing more familial cultural values will be associated with more parental monitoring, which in turn will be associated with 1) a higher sense of sexual responsibility, 2) lower intentions to engage in sex, 3) lower likelihood to engage in sexual behaviors.

Aim 2: Examine an alternative model, which is familial cultural values mediating the relationships between parental monitoring and adolescents' sexual health and determine if there are any sex differences (Figure 3).

With the cross-sectional design, we are unable to determine any causal outcomes. However, we are able to test alternative models to examine if familial cultural values mediate the

association between parental monitoring and adolescent's sexual health (refer to Figure 3).

Similar to our hypothesized model, I anticipate parallel associations within the alternative model:

I hypothesize that for male adolescents, less parental monitoring will be associated with more familismo and filial piety, which in turn will be associated with 1) a higher sense of sexual responsibility, 2) higher intentions to engage in sex, 3) higher likelihood to engage in sexual behaviors.

I hypothesize that for female adolescents, more parental monitoring will be associated with more familismo and filial piety, which in turn will be associated with 1) a higher sense of sexual responsibility, 2) lower intentions to engage in sex, 3) lower likelihood to engage in sexual behaviors.

Method

Participants

Data were collected from a cohort of adolescents as part of a cross-sectional study examining Mexican adolescents' sexual health behaviors and their relationship with parental, peer, and cultural values. The principals of the schools where adolescents were recruited granted permission to Dra. Graciela Espinosa and her research team to conduct the study. Adolescents were eligible to participate if they were in middle or high school, had their parents' consent to participate, and assented to participate. A total of 1,123 Mexican adolescents were recruited from one middle school (12.4%) and one school that served as both a middle and high school (i.e, 7-12 grade), in Puebla, Mexico between May and July of 2011. For the purpose of this study, 99 participants were not included in analyses because they did not live with at least one parent or because they were older than 18 years of age. Thus, data from 1,024 students were included in the data analysis.

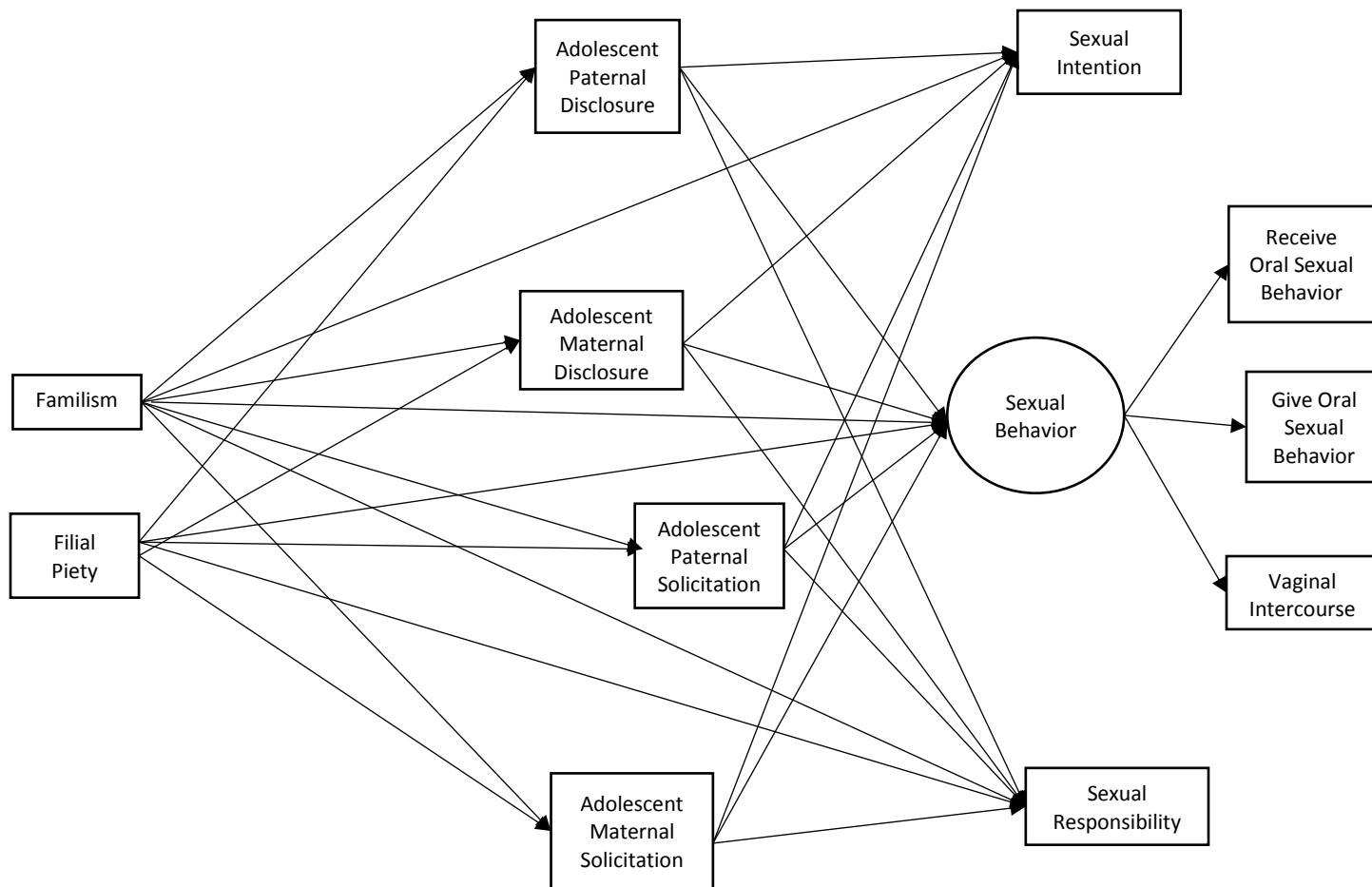


Figure 2. The hypothesized multi-group model of the association between adolescents' familial cultural values and sexual health, mediated by paternal and maternal monitoring, with sex as the grouping variable.
Note: All analyses are controlled for age but are not diagrammed for ease of illustration.

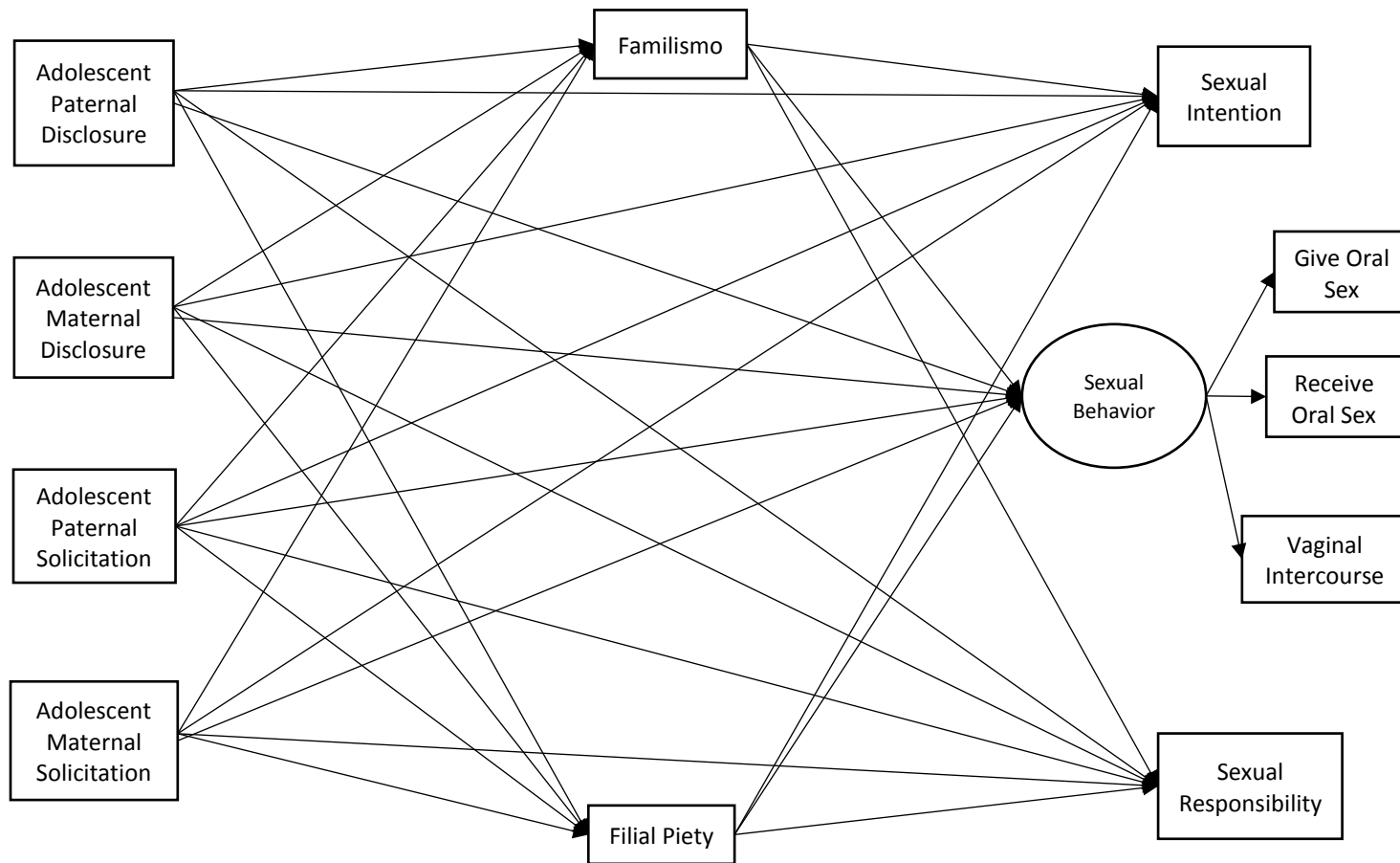


Figure 3. The alternative multi-group model of the association between adolescents paternal and maternal monitoring and adolescents' sexual health, mediated by familial cultural values, with sex as the grouping variable.

Note: All analyses are controlled for age but are not diagramed for ease of illustration.

Participants' ages ranged from 12-18 years with a mean age of 15.05 ($SD = 1.45$). Fifty-four percent of the participants identified as female. Adolescents reported the following family living structures: Both biological parents (73.4%), biological mother only (16.1%), biological father only (2.2%), biological mother and stepfather (6.3%), biological father and stepmother (1.1%), adoptive parents (.5%), other (i.e., living with one parent plus additionally family member) (.4%). Additionally, adolescents' relationship status was as follows: Not currently dating (40.7%), casually dating (20.5%), in a serious relationship (22.7%), recently broken up (9.0%), no relationship status reported (7.1%). Table 1 presents participants' characteristics.

Table 1.

Participant Characteristics

Characteristics	Percent of Sample
Age	
12	.9%
13	11.1%
14	30.9%
15	24.8%
16	10.6%
17	15.7%
18	6%
Religion Raised	
Catholic	69.9%
Christian	6.3%
Other	2.0%
Missing	21.8%
Current Religious Practice	
Catholic	48.6%
Christian	6.1%
Other	2.4%
Missing	42.9%
Have had vaginal sex	
Yes	19.8%
No	76.3%
Missing	3.9%
Received Oral Sex	
Yes	12.6%
No	83.6%
Missing	3.8%
Performed Oral Sex	
Yes	12.4%
No	84.2%
Missing	3.4%

Procedures

This study was approved by the Institutional Review Board of the University of North Carolina – Wilmington. The Institutional Review Board at Virginia Commonwealth University also approved the use of this dataset for secondary data analysis. To collect data in schools in Mexico, Dra. Espinoza first contacted the Secretary of Education in Puebla, Mexico. After describing the study goals and procedures, the Secretary of Education approved the study and assisted in helping the research staff identify schools that may be willing to participate. The Secretary of Education provided Dra. Espinosa with contact information for local school principals in Puebla. Dra. Espinosa then contacted principals from seven middle schools and one high school during the summer of 2010 to describe the purpose of the study. Once Dra. Espinosa had the principal's permission to recruit participants from the school, a parent consent form was sent home with students. Parents who did not want their adolescent to participate in the study were asked to return the form. On the day of data collection, adolescents who did not assent and whose parents returned the parental consent forms indicating they could not participate were removed from the classroom. Dra. Espinosa then provided verbal instructions to the adolescents and adolescents were given the survey to complete. Dra. Espinosa and school staff remained in the classroom to answer participant questions. The survey took approximately one hour and thirty minutes to complete and adolescents received candy as an incentive for completing the surveys.

