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MATERNAL-ADOLESCENT COMMUNICATION ABOUT SEX AND RISKY SEXUAL BEHAVIORS: A CROSS-CULTURAL COMPARISON OF CZECH, SPANISH, AND TAIWANESE YOUTH

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MATERNAL-ADOLESCENT COMMUNICATION ABOUT SEX AND RISKY
SEXUAL BEHAVIORS: A CROSS-CULTURAL COMPARISON OF CZECH,
SPANISH, AND TAIWANESE YOUTH

THESIS

A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science in the
College of Business and Economics
at the University of Kentucky

By
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ABSTRACT OF THESIS

MATERNAL-ADOLESCENT COMMUNICATION ABOUT SEX AND RISKY SEXUAL BEHAVIORS: A CROSS-CULTURAL COMPARISON OF CZECH, SPANISH, AND TAIWANESE YOUTH

This present study aimed to test the relationship between perceived maternal-adolescent communication about sex and risky sexual behaviors, while also considering the links between perceived maternal-adolescent closeness and maternal-adolescent conflict with risky sexual behaviors, across three culturally distinct countries, namely the Czech Republic (N=878, mean age of 17.93), Spain (N =1024, mean age of 18.79), and Taiwan (N =1443, mean age of 16.48). Samples of adolescents from each country were used and statistical analyses were conducted to test the hypothesized relationships. Based on path analysis carried out on each sample, the results revealed that Czech adolescents reported the highest levels of risky sexual behaviors compared to Spanish and Taiwanese adolescents. Additionally, maternal-adolescent closeness was negatively associated with risky sexual behaviors across samples. However, maternal-adolescent communication about sex was unexpectedly positively associated with risky sexual behaviors in the Czech and Spanish samples, while no association was found in the Taiwanese sample. Study findings demonstrated the importance of maternal-adolescent closeness across cultures in potentially mitigating adolescent risky sexual behaviors, while also suggesting a potentially impactful role of cultural context on the relationship between maternal-adolescent communication about sex and adolescent risky sexual behaviors.

KEYWORDS: Adolescents, maternal communication, risky sexual behavior, cross-cultural comparison, closeness, conflict

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July 22, 2024
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CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

Risky sexual behavior among adolescents has consistently been an area of concern for parents and a fundamental aspect of adolescent research. Risky sexual behaviors encompass actions that increase the likelihood of contracting HIV or other sexually transmitted infections (STIs) or becoming pregnant (Taylor-Seehafer & Rew, 2000). Such behaviors include early sexual debut (defined by the CDC [2021] as at or before the age of 15), unprotected sex, inconsistent condom use, having multiple partners, involvement with high-risk partners, such as individuals who inject illegal substances, and participating in transactional sex (Nattabi et al., 2023). The developmental period of adolescence is associated with several developmental milestones, such as a greater ability for abstract thinking, increased independence, and identity formation (Cunha, 2021). Adolescent changes also encompass a stronger desire for peer acceptance, impulsivity, and emotion-driven decision-making (Cunha, 2021). These aspects along with hormonal changes make adolescence, as Harden (2014) would argue, a developmentally normative time for sexual exploration. However, such exploration may put adolescents at higher risk for risky sexual behaviors and for unfavorable health outcomes, including sexually transmitted infections such as HIV and unintended pregnancies, consequences that have a lifelong impact.

Adolescent risky sexual behaviors are an issue worldwide (Wood, 2012; World Health Organization, 2023). Adolescent sexuality is intertwined with cultural heritage and shaped by diverse attitudes and practices that reflect biological, psychological, and social/cultural components (Wood, 2012). Thus, there are vast differences as well as

continued evolution in sexuality due to variances in social customs, religion, traditions, access to education, and access to contraceptives (Wood, 2012). For example, in sub-Saharan Africa, more than half of sexually active teenagers say they didn't use a condom the last time they had sex, while in Germany and France, this rate is less than 20% (Wood, 2012).

These differences in culture, region, education, and social practices influence sexual behaviors as well as adolescent sexual health (Wood, 2012). The World Health Organization (WHO) reported that about 1.7 million adolescents between the ages of 10 and 19 were living with HIV in 2021. Additionally, approximately 777,000 girls under the age of 15 and about 12 million girls ages 15 to 19 gave birth in developing regions; this equates to 42 births for every 1000 girls. The WHO (2021) claimed that one of the leading causes of death globally for this age of girls was childbirth. Education is a critical determinant in guiding sexual development and addressing associated health issues (World Health Organization, 2023).

While adolescent risky sexual behaviors vary widely across regions, recent data from the Centers for Disease Control and Prevention (CDC) highlights ongoing challenges in addressing risky sexual behaviors among high school students in the United States. According to recent data from the CDC (2021), 30% of high school students have had sex, 21% are currently sexually active, and 6% have had sexual intercourse with four or more sexual partners. Although these numbers have steadily decreased since 1994, other measures of risky sexual behavior have not shown the same improvement.

The CDC (2021) also stated that only 52% of high school students reported using a condom the last time they had sex, which decreased from 67% in 2011. Additionally,

33% of high school students used effective hormonal birth control the last time they had sex with the opposite sex, and only 10% of sexually active high school students used dual methods of protection (both a condom and hormonal birth control; Centers for Disease Control and Prevention, 2021). Finally, only 6% of high school students had ever been tested for HIV, compared to 13% in 2011 (Centers for Disease Control and Prevention, 2021). Although there has been a general decline in risky sexual behaviors among teenagers, additional research might be able to further accelerate this positive trend by providing novel insights into the correlates of risky sexual behaviors in particular. Therefore, the current investigation seeks to test key perceived parenting correlates (maternal-adolescent communication about sex, maternal-adolescent closeness, and maternal-adolescent conflict) of risky sexual behaviors in samples of youth from three distinct cultures. The purpose of comparing these relationships cross-culturally is principally rooted in the idea of being able to identify similarities or differences, but also to generalize findings across different cultural contexts.

1.2 THEORETICAL FRAMEWORK

The current study is framed by Family Systems Theory and Bronfenbrenner's Ecological Theory to better understand and contextualize how perceived maternal-adolescent communication about sex, along with perceived maternal-adolescent closeness and conflict, is associated with risky sexual behaviors. Both theories illustrate the importance of considering a multitude of factors that influence adolescent behaviors, including family relationships, family dynamics, as well as cultural context.

1.2.1 Family Systems Theory

A main tenet of Family Systems Theory is the notion that the whole is greater than the sum of its parts (Smith, & Hamon, 2021). Family Systems Theory sees the family or group as the primary unit of analysis (Smith, & Hamon, 2021). In other words, an individual's behavior cannot be examined in isolation, but through the context of its family system (Smith, & Hamon, 2021). Therefore, the locus of pathology in the case of risky sexual behaviors lies in the dysfunction of how the members communicate and interact (Smith, & Hamon, 2021). Thus, for the present study, risky sexual behaviors would be a product of this dysfunction and can thus be addressed and potentially ameliorated within the family unit.

Family Systems Theory can illustrate the possible connections between communication about sex as well as closeness and risky sexual behaviors. According to the theory, families prefer to maintain their current level of functioning (Smith & Hamon, 2021). Families, much like organisms maintaining homeostasis, naturally respond to deviations from norms to restore equilibrium. Based on this framework, for example, an adolescent's risky sexual behaviors could be considered a deviation from the family's current rules and expectations. In response to this deviation, the family may increase in closeness, connection, and communication about sexual topics (which would be considered positive feedback, an action used to promote change) to potentially address this deviation (Smith & Hamon, 2021). In another possible scenario, using the same theoretical lens, an adolescent's risky sexual behavior could be seen as a response to another deviation from the norm within the system (i.e. the teen is acting out due to an increase in marital conflict). With the latter example, if closeness and communication

were already a part of the family's status quo, then the teen's inclination to respond in such an intense may lessen. Furthermore, interactions are what keep family systems intact, which is why Family Systems Theory would support the hypothesis of a negative relationship between maternal-adolescent communication about sex and adolescent risky sexual behavior.

