

Winter 2018

Risk of Unintended Pregnancy in Latina Young Adults: The Effect of Gender Role Beliefs, Acculturation, and Depression

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**RISK OF UNINTENDED PREGNANCY IN LATINA YOUNG ADULTS:
THE EFFECT OF GENDER ROLE BELIEFS, ACCULTURATION, AND DEPRESSION**

by

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A Dissertation Submitted to the Graduate Facilities of
Eastern Virginia Medical School
Norfolk State University
Old Dominion University
in Partial Fulfillment of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

CLINICAL PSYCHOLOGY

VIRGINIA CONSORTIUM PROGRAM IN CLINICAL PSYCHOLOGY
December 2018

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ABSTRACT

RISK OF UNINTENDED PREGNANCY IN LATINA YOUNG ADULTS: THE EFFECT OF GENDER ROLE BELIEFS, ACCULTURATION, AND DEPRESSION

Jessica Block

Virginia Consortium Program in Clinical Psychology, 2018

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This study investigated the effect of Latina gender role beliefs, or *marianismo* beliefs, on risk for unintended pregnancy by examining contraceptive method use in Latina young adults. Acculturation and depression were also examined as moderators of the association between *marianismo* and contraceptive method choice, as well as separately for their effects on contraceptive use. Unmarried, nulliparous Latina women aged 18-24 ($N = 142$) were recruited through online social media platforms. Data were collected in the United States in July 2017. Logistic regression analyses were performed to distinguish between women who utilized more effective v. less effective contraceptive methods in the past three months. Results indicated that Negative *Marianismo* Beliefs, including beliefs associated with virtuosity, subordination to men, and self-silencing, demonstrated a trend toward association with less effective contraceptive use. Positive *Marianismo* Beliefs, including beliefs associated with family and spiritual leadership, and *marianismo* beliefs overall, were not associated with contraceptive use. Acculturation was not associated with contraceptive use in logistic regression analyses; however, non-US birthplace showed a marginal correlation with less effective condom use specifically. Young women with depression in the present study were not more likely to use less effective contraception. An interaction effect with depression at the trend level suggested that women were likely to use contraception less effectively if they reported low levels of depression and high levels of Negative *Marianismo* Beliefs. Those reporting high levels of depression were no more likely to

use contraception effectively if they had low or high levels of Negative *Marianismo* Beliefs. This study provides preliminary evidence that traditional gender role beliefs may impact Latina young women's risk for unintended pregnancy. The findings also highlight the importance of cultural beliefs and values to sexual health outcomes.

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This dissertation is dedicated to Ross Block -
for being a great brother and even better friend.

ACKNOWLEDGMENTS

There are many people who deserve my gratitude with respect to the completion of this dissertation. I would like to thank my committee chair and research mentor, Dr. James Paulson. His guidance and support on this project, and throughout my graduate school career, has been enormously valuable and integral to my progress. I would also like to thank my committee members, Dr. Barbara Winstead, Dr. Kathrin Hartmann, Dr. Scott Debb, and Dr. Alex Dryden, for their contributions to this dissertation. I am very grateful for their significant insight and collaboration. Notably, this dissertation would not have been possible without the encouragement I received from family and friends. I am very fortunate to have the unconditional love and support of the Block/Stone family, in addition to my large extended family. I would like to express a special thanks to Dawn Block for providing support in a myriad of ways during my graduate education. I would also like to thank my friends, particularly Melissa Mandelbaum, Rachel Mednick, Talya Adesnik, Sara Dash, Nina Bachkova, and Carly Greyell, for their encouragement of me, even from afar, and Shana Cox for being more of a mentor to me in Miami than you knew. Lastly, I have enormous gratitude for the WorldTeach program and my students at Universidad Técnica de Machala in Ecuador. My experience there prompted a love of Latino culture and inspired this dissertation.

TABLE OF CONTENTS

	Page
LIST OF TABLES	ix
Chapter	
I. INTRODUCTION	1
UNINTENDED PREGNANCY	3
CONTRACEPTIVE METHOD CHOICE	5
CULTURAL SCRIPTS AND <i>MARIANISMO</i>	6
ACCULTURATION	16
DEPRESSION	21
THE CURRENT STUDY	24
STUDY AIMS	26
II. METHOD	28
PARTICIPANTS AND INCLUSION CRITERIA	28
PROCEDURE	28
MEASURES	31
CONTEXT AND COVARIATES	36
ANALYSIS APPROACH	38
III. RESULTS	40
<i>MARIANISMO</i> BELIEFS	47
ACCULTURATION	50
ACCULTURATION AND <i>MARIANISMO</i>	51
DEPRESSION	52
DEPRESSION AND <i>MARIANISMO</i>	53
RESEARCH QUESTION	55
IV. DISCUSSION	60
CONTRACEPTIVE USE	62
<i>MARIANISMO</i> BELIEFS	63
ACCULTURATION	66
DEPRESSION	69
STRENGTHS AND LIMITATIONS	71
IMPLICATIONS AND FUTURE DIRECTIONS	74
V. CONCLUSIONS	77
REFERENCES	78
APPENDICES	
A. SCREENING QUESTIONS ENGLISH VERSION	92

	Page
B. SCREENING QUESTIONS SPANISH VERSION	94
C. DEMOGRAPHIC QUESTIONS ENGLISH VERSION	96
D. DEMOGRAPHIC QUESTIONS SPANISH VERSION	99
E. <i>MARIANISMO</i> BELIEFS SCALE ENGLISH VERSION	102
F. <i>MARIANISMO</i> BELIEFS SCALE SPANISH VERSION	103
G. BRIEF ACCULTURATION RATING SCALE FOR MEXICAN AMERICANS (BARSMA-II) ENGLISH VERSION	104
H. BRIEF ACCULTURATION RATING SCALE FOR MEXICAN AMERICANS (BARSMA-II) SPANISH VERSION	105
I. CENTER FOR EPIDEMIOLOGICAL STUDIES – DEPRESSION SCALE (CES-D) ENGLISH VERSION	106
J. CENTER FOR EPIDEMIOLOGICAL STUDIES – DEPRESSION SCALE (CES-D) SPANISH VERSION	107
K. CONTRACEPTION/SEXUAL BEHAVIOR ENGLISH VERSION	108
L. CONTRACEPTION/SEXUAL BEHAVIOR SPANISH VERSION.....	110
VITA	112

LIST OF TABLES

Table	Page
1. Contraceptive Method Categorization: More Effective v. Less Effective.....	32
2. Demographic Characteristics of Sample.....	42
3. Participant Family Origin	43
4. Contraceptive Method Use of Sample	44
5. Bivariate Correlations of Study Variables and Demographic Variables	46
6. Bivariate Correlations of Contraceptive Use and <i>Marianismo</i> Beliefs Scale and Subscales	48
7. Logistic Regression Analysis of Effective Contraceptive Use as a Function of <i>Marianismo</i> Beliefs.....	49
8. Logistic Regression Analysis of Effective Contraceptive Use as a Function of Negative <i>Marianismo</i> Beliefs	50
9. Logistic Regression Analysis of Effective Contraceptive Use as a Function of Acculturation.....	51
10. Logistic Regression Analysis of Effective Contraceptive Use as a Function of Acculturation and Negative <i>Marianismo</i> Beliefs	52
11. Logistic Regression Analysis of Effective Contraceptive Use as a Function of Depression	53
12. Logistic Regression Analysis of Effective Contraceptive Use as a Function of Depression and Negative <i>Marianismo</i> Beliefs	54
13. Risky Sexual Behavior Variables	56
14. Bivariate Correlations of Contraceptive Use, <i>Marianismo</i> Beliefs, and Risky Sex Variables	56
15. Contextual Variables.....	58
16. Bivariate Correlations of Contraceptive Use, Independent Variables, and Contextual Variables	59

CHAPTER I

INTRODUCTION

Nearly half of all pregnancies in the United States each year are unintended (Guttmacher, 2016). The highest rates of unintended pregnancy are found in poor and low-income women, young adult women aged 18 to 24, cohabitating women, and minority women. Every year nearly 1 in 10 young adult women will have an unintended pregnancy (Zolna & Lindberg, 2012). For the children of mothers who have had an unintended pregnancy a range of negative health outcomes are associated, including poor physical health and mental health; less secure attachment; and reduced developmental, behavioral, and educational outcomes (Logan, Holcombe, Manlove, & Ryan, 2007). Recognizing unintended pregnancy as a public health concern, Healthy People 2020 has set a goal for the reduction of unintended pregnancies worldwide by 10% from 2010 to 2020. Racial/ethnic disparities are evident in rates of unintended pregnancy. Hispanic individuals experience unintended pregnancy at more than twice the rate of non-Hispanic White women (Zolna & Lindberg, 2012). For poor Hispanic women in particular, unintended pregnancy rates are more than 3 times higher than the national average (Finer & Henshaw, 2006).

It is possible that gender role beliefs stemming from cultural values contribute to the higher rates of unintended pregnancy in Hispanic women. In the Latino community, gender role beliefs attributed to women are labeled *marianismo* beliefs. These traditional beliefs represent a feminine ideal associated with passivity, obedience, and sexual purity. Accordingly, a Latina woman is expected to demonstrate submissiveness to men and not concern herself with matters relating to sex (Castillo, Perez, Castillo, & Ghosheh, 2010). Researchers have suggested that cultural values may be associated with the greater prevalence of unintended pregnancy, STIs, and HIV in Latinas (Mosher, Martinez, Chandra, Abma, & Willson, 2004); however, there is

little empirical evidence measuring these cultural factors, including gender role beliefs (Guilamo-Ramos, Jaccard, Pena, & Goldberg, 2005). *Marianismo* beliefs have been described in qualitative research as both a risk factor and a protective factor in regard to risky sexual behavior and unintended pregnancy (Moreno, 2007). Women who hold *marianismo* beliefs may have a lack of knowledge about sexuality, lack the ability to be assertive about contraception, or fear being seen as promiscuous if they suggest the use of contraception (Moreno, 2007; Faulkner, 2003). *Marianismo* beliefs may also serve as a protective factor in that women may have fewer sexual partners and place greater focus on family planning (Raffaelli & Iturbide, 2009; Moreno, 2007). More research is needed to untangle when *marianismo* beliefs contribute to the incidence of unintended pregnancy and ineffective contraceptive use and when they provide protection from it.

Other factors, such as acculturation and mental health, may help to understand the relationship between *marianismo* and unintended pregnancy. Researchers have called for more investigation into the role of gendered cultural beliefs on the process of acculturation, particularly in regard to sexual activity (Guilamo-Ramos et al., 2005; Afable-Munsuz & Brindis, 2006). Low levels of acculturation have been linked to lower contraceptive usage in Latinas. Some research has shown that foreign-born Latina women are more likely to utilize ineffective contraception or demonstrate inconsistent use (Afable-Munsuz & Brindis, 2006; Faulkner, 2003; Marin, Tschann, Gomez, & Kegeles, 1993). In addition to acculturation, depression may also influence the relationship between *marianismo* and unintended pregnancy. Explanations that link depression to less effective contraceptive use include an increased desire for interpersonal intimacy, lower self-efficacy, short-term symptom relief, and a diminished value on self-protection (Lehrer, Shrier, Gortmaker, & Buka, 2006). It is possible that the combined influence

and overlapping characteristics of negative *marianismo* beliefs and depressive symptoms may predispose Latina women to greater sexual risk.

The present study will examine the risk for unintended pregnancy in Latina young adults by measuring the influence of *marianismo* on contraceptive method choice. As no other study to my knowledge has empirically linked *marianismo* to unintended pregnancy or contraception use, this study will serve to measure one of the cultural factors often offered to explain observed disparities in these areas for Latina women. Acculturation and depression will also be examined separately for their effects on contraceptive method and as moderators of the association between *marianismo* and contraceptive method. A better understanding of how gender role beliefs and other factors, such as acculturation and depression interact, will facilitate the development of culturally competent reproductive health prevention programs and services for Latina young adults.

Unintended Pregnancy

The Guttmacher Institute defines an unintended pregnancy as one that was either mistimed or unwanted (Zolna & Lindberg, 2012). Mistimed refers to pregnancies that were desired in the future, but not at that time. Unwanted refers to pregnancies that were not desired at the time of conception or anytime in the future. If a woman is indifferent about becoming pregnant at the time of conception her pregnancy is considered intended. Mistimed unintended pregnancy is more likely to be reported by adolescents and young adults than unwanted pregnancy as these young women are likely to desire children in the future (Santelli et al., 2003). Young adult women aged 18-24 represent the highest rate of unintended pregnancy by age (Guttmacher, 2016). In 2008, almost three-quarters of pregnancies among unmarried women aged 20-24 were unintended. This is in contrast to the unintended pregnancy rate among married

young women, which fell at about thirty-five percent (Zolna & Lindberg, 2012). In fact, the rate of unintended pregnancy overall in unmarried young adult women increased slightly from 2001 to 2008. Our healthcare system bears significant costs for unintended pregnancies. Sixty-four percent of births resulting from unintended pregnancy are publicly funded compared to only 35% of planned births. The added costs resulting from unintended pregnancy equal half the spending of the United States on births overall (Sonfield, Kost, Gold, & Finer, 2011).

Racial/ethnic disparities are evident in rates of teenage pregnancy and unintended pregnancy in young adults. Rates of teen pregnancy in Hispanic and African American women are double the rate in White women (Kost & Henshaw, 2014). Hispanic and African American young adults show a similar pattern with unintended pregnancy rates also more than twice that of White young adults (Zolna & Lindberg, 2012). African American women showed the largest decrease in unwanted pregnancy (as opposed to mistimed) of all ethnic groups between 2001 and 2008. Hispanic women did not show a similar decrease (Zolna & Lindberg, 2012). An important factor to consider for Hispanic women is that about 40% of the Hispanic population in the US is foreign-born (Schmidley, 2001). Research has generally found unintended pregnancy rates to be higher among US-born Latinas than foreign-born Latinas (Cubbin et al., 2002). Education is also associated with unintended pregnancy. The group with the highest unintended pregnancy rate is unmarried young women without a high school diploma. High-income women, who have the greatest access to healthcare and effective contraceptive methods, showed the greatest decrease in unintended pregnancies from 2001 to 2008.

Negative outcomes for mother and child associated with unintended pregnancy have been well documented. Fifty-one percent of unintended pregnancies to Hispanic young adults end in abortion. This number is similar for White and African American young adults (aged 20 to 29;

Zolna & Lindberg, 2012). The CDC's National Center for Health Statistics (Mosher, Jones, & Abma, 2012) found that mothers who experienced an unintended pregnancy were more likely to smoke cigarettes during pregnancy, pay for delivery with Medicaid, deliver a low birth weight baby, not breastfeed, and attend a first prenatal care visit after the first trimester or not at all. Children resulting from unintended pregnancies are at increased risk for a variety of problems during childhood and potentially lasting through adulthood, including poor physical health and mental health; less secure attachment; and reduced development, behavioral, and educational outcomes (Logan, Holcombe, Manlove, & Ryan, 2007). Although more research is needed, mothers of unintended children may be at greater risk of negative mental health outcomes and experiencing physical abuse during the pregnancy (Logan et al., 2007; Cripe et al., 2008). Adolescents mothers in particular are less likely to attain high levels of education and employment and more likely to be single parents and live in poverty (Luster & Haddow, 2005). The evidence suggests that unintended pregnancy represents a significant public health concern and that Latina young adults may be a vulnerable subgroup.

Contraceptive Method Choice

Key to reducing the rate of unintended pregnancy is increasing the use of effective contraceptive methods. The association between contraceptive method and unintended pregnancy has been well established by researchers with the Centers for Disease Control and Prevention and others (Mosher et al., 2004; Mosher et al., 2012; Singh, Sedgh, & Hussain, 2010). Surveying fertility preferences can be considered a prospective measure of unintended pregnancy (Gipson, Koenig, & Hindin, 2008). Past research has uncovered difficulties with measuring unintended pregnancy with the typical wanted, unwanted, and mistimed

classifications. Some women may, in retrospect, change their thinking and report that an unwanted pregnancy was actually wanted (Gipson et al., 2008).

In past research contraceptive method choice and consistency of use have been used to measure risk for unintended pregnancy. A majority (89%) of sexually active women who are not planning to become pregnant utilize contraception (Mosher et al., 2004). About half of women who experience unintended pregnancy are reversible contraceptive users and about half use other less effective methods or none at all (Finer & Henshaw, 2006). Past research has distinguished between more effective and less effective contraception (Garbers, Correa, Tobier, Blust, & Chiasson, 2008; Frost & Darroch, 2008). More effective methods include long-acting methods (i.e. IUD, implant, injectable, patch), oral contraception, and male condoms. The percentages of women who utilize these methods are 18%, 38%, and 32% respectively (Frost & Darroch, 2012). Less effective methods are utilized about 12% of the time and include withdrawal, periodic abstinence, spermicides, other barrier methods, and other personally preferred methods. Consistency of method use is also an important aspect of contraceptive use for non-long term methods. Inconsistent condom use is considered a less effective contraceptive method; 62% of women aged 18-24 who are condom users have not used a condom every time they had sex in the last 3 months (Frost & Darroch, 2012). Less effective methods are more likely to lead to unintended pregnancy. Overall, contraceptive use is a key aspect of women's reproductive health.