Measures

Using the committee approach to translate the measures (Cha, Kim, & Erlen, 2007), Dra. Espinosa, an additional Ph. D. level researcher, and two undergraduate research assistants translated all the measures that were used in the study. Each of the translators were either native

Spanish speakers or bilingual (i.e., Both English and Spanish speakers). Once all of the measures were translated, a school psychologist and two middle school students in Mexico reviewed the Spanish version of the measures to ensure age and linguistic appropriateness. The research team pilot tested the survey by collecting data on 17 middle school students in Mexico City. Additionally, the teacher that administered the pilot survey made recommendations towards improving the survey (i.e., word changes in instructions).

Demographic Information. Adolescents were asked to report on their age, date of birth, sex, grade in school, and who they were living with (e.g., biological mother and father, adoptive parents).

Parental Monitoring. Adolescents were asked to complete the Parental Knowledge subscale from the *Parenting Practices Scale* (Stattin & Kerr, 2000). The Parental Knowledge subscale consists of 11 items that measure Child Disclosure and Parental Solicitation. This measure uses a five-point Likert scale: 1 = *Almost Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Frequently*, 5 = *Almost Always*. Example items consist of “Do you hide a lot from your mom/dad about what you do during nights and weekend?” (Child Disclosure) and “How often have your mom/dad started a conversation with you about your free time?” (Parental Solicitation).

Adolescents were asked about paternal and maternal parental monitoring separately. A total paternal and maternal parental monitoring score was obtained by averaging the items for each subscale (i.e., paternal child disclosure, paternal solicitation, maternal child disclosure, maternal solicitation). A higher score indicates more parental monitoring. Internal reliability in samples of Latina/o adolescents native and non-native to the U.S. ranged between .77-.81 in prior studies (Marsiglia, Nagoshi, Parsai, & Castro, 2012; Romero & Ruiz, 2007). In the original study done by Kerr and Stattin (2000), from a sample of 1,283 Swedish adolescents, they reported a

Cronbach's alpha of .70 and .78 for parental solicitation and disclosure, respectively. For the current sample of Mexican adolescents, the Cronbach's alpha for both the maternal and paternal monitoring subscales were: Maternal Child Disclosure ($\alpha=.71$), Paternal Child Disclosure ($\alpha=.71$), Maternal Solicitation ($\alpha=.80$), and Paternal Solicitation ($\alpha=.83$).

Familial Cultural Values. Two subscales from the Cultural Values Scale (Unger et al., 2002) were used to assess familismo and filial piety. The familismo subscale is comprised of items from the Sabogal et al (1987) and Cuellar, Arnold, and Gonzalez (1995) familismo scales. The familismo subscale consists of 6 items rated on a four-point Likert scale: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly Agree*. Example items are, "The family needs to consult with close family members (i.e., Aunts and Uncles) with respect to an important decision" and "Any person can count on the help of their family members to solve the majority of their problems." An overall familismo score was obtained by summing the items. A higher score indicates more endorsement of the familismo cultural value. In prior work with Latina/o adolescents living in the U.S., the internal reliability for the familismo subscale ranged between .79 and .90 (Lorenzo-Blanco, Unger, Baezconde-Garbanati, Ritt-Olson, & Soto, 2012; Umana-Taylor et al., 2009), and between .93-.96 in a sample of Mexican adolescents (Espinosa-Hernandez et al., 2015b; Espinosa-Hernandez & Vasilenko, 2015). For the current sample, Cronbach's alpha was .69. Cronbach's alpha was also calculated separately for participant sex (i.e., male and female) and age (middle and high school) given the diversity of the sample. Cronbach's alpha was .69 for both males and females, and .69 for middle school and .68 for high school students. Given the low alpha level for the familismo subscale, a confirmatory factor analysis was conducted to determine if the removal of an item was necessary to improve the alpha level.

The filial piety subscale consists of 13 items rated on a 4-point Likert: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly Agree*. This scale is a modification of the Ho (1994) filial piety scale. The wording of items was modified for clarity after the original filial piety scale was translated from Chinese into English and then pilot tested with Latina/o high school students (Unger et al., 2002). Example items include, “I need to obey my parents even if I do not agree with them” and “While my parents are alive I will not move to a faraway state or country.” An overall filial piety score was obtained by summing the items. A higher score indicates more endorsement of the filial piety value. The internal reliability score for the filial piety subscale was .81 in a sample of 211 Latina/o adolescents living in the U.S. (Unger et al., 2002), and .80 in a sample of Mexican adolescents (Espinosa-Hernandez, et al., 2016). For the current sample, Cronbach’s alpha was .79.

Sexual Responsibility. Adolescents completed the Sexual Responsibility Scale (O’Donnell et al., 2003) to assess their reasons for waiting to have sex responsibly. The scale consists of eight items. The measure originally used a three-point scale of *Agree* to *Disagree*, however the research team changed it to a four-point scale for the purpose of this study: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly Agree*. Items were prompted with “When I decide to have sex, I believe that it is important to:” Example items include, “Be sure that I will not lose my self-respect” and “Be sure that I am not being forced by my partner.” A total score is obtained by summing the items. A higher score indicates a higher sense of sexual responsibility. For the current sample, Cronbach’s alpha was .83.

Intentions to have sex. Adolescents’ intentions to have sex was measured by using the Sexual Intentions Scale (Killoren et al. 2011). This scale consists of five items. The first four items use a five-point Likert scale of 1 = *Very Unlikely* to 5 = *Very Likely*, while the fifth item

uses a five-point Likert scale of 1 = *Very Unsure* to 5 = *Very Sure*. Example items include, “How likely is it that you will have sexual intercourse within the next year?” and “How sure are you that you are ready to have sexual intercourse?” A total score is obtained by summing the items. A higher score indicates higher intentions to have sex. Cronbach’s alpha for the Sexual Intentions Scale was .92 for Spanish-speaking adolescents (Killoren et al., 2011). For the current sample, Cronbach’s alpha was .86.

Sexual Behavior. Sexual behavior was measured by having adolescents answer the following items: “Partner performed oral sex (going down) on you this school year”; “Performed oral sex (going down) on a partner this school year”; and “We had vaginal sex this school year”. Each item was answered with either a “Yes” or “No”. These three items were combined to create a latent sexual behavior variable.

Data Analysis Plan

Prior to conducting the primary statistical analysis to assess the proposed hypotheses, data were cleaned and the variables were created and checked for normality (i.e., skewness and kurtosis) in SPSS 24. If necessary, transformations were performed to correct any abnormal distributions (e.g. between positive and negative 2 for skewness and below 7 for kurtosis; Tabachnick & Fidel, 2006). Data were then exported to M-Plus (Muthen & Muthen, 2013) to test hypotheses. Missing data were handled using maximum likelihood estimates, a statistical technique in which data is processed and different values are used to estimate the missing values (Enders, 2013). Maximum likelihood is a recommended modern technique for managing missing data (Enders, 2013).

In addition, due to the low alpha for the *familismo* subscale in the current study, a confirmatory factor analysis (CFA) was conducted to determine if all of the items in the

familismo subscale were theoretically related to each other. CFA is a confirmatory technique used to examine items that are theoretically associated with each other to create a hypothesized model (i.e, latent variable) (Schreiber, Nora, Stage, Barlow, & King, 2006).

Primary Analyses. Using M-Plus (Muthen & Muthen, 2013), path analyses were conducted to obtain model fit parameters for the hypothesized and alternative models. Adolescent age was controlled for in every path in both models. The primary fit indices that were used to test the goodness of fit for the proposed models were the Chi square, comparative fit index (CFI), standardized root-mean-square residual (SRMR), and root mean square error of approximation (RMSEA). Model fit were interpreted as acceptable if the CFI was greater than or equal to .90, the RMSEA was less than or equal to .08, and the SRMR was less than or equal to .08 (Hu & Bentler, 1999; Kline, 2011).

Next, I explored whether there were sex differences by comparing two nested models for the proposed and alternative models and conducting a Chi-square difference test. The first model was unconstrained, which allowed all path estimates to be freely estimated across adolescent males and females. In contrast the second model was fully constrained; that is, path estimates were constrained to be equal across males and females. A significant Chi-square different test suggested there were sex differences in the overall model. Each path was then constrained one at a time to identify which paths were different between Latino and Latina adolescents. However, a non-significant Chi-square test would suggest that there were no differences based on sex. If this is the case, I then controlled for sex and mediational analyses were done with the unconstrained model.

Finally, I formally tested for mediation using the biased-corrected bootstrap method recommended by Taylor, Mackinnon and Tein (2008). In this method, confidence intervals were

created for the significant mediational pathways. In this approach, mediation was significant if the confidence intervals did not contain zero (Taylor et al., 2008).

Power Analysis. Power, which is the ability to find an effect, is difficult to approximate when testing for mediation with advanced models. Simulation studies, examining the effect size of parameter estimates for the mediational paths “a” and “b”, have been conducted to determine the projected sample size needed to obtain a power of .80 (Fritz & Mackinnon, 2007). Using the bias-corrected bootstrap method to test for mediation, findings indicated that parameter values of .26 for both “a” and “b” path, which is associated with a small to medium effect size, requires at least 148 participants to obtain a power of .80 (Fritz & MacKinnon, 2007). Given that the sample in the current study is well over 148 participants, there was a sufficient power to detect significant effects in the parameters of interest.

Results

Descriptive Statistics

Before any analyses were conducted, skewness and kurtosis were examined to determine if measures were normally distributed. For each variable, skewness was between positive and negative two, and kurtosis was below seven. Data were normally distributed and no transformations were necessary. Correlations were completed for all study variables (see Table 2). All variables, with the exception of two (intentions to have sex and age), were positively correlated with both maternal and paternal child disclosure. Maternal and paternal child disclosure was negatively associated with intention to have sex, and age was unrelated. Maternal and paternal solicitation were positively correlated with all of the study variables except adolescents’ age and intention to have sex, where there was no association. Filial piety was

positively correlated with all of the study variables, with the exception of age and intention to have sex, where there was a negative association. Familismo was positively correlated with all of the study variables, with the exception of age and intention to have sex. Familismo was negatively associated with intention to have sex, and unrelated to age. Finally, sexual responsibility was positively correlated with all of the study variables, with the exception of age and intention to have sex. Sexual responsibility was negatively associated with intention to have sex, and unrelated to age.

Table 2

Bivariate Correlations among Study Variables

	1	2	3	4	5	6	7	8	9
1. Adolescent's Age	--								
2. Maternal Disclosure	.02	--							
3. Paternal Disclosure	-.07*	.63***	--						
4. Maternal Solicitation	.05	.59***	.35***	--					
5. Paternal Solicitation	-.04	.34***	.61***	.58***	--				
6. Filial Piety	-.20***	.24***	.26***	.21***	.22***	--			
7. Familismo	-.15***	.14***	.13***	.14***	.12***	.47***	--		
8. Sexual Responsibility	-.01	.20***	.11**	.20***	.12**	.15***	.09**	--	
9. Sexual Intention	.24***	-.17**	-.09*	-.06	.05	-.16***	-.06	-.20***	--

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Mean Differences. T-tests were conducted to examine mean differences between males and females for the familial cultural values, parental monitoring, and sexual health outcome variables. Male adolescents ($M = 3.12$, $SD = .78$) were less likely to disclose to their mothers compared to female adolescents ($M = 3.34$, $SD = .94$), $t(969) = 3.90$, $p = .00$. Additionally, male adolescents ($M = 3.14$, $SD = .98$) were less likely to report that their mothers solicit information about their activities compared to female adolescents ($M = 3.39$, $SD = 1.05$), $t(964) = 3.69$, $p = .00$. No significant sex differences were found for paternal child disclosure or solicitation. In regards to the familial cultural variables, male adolescents ($M = 18.33$, $SD = 3.19$) were more likely to report having a higher sense of familismo compared to female adolescents ($M = 17.95$, $SD = 3.04$), $t(1009) = -.98$, $p = .05$. No significant differences were found between males and female adolescents in regards to filial piety. Male adolescents ($M = 21.86$, $SD = 5.80$) were less likely to report being sexually responsible compared to female adolescents ($M = 25.21$, $SD = 5.22$), $t(938) = 9.31$, $p = .00$. Finally, male adolescents ($M = 2.91$, $SD = 1.07$) were more likely than female adolescents ($M = 2.09$, $SD = .91$) to report higher intention to engage in sexual intercourse, $t(921) = -12.61$, $p = .00$.