1.2.2 Bronfenbrenner's Ecological Theory

A second relevant theoretical framework is Bronfenbrenner's ecological theory, also called the bio-ecological model. There is a significant overlap between it and Family Systems Theory, with the crucial distinction that Bronfenbrenner's ecological theory also recognizes macro-level influences on individual development and behavior. This theory identifies multiple interconnected systems or layers that aid in understanding the complex relationship between an individual and their environment through time, and how this synergy impacts human development (Adamsons et al., 2022).

The systems include, first, the microsystem, or the immediate environment that directly interacts with the individual; such as the reciprocal interactions that happen between family members (Adamsons et al., 2022). Second, the mesosystem involves the connections between different components of the microsystem, for example, how a child's experience at home impacts their experience at school (Adamsons et al., 2022). Third, the exosystem refers to external settings and their interactions with the microsystem, such as how a mother's stressful work environment can affect her interactions at home (Adamsons et al., 2022). Fourth, the macrosystem comprises the broader cultural, societal, and political context in which the individual lives, and the institutions that impact the individual's experiences (Adamsons et al., 2022). Finally,

Bronfenbrenner included the dimension of time, termed the chronosystem; this addition was crucial due to the effect that changes over time, such as historical events, have on the individual and their environment (Adamsons et al., 2022).

Bronfenbrenner's theory views development as the result of joint, interactive, and mutually reinforcing effects of different sources of influence located across the different systems of development (Adamsons et al., 2022). Thus, a teenager's risky sexual behavior is a result of their family system, their experiences at home and school, their interactions with peers (and the impact of peers' experiences on them), and their unique cultural developmental context characterized by values and social norms. This theory would point out that each of these sources of influence does not impact the individual exclusively, but rather they are synergistic effects that culminate in individual development as well as the expression of individual behaviors, in this case, risky sexual behaviors.

CHAPTER 2: LITERATURE REVIEW

2.1. LITERATURE REVIEW

The present section focuses on *parental* communication about sex even though the current study addresses *maternal* communication about sex; however, most previous studies have focused on communication with mothers rather than fathers. Thus, the articles that discuss *parental* communication are nevertheless pertinent to the present study goals. Additionally, maternal parenting plays a pivotal role in the socialization and development of children and adolescents, often being more influential than paternal parenting due to the typically higher levels of emotional support and nurturing provided by mothers. Studies have shown that maternal socialization is generally more salient than

paternal socialization in the development of emotional regulation or social competence, for instance (e.g., Bowlby, 1988; Lamb, 2010). Therefore, the current study focused on maternal parenting only, specifically maternal communication about sexual behaviors.

Adolescent risky sexual behaviors have been extensively studied (e.g., Coakley et al., 2017; Harris et al., 2023; Peck, 2020; Widman et al., 2016; Weinman et al., 2008; Whitaker et al., 1999). Research continues to identify the need for open dialogue between parents and adolescents on sexual topics, underscoring its role in reducing risky behaviors and promoting contraceptive use. With increasingly easier and more frequent access to the internet, many teens are turning to alternative sources of information, such as peers and pornography, for answers to their sex-related questions, often leading them to misleading and incorrect information (British Board of Film Classification, 2020; Wright et al., 2021). The following studies illustrate both past and current findings regarding the relationship between parental communication with adolescents about sex and risky sexual behavior, the relationship between parent-adolescent closeness and conflict and risky sexual behaviors as well as other important correlates.

Understanding the dynamics of adolescent sexual communication is crucial for comprehending the complexities of parent-adolescent relationships and their impact on adolescent sexual health. In a recent study based on 844 adolescents in grades 11 and 12 from New England, DeSouza et al. (2022) found that 54% of the sample reported having never talked to anyone about sex-related topics. Nevertheless, 25% had spoken primarily to their parents regarding relational communication and protection, 14% talked with both parents and extended family predominantly about protection, and 7% communicated

about sex with extended family members only; these conversations typically included protection and relational sex (DeSouxa et al., 2022).

Evidence from the majority of previous studies has indicated that positive communication between parents and teens is associated with fewer risky sexual behaviors and greater use of various contraceptives (Apsy et al., 2007; Efrati, 2023; Nattabi et al., 2023; Weinman et al., 2008; Widman et al., 2016). In a comprehensive review of the literature, Weinman et al. (2008) found that when controlling for risk factors such as ethnicity, drug use, and school status, parental communication regarding contraceptives predicted condom use. Their findings suggest that parental communication about sex can decrease the likelihood of risky sexual behaviors (Weinman et al., 2008).

In a subsequent meta-analysis, Widman et al. (2016) discovered a significant positive association between parental-teen communication about sex and safer sex practices in adolescents. The study included 52 investigations, synthesizing data from 71 independent effect sizes spanning over three decades of research. Of these independent effect sizes, 49 originated from studies conducted in the United States. In total, the included articles contained a participant pool of 25,314 adolescents, with an average age of 15.2 years. The participant pool included 20,754 individuals from studies with mixed-race samples, 125 individuals from studies focused on European American samples, 3,758 individuals from African American samples, and 677 individuals from Hispanic samples. The results revealed a small, yet significant correlation between parent-adolescent sexual communication and safer sex behaviors [$r = 0.10$; 95% CI, 0.08-0.13]. The authors also found a stronger positive association for adolescents who had discussions concerning sexual topics with their mothers ($r = 0.14$) in comparison to the

same conversations with their fathers ($r = 0.03$), as well as a stronger association in studies with girls ($r = 0.12$) compared to ones with boys ($r = 0.04$).

Previous findings also demonstrate the favorable influences of parental involvement and communication on adolescent sexual behavior. In a community-based study of 1,083 students ages 13-17, Aspy et al. (2007) found that youth were less likely to initiate sexual intercourse when parents were communicatively involved. Furthermore, adolescents exhibited a greater likelihood of utilizing birth control and having only one sexual partner when instructed by their parents on how to set boundaries alongside instilling values related to the ethics of sexual conduct. Finally, the participants whose parents discussed birth control and sexually transmitted disease prevention were two times more likely to use contraceptives during their last sexual encounter.

In a similar vein, DiClemente et al. (2001) conducted a study involving 522 sexually active African American females revealing that those who had infrequent discussions with their parents regarding sexual matters were 1.2 to 1.5 times more prone to abstain from any type of contraceptive use and 1.3 to 1.7 times more likely to have difficulties negotiating condom use with their sexual partner compared to those who reported more frequent conversations with their parents about sex. Hutchinson and Cooney (1998) also found parent communication about sexual risk-taking to be a mediating factor between greater self-efficacy to negotiate condom use with a teen's sexual partner and actual condom use.

Furthermore, dialogues between parents and teenagers concerning sexual risk have been correlated with an increased likelihood of adolescents engaging in discussions with their sexual partners on the topic (Crosby et al., 2002; Whitaker et al., 1999). The

propensity for teenagers to converse with their sexual partners about the potential consequences of sexual risk-taking was notably enhanced as the frequency of parental conversations with their teenagers increased (Whitaker et al., 1999). This, in turn, was found to have a substantial impact on the greater adoption of condom use. However, this relationship was dependent on the parent's ability to be comfortable and open with their child, leading to greater responsiveness. Whitaker et al. (1999) concluded that the level of influence that parents have on their teen's sexual risk-taking behavior "depends both on what they say and how they say it" (p. 117).

Subsequent research came to the same conclusion that parental communication with their teens increased partner communication which in turn led to more frequent condom use and, as Widman et al. (2014) found, dual protection at the time of first intercourse. However, it was observed that parental communication was a more crucial component when adolescents were not communicating with their friends. For those who frequently spoke with their friends about sex-related topics, parental communication was not directly related to increased partner communication.

More recent research also demonstrates that parental communication about sex has been associated with a decrease in risky behaviors across various communities and cultures. In a study on risky behavior among Native American adolescents, Patel et al. (2021) found that parental-adolescent communication led to a significant decrease in not only adolescent sex but also substance use including marijuana and alcohol use. Such communication, as well as parental monitoring, was associated with a greater likelihood of self-reporting condom use (Patel et al., 2021).