Cultural Scripts and *Marianismo*

Many studies have overlooked the effect of cultural factors on disparities in unintended pregnancy and sexual risk behavior, including contraceptive use. The effect of cultural factors on sexual and gender role behavior can be understood through the tenets of script theory (Tomkins,

1979; Gagnon & Simon 1973; Triandis, Marin, Lisansky, & Betancourt, 1984). A script is a set of rules or patterns that govern behavior in various social contexts (Tomkins, 1979). Scripts are played out in scenes that unfold based on the emotions and responses of the actors. Gagnon and Simon (1973) developed the concept of sexual scripts, defining them as representations of the meanings and symbols in human sexuality. They specified three levels of sexual scripts: cultural, interpersonal, and intrapsychic. Cultural scripts are composed of the signs and cues that are characteristic of sexual conduct in a historical or cultural context. Interpersonal scripts refer to specific sexual encounters or interactions between people within the culture and intrapsychic scripts are the motivations and sexual preferences specific to the individual. As sexual patterns of behavior are learned in a cultural context through others, various Latino cultural scripts, or patterns of social interaction associated with Latino culture (Triandis et al., 1984), are associated with sexuality. These cultural scripts include *familismo*, *respeto*, and *simpatía*, which though they encourage positive social behaviors, place women below men in the social hierarchy and discourage them from discussing matters related to sex, including methods of birth control. These Latino cultural scripts are also related to *marianismo*, which has been referred to as both a cultural and a gender script (Castillo, Perez, Castillo, & Ghosheh, 2010; Piña-Watson, Castillo, Jung, Ojeda, & Castillo-Reyes, 2014).

Marianismo is the set of beliefs and values attributed to Latina women, which are associated with idealized women's gender roles (Castillo et al., 2010). There has been little research on *marianismo*, but recently in their development of the *Marianismo* Beliefs Scale, Castillo and colleagues (2010) found empirical support for a five-factor structure associated with *marianismo*. The first factor, Family Pillar, relates to family and places the woman as a source of strength for the family and the one responsible for keeping the family unified and happy. The

second factor, Virtuous and Chaste, involves the belief that a woman must be virtuous and chaste, especially related to sexuality. The third aspect of *marianismo*, Subordinate to Other, relates to submissiveness and the expectation that a woman must respect the authority of men. The fourth factor, Self-Silencing to Maintain Harmony, involves the expectation that a woman should not discuss aspects of sexual health with her partner and not express her own needs and feelings. Lastly, the fifth factor, Spiritual Pillar, relates to the woman's role as spiritual leader of the family. These aspects of *marianismo* are linked to feminine passivity, virtuousness, sexual purity, and spiritual superiority. *Marianismo* beliefs suggest that women are expected to demonstrate submissiveness to men, endure suffering, and sacrifice for the family. A woman is expected to behave in the image of the Virgin Mary, placing her attention to being a wife and mother (Matsuda, McGrath, & Jallo, 2012).

Although Latina gender role beliefs are becoming more diverse as a result of acculturation and globalization, research has shown that these traditional gender roles and beliefs persist (Castillo et al., 2010; Raffaelli & Ontai, 2004). Research has demonstrated that gender role values are transmitted to Latino/a youth through gender role socialization (Raffaelli & Ontai, 2004; Alfaro, Umana-Taylor, Gonzales-Backen, Bamaca, & Zeiders, 2009; Azmita & Brown, 2002). Using qualitative and survey methods, Raffaelli and Ontai (2004) found evidence of differential treatment of girls and boys in Latino families. They found differences in the assignment of household chores (e.g. girls must do housework), enforcement of stereotypical gender behavior (e.g. be "ladylike"), and demands placed on females' behavior (e.g. girls given less freedom than males). The authors found that the most frequent behaviors limited by parents were those that might relate to sexuality, such as interacting with the opposite sex and curfews. Although some researchers are critical of gender role research, suggesting that Latino culture is

changing or that it focuses on stereotypes, most research indicates that attitudes persist because they are transmitted from childhood and invoke powerful emotions (Marin & Gamba, 2003; Castillo et al., 2010; Raffaelli & Ontai, 2004).

The counterpart to the *marianismo* cultural script is the machismo cultural script. It is largely accepted that traditional *marianismo* beliefs and subsequent behaviors could not be maintained without male machismo beliefs (Piña-Watson et al., 2014). Arciniega, Anderson, Tovar-Blank, and Tracey (2008) define machismo with two separate constructs. The first, Traditional Machismo, involves the perception of individual power and hypermasculinity. This construct is frequently expressed in the domination of women, who are viewed as servants to men and responsible for child rearing (Mayo & Resnick, 1996). These values may lead to aggressive behavior, including seducing and controlling women. The second construct, according to Arciniega and colleagues (2008), is Caballerismo. Caballerismo represents positive values held by some men in Hispanic culture, including social responsibility and emotional connectedness. The construct is related to the idea of chivalry. Arciniega and colleagues (2008) found Traditional Machismo was associated with aggression, antisocial behavior, emotional disconnectedness, and wishful thinking as a coping mechanism. Caballerismo was associated with affiliation, ethnic-identity, and problem-solving coping. It appears that there are positive and negative aspects to the concept of machismo; however, some have noted that Caballerismo could be characterized as a display of benevolent sexism as the chivalry and honor shown by these men is only shown towards women who demonstrate traditional gender role expectations (Glick & Fiske, 2001). Researchers have found traditional machismo beliefs to be associated with risky sexual behavior and domestic violence, as well as high levels of unprotected sexual activity and a high number of sexual partners (Weiss & Tillman, 2009).

Other cultural scripts and values, such as *familismo*, *respeto*, and *simpatía*, contribute to the prevalence of *marianismo* beliefs (Castillo et al., 2010). These values are related to Latina gender role development, but separate from it. *Familismo* refers to an individual's strong connection to the nuclear and extended family. This is related to the collectivistic cultural script present in most Hispanic/Latino countries where the importance of the group over the individual is emphasized, in comparison to the more individualistic American cultural patterns (Halgunseth, Ispa, & Rudy, 2006). For Latino men, cultural norms associated with *familismo* include providing for the family, acting as leader, and being willing to fight for the family. For Latina women, norms associated with *familismo* include providing physical and emotional support to the family, having and taking care of children, and being responsible for housework (Castillo et al., 2010). *Familismo* can be protective for parents and youth. As Ayón, Marsiglia, and Bermudez-Parsai (2010) found, higher levels of *familismo* predicted fewer depressive symptoms for both Latino adolescents in the US (aged 14 to 18) and their parents (most born in Mexico).

The cultural script *respeto* involves showing respect for the hierarchical structure in the family and obeying those above you in the hierarchy, such as your husband. In regard to the cultural value of *respeto*, most important for unmarried women is to garner respect from others and honor the family (Castillo et al., 2010). A crucial objective for all women is to avoid shaming themselves and the family by remaining modest (Vandello & Cohen, 2003). Vandello and Cohen (2003) state that women hold the power over the family reputation. They conducted an experimental study in which participants viewed an abusive encounter. Those from cultures which place a high value on honor (Hispanics and southern Anglos) had a more favorable opinion of the woman if she expressed contrition and loyalty after the encounter than if she expressed intolerance and independence. Those from cultures that do not place a high value on

honor (Northern Anglos) showed the opposite pattern. It appears that values associated with respect and associated male aggression are scripted into every day social interactions in Latino culture.

Simpatía is similar to *respeto*, but more clearly encapsulates cultural scripts related to social interaction. This value holds that Latinos should communicate in an agreeable and harmonious manner to ensure positive interpersonal relationships. Latino men and women may purposely avoid conflict (Castillo et al., 2010). Triandis, Marin, Lisansky, and Betacourt (1984) found that Hispanics and non-Hispanics differed in their demonstrated frequencies of positive and negative social behaviors with Hispanics demonstrating significantly more positive social behaviors. Further, they found that those in the opposite cultural group were likely to misinterpret each other's social behaviors, such that a Hispanic individual may take a neutral non-Hispanic behavior as negative or a positive behavior as neutral (Triandis et al., 1984). For Latinas in particular, *simpatía* dictates that they should preserve harmony in romantic relationships by not being critical. Controversial conversation topics should be avoided, such as sex and birth control. Women who do not ascribe to these traditional gender role beliefs may face criticism and backlash from their families and communities (Castillo et al., 2010). The many cultural scripts and values in Latino culture are frequently discussed together as they relate to one another in how typical social interaction progresses in Latino culture; however, they are each separate constructs worthy of separate investigation. *Marianismo* in particular has been given less attention than the others.

Marianismo beliefs have been linked to sexual behavior, domestic violence, and depression (Moreno, 2007). There is growing interest in the concept of *marianismo* and its relation to women's health, but more empirical research is needed on role of gender in the

process of acculturation in regard to sexual activity (Guilamo-Ramos et al., 2005). In qualitative research *marianismo* has been described as both a risk and protective factor in regard to risky sexual behavior and unintended pregnancy (Moreno, 2007). *Marianismo* beliefs, such as those that promote submission to male demands and sexual passivity, may act as a risk factor when women feel that they lack control of their sexuality and lack the ability to be assertive about the use of contraception (Castillo et al., 2010; Moreno, 2007). Contrastingly, the concept of sexual purity associated with *marianismo* may decrease the sexual activity of women with *marianismo* beliefs and make them more vigilant about contraception for family planning purposes (Raffaelli & Iturbide, 2009; Moreno, 2007; Weiss & Tillman, 2009). Empirical research is needed to understand when strict gender roles contribute to the practice of unsafe sexual behavior and when they provide protection from it.

Women with *marianismo* beliefs learn to not communicate their personal needs or desires, particularly in relation to sexuality. As partner communication is an important contributor to safe sex behavior, it is possible that the inability of women with *marianismo* beliefs to communicate is a main risk factor contributing to ineffective contraceptive use. A meta-analysis on the psychosocial correlates of condom use found that discussing condom use or having an agreement to use a condom is the strongest predictor of condom utilization during intercourse (Sheeran, Abraham, & Orbell, 1999). Further, the gender inequities inherent in traditional Latino culture and experienced by women with *marianismo* beliefs can make it more difficult to negotiate safe sex. The ability to use direct power strategies has been linked to precautionary sexual self-efficacy in Latina women (Bowleg, Belgrave, & Reisen, 2000). Direct power strategies are those in which the woman is directly requesting something of their partner or reasoning with them, as opposed to withdrawing or indirectly persuading their partner. This

was linked to precautionary sexual self-efficacy or the ability to engage in precautionary measures, such as discussing using contraception or not being embarrassed to buy a condom. Brady, Tschann, Ellen, and Flores (2009) interviewed 647 Latino youth aged 16-22 in order to ascertain relationship characteristics, such as trust, associated with condom use and non-use. Nativity status was the only measure of acculturation and was not a significant predictor in this study. The study also controlled for desire to avoid pregnancy and the use of hormonal contraceptives as women who were on taking the pill or utilizing long-acting methods were less likely to use condoms. They found that length of relationship and greater overall trust were associated with inconsistent condom use. Consistent condom use was more likely when Latinos doubted their partner's fidelity. Importantly, youth who reported being concurrently involved with another partner and using condoms inconsistently with this partner were also more likely to use condoms inconsistently with their main partner (Brady et al., 2009). This study appears to have overlooked cultural and gender variables involved with the association between these relationship characteristics and condom use; however, as young women who hold *marianismo* beliefs are taught not to question and respect/trust the men in their lives this places them at risk for sexually transmitted diseases and unplanned pregnancy.

Latina women with *marianismo* beliefs may also fear that suggesting contraceptive use to their partner may make them appear sexually experienced and less pure (Faulkner, 2003; Castillo et al., 2010). Faulkner (2003) interviewed 31 Latina young adults of mostly Puerto Rican backgrounds. From these interviews, several themes appeared related to avoiding the appearance of sexual experience, such as not wanting to be labeled a "flirt girl", but rather a "good girl." Latinas with more traditional cultural beliefs feared being seen as promiscuous for using condoms, were more inconsistent with condom use, and more often reported using the rhythm

method if their partner did not want to use condoms. For these women, practicing safe sex meant that they would have to openly acknowledge the sexual behavior, which may connote experience and the possibility of other partners. Some reported having unprotected sex to feel emotionally close to their partner and to demonstrate they are not having sex with anyone else. Participants reconciled their behavior with their traditional cultural beliefs by focusing on the trust and emotional relationship they had with their partner. One way women tried to ensure they could trust their partners was by trying not to date “players”. In order to find out a potential partner’s sexual history they would ask the opinion of others, rather than discussing it openly with the potential sexual partner (Faulkner, 2003). From these interviews it appears that traditional Latina beliefs can place young Latina woman at risk for negative sexual outcomes. It is notable that the traditional Latina beliefs in this study are characteristic of *marianismo* beliefs; however, the author did not mention or measure *marianismo*.

The idea that *marianismo* functions as a protective factor, rather than a risk factor, for sexual risk behavior has less support in the support in the literature. Some researchers, drawing from qualitative methods and conjecture, have suggested that *marianismo* beliefs associated with family and spirituality may decrease the sexual activity of women with *marianismo* beliefs and make them more vigilant about family planning (Raffaelli & Iturbide, 2009; Moreno, 2007; Weiss & Tillman, 2009). It may in fact be that certain aspects of *marianismo* are related to safe sexual behavior. Although no studies have empirically tested this idea with regard to sexuality, Rodriguez, Castillo, and Gandara (2013) found that only the family and spiritual aspects of *marianismo* were associated with academic motivation in Latina adolescents. The finding that only the positive aspects of *marianismo* were related to academic motivation and not the negative aspects, including self-silencing, virtuosity, and subordination, suggests that some

aspects of *marianismo* may be protective and developmentally healthy. Further, Piña-Watson and colleagues (2014) found that Latina adolescents, a majority of whom were second generation, were significantly more likely to endorse the family and spiritual aspects of *marianismo* than the other negative aspects. It is worth noting that these aspects are ones that give women power and for that reason may be more likely to be kept or maintained despite level of acculturation (Piña-Watson et al., 2014). It is possible that of women who are sexually active, those who endorse greater levels of powerful *marianismo* aspects associated with family and spirituality may feel empowered to utilize contraception effectively.

As may be expected, it is possible that positive and negative aspects of *marianismo* may conflict with one another. A woman with high *marianismo* beliefs likely faces several incompatible demands. Her beliefs advise that she demonstrate strength and hold the family together, but also that she be obedient and respectful at all times (Castillo et al., 2010). It appears that women must often adjust their behavior to different situations in order to be perceived as acting appropriately (Denner & Dubar, 2004). This ambivalence that Latina women may feel in their gender role likely puts them at risk in sexual situations. Further, the inability of a woman with *marianismo* beliefs to communicate effectively with her partner as a result of expected submission and subordination diminishes her sexual self-efficacy and puts her at risk for unintended pregnancy. However, it must still be noted that positive aspects of *marianismo*, such as family and spiritual aspects, have the potential to increase a woman's efficacy in family planning and use of contraception. It is likely that other factors play a role and can lend more clarity in determining the relationship between *marianismo* and unintended pregnancy. Acculturation and depression may change the relationship between *marianismo* and contraceptive use in important ways.

Acculturation

Acculturation is frequently considered when assessing sexual risk behavior; however, researchers have historically had difficulty defining and measuring the construct. Language, birthplace, generation, and many others have been used as proxies for the construct of acculturation, but none of these fully captures the complex processes that underlie its formation (Rudmin, 2009; Unger, Ritt-Olsen, Wagner, Soto, & Baezconde-Garbanati, 2007; Thomson & Hoffman-Goetz, 2009). The classic definition of acculturation is “acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous contact with subsequent changes in the original culture patterns of either or both groups” (Redfield, Linton, & Herskovits, 1936). However, acculturation does not only take place on a group level, but also on an individual psychological level as individuals vary in their personal maintenance of the origin culture and participation and contact with the host culture (Berry, 1997). Berry’s four acculturation strategies (1997) are widely cited and describe a multidimensional framework for acculturation that is helpful as background. The assimilation strategy is used by individuals who do not want to maintain their cultural identity and seek greater participation and contact with the host culture. The separation strategy presents the opposite approach in which the person desires to hold onto their cultural identity and seeks to avoid interaction with the other culture. The integration strategy represents efforts in which the individual places value on and participates in both cultures. Lastly, the marginalization strategy is apparent when the individual does not have interest in maintaining aspects of the original culture nor does he have interest in interacting with the host culture.

Research on the association between acculturation and sexual behavior has demonstrated some inconsistent results. There are several possible reasons for this, including varying

measurement of acculturation, local versus national samples, and differing age ranges. However, researchers have speculated that the failure of a majority of studies in sexual behavior to measure the maintenance of cultural values and beliefs has contributed to inconsistent findings (Guilamo-Ramos et al., 2005; Afaible-Munsuz & Brindis, 2006). Little research has specifically measured gender role beliefs, such as *marianismo* in the context of acculturation. Researchers have suggested that sexual scripts may persist despite changes in acculturation as they are related to deep-rooted gender role socialization (Raffaelli & Iturbide, 2009). By examining the prevalence of beliefs and values such as *marianismo* the process of acculturation on sexual behavior can be better understood (Afaible-Munsuz & Brindis, 2006). Unfortunately, most studies do not measure acculturation according to Berry's (1997) conceptualization and so the studies reviewed below about Latinas in the United States refer to birthplace and language most frequently.

More studies than not have found that less acculturated women engage in less risky sexual behavior, but are also less likely to utilize contraception when they are sexually active (Afaible-Munsuz & Brindis, 2006; Faulkner, 2003; Marin et al., 1993). For example, Latinas who are born in the US are more likely to have multiple sexual partners and a younger age of sexual initiation than those who are foreign-born. Weiss and Tillman (2009) found that Latina young women (age 18-23) who immigrated to the US were less likely to engage in sexually risky behavior than their US-born peers. They proposed that *marianismo* values held by less acculturated women, who immigrated to the US, protected them from risky sexual behavior. Further, the authors speculated that the strong effect of birthplace despite age at arrival was likely a result of the women's families and support system. Those in their support systems likely included more immigrants who hold traditional beliefs, such as the unsuitable nature of sex outside of wedlock for women. US-born Latinas and their families likely adopted more American gender role

beliefs, such that the protection from *marianismo* beliefs dissipated (Weiss & Tillman, 2009).

The authors did not measure *marianismo* beliefs, but suggested the investigation of *marianismo* and machismo in relation to sexuality.