T-tests were conducted to examine mean differences between middle and high school students for the familial cultural values, parental monitoring, and sexual health outcome variables. High school students ($M = 2.80$, $SD = 1.01$) were more likely than middle school students ($M = 2.33$, $SD = 1.05$) to report a greater intention to engage in sexual intercourse, $t(899) = -6.20$, $p = .00$. No significant differences were found for sexual responsibility or sexual behavior. High school students ($M = 17.50$, $SD = 2.98$) were less likely to report having a sense of familismo compared to middle school students ($M = 18.36$, $SD = 3.14$), $t(984) = 3.94$, $p = .00$. Additionally, high school students ($M = 36.12$, $SD = 5.60$) were less likely to report having a

sense of filial piety compared to middle school students ($M = 38.75$, $SD = 6.02$), $t(983) = 6.36$, $p = .00$. No further differences between high school and middle school students were found.

Confirmatory Factor Analysis of the Familismo Scale

The confirmatory factor analysis on the six familismo items from the Cultural Value Scale (Unger et al., 2002) indicate that all of the items are significantly associated with the theoretical familismo model (refer to Figure 4). The comparative fit index indicated adequate fit [$\chi^2 (df = 9) = 145.74$, $p = .00$; CFI = .90; RMSEA = .12 (90% CI: .11, .14); SRMR = .05]. We further tested whether removing a specific item (i.e., Item 1) would improve the Cronbach's alpha. However, alpha level diminished when items were removed ($\alpha = .60$ -.65). As such, it was decided that all of the items from the original familismo subscale would be retained to create the overall scale.

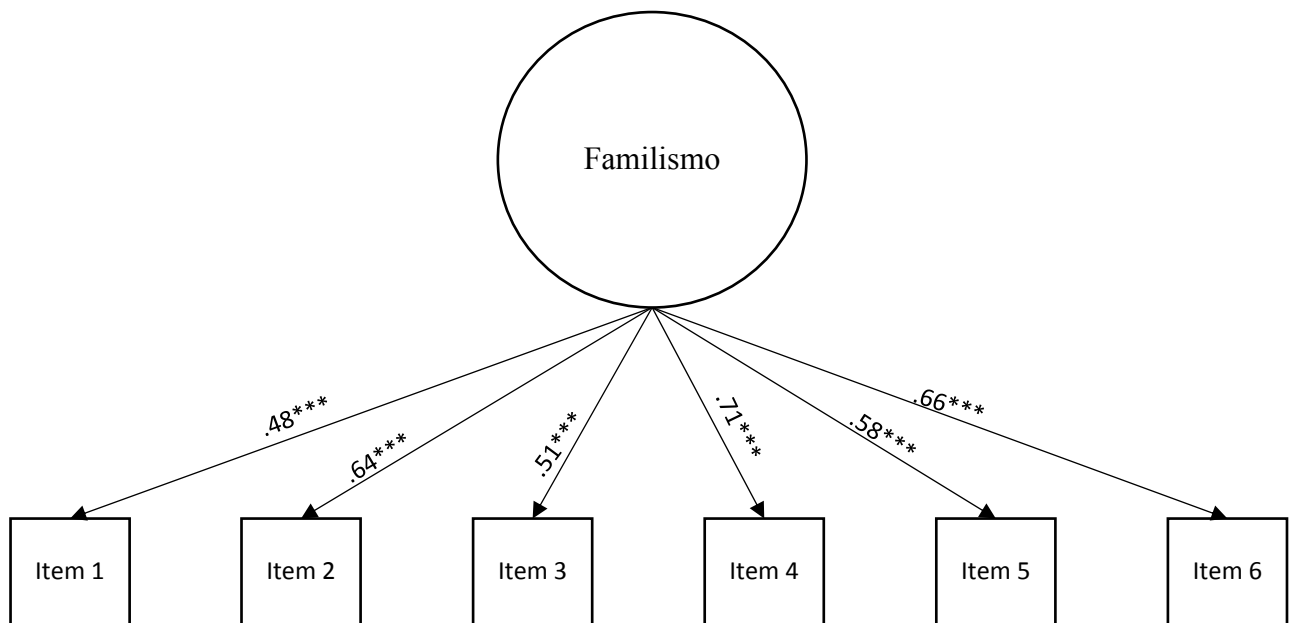


Figure 4. Confirmatory factor analysis on the familismo subscale.

Note. Please refer to Appendix 1 in reference to each item on the subscale.

* $p < .05$. ** $p < .01$. *** $p < .001$

Confirmatory factor analyses on the six familismo items were also done by examining the items in specific subgroups (i.e., middle school, high school, males, females). For middle school students, the comparative fit index indicated poor fit [$\chi^2(df = 9) = 140.21, p = .00$; CFI = .80; RMSEA = .14 (90% CI: .12, .17); SRMR = .07] (refer to Figure 5). Similarly, for high school students, the comparative fit index indicated poor fit as well [$\chi^2(df = 9) = 102.62, p = .00$; CFI = .67; RMSEA = .19 (90% CI: .16, .23); SRMR = .09] (refer to Figure 6). When looking at males, the comparative fit index indicated poor fit [$\chi^2(df = 9) = 90.76, p = .00$; CFI = .81; RMSEA = .14 (90% CI: .12, .17); SRMR = .07] (refer to Figure 7). The comparative fit index indicated poor fit for females as well [$\chi^2(df = 9) = 148.72, p = .00$; CFI = .74; RMSEA = .17 (90% CI: .15, .19); SRMR = .08] (refer to Figure 8).

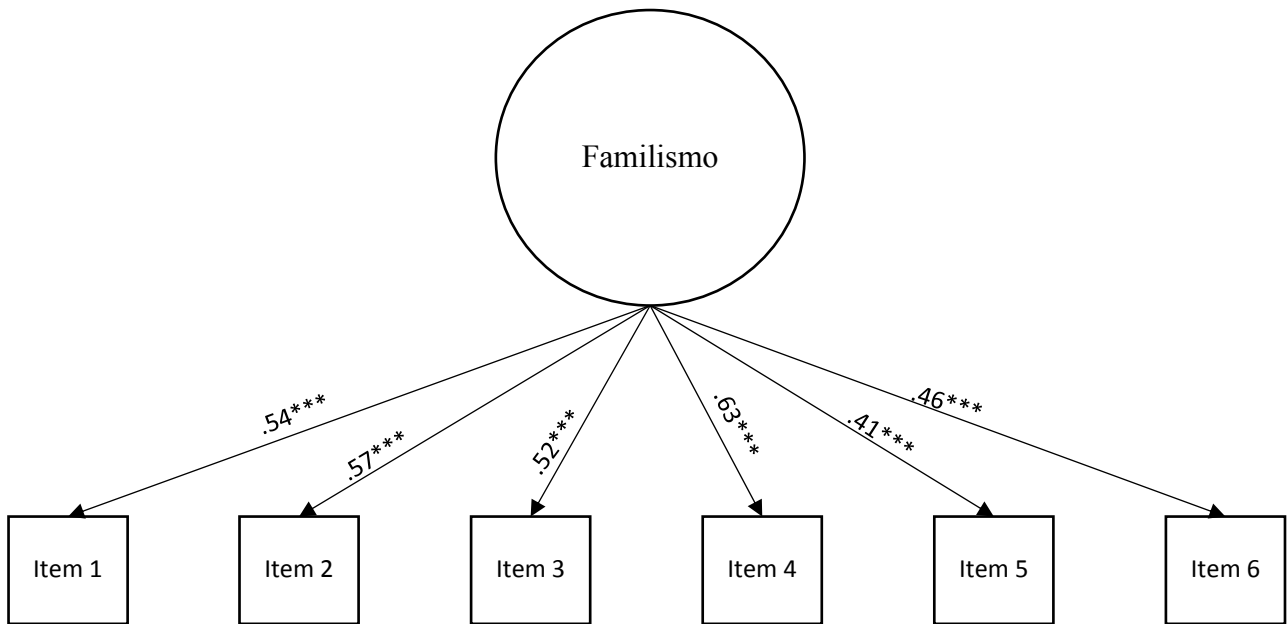


Figure 5. Confirmatory factor analysis on the familismo subscale for middle school students.

Note. Please refer to Appendix 1 in reference to each item on the subscale.

* $p < .05$. ** $p < .01$. *** $p < .001$

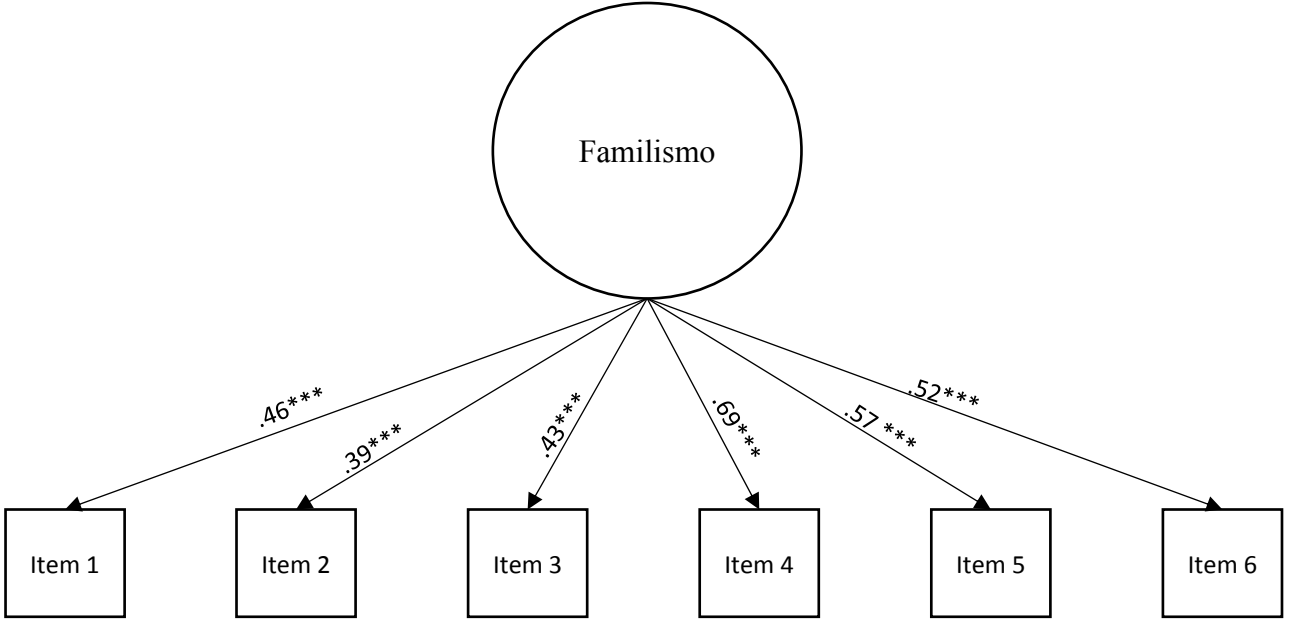


Figure 6. Confirmatory factor analysis on the familismo subscale for high school students.

Note. Please refer to Appendix 1 in reference to each item on the subscale.

* $p < .05$. ** $p < .01$. *** $p < .001$

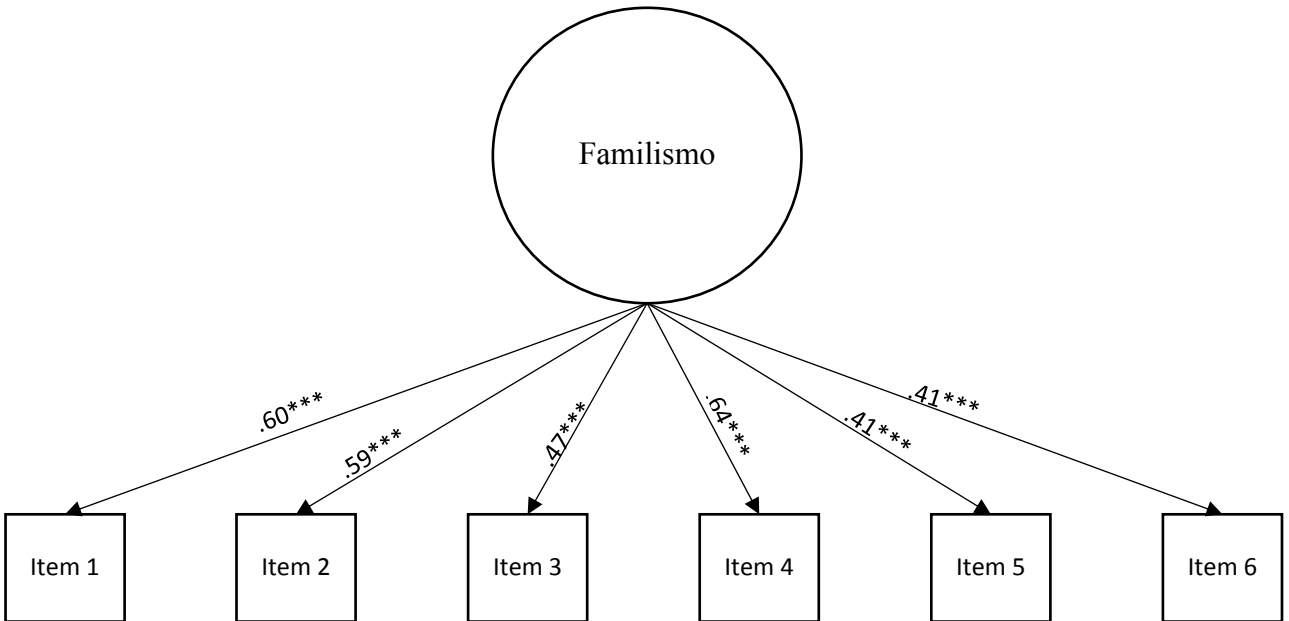


Figure 7. Confirmatory factor analysis on the familismo subscale for Latino adolescents.