In addition, research suggests that the topic of conversation can affect behavioral outcomes. In a study involving 474 Latinx adolescents, Estrada-Martínez et al. (2021) found that discussions between mothers and adolescents regarding *relational sex* (sex within the context of a close relationship) resulted in a decrease in both vaginal and oral sex for girls and reduced the likelihood of boys having multiple partners. This outcome proved superior to the approach of focusing exclusively on promoting abstinence, as it was associated, in this study, with an increase in sexual activity. This increase was possibly attributed to the timing of the discussion, which was frequently delayed or missed altogether. Furthermore, other research indicates that timing may be an important factor in these conversations. Early parental conversations, particularly before sexual initiation, about sexual risk and prevention are associated with condom use with the first sexual interaction (Atienzo et al., 2009). However, sexual discussions that began at a later age and after the first sexual debut were associated with earlier sexual initiation, less than age 15 (Atienzo et al., 2009).

The literature also provides consistent evidence that the connection between parental communication and sexual behaviors among adolescents is often associated with peer influences. Whitaker and Miller (2000) conducted a study involving 907 African American/Black and Latinx adolescents and their mothers from public schools in New York, Alabama, and Puerto Rico. The results indicated that teens who did not talk with their parents about initiating sex and condom use behaved in a way that more closely aligned with peer norms on sexual behavior than among the teens who had parental discussions on such topics. Finally, adolescent-parent discussions regarding initiating sex and condom use were associated with the belief that parents were the best source to

receive answers to sex-related questions. These findings demonstrate that parental communication can moderate or buffer the pressure to conform to peer norms.

It is understandable that more than merely the frequency of any parental discussion about sex is needed to have a lasting influence on adolescent sexual behavior. Zhengyan et al. (2007) conducted a study in Beijing, China involving 497 girls and 350 boys ages 15 to 19. The study examined how parental communication about sex influences adolescents' sexual attitudes and behaviors and whether parent-child attachment influences this relationship. The self-reports showed that boys reported higher levels of comfort in communication regardless of the parent's gender. More notably, the results demonstrated a negative relationship between communication openness and adolescent risky sexual behaviors, and as hypothesized, parents' attachment to their child was found to be a moderator which strengthened the negative correlation. Unexpectedly, however, the more insecure the parent-child attachment reported to be the more conservative the adolescent sexual behavior was (Zhengyan et al., 2007).

Several previous studies have provided evidence that parent-child closeness is associated with less risky sexual behavior (Miller et al., 2001; Nattabi et al., 2023). Miller et al. (2001) completed a thorough research synthesis on the effect that family relations have on teenage pregnancy risk. Although the studies involved are dated, the findings are still relevant today and worth noting. Based on a review of more than 20 studies, they found that an overwhelming majority concluded that adolescent closeness with parents was associated with reduced risk for teenage pregnancy (Miller et al., 2001).

Furthermore, Gilmore et al. (2010) used data from the National Longitudinal Study of Adolescent Health to investigate whether parent-child closeness and family

support as well as communication about sex were associated with condom use among older adolescents and young adults. They found that parent-child closeness was significantly correlated with more consistent long-term condom use. Using an ecological lens, Henrich et al. (2006) also found closeness or connectedness in multiple social contexts to be an important factor in examining the relationship between parental communication and sexual risk-taking. Mother-child communication was significantly associated with less risky sexual behavior with mother-child connectedness as the moderator. This was, however, only true among teens who also had supportive and stable peer friendships.

The following recent findings imply the possibility that the relationship between communication about sex and closeness is closely linked, and potentially dependent on each other (Isaksen et al., 2020; Denes et al., 2022). Family Systems Theory, as discussed previously, can help illustrate this relationship using the idea of mutual influence. For example, open and effective communication about sensitive topics like sex can enhance trust and intimacy between parents and adolescents, leading to increased closeness. Conversely, a close and trusting relationship between parents and adolescents can facilitate more open and constructive communication about sex. Isaksen et al. (2020) studied parent-child communication which included 3,878 parents and 4,343 teenage girls in Zambia. Results revealed that teens who reported feeling close to their parents were more likely to communicate with them regarding sexual topics.

Research shows that comfort and closeness can aid conversations about sex and lead to greater behavioral change (e.g., Denes et al., 2022). For example, open and non-judgmental communication between a mother and her son was found to have a negative

correlation with the son's sexual anxiety and a positive correlation with his sexual satisfaction (Denes et al., 2022). Furthermore, family closeness and conflict could be inversely related. Participants in a study by Anyanwu et al. (2020) reported that when there is high family conflict it creates a negative energy in the home often causing parents to neglect carrying out parental responsibilities, which in turn leads to a "lack of discipline" in adolescents and lessens the closeness they feel with their parents. Parent-adolescent conflict is an important additional factor influencing risky sexual behaviors, alongside communication about sex and closeness, because it may uniquely and additively impact the parent-adolescent relationship.

Other studies discovered less clear or straightforward relationships. For example, Bonafide et al. (2019) found that *communication congruence* was required for there to be a negative correlation between parent-adolescent communication and a decrease in condom-less sex. In other words, their findings showed that a higher frequency in communication was only associated with a decrease in condom-less sex when the parent and the teen both reported the same amount of frequency (Bonafide et al., 2019).

Several studies also found no, inconsistent or indirect effects of parental communication about sex and risky sexual behaviors. For instance, in their comprehensive research synthesis on correlates of adolescent pregnancy risk, Miller et al. (2001) concluded, based on 30 studies, that parental communication about sex did not have a direct effect on pregnancy risk. Importantly, in 6 of these 30 studies reviewed, they identified a positive correlation between parent-adolescent communication about sex and contraceptive use among sexually active adolescents. In addition, in an equal number of studies, no association between parental communication about sex and sexual behavior

or contraceptive use was found. The findings also revealed several moderating factors between parental communication about sex and adolescent pregnancy risk. For example, they found that communication that was open, direct, and comfortable was associated with a later sexual debut and fewer dating partners. However, they also learned that teen communication with mothers was more strongly correlated with adolescent pregnancy risk than communication with fathers; this effect was also stronger for daughters than for sons.

Huebner and Howell (2003) also failed to find a clear association between parenting characteristics, namely parental communication, parenting style, parental monitoring, and sexual risk-taking. There was a significant effect by monitoring, however, no significant correlation was found between communication frequency and sexual risk-taking. The authors noted that this may be due to the lack of specificity in their questions about communication topics. Additionally, Parkes et al. (2011) found perplexing results from a study done in central Scotland, where parental communication that endorsed contraceptives was negatively associated with delayed intercourse. These counterintuitive findings illustrate the complexities surrounding the issue.

In conclusion, several studies including a recent meta-analysis by Widman and colleagues (2016) who found a small positive relationship between sexual communication with parents and safer sex behaviors, provide evidence of a negative relationship between communicating with parents about sex and risky sexual behaviors (e.g., Apsy et al., 2007; Patel et al., 2021; Whitaker & Miller, 2000; Weinman et al., 2008; Widman et al., 2014). Importantly, the seminal research synthesis by Miller and colleagues (2001) concluded that there was no clear direct relationship between

communicating about sexual behaviors and pregnancy risk or risky sexual behaviors. Other work further complicates the picture by illustrating the complexities of this relationship which is conditioned by several different moderators, including increased adolescent-partner communication about contraceptives (Crosby et al., 2002; DiClemente et al., 2001; Whitaker et al., 1999), positive peer relationships (Henrich et al., 2006), a shared perspective of communication between the teen and their parent (Bonafide et al., 2019), how comfortable the parent is (Whitaker et al., 1999), and the topics included in conversations (Estrada-Martínez et al., 2021). Finally, many studies have identified adolescent or parental sex differences indicating that the relationship between communicating about sex and risky sexual behaviors was found when communicating with mothers, but not when communicating with fathers (Widman et al. 2016); similarly, the relationship between communicating about sex and safer sexual behaviors was substantially stronger for girls in comparison to boys (Widman et al., 2016; see also Estrada-Martínez et al., 2021).

In addition, parent-child closeness was found to be associated with reduced risky sexual behaviors (Miller et al., 2001) and more specifically, consistent long-term condom use (Gilmore et al., 2010). Reported closeness was found to aid these conversations (Denes et al., 2022) and act as a moderator between parental-adolescent communication about sex and risky sexual behavior (Henrich et al., 2006), therefore, increasing the likelihood of communication occurring (Isaksen et al., 2020). Although the research on family conflict was sparse, one study found it to be associated with a “lack of discipline” and a decrease in parental-adolescent closeness, which may affect parental

communication and risky sexual behavior as shown in previous studies (Anyanwu et al., 2020).