In regard to contraception, many Latinas are skeptical of its safety and effectiveness and face more difficulty in attaining it as a result of healthcare barriers (Gilliam, Warden, Goldstein, & Tapia, 2004; Unger, 2000). Researchers have found that Latinas overall face many obstacles when it comes to contraception. They tend to desire large families, have less social support and self-efficacy in regard to contraceptive use, and believe birth control is the responsibility of the woman (Sangi-Haghpeykar, Ali, Posner, & Poindexter, 2006). In a sample of migrant Mexican women, Wilson (2009) found that adolescents and young adults who were first or 1.5 generation were less likely to utilize contraception. She found that poverty and Catholicism were mediators of this association. In a study utilizing a diverse sample of 15 to 24 year olds Raine, Minnis, and Padian (2003) found that Latinas were less likely than all other ethnicities to use any method of contraception. They also found that women who reported being raised with a religion were less likely to use any method. As spirituality is an important aspect of *marianismo*, this association with contraception use is important to consider.

Frost and Darroch (2008) examined national contraception use in women aged 18 to 44. Although they did not find that foreign-born Hispanics are at particular risk of utilizing an ineffective contraceptive method, they were three times as likely as White women to use condoms inconsistently if that was their primary contraceptive method. Unexpectedly, foreign-born Hispanic women and Black women were also more likely than other groups to use long-acting methods, which may be a result of the support for these methods at available public health services. However, long-acting methods were of greater use among women who found it difficult

to communicate with their partner about contraception and who had a partner who pressured them to have sex when they were not interested (Frost & Darroch, 2008), which is consistent with the *marianismo* gender role. It appears that studies such as this, which have found lower acculturation levels related to contraception method use were conducted with adult women, some of whom had been married or previously had children, or who did not represent the full range of acculturation levels (Frost & Darroch, 2008; Romo, Berenson, & Segers, 2004; Unger, 2000). In a study of pregnant women aged 18 to 40, Romo and colleagues (2004) found that Spanish-speaking women were more likely than English-speakers to be consistent contraceptive users; however, Spanish-speaking women who lived in the United States for a shorter period of time were less likely to be consistent than those who lived in the United States for a longer period of time. They also found that religiosity was not associated with contraceptive use. The ambiguous results of this and other studies suggest that the impact of cultural factors on sexual risk behavior is not yet completely clear. Romo and colleagues (2004) assert that their findings would be more explanatory with attitudinal measures focused on cultural and religious beliefs.

Hayford and Guzzo (2013) used data from 1,573 unmarried males and females aged 18-29 from the National Survey of Reproductive and Contraceptive Knowledge. They found that Foreign-born Hispanics were less likely than Whites to be upset if they were to experience an unplanned pregnancy (affective dimension), but US-born Hispanics were not. They were not any more likely to report that avoiding was important (cognitive dimension). They speculated that the affective component was differential because most young adults would like to avoid pregnancy during this life stage in America; however, it appears that some (Hispanic young women) are less bothered if it does happen to occur. The authors suggest that affective motivation may be associated with high unintended birth rates in Latinas; however, they do not speculate on the

specific cultural factors that may be at play. Less acculturated young adults or those with *marianismo* beliefs may hold strong values associated with family and spirituality, which may reduce their aversion to the prospect of pregnancy and childbirth.

Milan and colleagues (2006) compared African American and Puerto Rican adolescent females aged 14-19 living in the same community on measures of reproductive health, examining behaviors, cognitions, and social context. Participants completed four 90-minute face-face interviews over 18 months. The authors found that Puerto Rican adolescents reported more sexual activity and less use of protection during sexual activity than African American adolescents, but they also had fewer partners and were in more long-term relationships. Puerto Rican youth reported more negative attitudes about condoms and less negative feelings about pregnancy, but not less positive feelings. This suggests that they did not want to become pregnant any more than the African American adolescents, but they had less negative feelings about it if they did. Puerto Rican females were less likely to place importance on their parents' values and experienced less pressure to use contraception from parents. The authors speculated that although acculturation and religion were not measured in this study, these factors likely influenced the differences found between the two groups. If Puerto Rican adolescents are at a different level of acculturation than their parents they may not heed the advice of their parents who they believe to have different gender role values and sexual experiences (Milan et al., 2006; Raffaelli & Ontai, 2004).

Although evidence is not consistent, past research suggests that teen and young adult Latinas who are less acculturated are less likely to use effective and/or consistent contraception. Women who are more acculturated have likely taken on the more casual sexual mores of American society and become aware and accepting of contraception. However, the empirical

evidence for this is lacking. Research that links acculturation to *marianismo* could explain how gender and sexual scripts vary with level of acculturation. It is possible that a less acculturated Latina young woman struggling to integrate American cultural scripts may engage in sexual activity in the face of more permissive norms, but fail to utilize precautionary measures as a result of negative factors associated with *marianismo*, such as passivity and low self-efficacy.

Depression

Mental health has also been linked to pregnancy, gender, and Hispanic culture. However, the majority of research on depression and unintended pregnancy has focused on depression as a result of unintended pregnancy rather than as a potential predictor (Hall, Kusunoki, Gatny, & Barber, 2014; Garbers et al., 2010). A greater number of studies with adolescents have investigated the association between depression and reproductive choices. Only in recent years have several studies been conducted with young women as the population of interest. Hall and colleagues (2014) prospectively measured the effect of depression and stress on the occurrence of unintended pregnancy in sample of nearly a thousand US women aged 18-20, although they did not address race/ethnicity factors. Rates of unintended pregnancy were significantly higher among those who were depressed or stressed. In multivariable models of women who had not had a prior pregnancy, the combined effect of depression and stress put women at twice the risk of unintended pregnancy.

A few studies that investigate depression as a predictor of unintended pregnancy have examined depression's impact on women's contraceptive method choices. In one of the largest studies of this kind, Garbers and colleagues (2010) utilized the medical records of close to 2,500 low-income primarily Black and Latina women in their 20s who visited reproductive health centers in New York City. They found after controlling for behavioral health characteristics,

including binge drinking, drug use, smoking, anxiety, and history of physical or sexual abuse, as well as birthplace that women who screened positive for depression with the PHQ-9 (Patient Health Questionnaire-9) were significantly more likely to choose a less effective method of birth control. In this study, less effective methods included periodic abstinence (natural family planning or rhythm method) or no method. More effective methods included hormonal methods, male condom, other barrier methods, spermicide or sponge, or IUD. Garbers and colleagues (2010) concluded that medical recommendations on contraceptive method should be individually tailored with patient depressive symptoms taken into consideration. Contraceptive methods that do not require daily administration may be more effective in women with depression who may be less consistent with their use as a result emotional symptoms.

Latino young men and women report greater depressive symptoms than do youth from other ethnic backgrounds (Blazer, Kessler, McGonagle, & Swartz, 1994; Twenge & Nolen-Hoeksema, 2002). A meta-analysis by Twenge and Nolen-Hoeksema (2002) found that Hispanic youth demonstrated significantly higher depressive symptoms than both White and Black youth. Effect sizes were moderate to large in size. Latina female adolescents are at particular risk. They are twice as likely as Latino male adolescents to report suicide attempts in the last 12 months (15% to 8%; CDC, 2008). The role that cultural factors play in this disparity in depression rates is not fully understood and empirical evidence is lacking (Zayas, Lester, Cabassa, & Fortuna, 2005). Goldston and colleagues (2008), in discussing considerations for suicide prevention treatments in Latina adolescents, speculated that increased rates of depression may stem from the difficulty that Latina adolescents in the US may face as a result of cultural expectations, which are at odds with their current environment. Latina young women growing up in the US may

crave autonomy and independence, but feel confined by strict gender roles and controlling family behavior.

Few studies have examined the link between *marianismo* and mental health. Cespedes and Huey (2008) found that higher gender role beliefs (Attitudes Toward Women Scale; Spence, Helmreich, & Stapp, 1973) were associated with greater levels of depression in 13 to 18 year old Latinas. Further, gender role disparity or a disparity between youth's own gender role beliefs and the beliefs of their parents was associated with higher youth depression. This association was moderated by gender and mediated by family dysfunction. It appears that Latina women may be especially susceptible to the negative effects of gender role beliefs partially through their effects on family functioning. The authors of this study theorized using the construct of *marianismo*, but did not use a scale specifically created for that purpose.

Depression is a known risk factor for unintended pregnancy and *marianismo* is associated with depression in Latina young women. Many of the factors that researchers have cited as explanations for the link between depression and sexual risk behavior (increased desire for intimacy, diminished self-efficacy or self-esteem, desire for short-term symptom relief, and a lesser value on personal health and self-protection; Lehrer et al., 2006) are also related to construct of *marianismo*. Many of these factors overlap with negative *marianismo* beliefs, such as feeling required to be submissive and subordinate to others, suppress feelings to keep others happy, and put others needs first (Castillo et al., 2010). Women with *marianismo* beliefs who are also afflicted with depressive symptoms may be at particular risk for unintended pregnancy.

The Current Study

Latina women are twice as likely as white women to experience an unintended pregnancy (Zolna & Lindberg, 2012). Further, the highest rates of unintended pregnancy occur in young adult women aged 18-24 (Guttmacher, 2016), leaving Latina young adults at particular risk of unintended pregnancy. Script theory states that patterns of social interaction related to sexuality are governed by expectations and rules that arise in various cultures (Triandis et al., 1984; Gagnon & Simon; 1973). Cultural scripts associated with increased sexual risk behaviors in Latinas, however, have rarely been studied empirically (Guilamo-Ramos et al., 2005; Afable-Munsuz & Brindis, 2006). *Marianismo* is both a cultural and gender script that is prominent among Latina women, which encourages obedience to men and discourages women from talking to their partner about concerns related to sex (Castillo et al., 2010; Piña-Watson et al., 2014). Taken together, these aspects of *marianismo* beliefs may lead women with stronger *marianismo* beliefs to be less likely to discuss contraception with their partners. Prior research shows that discussion of condom use or having an agreement to use a condom is the strongest predictor of condom utilization during intercourse (Sheeran, Abraham, and Orbell, 1999; Noar, Carlyle, and Cole, 2006). Communication with a partner about sex appears to be essential to effective contraception use; however, this may be difficult for women who hold *marianismo* beliefs. As unintended pregnancy stems largely from ineffective or incorrect contraceptive method use (Mosher et al., 2004; Frost & Darroch, 2008), this study investigated the association of *marianismo* beliefs with unintended pregnancy by examining effective contraceptive method choice.

Many researchers have suggested more research into cultural values and norms and how they relate to sexual behavior (Sheeran et al., 1999; Noar et al., 2006; Small, Weinman, Buzi,

Smith, 2009). Researchers have speculated that *marianismo* gender role beliefs associated with submissiveness and suppression of personal opinions and desires may make Latina women more vulnerable to sexual risk behavior (Moreno, 2007; Castillo et al., 2010; Faulkner, 2003). These women may have less sexual self-efficacy, be less likely to challenge a male partner, and be less likely to value self-protection. However, some have also suggested that *marianismo* beliefs surrounding family bonds and spirituality may make Latinas less vulnerable to sexual risk behavior (Raffaelli & Iturbide, 2009; Moreno, 2007; Weiss & Tillman, 2009). Therefore, it is possible that other factors may influence the relationship between *marianismo* beliefs and contraceptive use.

In the present study acculturation and depression were examined as moderators of the relationship between *marianismo* and contraceptive method choice and for their own associations with contraceptive use. Acculturation is frequently associated with sexual risk behavior and foreign-born Latinas have been shown to differ from native-born Latinas in their contraceptive use (Afable-Munsuz & Brindis, 2006; Frost & Darroch, 2008). Some research suggests that foreign-born Latinas are less likely to utilize effective contraception and more likely to demonstrate inconsistent use (Afable-Munsuz & Brindis, 2006; Frost & Darroch, 2008; Faulkner, 2003). Further, aspects of acculturation, such as generational status and having non-Hispanic social contacts, have been linked to sex role beliefs (Marin, Tschann, Gomez, & Kegeles, 1993). Latina women are also at increased risk of experiencing depression (Twenge & Nolen-Hoeksema, 2002), and limited research shows that women with *marianismo* beliefs are as well (Cespedes & Huey, 2008). Women with *marianismo* beliefs share many of the same characteristics that make depressed women vulnerable to unintended pregnancy, such as reduced self-efficacy and less focus on personal care and protection (Lehrer et al., 2006). It is possible

that the combined effects of these variables will especially influence risk for unintended pregnancy. Other factors have also been examined in the context of unintended pregnancy and *marianismo* beliefs. Sexual risk behavior, including number of partners and frequency of sexual activity, has been associated with increased risk for unintended pregnancy in Latina young women (Weiss & Tillman, 2009; Frost & Darroch, 2008). Also, the effect of religiosity or spirituality on risk for unintended pregnancy in Latinas is an area in need of further study. This is an aspect of *marianismo* that may protect Latina young women from unintended pregnancy as a result of values associated with abstinence or place them at risk as a result of not using contraception for religious reasons (Raine et al., 2003; Romo et al., 2004).

Study Aims

The current study aimed to examine the association between *marianismo* beliefs and effective or ineffective contraceptive method choice. Acculturation stress and depression were examined as moderators of this association in unmarried nulliparous Latina women aged 18 to 24. Participants were either English-speaking or Spanish-speaking. Women who are pregnant or who had intentions to become pregnant were not eligible for participation. Risk for unintended pregnancy was measured by examining contraceptive method use. Contraceptive method choice, as the outcome variable, was operationalized by method type (more effective v. less effective). Risky sexual behavior, including number of partners in the past year and frequency of intercourse in the last 3 months, past unintended pregnancy, and religious attendance were also examined as related factors. Proposed covariates included age, education, financial strain, relationship status/duration, and work/student status.

Hypothesis 1. Higher levels of *marianismo* beliefs will be associated with less effective contraceptive method choice.

Hypothesis 2. Low levels of acculturation will be associated with less effective contraceptive method choice.

Hypothesis 3. There will be an interaction between *marianismo* beliefs and acculturation, such that high levels of *marianismo* beliefs will predict less effective contraceptive method choice when there are also low levels of acculturation.

Hypothesis 4. High levels of depression will be associated with less effective contraceptive method choice.

Hypothesis 5. There will be an interaction between *marianismo* beliefs and depression, such that high levels of *marianismo* beliefs will predict less effective contraceptive method choice when there are also high levels of depression.

Research Question 1. How are risky sexual behavior, including number of partners in the past year and frequency of intercourse in the last 3 months; past unintended pregnancy; and religiosity associated with unintended pregnancy and *marianismo*?

CHAPTER II

METHOD

Participants and Inclusion Criteria

Participants in the present study were 142 young adult women aged 18 to 24 from Hispanic/Latino backgrounds who were currently living in the United States. Participants were required to be born in a Hispanic/Latino country or be born in the United States. Hispanic/Latino heritage was determined by participants' self-identification, as well as by a question asking for country of origin or Hispanic/Latino family background. Participants were provided with a list of countries, including countries in Central and South America, the Caribbean, as well as Mexico. Spain, Brazil, and Portugal were not listed to account for cultural and language differences. Participants were able to choose more than one country and also had the opportunity to fill text in an "Other" option. All participants had at least a mother or father with heritage from countries in one of the noted areas. Women were primarily English- or primarily Spanish-speakers and were able to complete survey measures in either language. At the time of survey completion, women must not have previously given birth, currently been pregnant, had plans to become pregnant in the year following participation, or she or her partner have been sterile. They could not have been presently married, but they must have participated in sexual intercourse at least once in the past year.

Procedure

This study used the social media platforms Facebook and Instagram to recruit Hispanic/Latina young adults. Facebook and its subsidiaries have been established as powerful research tools with the potential to reach a diverse range of participants (Kosinski, Matz, Gosling, Popov, & Stillwell, 2015). I used Facebook's Advertising program in order to promote

a link to study materials on the Qualtrics web-based survey platform. English and Spanish language advertisements ran concurrently on the network pages of potential participants (by Facebook-identified language preference). This included placement on Facebook feeds and the right column advertisement section of Facebook pages, as well as on Instagram feeds. Facebook allows for advertisers to specify their population of interest by various domains. Only potential participants who met the following criteria by Facebook individual analyses were able to see study advertisements: self-identified female, aged 18 to 24, Hispanic, currently living in the US, primarily English- or primarily Spanish-speaker. It was also possible to exclude parents from participation by excluding the all parents domain. Facebook defined the study's audience as "fairly broad" and reported an estimated daily reach of 7,900 to 21,000 people on Facebook and 2,400 to 6,200 people on Instagram.

For this audience, Facebook suggested a daily budget of \$20.00. I started with a budget of \$10.00 per day as Kosinski et al. (2015) suggested a lesser budget is many times adequate to secure the desired amount of participants. However, I was forced to raise this amount as a result of stringent screening criteria. The English and Spanish language ads ran on the platform for 11 days between July 13th, 2017 and July 23rd, 2017 for a total amount of \$214.36. During the time the ads ran 441 individuals reached the consent page. Two hundred and ninety-five (67%) of those individuals agreed to consent. Of those who started the survey 183 (62%) met screening criteria. Of those who met screening criteria 146 (80%) completed the survey.

As supported by my study, recent research has deemed Facebook to be a convenient and cost-efficient means of recruitment for assessing health behavior in young adults. A study recruiting 18 to 25 year olds for a survey about tobacco and other substance use found that 35.4% of clicks yielded signed consents and 50% of those who met study criteria completed the

survey (Ramo & Prochaska, 2012). In recruiting 18 to 23 year old women for a longitudinal study of contraception and pregnancy intention, Harris, Loxton, Wigginton, & Lucke (2015) obtained a click-through rate (number of clicks divided by the number of users reached) of 2.127% for Facebook newsfeed advertisements. Similar to my study, Harris and colleagues (2015) found ads that were sent out to more specific populations with a specific message to be more effective than more general ads.

The current study's Facebook advertisement included the opportunity to win one of four \$25 Target gift cards as a potential incentive for study completion (\$100 total expenditure). Target was chosen as it is a well-known chain retailer with nationwide locations. The link for participants to provide their email for the gift card drawing was de-linked from study data, assuring anonymity. Recipients were chosen at random from participants who completed the survey and gift cards were sent via email on September 17th, 2018.