Note. Please refer to Appendix 1 in reference to each item on the subscale.

* $p < .05$. ** $p < .01$. *** $p < .001$

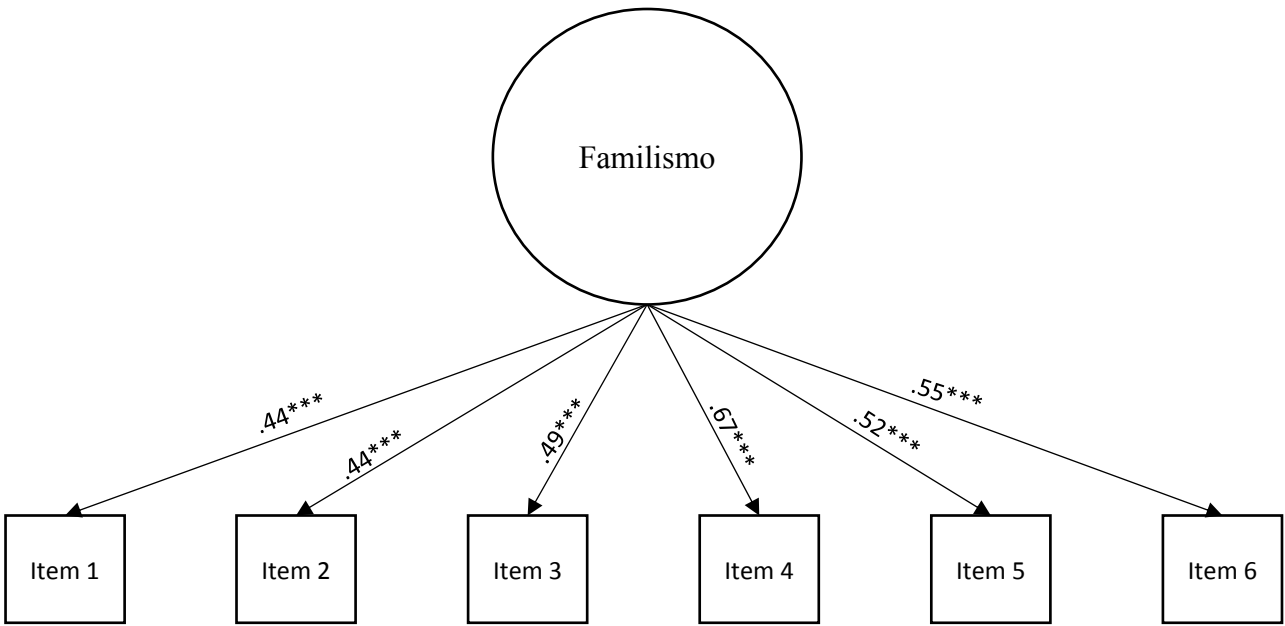


Figure 8. Confirmatory factor analysis on the familismo subscale for Latina adolescents.

Note. Please refer to Appendix 1 in reference to each item on the subscale.

* $p < .05$. ** $p < .01$. *** $p < .001$

Aim 1: Association Between Familial Cultural Values and Adolescent Sexual Behaviors Mediated by Parental Monitoring (Hypothesized Model)

Using M-Plus (Muthen & Muthen, 2013), a structural equation model was created to examine the hypothesized model, which tested whether parental monitoring (i.e., paternal and maternal disclosure, paternal and maternal solicitation) mediated the relation between familial cultural values (i.e., familismo and filial piety) and sexual health outcomes (i.e., sexual responsibility, sexual behavior, and sexual intention). Model fit was excellent [$\chi^2(df = 18) = 50.44, p = .00$; CFI = .99; RMSEA = .04 (90% CI: .03, .06); SRMR = .02].

Figure 9 presents the significant standardized paths for the hypothesized model. Results indicate that filial piety was associated with sexual responsibility, sexual behavior, and intention to have sex. To summarize, Latino/o adolescents that reported more filial piety were more likely to report being sexual responsible ($B = .09, p = .01$), less likely to engage in sexual behavior ($B =$

-.01, $p = .04$), and have lower intention to have sex ($B = -.02$, $p = .00$). In addition, adolescents' sense of filial piety positively predicted paternal child disclosure ($B = .04$, $p = .00$), maternal disclosure ($B = .03$, $p = .00$), paternal solicitation ($B = .04$, $p = .00$), and maternal solicitation ($B = .03$, $p = .00$). Thus, having a greater sense of filial piety was associated with increased levels of parental monitoring.

In reference to parental monitoring, some significant associations were found in relation to sexual health outcomes. Specifically, Latina/o adolescents that reported more that their fathers solicited information from them were more likely to have the intention to have sex ($B = .18$, $p = .00$). In addition, Latina/o adolescents that disclosed more information to their mothers were less likely to have the intention to have sex ($B = -.17$, $p = .01$) and were more likely to report being sexually responsible ($B = .93$, $p = .01$).

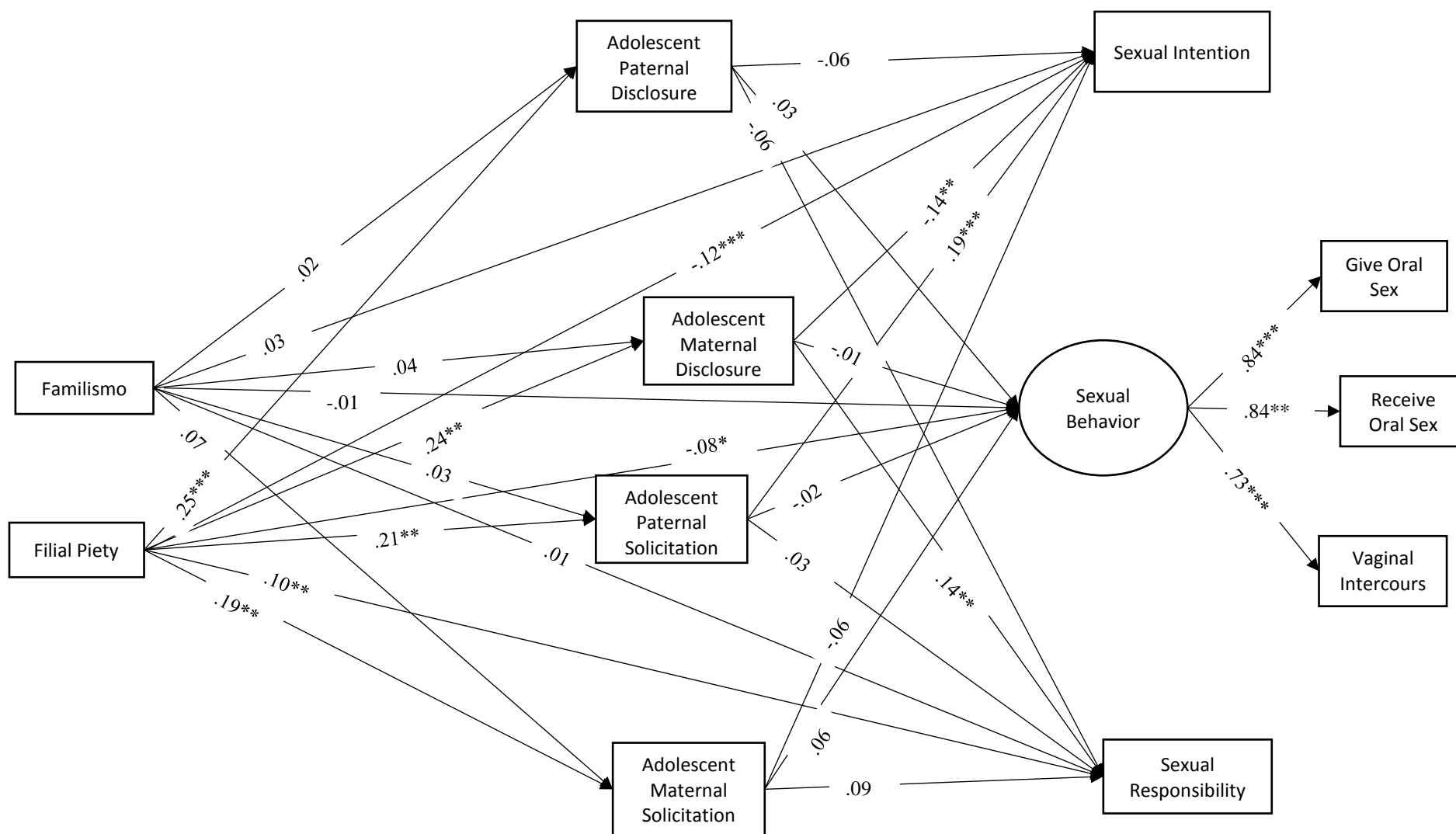


Figure 9. Standardized values for the multi-group model of the association between adolescents' familial cultural values, and adolescents' sexual health, mediated by paternal and maternal parental monitoring, with sex as the grouping variable. No control paths are displayed for ease of illustration.

Note: * $p < .05$. ** $p < .01$. *** $p < .001$

Sex Differences. I tested for adolescent sex differences in the hypothesized model by comparing two nested models (i.e., constrained vs. unconstrained), using the chi-square difference test and model fit, and then examining the differences between both models. The first model was unconstrained and allowed all path estimates to be freely estimated across male and female adolescents [$\chi^2 (df = 40) = 74.62, p = .00$; CFI = .99; RMSEA = .04 (90% CI: .03, .06); SRMR = .02]. In the second model, path estimates were constrained to be equal across male and female adolescents [$\chi^2 (df = 80) = 163.80, p = .00$; CFI = .97; RMSEA = .05 (90% CI: .04, .06); SRMR = .06]. The chi-square difference test was significant, which indicates that there were sex differences [$\Delta \chi^2 (\Delta df = 40) = 89.18, p = .00$] in the hypothesized model.

Next, the paths were constrained one at a time to create a partially constrained model that showed which paths differed by sex (Refer to Table 3). The final partially constrained model had excellent model fit [$\chi^2 (df = 71) = 103.08, p = .01$; CFI = .99; RMSEA = .03 (90% CI: .02, .04); SRMR = .04]. Results revealed that paternal (not maternal) monitoring predicted male (not female) adolescents' sexual outcomes. For male adolescents, paternal child disclosure negatively predicted sexual intentions ($B = -.18, p = .04$) and paternal solicitation positively predicted sexual intention ($B = .30, p = .00$). These associations were not significant for female adolescents ($B = .08, p = .15$ and $B = -.05, p = .46$, respectively). In sum, male adolescents that reported less disclosure to their fathers and whose fathers were less likely to solicit information from them were more likely to intend to have sex. For female adolescents, cultural values were associated with maternal monitoring. For female adolescents, familismo positively predicted maternal disclosure ($B = .02, p = .04$), but this association was not significant for Latino adolescents ($B = .01, p = .68$). Female adolescents that endorsed more familismo were more likely to report that

they disclosed information about themselves to their mothers. For further significant pathways, see Figure 10 for male adolescents and Figure 11 for female adolescents.