An important focus of the present study is how and whether culture affects the relationship between maternal-adolescent communication about sex and adolescent risky sexual behaviors. Despite the fact that many studies have been conducted across different countries and cultures, very little cross-cultural comparative research exists (cf., Vazsonyi et al., 2006; Poulsen et al., 2010), particularly research that examines the relationship between mother-adolescent communication about sex and risky sexual behaviors. The only cross-cultural study found regarding parent-adolescent communication about sex compared parent-child dyads in Kenya (N = 403 dyads) and in the United States (N = 1,104) and focused on parent-child communication about HIV/AIDS (Poulsen et al., 2010). The participants consisted of children ages 9 through 12 and mostly mothers [97% in the US, 91.1% in Kenya]. They found that 71.3% of US parents in the sample had spoken to their child about HIV/AIDS at least once compared to 58.5% in Kenya. They also noted three important themes that influenced communication including the parent's level of responsiveness (i.e. their perception of their comfort, confidence, and skill in communicating with their child about sex), parents' perceptions of their child's readiness for sexual discussions, and parents' level knowledge on sex-related issues. This study, however, was strictly observational and focused on variables and attitudes associated with parent-adolescent communication.

The present study aims to fill this gap in research and specifically seeks to test whether perceived maternal-adolescent communication about sex, with a consideration of both perceived maternal-adolescent closeness and perceived maternal-adolescent conflict,

is negatively associated with adolescent risky sexual behaviors across three different cultures, and whether these associations are similar and can be generalized, or whether they differ.

CHAPTER 3: CROSS-CULTURAL STUDY DESIGN

There is a noticeable paucity of cross-cultural comparative research on the link between maternal communication about sex and risky sexual behaviors among adolescents. The importance of such comparative research is to explore and better understand potential similarities and differences, particularly in this relationship. Cross-cultural research could provide novel insights into how and whether culture influences this link. In addition, the strength of this approach lies in the fact that cross-cultural comparative studies are, in fact, quasi-experimental in nature (van de Vijver & Leung, 2021), where culture quasi-functions as the treatment effect.

More specifically, cross-cultural studies utilize groups that differ by origin, such as countries or ethnic groups inside a particular culture or country. Researchers are then interested to test and understand whether “culture,” often operationalized by *context variables* which are either person-related (e.g., age, gender, psychological or socialization factors) or culture-related (e.g., educational systems, health care institutions), explains observed similarities or differences (van de Vijver & Leung, 2021). Even within this framework, context variables offer only partial explanations, often necessitating an even more refined focus (van de Vijver & Leung, 2021).

In conclusion, cross-cultural comparative studies are essential in establishing generalizable findings of a particular topic, such as correlates of risky sexual behaviors among adolescents. Therefore, the current study used data collected from adolescents in

three countries, namely the Czech Republic, Spain, and Taiwan, each known to be unique concerning socially expected and accepted behaviors as well as family relationships, to test the extent to which perceived maternal-adolescent communication about sex, perceived maternal-adolescent closeness, and perceived maternal-adolescent conflict additively and independently are associated with risky sexual behaviors.

CHAPTER 4: CULTURAL CONTEXTS

4.1 CZECH CULTURE

The Czech Republic is located in central Europe bordering Austria, Germany, Poland, and Slovakia. Their cultural traditions reflect the diverse influences of neighboring countries especially that of Germany and Slovakia (Ortiz, 2023). In addition to being famous for its ancient castles, beautiful forests, and enchanting cities, Czech is also known for being surprisingly irreligious, despite its history with Roman Catholic and Protestant influences (Ortiz, 2023). The family is central to the social structure and devotion to one's family is considered most important (Commiisceo-Global Consulting Ltd., 2020). Czech Families are known for being kind, friendly, and relatively small, (often having only one or two children) reflecting a tradition of modest family size (Commiisceo-Global Consulting Ltd., 2020).

Czechs are celebrated for their individualism, practicality, forward-thinking, and efficiency (Commiisceo-Global Consulting Ltd., 2020). They take care in planning both in business and in their personal life, paying attention to rules and regulations that provide a feeling of security and clear expectations (Commiisceo-Global Consulting Ltd., 2020). Due to their high regard for politeness, confrontation is often avoided, and communication can be slightly indirect to avoid hurting feelings (Commiisceo-Global

Consulting Ltd., 2020). Privacy is also highly valued; people remain formal and reserved and only open up with close family and friends while still avoiding showing high emotion (Commiisceo-Global Consulting Ltd., 2020).

The Czech people are considered generally progressive and have a relatively liberal approach towards sex and sexuality, influenced by a history of acceptance and tolerance compared to other countries in the same region (Commiisceo-Global Consulting Ltd., 2020; Outright International, n.d.). They are known to be friendly and accepting of diverse sexual orientations and were, thus, one of the first post-communist countries to legalize same-sex registered partnerships in 2006 (Outright International, n.d.). Because of their liberal views toward sexuality and sexual expression, it is expected that higher levels of maternal-adolescent communication about sex than in Taiwan, and perhaps also fewer risky sexual behaviors.

4.2 SPANISH CULTURE

The beautiful country of Spain sits between the Pyrenees Mountains and the Mediterranean Sea, with a colorful and rich history to match its landscape (Elliott & Quinn, 2019). Spain is known for its vibrant flamenco rhythms, incredible architecture, historical language, and unique combinations of enduring traditions and contemporary flare (Elliott & Quinn, 2019). The social culture is expressive and passionate; public displays of affection are common and romantic relationships are typically characterized by intensity and warmth (Elliott & Quinn, 2019). Spain is heavily influenced by Catholicism which remains the dominant religion (Elliott & Quinn, 2019). Therefore, marriage is still considered important, however, the country has increasingly become

more secularized in modern times and has adopted ideas such as individualism, diversity, and acceptance of non-traditional family structures (Elliott & Quinn, 2019).

Compared to several other European countries, Spain's attitudes regarding sexuality are also more liberal. They are known to have a more permissive attitude toward premarital sex, and cohabitation (Elliott & Quinn, 2019). However, this attitude varies depending on the region, cultural background, and religious influence (Elliott & Quinn, 2019). Family life is highly prioritized and close family relationships are common (Elliott & Quinn, 2019). This is illustrated by their respect for the elderly and their focus on strong familial bonds (Elliott & Quinn, 2019). Traditions, festivals, and celebrations are a significant aspect of the Spanish culture; family members often gather to share those occasions, creating a sense of togetherness and support (Elliott & Quinn, 2019). Due to their liberal ideas of sexuality and expression of affection, as well as close familial relationships, it is expected that a greater frequency of maternal-adolescent communication about sex will be found, as well as associated lower levels of risky sexual behaviors.

4.3 TAIWANESE CULTURE

The culture of Taiwan is a rich blend of indigenous, Chinese, Japanese, and Western influences; it is shaped by centuries of migration, colonization, and trade (Government Portal of the Republic of China, n.d.). Taiwan is known for its intermingling of traditional values and modern culture illustrated by its deep roots in Chinese history as well as developing metropolitan cities. (Government Portal of the Republic of China, n.d.). Taiwan best preserves many aspects of Chinese traditional arts, language, and customs and is one of the few places still using traditional Chinese

characters (Government Portal of the Republic of China, n.d.). Taiwan's population has predominantly Han Chinese ancestry (Government Portal of the Republic of China, n.d.); thus, Taiwan's culture is heavily influenced by Chinese Confucian thinking, which although outdated, still provides a foundation for Chinese and Taiwanese society (Scroope & Evason, 2017). Taiwanese culture is considered conservative and traditional even to a greater degree than other Asian countries (Britannica, n.d.). Society is shaped by patriarchal and patrilinear values with the family at the center (Britannica, n.d.).

Taiwan also embraces collectivism as a foundation of its cultural identity, in stark contrast to the individualistic values that are predominant in Western societies. Therefore, families are multigenerational and traditionally live together, however, due to increased urbanization and economic independence, this structure of living is steadily decreasing (cultural atlas.) Nevertheless, older generations are still expected to be cared for (Scroope, 2016).

Stability and rituals are also highly important as well as the concept of "face" (Britannica, n.d.).