When users clicked on the Facebook advertisement for the present study they were presented with a notification stating that the questions contained in the present study were related to women's health and have the potential to cause discomfort in some participants. They were then asked a series of questions based on inclusion criteria to ascertain if they qualify for participation. If they qualified they were presented with an information sheet approved by the Institutional Review Board explaining the study and informing participants that they may withdraw participation at any time. After consenting, participants completed study measures (average time: 14.5 minutes).

Measures

Unintended Pregnancy. Questions from the National Survey of Family Growth (NSFG, CDC, 2011-2013) were used to assess contraceptive method use. As the NSFG was administered by phone with an interviewer, several questions were adapted to fit the anonymous self-report nature of the present study. The equivalent Spanish language version of the NSFG, conducted 2006-2010, was used as the Spanish version in the present study. Questions asked participants about contraceptive method choice in the past month. Contraceptive methods were categorized into two groups for analysis: more effective and less effective (Frost & Darroch, 2008; Garbers et al., 2010). This method is based on published method failure rates over 12 months of use published by the CDC's National Center for Health Statistics (Mosher et al., 2004; Fu, Darroch, Haas, Ranjit, 1999). More effective methods include long-acting methods (i.e. IUD, implant, injectable, patch), oral contraception, and consistent male condom use or female barrier method use. Less effective methods include withdrawal, periodic abstinence, spermicides, inconsistent male condom or female barrier method use, and other individually practiced methods.

Table 1

Contraceptive Method Categorization: More Effective v. Less Effective

More Effective Contraceptive Methods	Less Effective Contraceptive Methods
IUD, coil, loop	No method
Hormonal implant	Withdrawal
Injectables	Rhythm method or safe period by calendar
Birth control pills	Safe period by temperature or cervical mucus test
Contraceptive path	Spermicides
Vaginal contraceptive ring	Other methods
Consistent male condom use	Inconsistent male condom use
Consistent female barrier method use	Inconsistent female barrier method use

Women who report dual method use were classified according to their most effective method (Mosher et al., 2004; Frost & Darroch, 2008). For those reporting a barrier method as their primary means of contraception, consistency was measured by asking about frequency of use during intercourse in the past three months (every time you had sex, most of the time, half the time, less than half the time, or none of the time). Those who reported that they have used the barrier method every time they had sex were labeled more effective method users. Those who reported otherwise were labeled less effective method users (Frost & Darroch, 2008). Those using long acting methods or the pill were not asked about consistency of use. The CDC's National Center for Health Statistics has found women's self-report of contraceptive behavior to be reasonably reliable and valid (Mosher et al., 2004). Also using questions from the National Survey of Family Growth (CDC, 2011-2013 & 2006-2010), risky sexual behavior was assessed by asking for number of partners in the past year, frequency of intercourse in the last 3 months, and past unintended pregnancy. Using the coding of Frost and Darroch (2008) number of partners was coded as (1 or ≥ 2), frequency of intercourse was coded (≥ 2 /week, 2-4x/month, ≤ 1 x/month) and unintended pregnancy was coded as (0 or ≥ 1).

Marianismo. The *Marianismo* Beliefs Scale (Castillo et al., 2010) is a 24-item self-report scale that measures the extent that a Latina woman believes she should adhere to the cultural values that comprise the construct of *marianismo*. Item responses are on a Likert scale and range from (1) Strongly Disagree to (4) Strongly Agree. The measure was developed with English and Spanish versions. The MBS is composed of 5 subscales: (1) Family Pillar, (2) Virtuous and Chaste, (3) Subordinate to Other, (4) Self-Silencing to Maintain Harmony, and (5) Spiritual Pillar. Castillo and colleagues (2010) found coefficient alphas for these four scales: .77, .79, .76, .78, and .85, which are derived from both the English and Spanish versions of the survey. The present study found corresponding acceptable to good values of coefficient alpha on the five subscales: .74, .82, .69, .77, and .81, respectively. The present study also demonstrated a coefficient alpha of .88 for the Full Scale.

Castillo et al. (2010) reported on both the presence of a first order factor and a second order factor in the scale. The authors chose to interpret the scale using the first order factor and five subscales; however, their report of fit statistics also supported a second order factor (CFI. 0.88, RMSEA. 0.07, SRMR. 0.13) and full scale model. Similarly, Rodriguez et al. (2013) found support for *marianismo* as a multidimensional construct including positive and negative aspects. Rodriguez et al. (2013) obtained a coefficient alpha of .84 for the Positive *Marianismo* Beliefs Scale (PMBS; composed of items from the Family and Spiritual subscales) and a coefficient alpha of .90 for the Negative *Marianismo* Beliefs Scale (NMBS, composed of items from the Virtuous, Subordinate, and Self-Silencing subscales). The present study found coefficient alphas of .81 for the PMBS and .87 for the NMBS. Considering scoring procedures from both Castillo et al. (2010) and Rodriguez et al. (2013) the present study scored the MBS using the Full Scale, as well as the Positive and Negative *Marianismo* Beliefs Scales.

Convergent validity for the MBS was demonstrated with a measure of Latino *familismo* (MACC-SF; Cuéllar, Arnold, & Gonzáles, 1995b) and the Silencing the Self Scale (Jack, 1991). Discriminant validity was supported by the lack of association between cognitive enculturation factors as measured by the MBS and behavioral acculturation measured by the AOS (Anglo Orientation Subscale; Cuéllar, Arnold, & Maldonado, 1995). As behavioral and cognitive facets of enculturation/acculturation differ, Cuellar and colleagues (1995) and Kim (2007) have encouraged the separate study of these factors.

Acculturation. The Brief Acculturation Rating Scale for Mexican Americans-II (BARSMA-II; Bauman, 2005) is a shortened 12-item version of the original ARSMA-II (Cuéllar et al., 1995), a widely used 48-item self-report measure of acculturation. Bauman (2005) sampled 393 Mexican American youth in the Southwest United States who completed the survey in Spanish or English based on preference. The ARSMA-II was developed as an orthogonal, multidimensional measure that quantifies orientation towards Anglo culture and Mexican culture (acculturation and enculturation). The brief measure contains 6-items from each of the two original subscales developed for this purpose, the Anglo Orientation Subscale (AOS) and the Mexican Orientation Subscale (MOS). Factor analysis of the BARSMA-II found support for this two factor structure and underscored the importance of social connection items on the AOS (Bauman, 2005). The measure also assesses behavioral involvement in the two cultures through questions assessing language use in the context of speaking, thinking, reading, and utilizing media. As with the original ARSMA-II, responses are on a Likert-scale ranging from (1) not at all to (5) almost always/extremely often.

Bauman's (2005) results supported the use of linear acculturation scores/levels. The AOS and MOS subscale scores are calculated by finding the mean of items on each subscale. The

overall acculturation score is derived by subtracting the MOS score from the AOS score. Level of acculturation is determined by cutoff scores based on standard deviations from the mean. Orthogonal categories can also be obtained with AOS and MOS scores; these categories include Traditionals, Low Biculturals, High Biculturals, and Assimilated. The AOS and MOS subscales demonstrated good internal reliability (Cronbach's alpha = .91 and .73, respectively; Bauman, 2005). For the current study, acceptable internal reliability was demonstrated (Cronbach's alpha = .80 and .61, respectively). Cuéllar, Harris, & Jasso (1980) also found that the BARSMA-II correlated with the original ARSMA at .89. Demonstrating construct validity Bauman (2005) found samples from culturally different communities to vary by acculturation score. As language is often used as a proxy for acculturation, chosen language of completion was also compared to acculturation scores. Acculturation scores differed significantly by language choice supporting concurrent validity.

Since its creation, the BARSMA-II has been used with adults, in addition to adolescents (Torres, Driscoll, & Voell, 2012; Castillo, Lopez-Arenas, & Salvidar, 2010). It has also been used with individuals from diverse Latino backgrounds (Unger, Ritt-Olson, Wagner, Soto, & Baezconde-Garbanati, 2007; Torres et al., 2012). As others have noted, the length and reading level required of the original ARSMA-II limits its practicality for use within surveys of health or social issues and with adolescents (Unger et al., 2007). Similar to Unger et al. (2007), to ensure the understanding of the greatest number of adolescents, questions assessing relationships with "Anglos" included further specifiers. The word "enjoy" was also replaced with "like" in the English version in order to employ commonly utilized jargon (Unger et al., 2007).

Depression. The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) is a self-report scale designed to measure depression in the general (non-clinical)

population. It consists of 20 items answered on a 4-point Likert scale based on how often the respondent has experienced depressive mood symptoms in the past week. The scale ranges from 0 (rarely or none of the time [less than 1 day]) to 3 (most or all of the time [5 to 7 days]). Items come from 6 scales: depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance; however, I used the scale as a single factor measure (Radloff, 1977). The CES-D has been found reliable across gender, age, and race (Knight, Williams, McGee & Olaman, 1997; Radloff, 1977; Roberts, Vernon, & Rhoades, 1989). Internal consistency measured with Cronbach's alpha ranged from .90 in a clinical sample to .85 in the general population (Radloff, 1977). The present study demonstrated a Cronbach's alpha of .86 for the full scale. The CES-D has demonstrated validity in a variety of contexts. The scale has demonstrated construct validity by discriminating between clinical and non-clinical sub-groups, as well as by being sensitive to negative life events. The CES-D also correlates moderately with self-esteem (.58) and state anxiety (.44) and highly with trait anxiety (.71) (Orme, Reis, & Herz, 1986). A Spanish version of the CES-D has been published by Soler and colleagues (1997) and demonstrated a coefficient alpha of .90. The scale correlated with Spanish versions of the Hamilton Depression Rating Scale and the Beck Depression Inventory.

Context and Covariates

A multi-purpose questionnaire was used to screen participants for the study and collect demographic information. Proposed demographic variables included age, education, financial strain, relationship status/duration, and work/student status. The majority of screening and demographic questions were drawn from the English and Spanish versions of the National Survey of Family Growth (CDC, 2011-2013); however, several questions were appended to

these. Questions for which Spanish versions were not available were translated from English to Spanish and back-translated by a bilingual clinical psychologist of Hispanic origin and a graduate level TEFL instructor and native Spanish speaker to ensure cross-cultural and conceptual equivalence. The survey was tested with a subset of English and Spanish speakers for qualitative examination of understanding, flow, and timing. Pre-testers provided feedback to the investigator who made minor changes to phrasing and identified errors. Taking into account factors associated with income in the young adult population, socioeconomic status was assessed with two questions associated with economic strain (“How much difficulty do you have in paying your bills?”; “At the end of the month how much money do you end up with?”; Pearlin, Menaghan, Lieberman, & Mullan, 1981). To assess generational status participants were asked three questions (Unger et al., 2007): “In what country were you born?”, “In what country was your mother born?”, and “In what country was your father born?” Participants were able to choose United States, Puerto Rico, or Other and fill in the name of the country. Women will be coded 1st generation if they and both their parents were born outside the United States, 2nd generation if they were born in the United States and both their parents were born outside the United States, and 3rd+ generation if they and at least one of their parents were born in the United States. Length of time in the US, immigration status, and healthcare status were assessed with questions from the Migrant Friendly Maternity Care Questionnaire (Gagnon et al., 2014). These variables are related to the ability to receive reproductive healthcare and access to contraception. Religiosity, which is related to the spiritual component of *marianismo* (Castillo et al., 2010), as well as contraceptive use, was measured by self-report of present religion and frequency of religious attendance (Pew Research Center, 2013). Sexual identity was assessed with a descriptive measure of attraction to men versus women (Pew Research Center, 2013).

Analysis Approach

Hypotheses were tested with seven multivariable logistic regression analyses. Prior to analysis data was cleaned, zero order correlations were run, and descriptive statistics were examined. Assumptions associated with logistic regression were also checked prior to analyses. Logistic regression allows for the prediction of a binomial outcome. Each observed variable was checked for independence and multicollinearity. In order to interpret interactions effects data was centered by deducting mean scores from each variable. Also, predictor variables and log odds were checked for linearity by using scatterplots to examine outliers. The outcome variable in the present study is contraceptive method choice (effective v. ineffective). The probability of $Y_1=1$ represents the probability of a participant using more effective birth control.

Marianismo beliefs, acculturation, and depression were tested as predictor variables. First, the main effects of all three variables on contraceptive use were tested. Following this, two moderation effects involving *marianismo* were tested for their ability to predict effective method: the interaction of acculturation and *marianismo* and the interaction of depression and *marianismo*. A power analysis was conducted with G*Power 3.1.7 (Faul, Erdfelder, Buchner, & Lang, 2013) to determine the number of participants needed for the present study (Hseigh, Block, & Larsen, 1998). On the basis of earlier research on contraceptive method use in Latinas, taking into account the young adult population and the national sample (Garbers et al., 2010; Mosher et al., 2004; Gilliam, Neustadt, Whitaker, & Kozloski, 2010; Frost & Darroch, 2008), the effect sizes of the predictor variables and interaction terms were estimated. Studies have found that about 90% of sexually active women use a more effective birth control method (Mosher et al., 2004; Garbers et al., 2010); therefore, the present study estimated $H_0=.90$. Odds associated with the depression hypotheses were determined to be the most stringent and were utilized to

estimate H_1 . Fifty-eight percent of depressed women have been found to utilize a more effective method ($H_1=.58$; Garbers et al., 2010). However, as Garbers and colleagues (2010) controlled for other behavioral health factors the present study used a more stringent $H_1=.65$ to approximate effect size. Therefore, the number of participants necessary to detect a medium effect size (odds ratio = 4.76) was assessed with a two-tailed test given an alpha of .05 power at .80. A sample size of 114 was approximated based on this analysis. At the time of analysis, the present study obtained a sample size of 142. Coefficients were interpreted on the odds scale typical of logistic regression.

CHAPTER III

RESULTS

Logistic regression analyses were conducted for all hypotheses with IBM SPSS Statistics Version 21 to better understand factors associated with effective contraceptive use. The variables of *marianismo* beliefs, acculturation, and depression were examined in this framework for their ability to predict effective contraceptive use vs. ineffective contraceptive use. Acculturation and depression were also examined as moderators of *marianismo* beliefs on contraceptive use.

Related factors, such as health insurance, risky sexual behaviors, religion, religious attendance, and sexual attraction were assessed with bivariate correlations on effective contraceptive use.

Participants in the study included 142 Latina young adults. Twenty cases with more than 80% missing values, including missing values on the outcome variable, were deleted, and four more participants were excluded for noting that they had not engaged in sexual intercourse during the 3 month time period specified on the outcome variable and were not using long-term contraception. Linearity of the continuous variables with respect to the logit of the dependent variable, contraceptive use, was assessed via the Box-Tidwell (1962) procedure. Based on this assessment, *marianismo* beliefs, acculturation, and depression were found to be linearly related to the logit of contraceptive use. An assessment of outliers indicated that there were no cases with standardized residuals greater than ± 2 standard deviations.

Preliminary analyses examined the associations between demographic variables and independent and dependent study variables. Demographics are listed in Tables 2 and a correlation matrix with variables used in analyses is shown in Table 4. Study participants represented a nation-wide sample of Latina young adults (home states were varied; e.g. California, Colorado, Georgia, New York). The average age was approximately 21 years and

almost all were either a student, employed, or both. About 61% reported being in a relationship (participants who were married were screened out of the study) and about 19% reported significant financial strain. Most participants chose to complete the survey in English rather than Spanish (93%); however, the BARSMA-II acculturation measure revealed that most participants were bilingual. In response to the statement, “I speak Spanish,” with responses, including; *Not at All, Very Little, Moderately, Very Often, and Almost Always*; the average response was *Very Often*. In response to the same question assessing speech in English, the average response was *Almost Always*. The average score on the BARSMA-II measure was .48, which falls in Level 3, of 5 Levels, in terms of the linear acculturation level on the overall score. According to the orthogonal acculturation categories on the BARSMA-II (Traditional; Low Bicultural (Marginalized); High Bicultural; Assimilated), the average participant would be classified as High Bicultural. Also related to acculturation, generational status and birthplace were assessed. Consistent with results from the BARSMA-II, participants were about evenly divided between 1st, 2nd, and 3rd generations. Sixty-three percent were born in the United States and 37% were foreign born. Table 3 provides a list of study participants’ diverse countries of family origin. Mexican descent was endorsed by 55% of participants on one or both sides of their family. The remainder of participants indicated descent from a range of Latin American countries in Central America, South America, and the Caribbean.

Table 2
Demographic Characteristics of Sample

<i>Variables</i>	<i>Frequency</i>	<i>Percent</i>
Age (18-24)	20.8 (<i>SD</i> 1.89)	100
Education		
Secondary Diploma (High school or GED)	67	47.2
Post-secondary Diploma (University, trade school)	73	51.4
Graduate Degree	2	1.4
Employment Status (select all that apply)		
Not employed	13	9.2
Student	94	66.2
Employed	76	53.5
Financial Strain*		
Some money left over	51	35.9
Just about enough money to make ends meet	64	45.1
Not enough money to make ends meet	27	19.0
Relationship Status**		
In a relationship	86	60.6
Not in a relationship	56	39.4
Language		
English	132	93.0
Spanish	10	7.0
Generation		
1 st Generation	53	37.3
2 nd Generation	50	35.2
3 rd Generation	39	27.5
Birthplace		
US born	89	62.7
Foreign born	53	37.3
Race (select all that apply)		
Hispanic	141	99.3
White	17	12.0
Black/African American	1	0.7
Asian	3	2.1
Other	1	0.7
Immigration Status		
Citizen	97	68.3
Other status (Resident, student, temporary status, etc.)	41	28.9
Undocumented or No Status	4	2.8

Note. $N = 142$; *Financial Strain was measured by the question, “At the end of the month, do you end up with...?”; **Participants were unmarried.

Table 3
Participant Family Origin

<i>Country</i>	<i>Frequency</i>	<i>Percent</i>
Mexico	78	54.9
Puerto Rico	13	9.2
El Salvador	13	9.2
Colombia	10	7.0
Dominican Republic	7	4.9
Honduras	7	4.9
Cuba	6	4.2
Venezuela	4	2.8
Peru	4	2.8
Ecuador	4	2.8
Chile	4	2.8
Bolivia	3	2.1
Guatemala	2	1.4
Nicaragua	2	1.4
Paraguay	2	1.4
Uruguay	1	0.7
Argentina	1	0.7

Note. $N = 142$; Participants were able to select as many as applicable.