Mediation. Using the biased-corrected bootstrap method (Taylor et al., 2008), moderated mediation analyses were conducted for the partially constrained model. Two significant mediational models were found within the partially constrained model for male adolescents. Results indicated that the first path was significant mediation given that the confidence interval did not contain zero. Specifically, filial piety was positively associated with paternal solicitation, which was in turn positively associated with sexual intention (95% confidence interval for the mediated effect = .03, .11). Male adolescents that had a higher sense of filial piety were more likely to report that their fathers would solicit information from them which in turn increased their intention to have sex. Further, the second path was also significant mediation given that the confidence interval did not contain zero. Specifically, filial piety was positively associated with paternal child disclosure, which was, in turn, negatively associated with intention to have sex (95% confidence interval for the mediated effect = -.08, -.003). In other words, male adolescents that had a higher sense of filial piety were more likely to report that they disclose information to their fathers, which in turn decreased their intention to have sex. No further significant mediational pathways were found for male or female adolescents.

Table 3.

Hypothesized Model Chi-Square Difference Table

Model	Models Compared	Variables Paths	Constraints	CFI	RMSEA	SRMR	χ^2	df	χ^2 Change	df Change	Significance level
0			Unconstrained	0.99	0.04	0.02	74.62	40			
1	0 vs.1		Fully Constrained	0.97	0.05	0.06	163.80	80	89.18	40	0.00
2	0 vs. 2	SexInten on PatDis	Constrained 1	0.99	0.04	0.02	79.66	41	5.04	1	0.02
3	0 vs 3	Sexinten on PatSol	Constrained 2	0.99	0.04	0.02	78.61	41	3.99	1	0.05
4	0 vs 4	SexInten on Familismo	Constrained 3	0.99	0.04	0.02	75.96	41	1.34	1	0.25
5	4 vs 5	SexInten on Filial Piety	Constrained 4	0.99	0.04	0.02	77.15	42	1.19	1	0.28
6	5 vs 6	SexInten on MatDis	Constrained 5	0.99	0.04	0.02	80.30	43	3.15	1	0.08
7	6 vs 7	SexInten on MatSol	Constrained 6	0.99	0.04	0.02	83.32	44	3.02	1	0.08
8	7 vs 8	SexInten on Age	Constrained 7	0.99	0.04	0.02	83.33	45	0.01	1	0.92
9	8 vs 9	SexBeh by Oral and Vaginal Sex	Constrained 8	0.99	0.04	0.02	84.98	46	1.65	1	0.20
10	9 vs 10	SexBeh on PatDis	Constrained 9	0.99	0.04	0.03	89.21	47	4.23	1	0.04
11	9 vs 11	SexBeh on PatSol	Constrained 10	0.99	0.04	0.03	88.66	47	3.68	1	0.06
12	11 vs 12	SexBeh on Familismo	Constrained 11	0.99	0.04	0.03	88.71	48	0.05	1	0.82
13	12 vs 13	SexBeh on Filial Piety	Constrained 12	0.99	0.04	0.03	89.01	49	0.30	1	0.58
14	13 vs 14	SexBeh on MatDis	Constrained 13	0.99	0.04	0.03	89.11	50	0.10	1	0.75
15	14 vs 15	SexBeh on MatSol	Constrained 14	0.99	0.04	0.03	89.88	51	0.77	1	0.38
16	15 vs 16	SexBeh on Age	Constrained 15	0.99	0.04	0.03	97.66	52	7.78	1	0.01
17	15 vs 17	SexRespon on PatDis	Constrained 16	0.99	0.04	0.03	90.15	52	0.27	1	0.60
18	17 vs 18	SexRespon on PatSol	Constrained 17	0.99	0.04	0.03	90.42	53	0.27	1	0.60
19	18 vs 19	SexRespon on Familismo	Constrained 18	0.99	0.04	0.03	90.93	54	0.51	1	0.48
20	19 vs 20	SexRespon on Filial Piety	Constrained 19	0.99	0.04	0.03	90.95	55	0.02	1	0.89
21	20 vs 21	SexRespon on MatDis	Constrained 20	0.99	0.04	0.03	92.03	56	1.08	1	0.30
22	21 vs 22	SexRespon on MatSol	Constrained 21	0.99	0.04	0.03	92.16	57	0.13	1	0.72

23	22 vs 23	SexRespon on Age	Constrained 22	0.99	0.04	0.03	96.78	58	4.62	1	0.03
24	22 vs 24	PatDis on Filial Piety	Constrained 23	0.99	0.04	0.03	92.23	58	0.07	1	0.79
25	24 vs 25	PatDis on Familismo	Constrained 24	0.99	0.04	0.03	92.84	59	0.61	1	0.43
26	25 vs 26	PatDis on Age	Constrained 25	0.99	0.04	0.03	92.98	60	0.14	1	0.71
27	26 vs 27	PatSol on Filial Piety	Constrained 26	0.99	0.03	0.03	93.04	61	0.06	1	0.81
28	27 vs 28	PatSol on Familism	Constrained 27	0.99	0.03	0.03	93.49	62	0.45	1	0.50
29	28 vs 29	PatSol on Age	Constrained 28	0.99	0.03	0.03	97.48	63	3.99	1	0.05
30	28 vs 30	MatDis on Filial Piety	Constrained 29	0.99	0.03	0.03	93.57	63	0.08	1	0.78
31	30 vs 31	MatDis on Familismo	Constrained 30	0.99	0.03	0.03	97.44	64	3.87	1	0.05
32	30 vs 32	MatDis on Age	Constrained 31	0.99	0.03	0.03	94.07	64	0.5	1	0.48
33	32 vs 33	MatSol on Filial Piety	Constrained 32	0.99	0.03	0.03	94.49	65	0.42	1	0.52
34	33 vs 34	MatSol on Familismo	Constrained 33	0.99	0.03	0.03	95.30	66	0.81	1	0.37
35	34 vs 35	MatSol on Age	Constrained 34	0.99	0.03	0.03	96.81	67	1.51	1	0.22
36	35 vs 36	MatDis with PatDis	Constrained 35	0.99	0.03	0.03	98.06	68	1.25	1	0.26
37	36 vs 37	MatSol with PatDis	Constrained 36	0.99	0.03	0.03	98.32	69	0.26	1	0.61
38	37 vs 38	MatSol with MatDis	Constrained 37	0.99	0.04	0.05	115.43	70	17.11	1	0.00
39	37 vs 39	MatSol with PatSol	Constrained 38	0.99	0.04	0.05	102.33	70	4.01	1	0.05
40	37 vs 40	PatSol with MatDis	Constrained 39	0.99	0.03	0.04	98.32	70	0	1	1.00
41	40 vs 41	PatDis with PatSol	Constrained 40	0.99	0.03	0.04	103.08	71	4.76	1	0.03

Note: SexInten, Sexual Intention; SexBeh, Sexual Behavior; SexRespon, Sexual Responsibility; PatDis, Paternal Disclosure; PatSol, Paternal Solicitation; MatDis, Maternal Disclosure; MatSol, Maternal Solicitation.

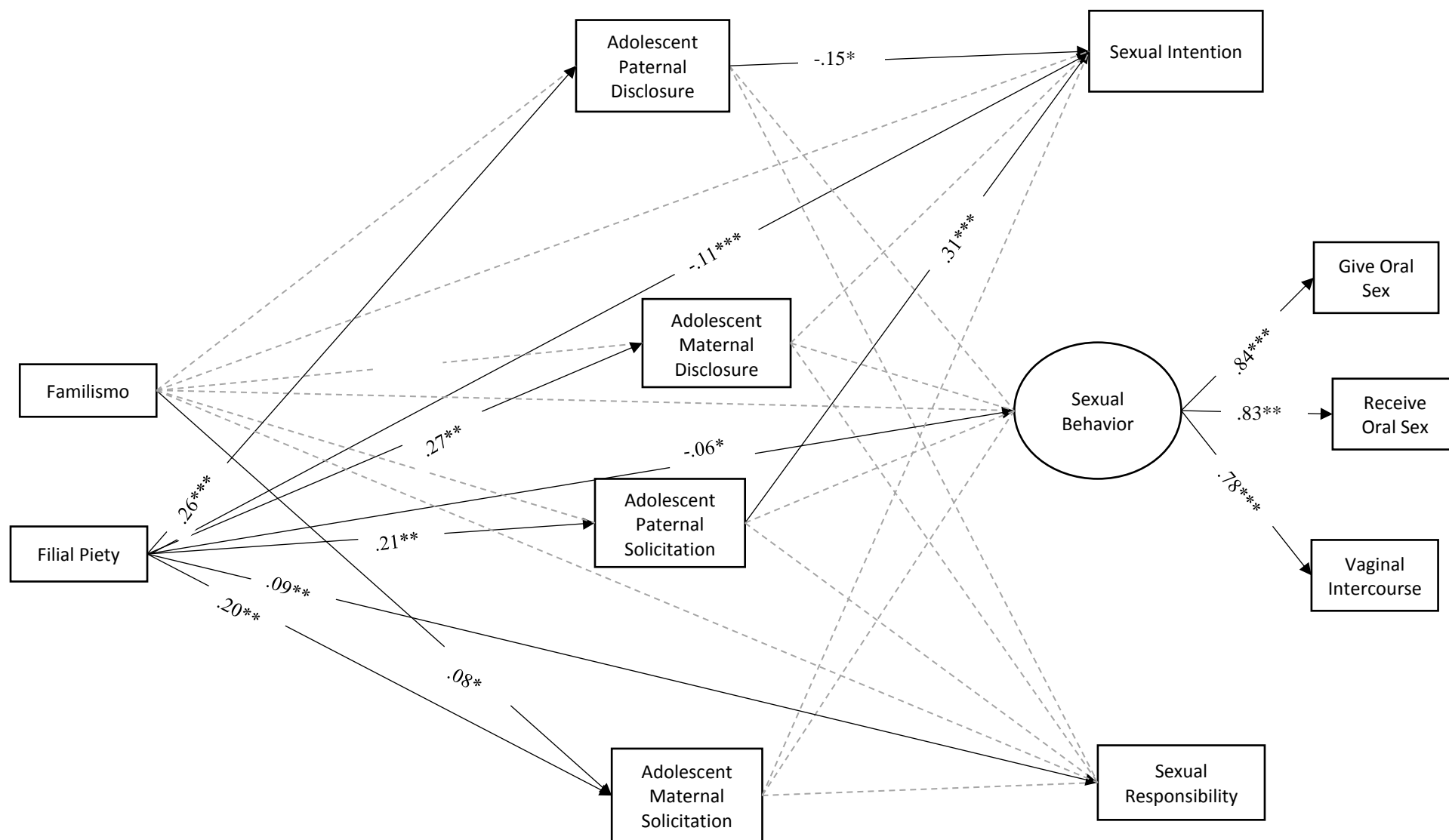


Figure 10. Final partially constrained multi-group model of the association between Latino adolescents' familial cultural values, and adolescents' sexual health, mediated by paternal and maternal parental monitoring. Standardized values are displayed for all significant pathways; significant paths are solid black and nonsignificant paths are gray dashed lines. No control paths are displayed for ease of illustration.
 Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