Each family is known to have a collective *face* or image that can be impacted by the actions of its members. This creates a desire to serve the interests of the family to protect the family's reputation (Scroope, 2016).

In addition, Confucian philosophy emphasizes the importance of the family as the cornerstone of societal structure (Scroope & Evason, 2017). Following the Confucian concept of *filial piety*, family members assume distinct roles based on age, creating a hierarchy that underscores the principles of respect and obligation (Scroope & Evason, 2017). Being family-oriented is becoming less important for the younger generation,

however, children are still expected to obey and honor their parents and to involve them in decision-making (Scroope, 2016). Their conservative nature and desire to uphold the family's upstanding reputation are evident in their communication style. Communication is often indirect using understatements and ambiguous speech to retain peace and avoid confrontation, especially when discussing negative or potentially embarrassing topics (Scroope, 2016). The topic of sex is considered taboo; thus, many Taiwanese parents may avoid talking about sex-related topics with their children (Scroope, 2016).

Considering the aforementioned factors of Taiwanese culture, a lower frequency of maternal-adolescent communication about sex might be found, which in turn might be associated with higher levels of risky sexual behaviors. However, in this case, cultural expectations and social norms will need to be considered as contributing factors to adolescent sexual behavior. For example, due to the cultural emphasis on discretion and modesty, we may see less of a negative correlation between parental communication and risky sexual behavior than in other cultures.

CHAPTER 5: CURRENT STUDY

The current study sought to better understand not only perceived maternal-adolescent communication about sex but also how perceived mother-teen relationships affect risky sexual behaviors. More specifically, the present study examined the relationships between perceived maternal-adolescent communication about sex, perceived maternal-adolescent closeness, perceived maternal-adolescent conflict, and adolescent risky sexual behaviors. Furthermore, there has been very little research that has tested these questions cross-culturally. Cultural norms might significantly shape attitudes and comfort levels surrounding discussions about sex, particularly among

adolescents. Thus, the present study sought to fill this gap and better understand whether or not cultural context impacts the observed associations between perceived maternal communication about sex, perceived maternal closeness, perceived maternal conflict, and risky sexual behaviors.

5.1 RESEARCH QUESTIONS AND STUDY HYPOTHESIS

5.1.1 Research Questions

1. Are there differences in the frequency or mean levels of maternal-adolescent communication about sex across the three cultures?
2. Are there differences in the frequency or mean levels of risky sexual behaviors across the three cultures?
3. Is perceived maternal-adolescent communication about sex negatively associated with risky sexual behaviors?
4. Is perceived maternal-adolescent closeness negatively associated with risky sexual behaviors?
5. Is perceived maternal-adolescent conflict positively associated with risky sexual behaviors?

5.1.2 Study Hypotheses

1. It was expected that significant differences would be found across the three cultures in the frequency of or mean levels of maternal-adolescent communication about sex. More specifically, greater frequencies were expected to be found in both Czech and Spanish samples, and comparatively lower ones were expected in the Taiwanese sample.

2. It was expected that significant differences would be found across three cultures in rates of risky sexual behaviors. More specifically, comparatively higher levels of risky sexual behaviors were expected to be found in the Taiwan sample in comparison to both the Czech and Spanish samples.
3. It was expected that perceived maternal-adolescent communication about sex would be negatively associated with risky sexual behaviors across the three cultures.
4. It was expected that perceived maternal-adolescent closeness would be negatively associated with risky sexual behaviors across the three cultures.
5. It was expected that perceived maternal-adolescent conflict would be positively associated with risky sexual behaviors across the three cultures.
6. It was expected that perceived maternal-adolescent communication about sex and perceived maternal-adolescent closeness would each uniquely and additively be negatively associated with risky sexual behaviors; in the same way, perceived maternal-adolescent conflict would be additively and positively associated with risky sexual behaviors.
7. It was also expected that cultural context would not condition or moderate the tested links between perceived maternal-adolescent communication about sex, perceived maternal-adolescent closeness, or perceived maternal-adolescent conflict and risky sexual behaviors. In other words, it was expected that the observed associations between each of the perceived maternal-adolescent parenting constructs and risky sexual behaviors would not differ significantly across cultures, and thus, the hypothesized model would generalize across them.

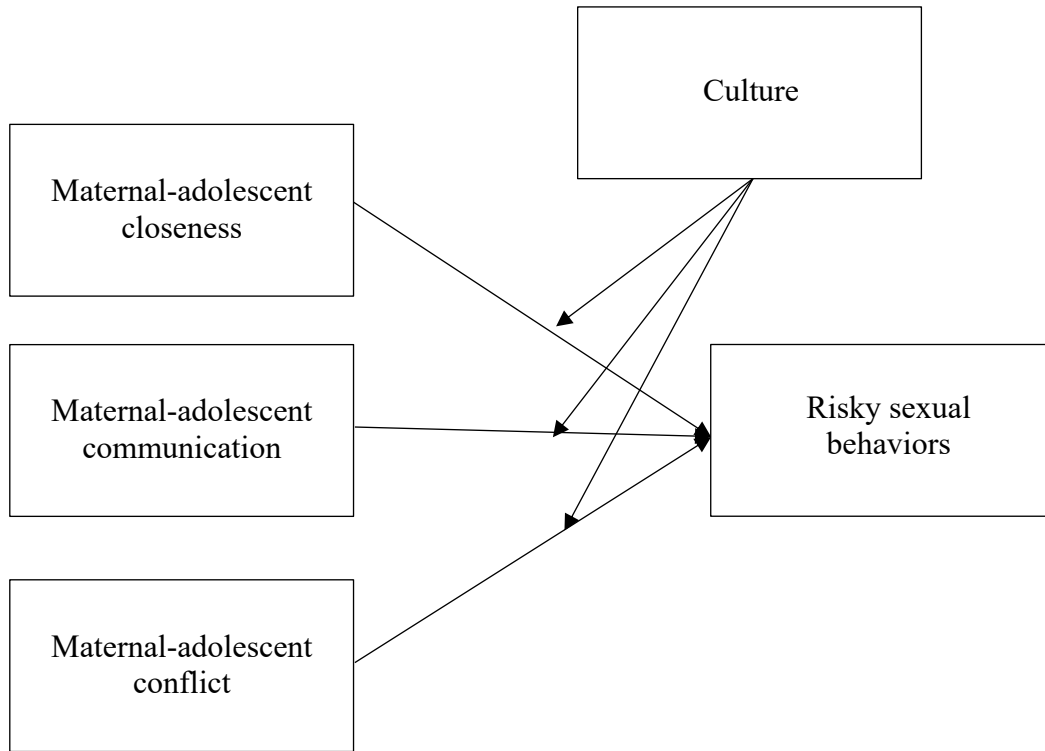


Figure 5-1, The hypothesized relationships among the main study constructs

CHAPTER 6: METHOD

Data were collected as part of the International Study of Adolescent Development and Problem Behaviors (ISAD; Vazsonyi et al., 2021). The goal of the ISAD was to study adolescent development utilizing samples of adolescents from different countries. Data were collected from middle and late adolescents in medium-sized cities, including the Czech Republic, Spain, and Taiwan. The study and data collection were approved by a University Institutional Review Board. School-based convenience samples were obtained from the three study countries and surveys were administered by schoolteachers in classrooms in each study location. Identical questions were given in each respective language and questions were approved by bilingual translators. Since only adolescents completed the surveys, parenting constructs are exclusively based on their perspective; therefore, the term "perceived" was used for precision. Participants were asked to complete a questionnaire that included questions on demographics (e.g., age, sex, family structure, and SES), perceived maternal and paternal parenting behaviors (specifically, for the present study: parent-adolescent communication about sex, perceived closeness, and perceived conflict), as well as a measure of risky sexual behavior.

6.1 SAMPLES/STUDY PARTICIPANTS

The Czech sample included N=878 adolescents, mean age of 17.93 years, 43% female. The sample from Spain included N =1024 participants, mean age of 18.79 years, 64.8% female. Finally, the sample from Taiwan included N =1443 adolescents, mean age of 16.48 years, and 42.3% female.

6.2 MEASURES

6.2.1 Age

Age of the participants was measured by a single item where students indicated the month and year in which they were born; then the month and year of data collection were used to compute the age of the participant.