The level of *marianismo* beliefs in the current sample was similar to other studies utilizing the *Marianismo* Beliefs Scale (Castillo et al., 2010; Piña-Watson et al., 2014). The average score on the Negative *Marianismo* Beliefs Scale was 1.64 ($SD = 0.38$), while the average score on the Positive *Marianismo* Beliefs Scale was 2.54 ($SD = 0.51$). Acculturation, as measured by the BARSMA-II, was significantly correlated with *marianismo* beliefs, $r = .18$, $p < .05$. Depression, as measured, by the CES-D, was not correlated with acculturation, proxies of acculturation, or *marianismo* beliefs. Risk for depression was high in the present sample with a mean score on the CES-D of 22.2.

Overall more effective contraceptive use was not correlated with individual study variables. In the present study 63% of participants reported using at least one more effective

contraceptive method (Table 4). The remainder (37%) were classified as less effective contraceptive method users. Participants had the option to choose one or more methods. For those whom condom use was the primary method of contraception (56 participants) 57% used condoms effectively (every time) and 43% used condoms ineffectively (not every time). Birth control pills were the most frequently utilized form of more effective contraception (28% of participants). Withdrawal was the most frequent form of less effective contraception (42% of participants), followed by inconsistent condom use.

Table 4
Contraceptive Method Use of Sample

More Effective Contraceptive Methods			Less Effective Contraceptive Methods		
Type	Number	Percent	Type	Number	Percent
Birth control pills	39	27.5	Withdrawal	60	42.3
Consistent condom use*	32	22.5	Inconsistent condom use*	24	16.9
IUD, coil, loop	11	7.7	Rhythm or by calendar	9	6.3
Hormonal implant	6	4.2	No method used	6	4.2
Injectables	5	3.5	Other method	3	2.1
Contraceptive ring	3	2.1	Foam	1	0.7
Contraceptive patch	1	0.7	Jelly or cream	1	0.7
			Natural family planning	1	0.7
Total of Individuals Using at Least 1 Effective Method	89	63	Total of Individuals Using Only Ineffective Methods	53	37

Note. $N = 142$; Percent is of total N ; *Condom consistency statistics were calculated for those who indicated condoms were their primary method of choice; Participants had the option to select the use of one or more methods in the past 3 months.

A model predicting contraceptive use was built to determine covariates prior to testing hypotheses. All demographic variables and all independent variables were entered into the

model. Proposed covariates included age (18-24), education (secondary diploma, postsecondary diploma), financial strain (some money left over, just about enough to make ends meet, not enough money to make ends meet), relationship status (in a relationship, not in a relationship), work/student status, and generation. Work/student status was eliminated from models as only 6 of 142 participants indicated that they were neither working nor a student. Language was also considered as a covariate, but was not included as a result of a low frequency in the sample ($n = 10$). Table 5 presents bivariate correlations of study variables and demographics variables.

Table 5
Bivariate Correlations of Study Variables and Demographic Variables

Measure	1	2	3	4	5	6	7	8	9	10
1. Effective Contraceptive Use	-									
2. Neg. <i>Marianismo</i>	-.14	-								
3. Pos. <i>Marianismo</i>	-.03	.52**	-							
4. Acculturation	-.03	.26**	.01	-						
5. Depression	-.00	.10	-.04	.11	-					
6. Age	-.09	.07	-.05	.03	-.12	-				
7. Education	-.03	-.06	-.07	-.07	-.09	.44**	-			
8. Financial Strain	.00	.01	.04	-.22**	.15+	.08	-.01	-		
9. Relationship Status	.09	.13	.12	.07	-.04	.04	.07	-.02	-	
10. Generation	.03	.09	.08	.20*	.07	-.13	-.03	.01	-.05	-

Note. $N = 142$. ** $p < .01$; * $p < .05$; + $p < .10$; Neg. *Marianismo* = Negative *Marianismo* Beliefs; Pos. *Marianismo* = Positive *Marianismo* Beliefs.

A logistic regression analysis was performed to assess prediction of membership in one of the two categories of outcome (effective contraceptive method or ineffective contraceptive method). Predictors (*Marianismo* beliefs, acculturation, and depression) and demographic variables (age, education, financial strain, relationship status, and generation) were entered on Step 1. A test of the full model with all seven predictors against a constant-only model was not statistically significant, $\chi^2(8, N = 142) = 4.72, p = .787$, indicating that the predictors, as a set, did not significantly distinguish between effective contraceptive use and ineffective contraceptive use. Demographic variables that were not significant were removed in five steps to

attain the best model fit. According to the Wald criterion, only relationship status reached significance below $p = .20$, which is the level Tabachnick and Fidell (2013) suggest for removing variables from logistic regression models, $\chi^2 (1, N = 142) = 1.71, p = .19$. Because of this, relationship status was used as a demographic covariate in further analyses.

***Marianismo* Beliefs**

For Hypothesis 1 a direct logistic regression analysis was performed on contraceptive method as outcome with *marianismo* beliefs (continuous MBS score) and relationship status as predictors. As *marianismo* beliefs is composed of subscales representing negative and positive *marianismo* beliefs, Negative *Marianismo* Beliefs and Positive *Marianismo* Beliefs were also tested individually as predictors. In Table 6, bivariate correlations between the *marianismo* beliefs subscale scores and contraceptive method were explored. A test of the model with *marianismo* beliefs total and relationship status against a constant-only model was performed, $\chi^2 (2, N = 142) = 3.32, p = .190$, indicated that the predictors as a whole did not significantly distinguish between women who utilized effective or ineffective contraception (Table 7).

Table 6
Bivariate Correlations of Contraceptive Use and Marianismo Beliefs Scale and Subscales

Measure	1	2	3	4	5	6	7	8	9
1. Effective Contraceptive Use	-								
2. <i>Marianismo</i> Total	-.11	-							
3. Negative <i>Marianismo</i>	-.14	-.92*	-						
4. Virtuosity	-.18+	.80*	.84*	-					
5. Subordinate	-.01	.72*	.82*	.45*	-				
6. Self-Silencing	-.11	.72*	.80*	.45*	.68*	-			
7. Positive <i>Marianismo</i>	-.03	.81*	.52*	.51*	.37*	.35*	-		
8. Family	-.02	.61*	.29*	.32*	.18	.16	.82*	-	
9. Spirituality	-.03	.77*	.57*	.53*	.43*	.41*	.89*	.47*	-

Note. $N = 142$. * $p < .001$; Negative *Marianismo* Beliefs subscales: Virtuous and Chaste, Subordinate to Other, Self-Silencing to Maintain Harmony; Positive *Marianismo* Beliefs subscales: Family Pillar, Spiritual Pillar.

Table 7

Logistic Regression Analysis of Effective Contraceptive Use as a Function of Marianismo Beliefs

Variables	B	SE	p	Odds Ratio	95% Confidence Interval for Odds Ratio	
					Lower	Upper
Marianismo Beliefs	-.72	.50	.148	.49	.18	1.29
Relationship vs. Single	.47	.36	.194	1.60	.79	3.25
Nagelkerke R ²	.03					

Note. N = 142. * $p < .05$; + $p < .10$

A second model was run with Negative *Marianismo* Beliefs (in place of *marianismo* beliefs total) and relationship status against a constant-only model, $\chi^2(2, N = 142) = 4.39, p = .111$, Nagelkerke $R^2 = .04$. In this model, Negative *Marianismo* Beliefs demonstrated a trend toward a negative association with effective contraceptive use ($p = .076$). Though it is important to interpret these scores cautiously, Table 8 suggests that as Negative *Marianismo* Beliefs score increased by one, participants were 2.30 times less likely to use effective contraception. Ninety-three percent of the effective contraceptive users were correctly classified, whereas 13% of the ineffective contraceptive method users were correctly classified for an overall success rate of 63%. A test of the model with Positive *Marianismo* Beliefs and relationship status, against a constant-only model was also performed, $\chi^2(2, N = 142) = 1.42, p = .491$. This model with Positive *Marianismo* Beliefs did not demonstrate an association with effective contraceptive use. From here forward Negative *Marianismo* Beliefs will be used in place of *marianismo* beliefs overall as the constructs measured by this scale demonstrated stronger association with contraceptive use.

Table 8

Logistic Regression Analysis of Effective Contraceptive Use as a Function of Negative Marianismo Beliefs

Variables	<i>B</i>	SE	<i>p</i>	Odds Ratio	95% Confidence Interval for Odds Ratio	
					<i>Lower</i>	<i>Upper</i>
Negative Marianismo Beliefs	-.83+	.47	.076	1.62	.80	3.30
Relationship vs. Single	.48	.36	.183	1.85	.92	3.71
Nagelkerke R^2	.04					

Note. $N = 142$. * $p < .05$; + $p < .10$

Acculturation

Analysis for Hypothesis 2 involved a direct logistic regression performed on contraceptive use as outcome with acculturation and relationship status as predictors. It was predicted that low levels of acculturation would be associated with less effective contraceptive use. Acculturation was measured multi-dimensionally with the BARSMA-II. A test of this model with the continuous BARSMA-II score and relationship status against a constant-only model was not statistically significant, $\chi^2(2, N = 142) = 1.35, p = .510$ (Table 9). The variance in contraceptive use accounted for was low (Nagelkerke $R^2 = .01$). Scores on the BARSMA-II were marginally positively correlated with United States birthplace, $r(140) = .15, p = .076$. United States birthplace demonstrated a trend toward significance in correlation with effective condom usage, $r(140) = .23, p = .087$.

Table 9
Logistic Regression Analysis of Effective Contraceptive Use as a Function of Acculturation

Variables	<i>B</i>	SE	<i>p</i>	Odds Ratio	95% Confidence Interval for Odds Ratio	
					<i>Lower</i>	<i>Upper</i>
Acculturation	-.06	.17	.708	.94	.67	2.98
Relationship vs. Single	.40	.36	.263	1.49	.74	1.33
Nagelkerke R^2	.01					

Note. $N = 142$. * $p < .05$; + $p < .10$

Acculturation and *Marianismo*

Hypothesis 3 involved testing the interaction of acculturation and Negative *Marianismo* Beliefs for the impact on contraceptive method. A hierarchical logistic regression was performed on contraceptive method as outcome and the addition of predictors in three steps (Table 10). Acculturation and Negative *Marianismo* beliefs were centered prior to analysis by subtracting the mean from data points on each variable. On Step 1, relationship status was entered as a demographic covariate. On Step 2, acculturation and Negative *Marianismo* beliefs were entered as main effects. The model, with the addition of the variables in Step 2, was not significant, $\chi^2 (3, N = 142) = 4.40, p = .221$; however, Negative *Marianismo* Beliefs demonstrated a trend toward significance at $p = .08$. On Step 3, the interaction of acculturation and Negative *Marianismo* beliefs was added to the model. The interaction did not explain a significant portion of the variance above the impact of the main effects. The predictors as a whole did not significantly distinguish between women who utilized effective or ineffective contraception, $\chi^2 (4, N = 142) = 6.69, p = .153$. Nagelkerke R^2 increased slightly to .06 to explain variance in contraceptive method.

Table 10
*Logistic Regression Analysis of Effective Contraceptive Use as a Function of
 Acculturation and Negative Marianismo Beliefs*

Variable	Model 1				Model 2				Model 3			
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>
Constant	.29	.27	.29	1.33	.23	.28	.40	1.26	.33	.28	.25	1.39
Demographic Variable												
Relationship Status	.39	.35	.27	1.47	.48	.36	.18	1.62	.46	.37	.21	1.58
Main Effects												
Acculturation					.02	.18	.93	1.02	.05	.18	.78	1.05
Neg. <i>Marianismo</i>					-.85+	.49	.08	.43	-.80	.50	.11	.50
Interaction												
Acculturation* <i>Neg. Marianismo</i>									-.70	.47	.14	.50
Nagelkerke R^2	.01				.03				.06			

Note. $N = 142$; * $p < .05$; + $p < .10$; Neg. *Marianismo* = Negative *Marianismo* Beliefs.

Depression

For Hypothesis 4 a direct logistic regression was performed on contraceptive method as outcome with depression (continuous CES-D score) and relationship status as predictors (Table 11). A test of this model with depression and relationship status against a constant-only model was not statistically significant, $\chi^2 (2, N = 142) = 1.21, p = .547$. The variance in contraceptive method accounted for was low (Nagelkerke $R^2 = .01$).

Table 11
Logistic Regression Analysis of Effective Contraceptive Use as a Function of Depression

Variables	<i>B</i>	SE	<i>p</i>	Odds Ratio	95% Confidence Interval for Odds Ratio	
					<i>Lower</i>	<i>Upper</i>
Depression	.00	.02	.973	1.00	.97	1.03
Relationship vs. Single	.39	.35	.272	1.48	.74	2.95
Nagelkerke R^2	.01					

Note. $N = 142$. * $p < .05$; + $p < .10$

Depression and *Marianismo*

Hypothesis 5 involved testing the interaction of depression and Negative *Marianismo* Beliefs for the impact on contraceptive use. A hierarchical logistic regression was performed on contraceptive use as outcome, first on the basis of the main effects of depression and Negative *Marianismo* Beliefs and the addition of predictors in three steps (Table 12). Depression and Negative *Marianismo* Beliefs were centered prior to analysis by subtracting the mean from data points on each variable. On Step 1, relationship status was entered as a demographic covariate. On Step 2, depression and Negative *Marianismo* Beliefs were entered as main effects. The model with the addition of the variables in Step 2 was not significant, $\chi^2(3, N = 142) = 4.45, p = .217$, Nagelkerke $R^2 = .04$. On Step 3, the interaction of depression and Negative *Marianismo* Beliefs was added to the model. This step demonstrated a trend toward significance in explaining a portion of the variance above the impact of the main effects, $\chi^2(1, N = 142) = 3.31, p = .069$. The contribution to variance in contraceptive method was demonstrated by Nagelkerke $R^2 = .07$. The interaction of depression*Negative *Marianismo* Beliefs produced a Wald test trending toward significance ($p = .076$). To investigate the interaction, depression and Negative *Marianismo*

Beliefs were reduced to binary variables using a median split. A plot indicated that women with low levels of depression were less likely to demonstrate effective contraceptive use if they had high levels of Negative *Marianismo* Beliefs. Women with both low levels of depression and low levels of Negative *Marianismo* Beliefs were more likely to utilize effective contraception. Women with high levels of depression were not more or less likely to demonstrate effective contraceptive use based on level of Negative *Marianismo* Beliefs.

Table 12
Logistic Regression Analysis of Effective Contraceptive Use as a Function of Depression and Negative Marianismo Beliefs

Variable	Model 1				Model 2				Model 3			
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>
Constant	.29	.27	.29	1.33	.23	.28	.40	1.26	.15	.28	.59	1.16
Demographic Variable												
Relationship Status	.39	.35	.27	1.47	.49	.36	.18	1.63	.58	.37	.12	1.78
Main Effects												
Depression					.00	.02	.81	1.00	.01	.02	.69	1.01
Neg. <i>Marianismo</i>					-.85+	.48	.07	.43	-1.05*	.50	.04	.35
Interaction												
Depression*Neg. <i>Marianismo</i>									-.08+	.04	.08	1.08
Nagelkerke R^2	.01				.04				.07			

Note. $N = 142$; * $p < .05$; + $p < .10$. Neg. *Marianismo* = Negative *Marianismo* Beliefs.

Research Question

A research question was proposed in the present study to investigate how risky sexual behavior and religiosity were associated with unintended pregnancy and *marianismo* beliefs. Descriptive statistics (Table 13) demonstrated that 59% of participants had only one partner over the past year and 39% had two or more partners. Frequency of intercourse ranged from 35% engaging in intercourse greater than or equal to twice a week to 39% engaging in intercourse one time or less per month. Eight percent of the sample or 11 participants reported at least one past unintended pregnancy. Bivariate correlations were conducted to examine the association of risky sexual behavior with unintended pregnancy and *marianismo* beliefs (Table 14). Results of the Pearson correlation demonstrated that women who had a greater number of partners (≥ 2 partners in the past year) were less likely to endorse Negative *Marianismo* Beliefs ($r(140) = -.18, p < .05$). Women who had a greater frequency of intercourse were more likely to endorse Positive *Marianismo* Beliefs ($r(140) = .19, p < .05$). In regard to past unintended pregnancy, there was a negative correlation trending toward significance with Positive *Marianismo* Beliefs ($r(140) = -.17, p < .05$). However, a small number of women reported experiencing unintended pregnancy, so these results should be interpreted with caution.

Table 13
Risky Sexual Behavior Variables

<i>Variables</i>	<i>Number</i>	<i>Percent</i>
Partners in the past year		
1 partner	84	59.2
≥ 2 partners	56	39.4
Frequency of intercourse in past 3 months		
≥ 2/week	49	34.5
2-4x/month	38	26.8
≤ 1x/month	55	38.7
Past unintended pregnancy		
0 unintended pregnancies	129	90.8
≥ 1 unintended pregnancy	11	7.7

Note. $N = 142$.