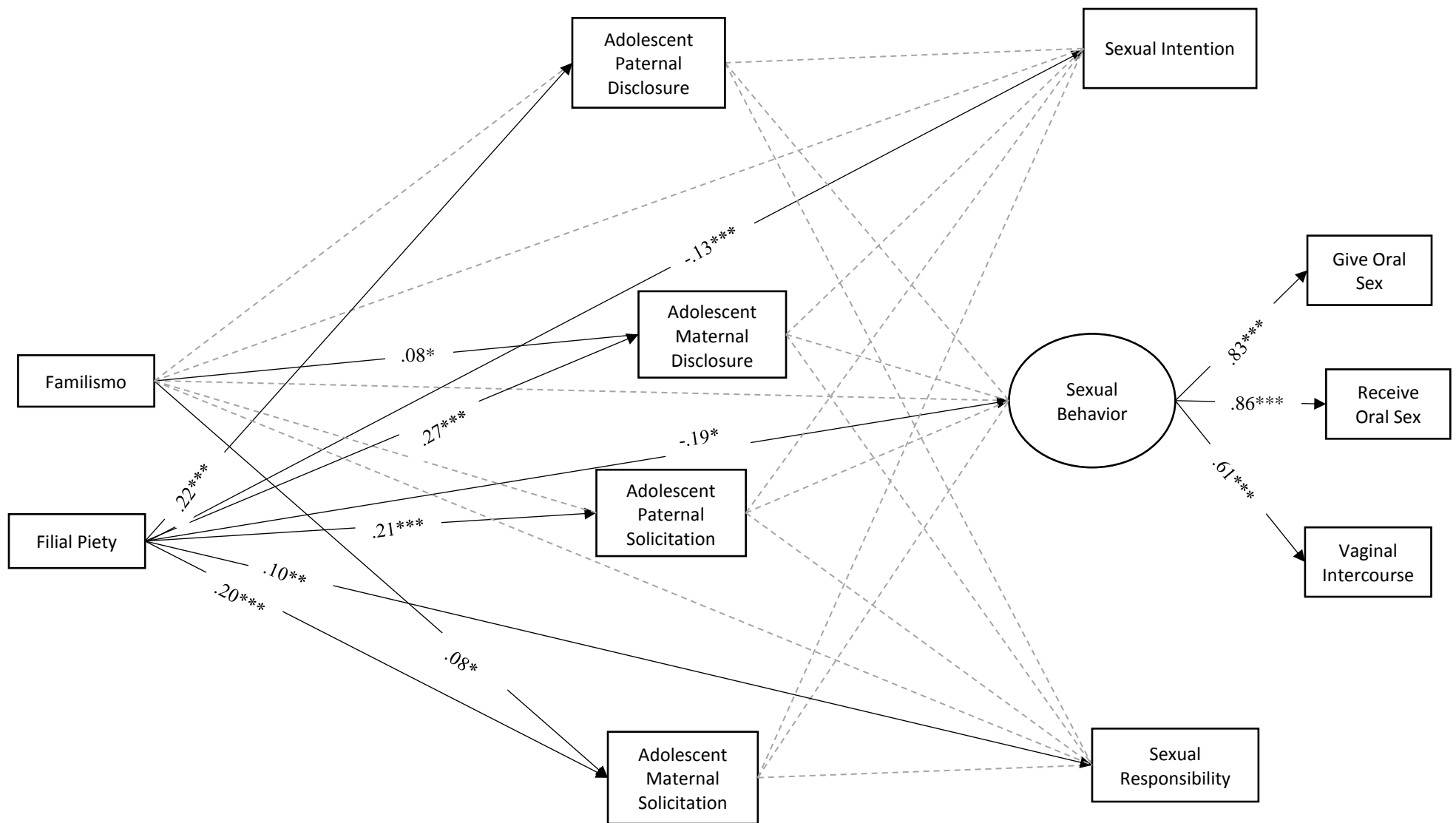


Figure 11. Final partially constrained multi-group model of the association between Latina adolescents' familial cultural values, and adolescents' sexual health, mediated by paternal and maternal parental monitoring. Standardized values are displayed for all significant pathways; significant paths are solid black and nonsignificant paths are gray dashed lines. No control paths are displayed for ease of illustration.

Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

Aim 2: Association Between Parental Monitoring and Sexual Behaviors Mediated by Familial Cultural Values (Alternative Model)

Using M-Plus (Muthen & Muthen, 2013), path analyses were conducted to examine the proposed alternative model, which tested whether familial cultural values (i.e., familismo and filial piety) mediated the relation between parental monitoring (i.e., paternal and maternal disclosure, paternal and maternal solicitation) and sexual health outcomes (i.e., sexual responsibility, sexual behavior, and sexual intention). Model fit was excellent [$\chi^2 (df = 18) = 50.44, p = .00$; CFI = .98; RMSEA = .04 (90% CI: .03, .06); SRMR = .02].

Results revealed that filial piety significantly predicted Latina/o adolescent sexual outcomes. Latina/o adolescents that had a higher sense of filial piety were more likely to be sexually responsible ($B = .09, p = .01$), less likely to engage in sexual behavior ($B = -.01, p = .04$), and have lower intention to have sex ($\beta = -.02, p = .00$). With respect to parental monitoring, paternal solicitation was associated with intention to have sex. Latina/o adolescents whose fathers were more likely to solicit information about them were more likely to have a higher intention to have sex. ($B = .19, p = .00$). Maternal disclosure was associated with sexual responsibility and intention to have sex. Latina/o adolescents that were more likely to disclose information to their mother were more likely to be sexually responsible ($B = .93, p = .01$) and have a lower intention to have sex ($B = -.17, p = .01$). Maternal disclosure was also associated with filial piety. Latina/o adolescents that disclosed more information to their mother were more likely to report greater levels of filial piety ($B = .86, p = .02$). (see Figure 12 for significant standardized paths).

Sex Differences. I tested for adolescent sex differences in the alternative model by comparing two nested models (i.e., constrained vs unconstrained), using the chi-square

difference test and model fit, and then examining the differences between both models. The first model was unconstrained and allowed all path estimates to be freely estimated across male and female adolescents [$\chi^2 (df = 40) = 74.62, p = .00$; CFI = .98; RMSEA = .04 (90% CI: .03, .06); SRMR = .02]. In the second model, path estimates were constrained to be equal across male and female adolescents [$\chi^2 (df = 73) = 122.24, p = .00$; CFI = .97; RMSEA = .04 (90% CI: .03, .05); SRMR = .04]. The chi-square difference test was not significant, which indicates that there were no sex differences in the alternative model [$\Delta\chi^2 (\Delta df = 33) = 47.62, p = .05$]. Accordingly, I used the unconstrained model to test for mediation, and controlled for adolescent sex.

Mediation. Using the biased-corrected bootstrap method (Taylor et al., 2008), I conducted mediational analyses to test the two mediational pathways for significant mediation. Results indicated that the first and second paths were significant mediation given that the confidence intervals did not contain zero. Specifically, maternal disclosure was positively associated with the adolescent's sense of filial piety, which was negatively associated with sexual intention (95% confidence interval for the mediated effect = -.04, -.003) and also sexual responsibility (95% confidence interval for the mediated effect = .001, .03). Adolescents who reported that they disclosed information to their mother were more likely to endorse having a higher sense of filial piety, which then decreased their likelihood of having the intention to have sex and increased their sexual responsibility.

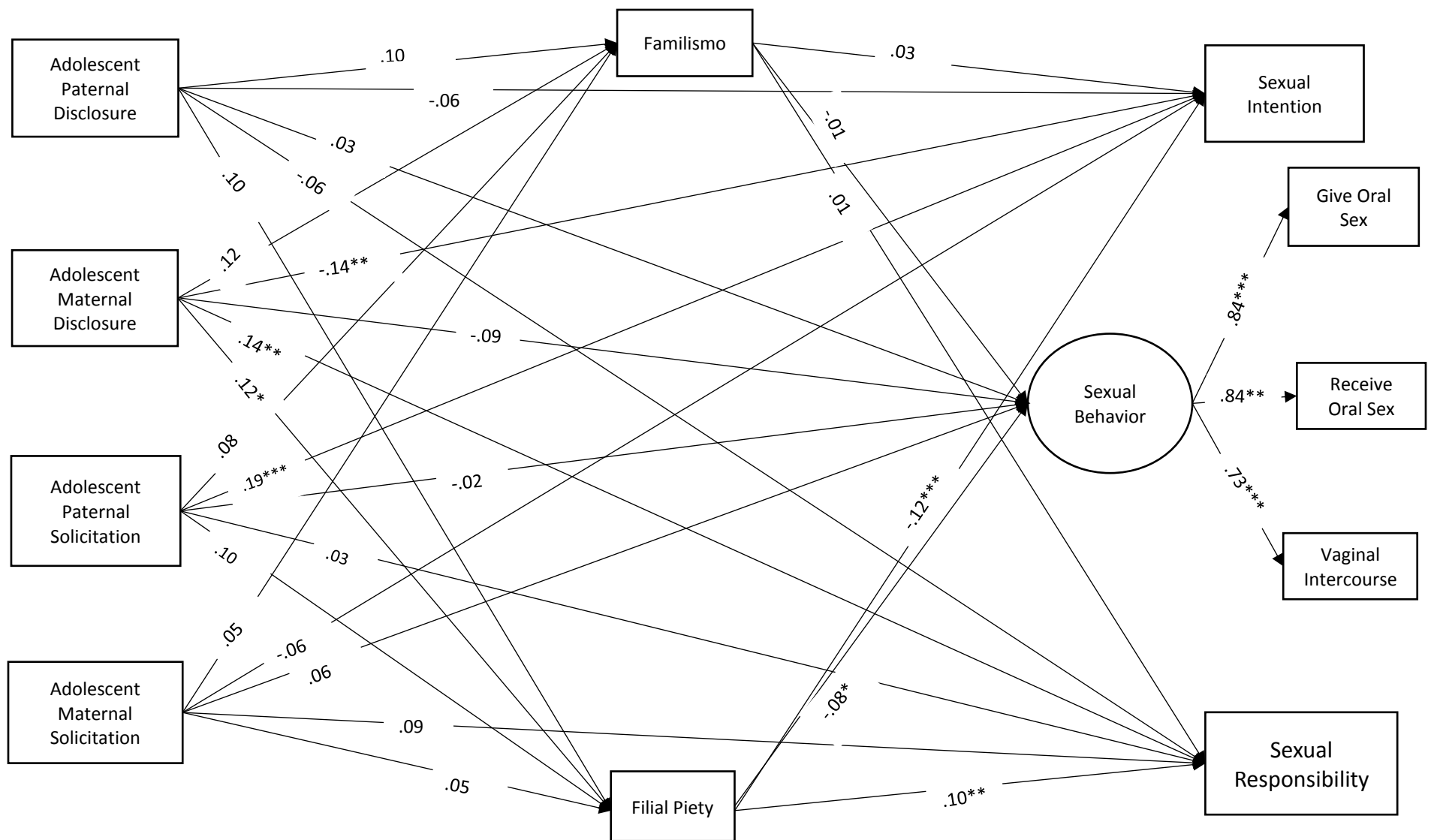


Figure 12. Standardized values for the multi-group model of the association between adolescents' reports of paternal and maternal monitoring, and adolescents' sexual health, mediated by familial cultural values, with sex as the grouping variable. No control paths are displayed for ease of illustration.
 Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

The overall goal of this study was to examine the associations between familial cultural values, parental monitoring and Mexican adolescents' sexual behaviors (i.e., intentions to have sex, sexual responsibility, and sexual behavior). Using structural equation modelling, the hypothesized model examined whether parental monitoring (both maternal and paternal) mediated the associations between Mexican adolescents' endorsement of family cultural values (familismo and filial piety) and their sexual behaviors (intentions to have sex, sexual responsibility, sexual behavior). An alternative model was also fitted to the data. This model examined whether family cultural values mediated the association between parental monitoring and adolescent sexual outcomes. Given findings that male and female adolescents differ in their reports of endorsement of family cultural values (Lorenzo-Blanco et al., 2012; Roche et al., 2008) and that they are parented differently, especially as it relates to activities such as dating and sexual behavior (Gilliam, 2007; Guilamo-Ramos et al., 2007; Romo et al., 2014), I also examined whether sex differences were present in the hypothesized and/or alternative models.

Association Between Familial Cultural Values and Sexual Behaviors Mediated by Parental Monitoring

The first aim of the study tested the hypothesized model, which examined the association between both familismo and filial piety with Latina/o adolescents' sexual behaviors, while being mediated by maternal and paternal monitoring, and moderated by adolescent sex. It was hypothesized that for Latino adolescents' greater endorsement of familial cultural values (i.e., familismo, filial piety) would be associated with decreased parental monitoring, which would be associated with 1) a higher sense of sexual responsibility, 2) higher intention to engage in sex, and 3) being more sexually active. For female adolescents, it was expected that greater

endorsement of familial cultural values would be associated with greater parental monitoring, which would be associated with 1) a higher sense of sexual responsibility, 2) lower intention to engage in sexual behavior, and 3) less sexual behavior.

Results were that Latino adolescents who endorsed more filial piety were more likely to report more paternal solicitation, which was then associated with higher intention to engage in sexual activity. Contrary to prior work that has found that increased parental monitoring is associated with decreased engagement in risk behaviors (Lescano et al., 2009; Nappi et al., 2009; Van Ryzin et al., 2011), findings from this study suggests that when Latino adolescents' fathers monitor their sons by asking them about their activities, it does not always decrease their intention to have sex. It is possible that this finding can be explained by Latino adolescents and their fathers' adherence to traditional gender roles and/or expectations about their relationship through the lens of traditional gender roles. With traditional gender roles, males are expected to be sexually experienced before marriage (Cianelli et al., 2008; Edwards et al., 2008; Ma et al., 2014). As such Latino fathers may solicit information from their sons in a way that encourages their sons' intentions to have sex rather than decrease this intention. For example, if fathers and sons talk about dating and relationships, it is possible that fathers may not communicate a disapproval of sex before marriage to their sons. Thus, even when soliciting information about their sons' activities, Latino fathers who adhere to traditional gender roles may be doing so in a way that approves of and/or encourages their sons' dating and sexual behaviors.