6.2.2 Sex

The sex of the participants was measured by a single item: “What is your sex?” (1) male or (2) female. For the analyses, this was recoded into female (0 = male, 1 = female) for ease of interpretation.

6.2.3 Family Structure

Adolescents were asked, “Which of the following home situations best applies to you?” Responses include (1) biological parents, (2) biological mother only, (3) biological father only, (4) biological mother and stepfather, (5) biological father and stepmother, (6) biological parent and significant other, and (7) other. The variable was dummy-coded for analyses (0 = other or not living with two biological parents, 1 = living with two biological parents).

6.2.4 Socioeconomic Status (SES)

SES was computed as a standardized index of highest attained maternal education, paternal education, and annual family income. Income level was measured in each country in the local currency by the following question: “Please pick one of the following choices describing your family’s approximate total annual income” (1) \$20,000

or less (2) \$20,000 to \$35 000, (3) \$35,000 to \$60,000, or (4) \$60,000 to \$100,000 or more. Levels of income in each country were provided that matched typical local income distributions, rather than converting the dollar amounts shown.

6.2.5 Risky Sexual Behaviors

Risky sexual behavior was assessed using 8 items (see Appendix A for items and the instrument) which were compiled to create an overall index of risky sexual behaviors that ranged from 0 to 8. The following responses were coded as high risk (1) versus low risk (0) based on the original responses to each question (see Vazsonyi et al., 2006): (1) having had sexual intercourse at 15 years of age or younger; (2) not using some type of contraception at first intercourse; (3) having had sexual intercourse with 6–10 or more different individuals; (4) being currently involved with 2–5 (or more) sexual partners; (5) never using contraception during sexual intercourse; (6) never using condoms; (7) not talking about contraception with their sexual partner, and (8) having been treated professionally (e.g., nurse or doctor) for a sexually transmitted disease two to three times or more. This same instrument has been used in previous research (Vazsonyi et al., 2006).

6.2.6 Maternal-adolescent Communication about Sex

Maternal-adolescent communication about sex, closeness, and conflict were measured by the items that were based on or part of the Adolescent Family Process Measure (AFP; Vazsonyi et al., 2003). The revised and shortened instrument (Vazsonyi et al., 2022) includes 3 items for maternal-adolescent closeness and 3 items for maternal-adolescent conflict. Questions assessing maternal-adolescent communication about sex were not part of the AFP but followed a similar format and were based on 2 additional

items, assessing maternal communication about sex with mothers or mother figures. The items included: 1) How often do you talk to your mother about the boy/girl whom you like very much? And 2) How often do you talk to your mother about questions or problems about sex? These items were rated on a five-point Likert scale, ranging from (1) never to (5) very often.

6.2.7 Maternal-adolescent Closeness

Maternal-adolescent closeness (Vazsonyi et al., 2003; 2022) was measured by 3 items, and responses were given on a five-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree. A 3-item portion of the survey was utilized to measure closeness: 1) My mother gives me the right amount of affection. 2) My mother is usually proud of me when I finish something at which I've worked hard. 3) My mother trusts me.

6.2.8 Maternal-adolescent Conflict

Maternal-adolescent conflict (Vazsonyi et al., 2003; 2022) was measured by 3 items and rated on a five-point Likert scale, ranging from (1) never to (5) very often, on: 1) How often do you have disagreements or arguments with your mother? 2) How often do you purposely not talk to your mother because you are mad at her? Finally, 3) How often do you get angry at your mother?

6.3 ANALYSIS

In the initial step, descriptive statistics were computed to describe the study samples as well as to check the internal consistency and psychometric properties of the main constructs. Next, in order to address item level or scale score level significant differences across the three cultures in Hypothesis 1 and 2, chi-squared difference tests for frequencies or a one-way ANOVA with post hoc contrasts for mean level

comparisons were completed. Next, correlations were computed to test Hypotheses 3, 4, and 5 about the relationships between perceived maternal-adolescent positive and negative measures and risky sexual behaviors. These analyses were carried out separately by country. Finally, path analyses were carried out in AMOS to test Hypotheses 6 and 7. To examine Hypothesis 7, a multigroup test was conducted to determine whether culture moderated the specified links between perceived maternal-adolescent communication about sex, perceived maternal-adolescent closeness, and perceived maternal-adolescent conflict with risky sexual behaviors.

CHAPTER 7: RESULTS

7.1 DESCRIPTIVE STATISTICS

Descriptive statistics are shown in Table 1. The mean age of participants ranged from 16.48 to 18.79 across the 3 study samples. The Spanish sample consisted of more female than male participants, 64.8%; 43% of study participants were female youth in the Czech sample and 42.3% in the Taiwanese sample. Participants living in a 2-parent household were more common in Spain (82.3%) and Taiwan (80.7%) than in the Czech Republic (58.8%).

7.2 MEAN COMPARISONS

The means of the main study constructs are shown in Table 2. Czech adolescents reported significantly higher mean levels of risky sexual behaviors ($M = 2.35$, $SD = 1.73$) than both Spanish ($M = 0.88$, $SD = 1.08$) and Taiwanese ($M = 0.78$, $SD = 0.83$) youth; no significant differences were found between the two latter groups. Additionally, maternal-adolescent communication levels varied across cultures ($F = 154.497$, $p < 0.001$). Post hoc Scheffé tests revealed significant differences among groups, with Czech youth ($M =$

2.41, SD = 1.11) reporting the highest level of communication, followed by Spanish (M = 2.15, SD = 1.04) and Taiwanese (M = 1.71, SD = 0.78) adolescents. A similar finding was made for closeness in which a significant cultural effect was found ($F = 120.402$, $p < 0.001$). More specifically, based on post hoc comparisons, Spanish youth reported significantly higher levels of closeness with their mothers (M = 4.29, SD = 0.77) in comparison to Czech (M = 3.85, SD = 0.99) adolescents; the latter group reported significantly higher levels in comparison to Taiwanese adolescents (M = 3.75, SD = 0.85). Finally, despite a significant main effect of culture ($F = 3.321$, $p < 0.04$) for maternal-adolescent conflict, no significant post hoc comparisons were found across cultures, namely for Czech (M = 2.57, SD = 0.90), Spanish (M = 2.56, SD = 0.87), and Taiwanese (M = 2.64, SD = 0.85) adolescents.

7.3 CORRELATION TABLES

7.3.1 Czech Republic

Based on the correlations in the Czech sample (Table 3), older adolescents reported higher levels of perceived maternal-adolescent communication and risky sexual behaviors. Females reported greater levels of perceived maternal-adolescent communication and closeness, along with fewer risky sexual behaviors. Adolescents living with both biological parents reported higher perceived maternal-adolescent closeness. Additionally, greater perceived maternal-adolescent closeness was associated with less conflict and fewer risky sexual behaviors. Finally, higher levels of perceived maternal-adolescent conflict were associated with more risky sexual behaviors and lower SES.

7.3.2 Spain

For the Spanish sample (Table 4), younger adolescents were more likely to report higher levels of perceived maternal-adolescent conflict. Females reported greater levels of perceived maternal-adolescent communication, closeness, and conflict, but lower levels of risky sexual behaviors. Adolescents not living with both biological parents reported higher levels of perceived maternal-adolescent communication and risky sexual behaviors but lower levels of closeness. Additionally, higher levels of perceived maternal-adolescent communication were associated with greater closeness and lower conflict. Finally, higher levels of conflict were linked to increased risky sexual behaviors.

7.3.3 Taiwan

In the Taiwanese sample (Table 5), older adolescents reported higher levels of perceived maternal-adolescent communication, closeness, and risky sexual behaviors, while experiencing lower levels of conflict. Males exhibited higher levels of closeness, whereas females displayed higher levels of conflict. Higher socioeconomic status (SES) was linked to greater perceived maternal-adolescent closeness. Perceived maternal-adolescent communication was associated with both increased closeness and risky sexual behaviors. Additionally, greater closeness was correlated with a higher likelihood of living with two biological parents, reduced conflict, and increased risky sexual behaviors.