Table 14
Bivariate Correlations of Contraceptive Use, Marianismo Beliefs, and Risky Sex Variables

<i>Measure</i>	1	2	3	4	5	6
1. Effective Contraceptive Use	-					
2. Negative <i>Marianismo</i> Beliefs	-.14	-				
3. Positive <i>Marianismo</i> Beliefs	-.03	.52**	-			
4. Quantity of Men	.01	-.18*	-.01	-		
5. Frequency of Intercourse	.03	.06	.19*	.08	-	
6. Past Unintended Pregnancy	.11	-.07	-.17+	.14+	.07	-

Note. $N = 142$. ** $p < .01$; * $p < .05$; + $p < .10$

Descriptive statistics were also used to examine religious identification, religious attendance, health insurance, and sexual attraction (Table 15). Fifty-five percent of the current sample identified with only two organized religions (Protestant and Roman Catholic). Fifty-two percent of the population identified with labels, such as atheist, agnostic, spiritual, or responded

by noting no religion or other. The sample varied in their patterns of religious attendance. Thirteen percent reported attending services at least once a week. Twenty-eight percent reported never attending religious services. Private health insurance was reported by 44% of the sample, 30% reported public health insurance, and 29% reported that they pay out of pocket for health services. In regard to sexual attraction, 72% percent reported being only or mostly attracted to males, 16% reported being somewhat more attracted to males than females, 7% reported equal attraction, 3% reported somewhat more attraction to females than males, and 1% reported that they were only or mostly attracted to females. Bivariate correlations were examined to assess relationships between variables (Table 16). Private health insurance was not significantly correlated with study variables. Only or mostly attraction to males was positively correlated with Negative *Marianismo* Beliefs and negatively correlated with depression scores on the CES-D ($r(140) = .19, p < .05$ and $r(140) = -.22, p < .05$, respectively). Religious identification demonstrated a significant positive correlation with Negative *Marianismo* Beliefs, Positive *Marianismo* Beliefs, and Acculturation ($p < .01, p < .01$, and $p < .05$, respectively). Religious attendance was significantly correlated with Negative *Marianismo* Beliefs ($r(140) = .30, p < .01$).

Table 15
Contextual Variables

<i>Variables</i>	<i>Number</i>	<i>Percent</i>
Religious Identification (select all that apply)		
Protestant	16	11.3
Roman Catholic	62	43.7
Atheist, Agnostic, Spiritual, Nothing, Other	74	52.1
Religious Attendance		
At least once a week	18	12.7
Once or twice a month	17	12.0
A few times a year	38	26.8
Seldom	30	21.1
Never	39	27.5
Health Insurance		
Publically funded health insurance	42	29.6
Privately funded health insurance	63	44.4
Pay out-of-pocket	41	28.9
Special government health insurance for refugees	2	1.4
Sexual Attraction		
Only or mostly attracted to males	102	71.8
Somewhat more attracted to males than females	23	16.2
About equally attracted to males and females	10	7.0
Somewhat more attracted to females than males	4	2.8
Only or mostly attracted to females	2	1.4

Note. $N = 142$.

Table 16

Bivariate Correlations of Contraceptive Use, Independent Variables, and Contextual Variables

Measure	1	2	3	4	5	6	7	8	9
1. Effective Contraceptive Use	-								
2. Negative <i>Marianismo</i>	-.14	-							
3. Positive <i>Marianismo</i>	-.03	.52**	-						
4. Acculturation	-.03	.26**	.01	-					
5. Depression	-.00	.10	-.04	.11	-				
6. Private Health Insurance	.14	-.12	-.03	.06	-.06	-			
7. Only or Mostly Attracted to Males	-.06	.19*	.11	.16+	-.22*	.03	-		
8. Religious Identification	-.06	.27**	.28**	.20*	-.10	-.02	.22**	-	
9. Religious Attendance	-.14+	.30**	.13	-.00	-.11	-.05	.14+	.30**	

Note. $N = 142$. ** $p < .01$; * $p < .05$; + $p < .10$

CHAPTER IV

DISCUSSION

This study sought to examine risk for unintended pregnancy in Latina young adults through the lens of cultural and sexual scripts. The behavior of individuals in any situation occurs in the context of their culture. Scripts presume that human beings typically behave according to the patterns and rules implicitly agreed to by members of their society (Tomkins, 1979). Important to consider are the patterns and rules for behavior around gender and sexuality. Gagnon and Simon (1973) included culture as the first level in their conceptualization of “sexual scripts.” Culture and sexuality intersect in the signs and cues that emerge around sexual behavior in a cultural context. In other words, men and women both learn sexual scripts in the context of their environment through cultural values and patterns of behavior. In Latino culture, cultural scripts often assume a traditional view of gender roles. Scripts such as *marianismo*, *familismo*, *respeto*, and *simpatía*, may encourage prosocial norms overall; however, they place women below men in the social hierarchy. *Marianismo*, both a cultural and gender script, includes beliefs associated with an idealized version of what a Latina woman should be (Castillo et al., 2010). *Marianismo* beliefs have been characterized as having negative and positive aspects (Piña-Watson et al., 2014). Negative *Marianismo* Beliefs include beliefs around virtuosity, submissiveness, and self-silencing. Positive *Marianismo* Beliefs are associated with women’s central role in regard to the family and spirituality.

Women with stronger *marianismo* beliefs and particularly women with Negative *Marianismo* Beliefs are more likely to defer to men, suppress their own needs, and not discuss subjects related to sex. This study hypothesized that young women aged 18-24 with greater *marianismo* beliefs would be less likely to use effective contraception. Results suggested that

Negative *Marianismo* Beliefs demonstrated a trend in association with less effective contraceptive use; however Positive *Marianismo* Beliefs and *marianismo* beliefs overall were not associated with effective contraceptive use. Factors that may play a role in the cultural context associated with sexual practices, including acculturation and depression, were also examined. Acculturation's association with contraceptive use was conceptualized through Cultural Norms Theory (Upchurch, Aneshensel, Mudgal, & McNeely, 2001). As contraception is more widely used and accepted in America than in Latin American countries, it was hypothesized that low acculturation would be associated with less effective contraceptive use. This was not demonstrated overall in this more highly acculturated sample of childless and unmarried young women; however, foreign birthplace was marginally correlated with less effective condom usage specifically. It was also hypothesized that depression would be negatively associated with effective contraceptive use, as aspects of *marianismo*, such as self-silencing and feelings of subordination may overlap with symptoms of depression (Lehrer et al., 2006). On its own depression was not found to be associated with contraceptive method use; however, depression demonstrated an unexpected trend moderating the association of Negative *Marianismo* Beliefs with contraceptive use. Women were likely to use contraception less effectively if they reported low levels of depression and high levels of Negative *Marianismo* Beliefs. Those reporting high levels of depression were no more likely to use contraception effectively if they had low or high levels of Negative *Marianismo* Beliefs. Very little research exists linking Latina sexual behavior to gender role beliefs, and further how these beliefs exist in context with other variables. This study provides some preliminary evidence linking *marianismo* beliefs to contraceptive use in Latina young adults.

Contraceptive Use

Adolescent and young adult women have high rates of unintended pregnancy and Latina women may be at particular risk within this age range (Guttmacher, 2016; Zolna & Lindberg, 2012). Disparities in contraceptive use are greatest during adolescence. Data from the Youth Risk Behavior Survey demonstrated that 21% percent of Hispanic 15-19 year olds reported that they had not used a contraceptive method the last time they had intercourse, compared to 12% of White adolescents (Witwer, Jones, & Lindberg, 2018). In the present study 61% of Latina women aged 18-24 were categorized as using more effective contraception in the past month. Data from the National Survey of Family Growth shows that Hispanic women aged 18-44, who are at risk for pregnancy, use contraception about 90% of the time (Daniels, Daugherty, Jones, & Mosher, 2015). Full data reported from 2012 found rates at approximately 85% for women aged 15-19 and 87% for women aged 20-24. Unmarried and nulliparous women, such as those in the present study, also use contraception less often, at approximately 83% and 86%, respectively. This data does not distinguish methods as effective or ineffective, including periodic abstinence (e.g. calendar rhythm, natural family planning) and “other methods” (Jones, Mosher, & Daniels, 2012). The present study did distinguish between effective and ineffective methods, including condom use. This contributed to a rate of effective contraceptive use slightly lower than anticipated. The inclusion of participants from populations with lower rates of contraceptive use also contributed to the rate of effective use.

Prior to assessing study variables of interest, demographic variables were examined through logistic regression analyses for their associations with contraceptive use. Only relationship status was retained in the model; because of this, age, education, work/student status, financial strain, and generation were not utilized in analyses. Screening criteria in the

present study included a denial of plans to become pregnant in the year following participation; therefore, despite being in a relationship, women in this study likely felt they did not want to have a child at this time. Unmarried women in a relationship who do not want to have children may be more consistent with their contraceptive use than unmarried women not in a relationship who do not want to have children because of experience with one partner and the opportunity for planning.

***Marianismo* Beliefs**

A key portion of the present study involved an examination of the association between contraceptive use and *marianismo* beliefs. The five major aspects of *marianismo*, including family, virtuosity, subordination to men, self-silencing, and spiritual leadership, were assessed with the *Marianismo* Beliefs Scale (Castillo et al., 2010). In a model controlling for relationship status, *marianismo* beliefs overall were not associated with effective contraceptive use. However, three aspects of *marianismo* have been characterized more negatively, as they are associated with feelings of disempowerment in women (Rodriguez et al., 2013; Piña-Watson et al., 2014; Moreno, 2007). Negative *Marianismo* Beliefs included the expectation to be virtuous and chaste, to act subordinate to men, and to self-silence in regard to personal needs and desires. Negative *Marianismo* Beliefs demonstrated a trend in association with less effective contraceptive use in the present study. Positive *Marianismo* Beliefs, which are associated with being strong and unifying for the family and demonstrating spiritual leadership, were not associated with contraceptive use.

Similar to a previous study with a more acculturated sample (Piña-Watson et al., 2014), Positive *Marianismo* Beliefs overall were more highly endorsed than Negative *Marianismo* Beliefs overall in the current study. Piña-Watson et al. (2014) found that in a sample of Latino

high schoolers, girls were more likely to endorse beliefs associated with family and spirituality, while boys were more likely to endorse subordination and silencing beliefs in reference to women. The authors hypothesized that women may be more likely to endorse beliefs that give them power in society, while men also endorse the beliefs about women that give them power in society. It is possible that Positive *Marianismo* Beliefs procure some advantages to the holder (Piña-Watson et al., 2014; Castillo et al., 2010; Rodriguez et al., 2013). Rodriguez et al. (2013) found that the Positive *Marianismo* Beliefs Scale was significantly associated with academic motivation in a sample of Latina adolescents. Close family bonds and religious involvement have been linked to academic factors. The Negative *Marianismo* Beliefs Scale was not associated with academic motivation, providing support for the multidimensional nature of *marianismo*. A few researchers have discussed the possible impact of positive aspects of *marianismo* on sexual behavior. It is possible that the desire for an intact family, including a husband and children may promote more responsible sexual behavior. Women with these beliefs may be more vigilant about contraception for family planning purposes (Moreno, 2007). Also, in regard to spirituality, religious values in many belief systems encourage reduced sexual behavior or abstinence until marriage (Raffaelli & Iturbide, 2009; Weiss & Tillman, 2009).

In the present study Positive *Marianismo* Beliefs were not associated with effective contraceptive use. This is likely related to that fact that though more positive *marianismo* beliefs give power to women, they also constrain them to roles approved of by men, maintaining the overall dominance of men in Latino culture (Piña-Watson et al., 2014). Women's roles in the family and in the spiritual life of the family make them powerful only in domains approved of by men, such as in child rearing, in the home, and at church. From the perspective of Positive *Marianismo* Beliefs, women's power still supports traditional machismo values. Further, in the

present study and others, these empowering Positive *Marianismo* Beliefs are positively correlated with the disempowering Negative *Marianismo* Beliefs (Castillo et al., 2010; Piña-Watson et al., 2014). This suggests that women with high levels of Positive *Marianismo* Beliefs generally still do not feel powerful enough to assert themselves in other areas.

The significant positive correlation between Negative and Positive *Marianismo* Beliefs also suggests that women holding these beliefs may feel conflicted in their roles (Castillo et al., 2010). The conflict between a desire for family planning and piousness may be overshadowed by an inability to express needs related to sexual health. This relates to the finding that Negative *Marianismo* Beliefs was associated with less effective contraceptive use in the current study. Women who feel subordinate to men and silence themselves to maintain harmony in relationships may feel incapable of discussing contraception with their partners. Diminished ability to communicate with their partner may be a factor in their ineffective contraception use. For example, research shows that discussion of condom use or having an agreement to use a condom is the strongest predictor of effective condom use (Sheeran et al., 1999; Noar et al., 2006). Further, beliefs associated with submission and suppression of needs may make women especially vulnerable in sexual situations (Moreno, 2007; Castillo et al., 2010; Faulkner, 2003). Women with Negative *Marianismo* Beliefs may feel they lack control of their sexuality and lack the ability to be assertive about the use of contraception. They may be less likely to speak out if they disagree with the sexual desires or behavior of their partner related to contraception. They are also likely to have lower sexual self-efficacy and be less likely to value self-protection.

In the present study, Virtuous beliefs, a component of Negative *Marianismo* Beliefs, demonstrated the only significant correlation as a subscale with effective contraceptive use. These beliefs were associated with less effective contraceptive use. Items on the Virtuous and

Chaste subscale include references to virginity, purity, and religion. Items on the Spiritual Pillar subscale were not associated with contraceptive use, which is likely because the items included reference positive aspects of spirituality for Latina women, such as leadership, and exclude references to traditional religious beliefs. The influence of Virtuous beliefs to ineffective contraceptive use is consistent with the present study's findings in relation to religious attendance. Attendance at religious services at least once a week predicted less effective contraceptive use in a model with relationship status and health insurance. Research has shown that religious beliefs can delay the age of sexual initiation; however, when those who pledge abstinence do engage in sexual activity they are less likely to use contraception (Santelli et al., 2006). Research with Latina young adults has found that they are less likely to discuss contraception with their partner for fear of being seen as promiscuous (Faulkner, 2003). There is a perception that broaching the topic of contraception with their partner may make them seem more sexually experienced and less pure. Latinas may also not obtain contraception because they are less likely to acknowledge or predict their own sexual behavior because of norms around the prohibition of sex (Raine et al., 2003). Raine et al. (2003) found that decreased odds of any contraceptive method use in a diverse sample of 15 to 24 year old women was associated with being raised with a religion. It appears that for pious young adults in the present study who have already engaged in sexual intercourse, their traditional beliefs about maintaining virtuosity and avoiding discussion of sexual health may put them at risk for unintended pregnancy.

Acculturation

The present sample fell in the "High Bicultural" range on average on the BARSMA-II (Bauman, 2005), the measure used here to assess acculturation. Acculturation, as measured multi-dimensionally by the BARSMA-II, takes into account behavioral aspects of acculturation,

such as language, media consumption, and time with friends. Variables that are frequently used as proxies for acculturation, such as generation, birthplace, and mother's birthplace were positively correlated with overall acculturation scores. The present study predicted that acculturation would be positively associated with contraceptive use, such that more acculturated women would be more likely to use effective contraceptive methods. There was some support for this hypothesis in regard to birthplace as proxy and condom use. Bivariate correlations demonstrated that women who were born in the US were marginally more likely to use condoms effectively (every time they engaged in intercourse). Frost and Darroch (2008) also found this difference in regard to consistency of condom use between foreign-born and US born Hispanics in a national sample using data from the National Survey of Family Growth. Frost and Darroch did not include any other aspect of acculturation in their analysis. Researchers have found this relationship between consistent condom use and acculturation in literature reviews; however, results regarding contraceptive use overall have been less consistent (Afable-Munsuz & Brindis, 2006).

In the present study, acculturation was not significantly associated with effective contraceptive use overall in logistic regression analyses. This relationship was predicted in line with Cultural Norms Theory. This theory presumes that when individuals encounter a new culture they engage in a process of adaptation to new values and norms regarding gender, sexual activity, and family formation (Upchurch et al., 2001). As contraception is more widely used and accepted in America than in Latin American countries, one might assume that more exposure to American society would be related to more effective contraceptive use. However, Sangi-Haghpeykar, Ali, Posner, & Poindexter (2006) found that in comparison with white women, both US born and non-US born Latina women had lower social support related to birth control and

self-efficacy in its use, more religious objections to using birth control, and were more likely to believe that birth control is the responsibility of the woman. These sociocultural beliefs may persist despite acculturation. Some less acculturated women may also be using contraception more effectively than predicted by Cultural Norms Theory as a result of patterns of long-acting method use. Possibly as a result of availability and practice at publically funded clinics, the use of highly effective long-acting methods (such as IUDs and injectables), has been more strongly associated with foreign-born Latinas than US-born Latinas (Kavanaugh, Jerman, Hubacher, Kost, & Finer, 2011; Frost & Darroch, 2008).

Past research examining the association between acculturation and contraception has likely produced inconsistent findings as a result of varied samples and means of measurement, as well as limited consideration of cultural values (Guilamo-Ramos et al., 2005; Afaible-Munsuz & Brindis, 2006). This study utilized a diverse national sample that is highly bicultural, highly educated, and bilingual. Much past research with a focus on Hispanic women has been conducted in publically funded clinics or with a low-income sample (Wilson, 2009; Raine, Minnis, & Padian, 2003). It is also a possibility that *marianismo* beliefs, which can be considered an aspect of cognitive enculturation (Castillo et al., 2010) and religious practices (also associated with acculturation), may be more relevant to habits of contraceptive use than acculturation. Somewhat unexpectedly, the present study found support for the distinction between the two constructs as *marianismo* beliefs were positively associated with acculturation. Enculturation has been described as the process of socialization to the norms, beliefs, and values of the indigenous culture (Kim & Omizo, 2005). Therefore, acculturation can be conceptualized as the process of adapting to a new culture, while enculturation can be conceptualized as the process of retaining aspects of the old culture. Therefore, research suggests that these two are not necessarily

inversely related. It is possible to retain aspects, such as *marianismo* beliefs, of your old culture, while adapting to norms of a new culture. This may be true particularly in the present study as acculturation was measured via a highly behavioral measure, which did not assess beliefs, values, or identity.

Depression

When compared to other studies, a high rate of depression was observed in the present study. However, for quite some time others have suggested higher cut-off scores on the CES-D in general or higher cut-off scores for individuals in certain demographics (Zich, Attkisson, & Greenfield, 1990; Boyd, Weissman, Thompson, & Myers, 1982). Further, many of the demographic characteristics of participants in the present study, including Latinos, women, adolescents/young adults, and bicultural/highly acculturated individuals, have been shown to correspond with higher rates of depression. The Hispanic Community Health Study sampled Hispanics/Latinos ages 18 to 74 from four diverse communities nationally. Overall, 27% of the sample reported high rates of depressive symptoms (Wassertheil-Smoller et al., 2014).