In the second significant mediational pathway, Latino adolescents who endorsed more filial piety were more likely to disclose about their activities to their fathers, which in turn was associated with lower intentions to engage in sex. This finding is consistent with prior work that demonstrates that increased parental monitoring is associated with decreased intentions to have

sexual intercourse (Barman-Adhikari et al., 2014; Killoren & Deutsch, 2014). While familismo and filial piety are often conceptualized as similar cultural values, they were differentially associated with Latino adolescents' intentions to have sexual intercourse through different parental monitoring components. This pathway suggests that Latino adolescent's demonstration of respect and familial obligations towards their fathers may increase the likelihood of disclosing information to their fathers about their activities, which in turn is associated with decreased intentions to have sex. Disclosing information is child-driven and does not consider fathers' reactions to this disclosure and/or how they solicit this information from their sons. Even though in both cases more filial piety is associated with more reported paternal monitoring, depending on how paternal knowledge of their son's activities is obtained, it will influence the adolescent's intention to have sex. It is not as common for Latino fathers to solicit information from their adolescent about their activities, as they rely more on their spouse to inform them on their child's activities (Blocklin, Crouter, Updegraff, & McHale, 2011). It would be important for future research to examine whether traditional gender roles have a direct moderating effect within this relation, and to specifically look at mother and father roles within the Latina/o household. A possibility that may arise is that, even though Latino adolescents may have a higher sense of familial obligations and responsibility towards their father, it still may not be very common for Latino fathers to ask their sons about their activities. Latino adolescents may then not feel pressured to not engage in sexual activity given the lack of paternal solicitation and the expectation of being sexually experienced before marriage. The current study extends this prior research by examining the association between paternal monitoring and filial piety with Latino adolescents' intention to have sex.

In reference to Latina adolescents, no significant pathways were found. For our female sample, a very small sample reported having engaged in vaginal intercourse ($N = 86$). With a small sample of Latina adolescent reporting having engaged in sexual behavior, it is not surprising that no significant pathways were found, especially in relation to the parental monitoring and sexual health outcomes. Gender roles within the Latina/o culture may influence how parents may monitor their adolescent, as they are more lenient with their sons compared to their daughters (Guilamo-Ramos et al., 2007). For example, Latino fathers are also more protective of their daughters and are more likely to report not feeling comfortable talking to their daughters about topics related to sex (Wilson, Dalberth, & Koo, 2010). This is important given that research has shown that Latinos are more likely to be sexual activity than Latinas (Espinosa-Hernandez et al., 2015b; Upchurch et al., 1998). Perhaps with parents being stricter with their daughters, that may lower the probability that Latina adolescents may engage in any sexual behavior.

However, specifically for Latina adolescents, results showed that familismo was positively associated with maternal disclosure. This pathway is expected given that in Latina/o culture, mothers are expected to be the main caregiver in the household (Guilamo-Ramos et al., 2007; Romo et al., 2014), which is why it would not be surprising for Latina adolescents to learn about familial cultural values and be closely monitored by their mothers, compared to their fathers. In a qualitative study done by Guillamo-Ramos et al. (2007) with Latina mothers and their adolescents, results showed that parental monitoring was closely linked with values like familismo, along with respeto and simpatia. Interestingly, we found this specific association with Latino adolescents to be non-significant. This pathway may indicate that Latina adolescents are more willing to disclose information of their activities given the high interconnectedness they

may have with their mothers, while Latino adolescents may not be monitored as much by their mothers. This association is not surprising as Latina mothers are more likely to report that their daughters will disclose information about their activities to them compared to their sons (Blocklin et al., 2011). Moreover, though Latina mothers may feel like the males should be taught better moral decisions in regards to their sexual attitude, they are more concerned about their daughters becoming pregnant (Guilamo-Ramos et al., 2006).

The partially constrained SEM models for both Latino and Latina adolescents shared significant pathways worth noting. Both Latina and Latino adolescents that endorsed more filial piety were more likely to report both parental (i.e., maternal and paternal) disclosure and solicitation, and familismo was positively associated with maternal solicitation. These associations followed what past research has found within the Latina/o population, in which familial cultural values (i.e., familismo, respeto), are positively associated with parental monitoring (Romero & Ruiz, 2007; Van Campen & Romero, 2012). Similar to the overall model, this association may be due to both Latina and Latino adolescents having a much closer relationship with their mother compared to their father (Antshel, 2002; Crockett et al., 2007). Additionally, mothers are more likely to be the primary caregiver in the household (Crockett et al., 2007; Guilamo-Ramos et al., 2007; Romo et al., 2014), which means that they are more likely to interact with their adolescents and have more knowledge of the activities of their child. Knowing this, it may be more common for Latina mothers to ask their adolescent where they have been and who they are with (Guilamo-Ramos et al., 2007; Romo et al., 2014). This could happen more to adolescent's whose families emphasizes familial cultural values more. This is done by adolescents disclosing their activities whenever their parents ask them about where they

may have been. Overall, these associations highlight the importance of both familial piety and familismo and its relation with parental monitoring for Latina/o adolescents.

These findings are unique in that, to our knowledge, it is one of the first studies that specifically examined filial piety, both maternal and paternal monitoring, and their association with Latina/o adolescents' sexual health outcomes. Also, this study is one of the first to examine filial piety and its direct association with sexual health outcomes for adolescents. We were also able to test direct associations between both perceived maternal and paternal monitoring, which is important given how past research has primarily focused on maternal monitoring and adolescent health outcomes. For example, for Mexican American adolescents, having a good relationship with their fathers also consist of being open to discuss anything, however father-adolescent communication is not a common occurrence (Crockett et al., 2007). It is important to further examine the father-adolescent interaction when looking at sexual behavior and parental monitoring. Fathers are examined less than mothers and future research should consider the relation between fathers-adolescent dyads to further study potential gender differences in parenting monitoring (Guilamo-Ramos et al., 2009). Additionally, further research is needed to further understand father-son dynamics in relation to parental monitoring and sexual health outcomes.

Moreover, given the importance family has on Latina/o adolescent's sexual health, further research is needed examining familial factors and their influence on Latina/o adolescent sexual health. It is important to further include different variables and, if possible, more levels of the ecodevelopmental model in the proposed structural equation models in this study. As Prado et al. (2010) argues, with the ecodevelopmental model it is possible to include more variables in each level, and that may affect the overall outcome of the model. That is why it is important to

take into consideration a wide spectrum of variables when examining a structural equation model using an ecodevelopmental theoretical approach. In relation to the model, future research could take into consideration religiosity and parental monitoring within the Latino population, as it is an area that further research is needed. Past research has examined how parental monitoring and religiosity together is related with positive sexual outcomes for adolescents (refer to DiClemente et al., 2001). Though research has studied overall adolescent's sexual outcomes through religiosity and parental monitoring (Manlove, Logan, Moore, & Ikramullah, 2008), many studies have not focused on Latina/o adolescent's sexual health. Given the centrality of religion in the Latina/o culture, future researchers need to take further steps in analyzing parental monitoring and religiosity to fully understand how both of these factors can influence Latina/o adolescent sexual health. Given the social support many Latina/o parents may have by attending church (Coatsworth et al., 2002), religiosity influences their attitudes towards adolescent sexual health. This then indirectly affects the adolescents by not receiving any information about sex.

Association Between Parental Monitoring and Sexual Health Mediated by Familial Cultural Values

The second aim of this study was to examine an alternative model, in which familial cultural values mediated the relationship between parental monitoring and adolescents' sexual health, while moderated by sex differences. The model had excellent fit indices and we further examined it to determine if there were any sex differences. Even so, our hypotheses were not supported given that no sex differences were found between the unconstrained and constrained model. Similar to the hypothesized model, many of the same associations can be seen in the alternative model: Maternal disclosure was associated with sexual responsibility and intention to

have sex, paternal solicitation was associated with intention to have sex, maternal disclosure was associated with filial piety, filial piety associated with all the sexual health outcomes.

The association between maternal disclosure and filial piety has a bidirectional relationship as filial piety was also associated with maternal disclosure in the hypothesized model. Through a social-learning theoretical perspective, Latina/o child will learn about showing respect to their elders and the importance of familial obligations (i.e., staying close to your family, maintain family values) through their mothers. For Latina mothers, transmitting the cultural value of *respeto* and emphasizing the importance of family is central in their parental role (Calzada, Fernandez, & Cortes, 2010). They are known also to be the primary caretakers of the children and will interact more with their child compared to Latino fathers (Crockett et al., 2007; Guilamo-Ramos et al., 2007; Romo et al., 2014). Thus, Latina mothers are highly respected by the children given their role in the household. In relation to this, it would not be surprising if both Latino and Latina adolescents, given they may interact with their mothers more, are very willing to tell their mothers information on where they have been. This is done out of deference, which signifies a demonstration of respect to the familial hierarchy within the household (Calzada et al., 2010). Given how Latina mothers are more likely to monitor their children and emphasize the importance of *respeto* and obligation to parents, it is not surprising that both maternal child disclosure and filial piety have a bidirectional relationship. However, further research is needed to examine the bidirectionality of these variables to further understand how filial piety, and possibly other familial cultural values, and maternal monitoring may influence Latina/o adolescent sexual health.

Unconstrained Model Mediation Paths. Two significant mediational pathways in the alternative model were found in the unconstrained alternative model. First, adolescents that

reported more maternal disclosure were more likely to endorse filial piety, which was associated with less sexual intention. Results indicate that Latina/o adolescents may tell their mother their activities out of familial respect and obligation, and those adolescents are less likely to have the intention to have sex. Secondly, maternal disclosure was positively associated with filial piety, which was then positively associated with sexual responsibility. Latina/o adolescents that told their mother their activities, similarly to the first mediation model, out of familial respect and obligation, will demonstrate more sexual responsibility. These results are in line with past research that has shown that parental monitoring and familial cultural values are associated with each other (Coltrane et al., 2004; Romero & Ruiz, 2007), and are both have positive association with sexual health in adolescents (Barman-Adhikari et al., 2014; Gao et al., 2012).

These significant mediation models highlight the importance of adolescents disclosing information to their mothers and filial piety in regards to healthier sexual outcomes for Latina/o adolescents. More generally, the alternative model mediational models suggest that positive maternal monitoring is associated with adolescents having a higher sense of familial respect and obligations towards their mother, which in turn will encourage adolescents to practice safe sex. Adolescents may consciously decide to talk to their mothers about what activities they have been doing so they do not worry as much about them. This leads to Latina/o adolescents demonstrating respect and having a sense of responsibility towards their mother, which may influence them to engage in safe sex practices.

From a social-ecological perspective, one can argue that Latina mothers may have a more significant role in reference to teaching adolescent's familial cultural values that are associated with safer sex practices. Latina mothers, depending on how close a relationship they may have with their adolescent, may play a significant role in adolescent making responsible decisions

when engaging in sexual behavior, and may also discourage adolescents from engaging in sexual intercourse. These trends demonstrate the need to further investigate the relations maternal parental practices may have on adolescent's decision making in regards to their sexual health, especially within the Latina/o population.

Limitations and Future Direction

The current study has several strengths, such as the complex statistical design and a large sample size of Latina/o adolescents. However, it also has its limitations.

Cross-sectional design. This study used a cross-sectional secondary data set, which limited our interpretation to non-causal inferences. Rather, patterns are suggested based on the associations found within the model. For this study, I can only make relational conclusions between variables and report the strength of each relation, however, we are unable to make any causal implications based on those findings. For example, studies have found that parents will monitor their adolescent differently once their adolescent becomes sexually active (Dittus et al., 2015; Davila et al., 2017). It is important to test these associations through a longitudinal approach as one can examine the differences in sexual health behavior, parental monitoring, and familial cultures with the passing of time. That is why it is important that future research examine these relationships through a longitudinal approach, in order to determine if findings are based on causal behaviors and attitudes.

Perceived parental monitoring. This study only assessed adolescent's perceptions of parental monitoring. It is important to obtain the parental perception regarding how much parental monitoring they report. Adolescents reports, though important, may not actually be similar to parental reports regarding parental monitoring (Borawski et al., 2003). Parents may have a more accurate depiction regarding how much attention they place on their adolescents,

which is important to note. Future research would greatly benefit from assessing actual paternal and maternal monitoring from the parents and include that in a structural equation model to further examine these associations.

Measurement. There are limitations that must be noted in regards to measurement limitations. First, the familismo measure had a low Cronbach's alpha, which may have contributed to the lack of associations it had within the presented models. We conducted a confirmatory factor analysis to determine if all of the measures do fit within the overall familismo concept. Results showed adequate fit when including all of the items to create the familismo scale. Further, we examined whether deleting an item within the familismo scale would improve the overall alpha level, however, it only decreased it. Future research should consider including a different scale measuring familismo (i.e., familismo subscale in the Mexican-American Cultural Values Scale; Knight et al., 2010), or include an additional familial cultural value scale (i.e., familial obligation) within the overall structural equation models. This may further strengthen the study.