7.4 PATH MODELS

7.4.1 Czech Republic

Tables 6 through 8 include the results from testing a path model shown in Figure 1, carried out on each study sample. This model simultaneously tested all the independent variables including background variables as well as the dependent measure. For the

Czech sample (see Table 6), sex was negatively associated with risky sexual behaviors ($\beta = -0.25, p < 0.001$), indicating that male youth were more likely to engage in risky sexual behaviors. Age was positively associated with risky sexual behaviors ($\beta = 0.15, p < 0.001$), indicating that older adolescents were more likely to engage in riskier sexual behaviors. Family structure and SES were unrelated to risky sexual behaviors.

Conversely, maternal-adolescent communication was positively associated with risky sexual behaviors ($\beta = 0.09, p = 0.02$), indicating that more communication was associated with more risky sexual behaviors. Consistent with expectations, perceived maternal-adolescent closeness was negatively associated with risky sexual behaviors ($\beta = -0.16, p < 0.001$), suggesting that higher levels of closeness were linked to lower levels of engagement in risky sexual behaviors. Additionally, perceived conflict ($\beta = 0.10, p = 0.02$) was positively associated with risky sexual behaviors, indicating that higher levels of conflict were associated with increased engagement in risky sexual behaviors.

7.4.2 Spain

For the Spain sample (see Table 7), sex was also negatively associated with risky sexual behaviors ($\beta = -0.14, p < 0.001$), indicating that male youth were more likely to engage in these behaviors in comparison to female youth. Again, age was positively associated with risky sexual behaviors ($\beta = 0.07, p = 0.031$), suggesting that older adolescents were more likely to engage in risky sexual behaviors. SES was unrelated to the dependent measure.

Unexpectedly, maternal-adolescent communication was unrelated to risky sexual behaviors in the sample, as was perceived conflict. However, consistent with study hypotheses, closeness was negatively associated with risky sexual behaviors ($\beta = -0.12, p$

< 0.001), showing more closeness was associated with lower engagement in risky sexual behaviors.

7.4.3 Taiwan

In the Taiwanese sample (see Table 8), the results provided evidence that none of the background variables were significantly related to risky sexual behaviors; this included age, sex, family structure, as well as SES. Once again, like in the Czech sample, maternal-adolescent communication was positively associated with risky sexual behaviors which was contrary to study hypotheses ($\beta = 0.10$, $p < 0.001$). This meant that greater communication with mothers or mother figures heightened involvement in risky sexual behaviors among Taiwanese adolescents. Consistent with study hypotheses, closeness was negatively associated with risky sexual behaviors ($\beta = -0.07$, $p = 0.01$), indicating that stronger bonds between mothers and adolescents were associated with decreased engagement in risky sexual behaviors. Similar to the findings from the Spanish sample, perceived conflict was unrelated to risky sexual behaviors.

Table 7-1, Descriptive Statistics

		Czech Republic (<i>n</i> =878)				Spain (<i>n</i> =1024)				Taiwan (<i>n</i> =1443)			
		N	%	Mean	SD	N	%	Mean	SD	N	%	Mean	SD
Age				17.93	1.85			18.79	3.03			16.48	2.83
Sex													
	Male	495	55.6			357	34.7			833	57.7		
	Female	383	43.0			667	64.8			610	42.3		
Fam													
	Two parents	523	58.8			848	82.3			1164	80.7		
	Other	367	41.2			182	17.7			279	19.3		
SES				0.02	0.46			-0.07	0.63			0.15	0.67

Note. Fam = family structure; Two parents = two biological parents.

Table 7-2, Mean Level Comparisons

	Czech Republic (n=878)			Spain (n=1024)			Taiwan (n=1443)			F	p
	α	M	SD	α	M	SD	α	M	SD		
Risky sexual behaviors		2.35	1.73		0.88	1.08		0.78	0.83	444.44 ^{1,2}	0.00
Communication		2.41	1.11		2.15	1.04		1.71	0.78	154.497 ^{1,2,3}	0.00
Closeness	0.82	3.85	0.99	0.73	4.29	0.77	0.79	3.75	0.85	120.402 ^{1,2,3}	0.00
Conflict	0.82	2.57	0.90	0.82	2.56	0.87	0.77	2.64	0.85	3.321	0.04

Note. Communication= maternal-adolescent communication. Closeness= maternal-adolescent closeness. Conflict= maternal-adolescent conflict. Statistically significant pairwise posthoc contrasts denoted by the following: ¹ Czech vs Spanish youth, ² Czech vs Taiwanese youth, ³ Spanish vs Taiwanese youth.

Table 7-3, Correlation table (Czech sample, N = 878)

	Age	Sex	Fam	SES	Comm.	Closeness	Conflict	Risky sex
Age								
Sex	-0.07*							
Fam	-0.09**	-0.04						
SES	-0.05	-0.10**	0.12**					
Communication	0.12**	0.21**	-0.06*	0.02				
Closeness	-0.07*	0.19**	0.08**	0.02	0.30**			
Conflict	-0.04	0.01	-0.04	-0.06*	0.14**	-0.27**		
Risky sex	0.17**	-0.27**	-0.06	0.04	0.02	-0.22**	0.14**	

Note. * $p < .05$; ** $p < .001$. Fam = family structure; Comm. = maternal-adolescent communication. Closeness= maternal-adolescent closeness. Conflict= maternal-adolescent conflict. Risky sex = Risky Sexual Behaviors.

Table 7-4, Correlation table (Spanish sample, N = 1,024)

	Age	Sex	Fam	SES	Comm.	Closeness	Conflict	Risky sex
Age								
Sex	0.09**							
Fam	-0.16**	-0.02						
SES	-0.03	0.01	0.02					
Comm.	0.07	0.21**	-0.08**	-0.04				
Closeness	-0.06*	0.07*	0.09**	-0.05	0.29**			
Conflict	-0.08**	0.14**	-0.01	0.07*	-0.13**	-0.35**		
Risky sex	0.07*	-0.14**	-0.09**	-0.01	-0.04	-0.15**	0.05*	

Note. * $p < .05$; ** $p < .001$. Fam = family structure; Comm. = maternal-adolescent communication. Closeness= maternal-adolescent closeness. Conflict= maternal-adolescent conflict. Risky sex = Risky Sexual Behaviors

Table 7-5, Correlation table (Taiwanese sample, N = 1,443)

	Age	Sex	Fam	SES	Comm.	Closeness	Conflict	Risky sex
Age								
Sex	-0.10**							
Fam	-0.01	-0.00						
SES	0.08**	-0.08**	0.04					
Comm.	0.13**	-0.03	-0.02	-0.00				
Closeness	0.05*	-0.05*	0.08**	0.06*	0.25**			
Conflict	-0.05*	0.06**	0.04*	0.01	0.05*	-0.27**		
Risky sex	0.05*	-0.03	-0.06*	0.01	0.09**	-0.05*	0.03	

Note. * $p < .05$; ** $p < .001$. Fam = family structure; Comm. = maternal-adolescent communication. Closeness= maternal-adolescent closeness. Conflict= maternal-adolescent conflict. Risky sex = Risky Sexual Behaviors

Table 7-6, Path model estimates predicting risky sexual behaviors (Czech Sample)

Variable	b	SE	β	CR	p
Sex	-0.87	0.07	-0.25	-6.78	<0.001
Age	0.14	0.01	0.15	3.99	<0.001
Family structure	-0.18	0.09	-0.05	-1.42	0.16
SES	0.07	0.05	0.02	0.51	0.61
Communication	0.14	0.03	0.09	2.34	0.02
Closeness	-0.27	0.05	-0.16	-3.77	<0.001
Conflict	0.18	0.04	0.10	2.44	0.02

Note. Communication= maternal-adolescent communication. Closeness= maternal-adolescent closeness. Conflict= maternal-adolescent conflict

Table 7-7, Path model estimates predicting risky sexual behaviors (Spanish sample)

Variable	b	SE	β	CR	p
Sex	-0.33	0.07	-0.14	-4.58	<0.001
Age	0.02	0.01	0.07	2.15	0.03
Family structure	-0.18	0.09	-0.07	-2.07	0.04
SES	-0.03	0.05	-0.02	-0.56	0.57
Communication	0.02	0.03	0.02	0.47	0.64
Closeness	-0.16	0.05	-0.12	-3.31	<0.001
Conflict	0.05	0.04	0.04	1.18	0.24