According to the Youth Risk Behavior Surveillance System, 47% of Latina adolescents reported “feeling so sad or hopeless almost every day for 2 or more weeks in a row that they stopped doing some usual activities.” This was significantly higher than White female adolescents at 38% (CDC, 2018). Further, more highly acculturated or bicultural Latinos, such as those in the present study, have been found to be more at risk for psychological problems (Torres, 2010). Young women in particular may feel pulled between two cultures – absorbing the cultural mores in their everyday life with friends, at work, at school; however, feeling pressure from family to conform to traditional expectations (Cespedes & Huey, 2008). This may have been a particular struggle for the women in the present study as they were all unmarried and sexually active. Cultural

values around marrying young and maintaining virginity until marriage may lead to negative psychological effects. Further, women often live with family who hold these values until they marry. Taken together, the women in the current study may have been particularly at risk for depressive symptoms.

Few studies have assessed depression as a predictor of unintended pregnancy, rather than a result, and even fewer have focused on Latina women. One of those studies by Garbers and colleagues (2010) utilized the medical records of close to 2,500 low-income primarily Black and Latina women in their 20s who visited reproductive health centers. They found that women who screened positive for depression with the PHQ-9 (Patient Health Questionnaire-9) were significantly more likely to choose a less effective method of birth control. These findings were after controlling for a variety of behavioral health characteristics, such as binge drinking, drug use, smoking, anxiety, and history of physical or sexual abuse. The study did not measure cultural factors. Unger, Molina, and Teran (2000) assessed perceived consequences of childbearing, attitudes, and other sexual risk behaviors in a sample of majority Latina adolescents. Similar to the present study, they found that depression, as measured by the CES-D, was not a significant predictor in regression analyses.

The impact of depression on contraceptive use in the present study occurred at the trend level through an interaction with Negative *Marianismo* Beliefs. The present study hypothesized that women with high levels of depression and high levels of Negative *Marianismo* Beliefs would be less likely to use effective contraception. However, this pattern with high depression was not observed in results. Negative *Marianismo* Beliefs interacted with depression such that low levels of depression influenced contraceptive use depending on levels of Negative *Marianismo* Beliefs. For women with low levels of depression, if they also possessed high levels

of Negative *Marianismo* Beliefs they were less likely to use contraception effectively. If they possessed low levels of depression and low levels of Negative *Marianismo* Beliefs they were more likely to use contraception effectively. For women with high levels of depression an association with contraception based on level of Negative *Marianismo* Beliefs was not seen. The hypothesis with high depression was predicted based on the idea that similarly negative characteristics of depression and Negative *Marianismo* Beliefs may compound to make women particularly less likely use effective contraception. However, it is possible that the effects observed in the present study are a result of a suppressing effect that depression has on the importance of Negative *Marianismo* Beliefs. The relationship of depression with sexual risk behavior has been explained through symptoms associated with an increased desire for intimacy, diminished self-efficacy or self-esteem, desire for short-term symptom relief, and a lesser value on personal health and self-protection (Lehrer et al., 2006). Related Negative *Marianismo* Beliefs include, feeling subordinate, maintaining the appearance of virtuosity, and suppressing feelings. It is possible that in the face of high levels of depressive symptoms, *marianismo* beliefs may become obsolete; however, further research would be needed to confirm this.

Strengths and Limitations

To my knowledge, this study is the first to examine the association between Latina gender role beliefs, or *marianismo* beliefs, and contraceptive use or unintended pregnancy. It is one of few quantitative studies examining *marianismo* beliefs and particularly with Latinas of diverse countries of origin. The present sample appears to be representative of Latina young adults in the United States who are presently unmarried, childless, and sexually active, with no intentions on becoming pregnant in the next year. As might be expected, when compared with national Hispanic trends, participants tended to be more educated and speak English at higher

levels than Latina young adults overall. However, they represented a similar percentage of foreign born and a similar distribution of countries of origin. Just over half of the sample noted Mexican ancestry one or both sides of the family, which is similar to national rates (Pew Research Center, 2017). Participants tended to be bicultural and bilingual. A high level of depressive symptoms was found in the sample. Other research has also linked high rates of depression to Latinos, women, teens/young adults, and biculturalism (Wassertheil-Smoller et al., 2014; CDC, 2018; Torres, 2010). As most research done in regard to sexual health is conducted in publically funded clinics or with a low-income sample, this may be a population particularly at risk for depression.

This study attempted to obtain the most accurate assessment of contraceptive use by utilizing a question format from the National Survey of Family Growth (NSFG, CDC, 2011-2013). Participants were given the opportunity to select as many methods as they had used in the past three months. They were classified according to their most effective method. A further precaution in this study included an assessment of consistency of condom use for those of whom condom use was their primary means of contraception. Therefore, the low rate of effective contraceptive use in the present study is concerning; however, more research should be conducted on a broad range of Latina women to identify those particularly at risk.

Despite the strengths of this study, several limitations should be considered. The power to detect a statistically significant result may have been limited by smaller than expected effect sizes. Effect sizes in the present study may have been restricted by sampling a very specific portion of the Latina population. Stringent inclusion criteria were intended to screen out factors that may have influenced the outcome variable; however, it may be more useful to control for those variables in future studies. Also, though a power analysis was completed and the necessary

number of participants was collected, it is still possible that sample size may have limited the strength of results (Tabachnick & Fidell, 2013). It is possible that *marianismo* beliefs would be more strongly associated with contraceptive use in future studies with a more diverse sample and a greater amount of participants. An oversampling of individuals with countries of origin other than Mexico may be a useful comparison. As this is a preliminary study, the trend observed with Negative *Marianismo* Beliefs would benefit from consideration in future research.

It is important to keep in mind that the cross-sectional nature of the current data makes it difficult to draw causal conclusions from the results. Obtaining data from online surveys also presents risks to accuracy. Under-reporting is a risk on any self-report measure and may have been an issue in this study due to the sensitive nature of contraceptive and sexual health questions; however, this may not have been a major problem as to be screened into the study all women had to endorse current participation in sexual activity. It is also possible that women with high levels of *marianismo* beliefs in particular may have had difficulty answering questions surrounding contraception and sexual behavior.

Importantly, contraceptive use is not a perfect measure of risk for unintended pregnancy. A few studies have been able to gather data on women prior to the experience of an unintended pregnancy and examine predictive factors; however, this is difficult to accomplish (Garbers et al., 2010; Hall et al., 2014). Therefore, the present study utilized contraceptive use as a proxy for risk of unintended pregnancy. As similar to other studies assessing contraceptive use, I did not ask for the primary purpose of hormonal contraception. For example, women may use the birth control pill to regulate the menstrual cycle. As the women in the present study were all sexually active within the past year, it is likely that if they were using hormonal contraception there was at least a dual purpose, but nevertheless this may have had an influence on the strength of results.

Lastly, the current study did not sample adolescents under the age of 18. As rates of contraceptive use are lowest in adolescence, the future study of this age range may be particularly relevant to future research.

Implications and Future Directions

The findings from the current study have several implications for the direction of future research and interventions aimed Latina young women in the US. Results suggest that negative aspects of *marianismo* are associated with potentially harmful sexual health behavior. Feeling subordinate to men, not speaking up for oneself, and feeling as though one must uphold perceptions of virtuosity likely place women at a disadvantage when it comes to power in relationships with men. The link between sexual outcomes and *marianismo* deserves further attention in the research literature to determine how these beliefs impact sexual outcomes in practice. Prior qualitative research has linked HIV and intimate partner violence to *marianismo* beliefs (Moreno, 2007; Cianelli, Ferrer, & McElmurry, 2008). Mechanisms linking *marianismo* and all of these dangerous sexual outcomes may include deficits in communication and decreased sexual self-efficacy. Studies assessing women's communication styles and control over their sexuality may add to our knowledge of how these beliefs impact negative behaviors. Interventions to increase sexual self-efficacy in medical settings and schools may include psychoeducation and sexual education on contraception, as well as suggestions on how to speak to partners about the use of contraception. Doctors may find it useful to talk to their Latina patients about their pregnancy intentions, their partners, their partners' openness to the use of contraception, and determine together the most effective method the woman can realistically use consistently in her daily life.

Results of this study suggest that *marianismo* beliefs may be more important than acculturation in predicting sexual health behavior, such as the use of contraception. *Marianismo* beliefs have been described as a form of cognitive enculturation (Castillo et al., 2010). Beliefs and values, such as those associated with *marianismo*, are related, but different from the behaviors associated with acculturation. Unexpectedly, the present study found that higher levels of *marianismo* beliefs were associated with greater levels of acculturation. However, other researchers have found that acculturation and enculturation are separate and different processes and that enculturative beliefs may persist despite acculturation (Kim & Omizo, 2005). The present study finds support for the presence of these enculturative beliefs in a sample of Latina women from a variety of family backgrounds/countries of origin. Exploratory results in the present study also suggest that religion, which is associated with acculturation and enculturation, is an important factor for future studies to consider in the context of contraceptive use. Religious identification and religious attendance were associated with greater *marianismo* beliefs and could influence contraceptive method use.

Cultural factors are starting to be considered in the face of high rates of depression in Latina young women found in this study and others. Past researchers have found that mental health symptoms during adolescence may stem from a young woman's attempts to reconcile adherence to traditional values expected of her by family and adherence to the more liberal American values expected of her by others she encounters in school, at work, or with friends. This conflictual family dynamic has been linked to suicidal and other dangerous behaviors in Latino young people (Goldston et al., 2008). The present study is one of few to examine specific cultural beliefs and depression and how they may be linked to unintended sexual health outcomes in adolescence/young adulthood. The interaction found in the present study at the trend

level suggested that for women with lower levels of depression, high levels of Negative *Marianismo* Beliefs placed them at risk. However, women with high levels of depression were no more or less at risk based on levels of Negative *Marianismo* Beliefs. How cultural beliefs, such as *marianismo* beliefs, are associated with depression and resulting health effects are not fully understood at this time. Future research should consider the influence of gender role socialization and the impact of cultural beliefs on the development of mental health symptoms and sexual behavior in Latino young people. The incorporation of positive and empowering conceptualizations of gender roles in treatment may contribute to a reduction in negative cognitions and emotions (Nuñez et al., 2016).

The present study did not assess several factors that may provide more context for future studies evaluating the use of contraception in Latina women. Beliefs about contraception and effectiveness, including accurate knowledge, are often biased depending on cultural origin (Afable-Munsuz & Brindis, 2006). Data on social support for contraceptive use, perceived stigma associated with contraceptive use, embarrassment about negotiating contraceptive use with partners, intentions to use contraceptives in the future, and cultural norms about the benefits of pregnancy and motherhood are also interesting factors to consider in assessment of risk for unintended pregnancy (Unger & Molina, 2000). Interventions and health initiatives to reduce myths about contraception and challenge cultural beliefs linking contraception to promiscuity may be useful in increasing the use of effective contraception in Latina women.

CHAPTER V

CONCLUSIONS

The present study utilized a sample of unmarried, nulliparous Latina young women between the ages of 18-24 to examine the association between Latina gender role beliefs, or *marianismo* beliefs, and unintended pregnancy. Risk for unintended pregnancy was quantified through the assessment of young women's more effective v. less effective contraceptive method use. Overall, negative aspects of *marianismo*, including beliefs associated with virtuosity, subordination to men, and self-silencing, demonstrated a trend with less effective contraceptive use. Positive aspects of *marianismo*, including beliefs associated with family and spiritual leadership, were not associated with contraceptive use. Acculturation was not associated with contraceptive use in the present study; however, foreign birthplace was correlated with less effective condom use specifically. Young women with depression in the present study were not more likely to use less effective contraception; however, an interaction effect appeared to suggest that if they possessed low levels of depression and high levels of Negative *Marianismo* Beliefs their risk for ineffective contraceptive use increased. Further research would benefit from studying sexual health outcomes while considering cultural beliefs and values, such as *marianismo*, which are often maintained despite levels of acculturation. Interventions focused on improving communication between women and their partners may be beneficial, as many Negative *Marianismo* Beliefs impact communication. Lastly, providers treating young Latinas in medical and mental health settings should be aware of the impact of gender role socialization on interpersonal relationships and behavior. Developing a healthier conceptualization of gender roles with young Latinas, particularly those with depression, may help to reduce rates of unintended pregnancy.

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APPENDIX A.**Screening Questions
English Version**

1. In what language would you prefer to complete this survey?
 - a. English
 - b. Spanish
2. What is your gender?
 - a. Male
 - b. Female
3. What is your birthdate? (MM/DD/YYYY)
4. Are you Hispanic or Latina or of Spanish origin, such as Mexican, Puerto Rican, Cuban, Dominican, Central American, South American, or of another country?
 - a. Yes
 - b. No
5. What is your current relationship status?
 - a. Married
 - b. Consensual union (unmarried partners)
 - c. Widowed
 - d. Separated
 - e. Divorced
 - f. Single
6. Have you ever given birth?
 - a. Yes
 - b. No
7. Are you currently pregnant?
 - a. Yes
 - b. No
8. Do you have plans to become pregnant in the next year?
 - a. Yes
 - b. No
9. In the last year (last 12 months) have you had sexual intercourse with at least one man?
 - i. Sexual intercourse here refers to a sexual encounter between a man and a woman, in which the penis enters the vagina. Do not count oral sex, anal

sex, heavy petting, or other forms of sexual activity that do not involve vaginal penetration. Do not count sex with a woman partner.

- b. Yes
 - c. No
10. Have you had a sterilizing operation, such as tubal sterilization or hysterectomy?
- a. Yes
 - b. No

APPENDIX B.**Screening Questions
Spanish Version**

1. ¿En qué idioma prefiere completar esta encuesta?
 - a. Inglés
 - b. Español

2. ¿Es usted de sexo masculino o femenino?
 - a. Masculino
 - b. Femenino

3. ¿Cuál es su fecha de nacimiento? (MM/DD/AAAA)

4. ¿Es usted hispana o latina o de origen Español, como Mexicana, Puertorriqueña, Cubana, Dominicana, Centroamericana, Sudamericana, o de otro país?
 - a. Sí
 - b. No

5. ¿Cuál es su estatus marital?
 - a. Casada
 - b. Unión libre
 - c. Viuda
 - d. Separada
 - e. Divorciada
 - f. Soltera

6. ¿Alguna vez en su vida has dado a luz?
 - a. Sí
 - b. No

7. ¿Usted está embarazada?
 - a. Sí
 - b. No

8. ¿Está planeando embarazarte en el siguiente año?
 - a. Sí
 - b. No

9. En el último año (últimos 12 meses) ¿Ha tenido relaciones sexuales con al menos un hombre?
 - i. Relaciones sexuales se refiere a tener sexo entre un hombre y una mujer en el cual el pene penetra la vagina. No se considera en esto al sexo oral,

anal, manoseo u otro tipo de actividades sexuales que no involucran penetración vaginal. Tampoco se considera el sexo con una pareja femenina.

- a. Sí
- b. No

10. Usted ha sometido a la cirugía que causa la esterilización como la ligadura de trompas o histerectomía?

- a. Sí
- b. No

APPENDIX C.**Demographic Questions
English Version**

1. What is your highest level of education completed?
 - a. Primary school (elementary or middle)
 - b. Secondary diploma (high school diploma or GED)
 - c. Postsecondary diploma (e.g. trade school, college, university)
 - d. Graduate diploma (Master's, Doctoral)
 - e. None

2. Please indicate your current status (select all that apply):
 - a. Not employed
 - b. Staying home with children
 - c. Military
 - d. Student
 - e. Employed

3. What is your race?
 - a. Hispanic/Latino
 - b. White
 - c. Black/African American
 - d. Asian
 - e. Other

4. What is your family origin? Please choose one or more than one.
 - c. Mexico
 - d. Guatemala
 - e. Belize
 - f. El Salvador
 - g. Honduras
 - h. Nicaragua
 - i. Costa Rica
 - j. Panama
 - k. Colombia
 - l. Venezuela
 - m. Ecuador
 - n. Peru
 - o. Bolivia
 - p. Chile
 - q. Paraguay

- r. Uruguay
 - s. Argentina
 - t. United States
 - u. Other _____
5. In what country were you born?
- a. United States
 - b. Puerto Rico
 - c. Other _____
6. In what country was your mother born?
- a. United States
 - b. Puerto Rico
 - c. Other _____
7. In what country was your father born?
- a. United States
 - b. Puerto Rico
 - c. Other _____
8. If you are currently in a relationship, what is the length of that relationship?
- a. Specify in months or years
9. At the end of the month, do you end up with:
- a. Some money left over?
 - b. Just about enough to make ends meet?
 - c. Not enough money to make ends meet?
10. How much difficulty do you have paying your bills?
- a. A great deal
 - b. Some
 - c. A little
 - d. No difficulty
11. Which best describes you? Are you ...
- a. Only or mostly attracted to males
 - b. Somewhat more attracted to males than females
 - c. About equally attracted to males and females
 - d. Somewhat more attracted to females than males
 - e. Only or mostly attracted to females
12. Aside from weddings and funerals, how often do you attend religious services?
- a. More than once a week

- b. Once a week
 - c. Once or twice a month
 - d. A few times a year
 - e. Seldom
 - f. Never
13. What is your present religion, if any?
- a. Protestant (for example, Baptist, Methodist, Non-denominational, Lutheran, Presbyterian, Pentecostal, Episcopalian, Reformed, Church of Christ, etc.)
 - b. Roman Catholic
 - c. Mormon (Church of Jesus Christ of Latterday Saints or LDS)
 - d. Orthodox (such as Greek, Russian, or some other Orthodox church)
 - e. Jewish
 - f. Muslim
 - g. Buddhist
 - h. Hindu
 - i. Atheist
 - j. Agnostic
 - k. Something else, specify: _____
 - l. Nothing in particular
14. How long have you lived in this country? (Years and months)
15. What is your current immigration status?
- a. Permanent resident
 - b. Refugee
 - c. Refugee claimant/Asylum seeker
 - d. Temporary worker/Live-in caregiver
 - e. Temporary resident
 - f. Student
 - g. Visitor
 - h. No status
 - i. Undocumented
 - j. Citizen
 - k. Other (please specify)
16. Who pays for your health services? (Please check all that apply)
- a. Publically funded health insurance
 - b. Private health insurance
 - c. Special government funded health insurance for refugees and asylum seekers
 - d. You pay for your services

APPENDIX D.