Second, we were unable to control for social economic status or parental education within the proposed structural equation models. This is important to note as low-SES families has been associated to monitor their adolescent less (Pettit, Bates, Dodge & Meece, 1999; Spera 2005). It would be very important for future researchers to try and control additional factors that may influence parental monitoring, familial cultural values, or adolescent sexual health. By doing so, it is possible to have a clearer outcome regarding how parental monitoring and familial cultural values are associated with Latina/o adolescent sexual health.

Finally, we were unable to determine if adolescents that reported living with either their mother or father actually interacted with their other parent as well. This, in turn, could influence

how they could have possibly responded on the parental monitoring items. For example, some adolescents that reported living with just their mother did not complete the paternal monitoring items. This may be interpreted as not missing data at random (NMAR), which is the most problematic form of missing data to handle (Enders, 2011). For NMAR, using statistical techniques to handle missing data such as multiple imputation or maximum likelihood may cause some bias in the overall outcomes within the structural equation models (Collins, Schafer, & Kam, 2001; Enders, 2011). It would be important for future researchers to include items such as parental relationship status (i.e., married, divorced) and if there is any shared custody for the adolescent should he live with just one parent. These items would assist us in determining if data would be missing at random or NMAR.

Generalizability. Another limitation involves the actual sample only being comprised of Mexican adolescents. It can be argued that the results may not be generalized to other Latina/o adolescents based on inter-cultural differences. Furthermore, results may also not be generalized to Mexican adolescents that are living in the U.S. and who are third or fourth generation. As research has shown, Latina/os that having been living in the U.S. for longer periods of time are more likely to report lower endorsement of familial cultural values (Ayon, Marsiglia, & Bermudez-Parsai, 2010). It is important that future researchers test the hypothesized model on Latina/o adolescents living in the U.S., and who come from different Latin America backgrounds as well. Examining this model with a more diverse sample of Latina/o adolescents will further assist researchers in understanding how cultural values and parental behaviors may influence adolescent sexual health.

Should this model be used with Latina/o adolescents living in the U.S., acculturation should be incorporated within the overall model. Acculturation is viewed as a process in which

an individual or group of individuals adapt to a cultural archetype (e.g., learning to live in the U.S.) (Berry, 1997; de Coster & Brasseur, 1971). There has been ample research on acculturation influence on Latino adolescent sexual health and behavior. However, acculturation can influence both adolescent sexual behavior and parenting styles, depending on how acculturated both of them are (Jimenez, Potts, & Jimenez, 2002). Furthermore, if both adolescent and parent display high levels of acculturation, they are more likely to display conflict with each other (Pasch et al., 2006).

Acculturation is a difficult construct to examine. Researchers have had difficulty examining both parental practices and acculturation together, and their influence on Latino adolescent sexual health. For example, Wiesner, Arbona, Capaldi, Kim, and Kaplan (2015) examined generational differences in Latino adolescents living in the U.S. in regards to their sexual behavior. They found that adolescents who adhered to their traditional Latino values were less likely to engage in risky sexual behavior, no matter the acculturation level. However, given the multidimensionality that acculturation, cultural values, and parental practices consist of, further research is needed to find an effective way to examine all of these factors together (Morales-Aleman & Scarinci, 2016; Schwartz et al., 2014). A structural equation model would assist in analyzing the complexities involving all of these components together, when examining Latina/o adolescent sexual health.

Implications

The findings in this study show how filial piety can affect Latino adolescents' sexual health. These findings can be used to further inform sexual health prevention programs targeting Latina/o adolescents. The Latina/o culture consists of different cultural components, in which many have yet to be explored by researchers. Filial piety is an important familial cultural

component that interventionists should consider when creating or implementing prevention programs focusing on Latina/o adolescent sexual behavior. Interventionists could incorporate filial piety, or similarly the concept of respeto, in sexual health prevention programs (Guilamo-Ramos et al., 2007). Given that family plays such an important role within the Latino community, familismo and filial piety are the ideal cultural values to examine when developing any intervention targeting Latina/o adolescents (Cardoza et al., 2012; Lee, Dancy, Florez, & Holm, 2013; Lescano et al., 2009). However, familial cultural values are not a common factor in many interventions focusing on Latina/o adolescent safe sex practices (Lee et al., 2013). This in turn can be problematic as interventions may then lose its effectiveness with Latina/o families.

Interventions need to include a more culturally appropriate familial component targeting the Latina/o population. An example of a successful intervention targeting Latina/o adolescents is *Cuidate*, which incorporated many cultural values (i.e., familismo, gender roles, respeto, personalismo) in the *Be Proud! Be Responsible!* program to effectively promote safe sex practices (Villarruel, Jemmott, & Jemmott, 2005; 2006). *Cuidate* consists of six modules that emphasized sexual self-efficacy and HIV prevention strategies, such as carrying a condom is a form of protecting your family (familismo) (Villarruel et al., 2005;2006). Results for this intervention showed that adolescents who were more likely to get HIV based on their sexual practices began to use condoms more consistently (Villarruel et al., 2006). Similarly, a family-based intervention is an appropriate approach towards improving Latina/o adolescent sexual health if cultural values are incorporated (Guilamo-Ramos et al., 2007; Guilamo-Ramos, Goldberg, Lee, McCarthy, & Leavitt, 2012). Villarruel, Loveland-Cherry, and Ronis (2010) through an ecodevelopmental perspective, created the intervention *Cuidarlos*, which is a Latina/o parent-adolescent intervention that focuses on sexual communication. *Cuidarlos* focused

primarily in the cultural and familial association and results showed that parents and adolescents that received the intervention reported talking more about sex with each other (Villarruel et al., 2010).

To fully develop culturally appropriate interventions for Latina/o families, understanding different cultural values will be of great importance to accomplish this. Implementing interventions that are culturally appropriate will strengthen programs targeting Latina/o adolescents in teaching them proper self-efficacy for safe sex practices and encourage parents to talk to their adolescents about sex (Ma et al., 2014). Additionally, programs that are cultural sensitive is important to effectively reach out to Latina/o parents and adolescents when implementing any intervention (Wilkinson-Lee, Russell, & Lee, 2006). This makes it easier for Latina/o families to relate to the material compared to a program that was not tailored to them. Finally, by acknowledging that cultural values and parenting together influence the adolescent's sexual health, rather than just focusing on just parents or adolescent behavior, we take the necessary steps to assisting adolescents in making proper decisions in their sexual health. Latina/o adolescents who have a good relationship with their parents and talk to them about sexual topics are more likely to have positive sexual outcomes (Martino, Elliott, Corona, Kanouse, & Schuster, 2007). For example, Romo et al (2014) culturally tailored a mother-daughter youth program for Latina/os, and results showed an increase in mother-daughter communication about sexual topics. If done properly culturally tailoring interventions can serve as a huge step towards assisting Latina/o parents and adolescents towards healthier decision-making in regards to their sexual health.

However, incorporating more culturally appropriate components in prevention programs has been a difficult task. Many interventions focus more on negative outcomes if the adolescent

is sexually active rather than informing them how to have safe sex (Guilamo-Ramos et al., 2007). Should interventions incorporate a familial cultural value component, the intervention can then focus on the negative consequences engaging in risky sexual behavior can have on the individual and familial level (Guilamo-Ramos et al., 2007). That is why it is important to further understanding familismo and filial piety's role in Latina/o adolescent sexual health, especially to culturally tailoring interventions focusing on adolescent sexual health.

Unfortunately, there are barriers that must be understood further, such as gender roles within the Latina/o culture. Cultural attitudes towards Latina adolescents, such as the expectation to remain virgins until marriage, make it a challenge for interventionists to break down the cultural barrier that gender roles may present for promoting healthier sexual health outcomes. That is why it would be important to develop culturally appropriate interventions targeting Latino and Latinas separately as it may assist in promoting safer sex practices (Lee et al., 2013). Differences between sex were anticipated given the influence gender roles may have on parental practices and attitudes towards their sons and daughters. For example, Bouris et al (2012) found that Latina mothers are more likely to tolerate their son's sexual behavior if they were in a relationship yet demonstrate less tolerance towards their daughter's sexually behavior. Though we do not encourage adolescents engaging in sexual behaviors, it is important for Latina adolescents to protect themselves from an unplanned pregnancy and STI's by properly being informed on how to avoid such consequences.

Programs like *Cuidate* and *Cuidalos*, though effective, do not consider how sex differences effect the overall outcomes. An important step interventionist targeting Latina/o parents and their adolescents should take is working on parents treating their males and females equally. Regrettably, Latina/o parents that endorse more traditional cultural values are more

likely to feel like their daughter is dishonoring the family if involved in a sexual relationship outside of marriage (Raffaelli & Ontai, 2001). As shown in the alternative model, findings indicate that maternal monitoring and filial piety is associated with positive sexual health outcomes (i.e, more sexual responsibility, lower intention to have sex). Interventionists can use a social-learning approach when working with Latina mothers, by further examining how parental practices, such as monitoring, may influence their adolescent's sexual health. It is important for researchers and interventionists to consider the influence Latina mothers have on their adolescents' cultural values, and how that can directly influence the adolescents' sexual health. As mothers tend to be the primary caregiver within the Latina/o household, further strengthening this relationship is important and programs should focus on assisting mothers and adolescent relationships as it can improve overall sexual health for adolescents. Further researching how familial cultural values have on adolescent sexual health can further our knowledge on how to assist adolescents and their parents on providing the necessary resources to improve adolescent sexual health.

However, many of these intervention programs have mothers participating in the interventions at a higher rate compared to fathers. The findings in this study show, filial piety was associated with paternal monitoring, which is associated with intention to have sex for Latino adolescents. Fathers have a significant role in their sons lives and future research should consider in future research and interventions focusing on Latino parents and their adolescents. Prevention programmers should identify stronger strategies for better engaging Latino fathers in sexual health prevention programs. For example, interventionists can use familial cultural values as a strategy to empower parents, emphasizing the importance of their involvement in their adolescent's life (Guilamo-Ramos & Bouris, 2008). By focusing on the importance of family, an

important step can be taken towards Latino fathers being more involved in their adolescents' life, which in turn may influence their adolescents' intention to have sex.

Conclusion

This study contributed to the literature on Latina/o adolescents' sexual health in important ways. First, I explored whether filial piety (an understudied family cultural value) would show similar or different associations with Mexican adolescents' sexual health than the more robustly studied family cultural value of familismo. Second, this study included measures of both maternal and paternal monitoring. Relatively fewer studies consider both maternal and paternal parenting practices simultaneously, especially in matters related to adolescent sexual health. Third, I explored (and expected) that the relationships between familial cultural values, parental monitoring, and adolescent sexual behavior would differ by adolescent sex. Overall, both the hypothesized (cultural values-parental monitoring-sexual behaviors) and alternative models (parental monitoring-cultural values-sexual behaviors) demonstrated good fit indices. Adolescent sex differences, however, were only found for the hypothesized model. Moreover, some differences emerged when considering maternal versus paternal monitoring and the association with family cultural values and adolescents' sexual behaviors. Also, from an ecodevelopmental perspective, results indicate that paternal monitoring and filial piety are closely associated with Latino adolescents' intention to have sex. Filial piety is associated with favorable sexual health outcomes for Latina/o adolescents. Specifically, filial piety may be considered as a protective factor for Latina/o adolescent sexual health, as it was associated with lower intentions to have sex, lower likelihood to engage in sexual behavior, and more sexual responsibility.

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Appendix 1. Cultural Value Familismo Subscale

Items
1. When a child is having any problems, he/she can count on his/her family for support.
2. I know that my parents will help me whenever I need them.
3. A person should share his/her house with his/her uncles, aunts, or cousins if they need it.
4. A person can count on the support of his/her family to solve most of the problems.
5. The family should consult with close family relatives with respect to important decision making.
6. Regardless of what I must sacrifice, acknowledging my family's problems is very important to me.

Curriculum Vita

Efren A. Velazquez was born on November 3, 1988, in Queretaro, Queretaro, Mexico. He graduated from Boise State University with his Bachelors of Arts in Psychology on May, 2012. He received a Master in Science in Psychology from Virginia Commonwealth University, Richmond, Virginia in December 2014. Efren worked in multiple labs during his time in Boise State University.