Demographic Questions Spanish Version

1. ¿Cuál es su mayor título de estudios obtenido?
 - a. Escuela primaria
 - b. Diploma de escuela secundaria or GED
 - c. Diploma terciario (e.j. escuela de comercio, colegio, universidad)
 - d. Diploma posgrado (Master, Doctorado)
 - e. Ninguno

2. ¿Cuál de esas frases describe su situación laboral actual? (Escoge todas las que aplican)
 - a. No tiene empleo o negocio
 - b. Atendiendo al hogar o la familia
 - c. Militar
 - d. Asistiendo a la escuela
 - e. Trabajo a fuera de la casa

3. ¿Cuál es su raza?
 - a. Hispana/Latina
 - b. Caucásica
 - c. Negra/Afroamericana
 - d. Asiática
 - e. Otra

4. ¿Cuál es su origen familiar? (Escoge todas las que aplican)
 - a. Mexico
 - b. Guatemala
 - c. Belize
 - d. El Salvador
 - e. Honduras
 - f. Nicaragua
 - g. Costa Rica
 - h. Panama
 - i. Colombia
 - j. Venezuela
 - k. Ecuador
 - l. Peru
 - m. Bolivia
 - n. Chile
 - o. Paraguay
 - p. Uruguay

- q. Argentina
 - r. Estados Unidos
 - s. Other _____
5. ¿En qué país nació usted?
 - a. Estados Unidos
 - b. Puerto Rico
 - c. Otro _____
 6. ¿En qué país nació su madre?
 - a. Estados Unidos
 - b. Puerto Rico
 - c. Otro _____
 7. ¿En qué país nació su padre?
 - a. Estados Unidos
 - b. Puerto Rico
 - c. Otro _____
 8. Si actualmente está en una relación, ¿cuánto tiempo ha estado en esa relación?
 - a. Indique en meses o años
 9. Al final del mes, usted lo termina con:
 - a. Algo de dinero
 - b. Casi lo suficiente
 - c. No lo suficiente
 10. ¿Cuán difícil se le hace pagar las cuentas?
 - a. Que tan difícil se te hace pagar las cuentas?
 - b. Bastante
 - c. Algo
 - d. Un poquito
 - e. Sin dificultad
 11. ¿Lo que se describe mejor? Es usted...
 - a. Sólo o mayormente atraído a los hombres
 - b. Algo más atraído por hombres que en mujeres
 - c. Sobre atraído igualmente a hombres y mujeres
 - d. Algo más atraído por las mujeres que en los hombres
 - e. Sólo o mayormente atraídos por las mujeres
 12. ¿Aparte de bodas y funerales, ¿con qué frecuencia asiste usted a servicios religiosos?
 - a. Más de una vez a la semana

- b. Una vez por semana
 - c. Una o dos veces al mes
 - d. Un par de veces al año
 - e. Raramente
 - f. Nunca
13. ¿Cuál es su religión actual, si las hay?
- g. Protestante (por ejemplo, Bautista, Metodista, sin denominación, Lutheran, Presbiteriano, Pentecostal, Episcopales, Reformada, Iglesia de Cristo, etc.)
 - h. Católico Romano
 - i. Mormón (Iglesia de Jesucristo de los Últimos Santos o LDS)
 - j. Ortodoxa (como griego, ruso, o alguna otra iglesia ortodoxa)
 - k. Judío
 - l. Musulmán
 - m. Budista
 - n. Hindú
 - o. Ateo
 - p. Agnóstico
 - q. Otra cosa, especifique: _____
 - r. Nada en concreto
14. ¿Cuánto tiempo hace que vive en este país? (Años y meses)
15. ¿Cuál es su estatus de inmigración actual?
- a. Residente permanente
 - b. Refugiada
 - c. Solicitante de estatus de refugiada o de asilo
 - d. Trabajadora temporal/Asistencia doméstica
 - e. Residente temporal
 - f. Estudiante
 - g. Visitante
 - h. Sin estatus
 - i. Sin documentación
 - j. Ciudadana
 - k. Otro (por favor especifique)
16. ¿Quién paga por sus servicios de salud? (Escoge todas las que aplican)
- a. Un seguro médico público
 - b. Un seguro médico privado
 - c. Un seguro gubernamental especial para refugiados o solicitantes del estatus de asil
 - d. Usted paga por sus servicios de salud

APPENDIX E.

***Marianismo* Beliefs Scale**
English Version

Marianismo Beliefs Scale

Instructions: The statements below represent some of the different expectations for Latinas. For each statement, please mark the answer that best describes what you **believe** rather than what you were taught or what you actually practice.

A Latina . . .	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
1.) must be a source of strength for her family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.) is considered the main source of strength of her family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.) mother must keep the family unified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.) should teach her children to be loyal to the family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.) should do things that make her family happy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.) should (should have) remain(ed) a virgin until marriage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.) should wait until after marriage to have children.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.) should be pure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.) should adopt the values taught by her religion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.) should be faithful to her partner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.) should satisfy her partner's sexual needs without argument.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.) should not speak out against men.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.) should respect men's opinions even when she does not agree.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.) should avoid saying no to people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.) should do anything a male in the family asks her to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.) should not discuss birth control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.) should not express her needs to her partner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.) should feel guilty about telling people what she needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.) should not talk about sex.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.) should be forgiving in all aspects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.) should always be agreeable to men's decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.) should be the spiritual leader of the family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.) is responsible for taking family to religious services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.) is responsible for the spiritual growth of the family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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APPENDIX F.

Marianismo Beliefs Scale
Spanish Version

Marianismo Beliefs Scale
Instrucciones: Las declaraciones abajo representan algunas de las diversas expectativas para Latinas. Para cada declaración, por favor marque la respuesta que describe mejor lo que usted crea más bien qué lo que le enseñaron o lo que usted practica realmente.

Una Latina . . .	Fuertemente No De Acuerdo 1	No De Acuerdo 2	De Acuerdo 3	Fuertemente De Acuerdo 4
1.) debería de ser una fuente de fortaleza para la familia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.) es considerada la fuente principal de fuerza para su familia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.) madre debería de mantener a su familia unida.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.) debería de enseñarles a su niños ser leales a su familia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.) debería de hacer cosas que hagan feliz a su familia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.) debería (hubiera) permanecer/permanecido virgen hasta el matrimonio.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.) debe de esperar hasta después del matrimonio para tener hijos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.) debería de ser pura.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.) debería de adoptar los valores inculcados por su religión.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.) debería serle fiel a mi pareja.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.) debería satisfacer las necesidades sexuales de mi pareja sin quejarme.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.) no debería alzar su voz contra los hombres.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.) debería respetar las opiniones de los hombres aunque no esté de acuerdo.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.) debe de evitar decirles "no" a la gente.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.) debería hacer cualquier cosa que le pida un hombre de la familia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.) no debe de hablar de métodos anticonceptivos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.) no debe expresar sus necesidades a su pareja.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.) debe de sentirse culpable por decirle a la gente sus necesidades.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.) no debe de hablar del sexo.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.) debe perdonar en todos aspectos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.) siempre debería estar de acuerdo con las decisiones de los hombres.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.) debería de ser el líder espiritual de la familia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.) es responsable de llevar a su familia a servicios religiosos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.) es responsable del crecimiento espiritual de su familia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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APPENDIX G.

Brief Acculturation Rating Scale for Mexican Americans (BARSMA-II) English Version

	Not at all	Very Little	Moderately	Very Often	Almost Always
1. I speak Spanish.					
2. I speak English.					
3. I enjoy speaking Spanish.					
4. I associate with Anglos.					
5. I like English language movies.					
6. I enjoy Spanish language TV.					
7. I enjoy Spanish language movies.					
8. I enjoy reading books in Spanish.					
9. I write letters in English.					
10. My thinking is done in the English language.					
11. My thinking is done in the Spanish language.					
12. My friends are of Anglo origin.					

Note: Used by permission from Dr. Israel Cuéllar, former director of the Julian Samora Research Institute at Michigan State University.

By Bauman / Brief ARSMA-II

APPENDIX H.

**Brief Acculturation Rating Scale for Mexican Americans (BARSMA-II)
Spanish Version**

	Nada	Un Poquito o a Veces	Moderado	Mucho o Muy Frecuente	Muchisimo, Casi Todo el Tiempo
1. Yo hablo Español.					
2. Yo hablo Inglés.					
3. Me gusta hablar Español.					
4. Me asocio con Anglos.					
5. Me gusta ver películas en Inglés.					
6. Me gusta ver programas en la television que sean en Español.					
7. Me gusta ver películas en Español.					
8. Me gusta leer en Español.					
9. Escribo (como cartas) en Inglés.					
10. Mis pensamientos ocurren en el idioma Inglés.					
11. Mis pensamientos ocurren en el idioma Español.					
12. Mis amigos recientes son Anglo Americano.					

Note: Used by permission from Dr. Israel Cuéllar, former director of the Julian Samora Research Institute at Michigan State University.

By Bauman / Brief ARSMA-II

APPENDIX I.

**Center for Epidemiological Studies – Depression Scale (CES-D)
English Version**

Injury Prevention for Older Adults – Preventing Suicide Resource

Center for Epidemiological Studies Depression Scale (CES-D)

© 2004 Harrington Software Associates, Inc.

7431 Wilson Road Warrenton, VA 20186 (540) 349-8074

Directions: Below is a list of ways you might have felt or behaved. Check the box that indicates how often you have felt this way during the past week.

During the past week:	Rarely or none of the time	Some or a little of the time	Occasionally or a moderate amount of time	Most or all of the time
1. I was bothered by things that usually don't bother me.				
2. I did not feel like eating; my appetite was poor.				
3. I felt that I could not shake off the blues, even with help from family and friends.				
4. I felt that I was just as good as other people.				
5. I had trouble keeping my mind on what I was doing.				
6. I felt depressed.				
7. I felt that everything I did was an effort.				
8. I felt hopeful about the future.				
9. I thought my life had been a failure.				
10. I felt fearful.				
11. My sleep was restless.				
12. I was happy.				
13. I talked less than usual.				
14. I felt lonely.				
15. People were unfriendly.				
16. I enjoyed life.				
17. I had crying spells.				
18. I felt sad.				
19. I felt that people disliked me.				
20. I could not get "going".				

Adapted from "The CES-D Scale: A self-report depression scale for research in the general population"
by Lenore Sawyer Radloff. (1977). *Applied Psychological Measurements*, 1(3).

APPENDIX J.
Center for Epidemiological Studies – Depression Scale (CES-D)
Spanish Version

Lea las frases que describen cómo pudo haberse sentido o comportado. Por favor marque el número que representa con qué frecuencia se ha sentido de esta manera.

- | | Raramente o
ninguna vez | Alguna o
pocas veces | Ocasionalmente
o una cantidad
de tiempo moderado | La mayor parte
del tiempo |
|---|------------------------------------|---------------------------------|---|--------------------------------------|
| | (Menos de un día) | (1-2 días) | (3-4 días) | (5-7 días) |
| 1. Me molestaron cosas que usualmente no me molestan. | | | | |
| 2. No me sentía con ganas de comer; no tenía apetito. | | | | |
| 3. Me sentía que no podía quitarme de encima la tristeza
aún con la ayuda de mi familia. | | | | |
| 4. Sentía que yo era tan bueno como cualquier otra persona. | | | | |
| 5. I Tenía dificultad en mantener mi mente en lo que hacía. | | | | |
| 6. Me sentía deprimido. | | | | |
| 7. Sentía que todo lo que hacía era un esfuerzo. | | | | |
| 8. Me sentía con esperanza sobre el futuro. | | | | |
| 9. Pensé que mi vida había sido un fracaso. | | | | |
| 10. Me sentía con miedo. | | | | |
| 11. Mi sueño era inquieto. | | | | |
| 12. Estaba contento. | | | | |
| 13. Hablé menos de lo usual. | | | | |
| 14. Me sentí solo. | | | | |
| 15. La gente no era amistosa. | | | | |
| 16. Disfruté de la vida. | | | | |
| 17. Pasé ratos llorando. | | | | |
| 18. Me sentí triste. | | | | |
| 19. Sentía que yo no le caía bien (gustaba) a la gente. | | | | |
| 20. No tenía ganas de hacer nada. | | | | |

APPENDIX K.

Contraception/Sexual Behavior English Version

1. How many times have you been pregnant in your life?
 - i. One
 - ii. Two or more

2. During the last 12 months, how many men, if any, have you had sexual intercourse with? Please count every male sexual partner, even those you had sex with only once.
 - i. Sexual intercourse here refers to a sexual encounter between a man and a woman, in which the penis enters the vagina. Do not count oral sex, anal sex, heavy petting, or other forms of sexual activity that do not involve vaginal penetration. Do not count sex with a female partner.
 - a. ≥ 2 /week
 - b. 2-4x/month
 - c. ≤ 1 x/month

3. Now please think about the last 3 months. How many times have you had sexual intercourse with a male in the last four weeks?
 - i. Two or more times per week
 - ii. Two to four times per month
 - iii. One or less times per month

4. Please look at your calendar, in the past month which of these birth control methods did you use? Please check one or more that you used in the last four weeks.
 - i. No method used
 - ii. Birth control pills
 - iii. Condom
 - iv. Withdrawal, pulling out
 - v. Injectables (Depo-Provera)
 - vi. Hormonal implant (Norplant or Implanon)
 - vii. Rhythm or safe period by calendar
 - viii. Safe period by temperature or cervical mucus test, natural family planning
 - ix. Diaphragm
 - x. Female condom, vaginal pouch
 - xi. Foam
 - xii. Jelly or cream
 - xiii. Cervical cap
 - xiv. Suppository, insert
 - xv. Today™ sponge

- xvi. IUD, coil, loop
- xvii. Contraceptive patch (Ortho-Evra)
- xviii. Vaginal contraceptive ring (Nuva Ring)
- xix. Other method

5. (For those that a barrier method was most effective method as answered in previous question)

Thinking back over the past 12 months, would you say you used this method with your partner for sexual intercourse:

- i. Every time
- ii. Most of the time
- iii. About half of the time
- iv. Some of the time
- v. None of the time

-

APPENDIX L.

Contraception/Sexual Behavior Spanish Version

1. ¿En cuántas ocasiones ha estado embarazada?
 - i. Uno
 - ii. Dos o más

2. Durante los últimos 12 meses, ¿con cuántos hombres ha tenido relaciones sexuales? Por favor cuenta cada pareja masculina, incluso aquellos con los que tuvo sexo solo una vez.
 - i. Relaciones sexuales se refiere a tener sexo entre un hombre y una mujer en el cual el pene penetra la vagina. No se considera en esto al sexo oral, anal, manoseo u otro tipo de actividades sexuales que no involucran penetración vaginal. Tampoco se considera el sexo con una pareja femenina.
 - a. ≥ 2 /semana
 - b. 2-4x/mes
 - c. ≤ 1 x/mes

3. Ahora por favor piensa en los últimos tres meses. ¿Cuántas veces ha tenido relaciones sexuales con una pareja masculina in las últimas cuatro semanas?
 - i. Dos o más veces por semana
 - ii. Dos a cuatro veces por mes
 - iii. Una vez por mes o menos

4. Por favor revisa su calendario. En el mes pasado ¿cuál de estos métodos de control de embarazo usó? Escoja uno o más de lo que usó en las últimas cuatro semanas:
 - i. Ninguno
 - ii. Pildoras anticonceptivas
 - iii. Condon
 - iv. Eyaculación fuera de la vagina
 - v. Los inyectables (Depo - Provera)
 - vi. implantes hormonales (Norplant o Implanon)
 - vii. Ritmo o período seguro usando el calendario
 - viii. período seguro por medio de temperatura o la prueba del moco cervical , la planificación familiar natural
 - ix. Diafragma
 - x. Condón femenino, bolsa vaginal
 - xi. Espuma
 - xii. Gel o crema
 - xiii. Capuchón cervical
 - xiv. Supositorio, inserto
 - xv. esponja Today™
 - xvi. DIU , bobina, de bucle

- xvii. Parche anticonceptivo (Ortho-Evra)
- xviii. anillo anticonceptivo vaginal (Nuva Ring)
- xix. Otro método

5. (For those that condom was most effective method as answered in previous question)

En los últimos 12 meses, usó este método con su pareja en:

- i. Cada ocasión
- ii. La mayoría de las veces
- iii. Más o menos la mitad de las veces
- iv. Solo unas pocas veces
- v. En ninguna ocasión

VITA

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SELECTED PRESENTATIONS AND PUBLICATIONS

- Block, J., M.S.** (2018, March). *Domestic Violence and Child Abuse and Neglect in the Community*. Presented at KIDCO V Child Care & KIDCO II Child Care, Head Start Programs, Miami, FL.
- Block, J., M.S.** (2017, November). *La Crianza y El Apego de Los Ninos (Child Development and Attachment)*. Presented at O' Farrill Learning Center at Coral Way, Head Start Program, Miami, FL.
- Block, J., M.S.,** Martin, I., & Paulson, J. F., Ph.D. (2016). *Father Depression Moderates the Association between Relationship Satisfaction and Coparenting*. Poster presented at the Association for Psychological Science Annual Convention, Chicago, IL.
- Block, J.,** Parker, T., M.A., Paulson, J. F., Ph.D. (2014). Postpartum Relationship Satisfaction of Younger and Older Parents. *Psychogram*, 39(1), 21.
- Block, J.,** Balbierz, A., M.P.H., Howell, E., M.D., M.P.P. (2011). *Racial/Ethnic Differences in 6-Month Postpartum Breastfeeding Rates*. Poster presented at the American Psychological Association Annual Convention, Washington, D.C.