Note. Communication= maternal-adolescent communication about sex. Closeness= maternal-adolescent closeness. Conflict= maternal-adolescent conflict

Table 7-8, Path model estimates predicting risky sexual behaviors (Taiwanese sample)

Variable	b	SE	β	CR	p
Sex	-0.05	0.04	-0.03	-1.14	0.25
Age	0.01	0.01	0.04	1.49	0.14
Family structure	-0.10	0.06	-0.05	-1.83	0.07
SES	0.01	0.03	0.01	0.30	0.77
Communication	0.11	0.03	0.10	3.70	<0.001
Closeness	-0.08	0.03	-0.07	-2.75	0.01
Conflict	0.01	0.03	0.01	0.27	0.79

Note. Communication= maternal-adolescent communication about sex. Closeness= maternal-adolescent closeness. Conflict= maternal-adolescent conflict

CHAPTER 8: DISCUSSION

CHAPTER 8.1 INTRODUCTION

The present investigation sought to fill an important gap in the literature, namely to what extent does mother-adolescent communication about sex protect adolescents from engaging in risky sexual behaviors, with a consideration of both perceived closeness as well as conflict with mothers? Additionally, to address potential issues of generalizability of these relationships, the present study sought to test this question cross-culturally by employing samples of adolescents from three distinct cultures, namely the Czech Republic, Spain, and Taiwan. More specifically, separately in each country sample, the study tested whether mother-adolescent communication about sex was negatively associated with risky sexual behaviors, whether mother-adolescent closeness was negatively associated with risky sexual behaviors, and whether mother-adolescent conflict was positively associated with risky sexual behaviors.

Preliminary comparisons of mean levels of risky sexual behaviors provided evidence of important differences across three cultures: the Czech sample exhibited the highest levels of risky sexual behaviors, followed by the Spanish sample, with the Taiwanese sample showing the lowest levels. However, contrary to expectations of a negative relationship, a modest positive association was found between maternal-adolescent communication about sex and risky sexual behaviors for both Czech and Taiwanese youth. For the Czech sample, a positive association was observed in both correlational analyses and the path model, which simultaneously tested all independent measures.

These findings were contrary to several previous studies that found a negative association between parental communication about sex and risky sexual behaviors (e.g., Apsy et al., 2007; Patel et al., 2021; Whitaker & Miller, 2000; Weinman et al., 2008; Widman et al., 2014; Widman et al., 2016). On the other hand, they were consistent with evidence from Miller et al.'s (2001) research synthesis of 30 studies, where some studies also found a positive relationship between parental communication about sex and pregnancy risk, and, consequently, risky sexual behaviors.

Although the positive correlation was found which was inconsistent with the study hypothesis, this begs the question of whether the relationships among the studied variables are simply more complex than expected. For example, adolescents who reported more maternal-adolescent communication and higher levels of risky sexual behaviors might in fact be receiving the guidance they decide that they need despite their behaviors. Future more nuanced research that attempts to better understand these links is needed to fully address this issue.

8.2 RELATIONSHIPS BETWEEN CLOSENESS, CONFLICT, AND RISKY SEXUAL BEHAVIORS.

The most consistent finding, supporting hypothesis 4 and consistent with previous research (Denes et al., 2022; Gilmore et al., 2010; Henrich et al., 2006), was the negative association between maternal closeness and risky sexual behaviors, observed across all three samples. Similarly, and consistent with expectations, perceived maternal-adolescent conflict was positively associated with risky sexual behaviors across all three samples. Very little previous research exists that would permit contextualizing the present study findings on maternal-adolescent conflict and risky sexual behaviors.

8.3. RISKY SEXUAL BEHAVIORS

Risky sexual behaviors were more prevalent among older teens, based on correlation analysis, potentially due to a variety of factors including greater independence and heightened exposure to social influences. In all three country samples, male adolescents were more likely to exhibit risky sexual behaviors in comparison to female youth. Additionally, risky sexual behaviors were more prevalent in homes with other family forms (two parents were not present), potentially due to the lack of support, monitoring, or additional positive parental examples. Again, risky sexual behaviors were significantly higher among Czech youth in comparison to Spanish or Taiwanese adolescents. When comparing findings from the three countries, Czech adolescents reported the strongest positive association between mother-adolescent communication about sex and risky sexual behaviors.

There are several possible explanations for the unexpected positive relationship found between communication about sex and risky sexual behaviors, as well as the anticipated results regarding closeness and conflict. First, it is important to discuss some of the measurement limitations surrounding the assessment of mother-adolescent communication about sex. This construct was only assessed using two questions, namely 1) How often do you talk to your mother about the boy/girl whom you like very much? and 2) How often do you talk to your mother about questions or problems about sex? This construct did not assess the extent to which these conversations were helpful or harmful, nor did it consider the topics of conversations with parents. These facts of course leave many questions unanswered that might have impacted the observed study findings. For example, if the participant reported that they had spoken to their parent

about sex, there is no way of knowing if the parent had encouraged safe sex practices, whether they focused only on teaching anatomy or also had an open discussion about their child's experiences/feelings, or whether they shamed sex or encouraged it, etc. Moreover, the evaluation of mother-adolescent communication about sex was based solely on self-reports provided by the adolescents. Future research would benefit from including both self-reports and parent reports to gain a more comprehensive understanding of communication about sex. This approach would more thoroughly and accurately capture the nuances of parent-teen communication on the topic.

Furthermore, the findings related to conflict and closeness consistently supported the study's hypothesis across all three samples, whereas maternal communication about sex did not. This discrepancy suggests multiple discussion points. First, there may be universally positive effects by the mother-adolescent relationship on adolescent risky sexual behaviors, independent of cultural effects. For example, maternal-adolescent conflict can lead to various undesired behaviors, such as increased risky sexual activities, substance abuse, or delinquency. On the other hand, a sense of closeness or warmth in the mother-adolescent relationship can foster a wide range of positive adjustment outcomes. These may include better emotional regulation, higher self-esteem, and healthier decision-making, all of which can contribute to reduced engagement in risky sexual behaviors. Therefore, this study highlights the critical role of a strong maternal-adolescent relationship. Future research that focuses on how other dimensions of the parental relationship affect adolescent risky sexual behaviors would be highly insightful, including, for instance, the important and well-established effects by parental monitoring (Dittus et al., 2015), alongside all the tested parenting dimensions in the present study.

Second, cultural factors may have a stronger influence on maternal-adolescent communication about sex than perceived closeness or conflict. For example, maternal-adolescent communication about sex might be highly dependent on the cultural acceptance of sexual topics and behaviors, the comfort level of the parent (influenced by how they learned to communicate), and the adolescent's comfort in approaching their parents with questions and curiosity (also influenced by their peer norms). Local customs and expectations might greatly influence the topics parents choose to discuss. More specifically, The Czech culture is known to be more tolerant of sexual expression and promiscuity compared to, for example, Taiwan. Thus, cultural norms and societal expectations might exert a stronger influence on sexual behaviors and the dynamics of maternal-adolescent communication about sex than the frequency or presence of such discussions, and critically, the relationship between communicating about sex with parents and risky sexual behaviors.

8.4 LIMITATIONS

This study provides several insights into the relationship between the maternal-adolescent relationship (namely through maternal-adolescent communication about sex, closeness, and conflict) and risky sexual behaviors across youth from three different cultures. However, there are several study limitations to consider regarding generalizability, data collection, as well as cultural nuances. These limitations emphasize the importance of future research incorporating insights from the present study to better understand the relationship between mother-adolescent communication about sex, closeness, and conflict, and adolescent risky sexual behaviors.

First, in terms of generalizability, the present study was modest in scope related to the number of cultures that were included (namely, the Czech Republic, Spain, and Taiwan). Therefore, the results may not adequately capture the full spectrum of cultural diversity that exists in the examined constructs. Thus, more diverse countries might provide richer information and evidence. Since two of the three countries were European, including African or Middle Eastern samples, for instance, may have provided different findings. Additionally, the study was unable to control for factors such as regional variations or subcultures within assessed countries which could influence study results. Finally, the collected data were cross-sectional which limits the ability to establish any causal relationships between maternal-adolescent communication about sex, closeness or conflict, and risky sexual behaviors. Future work should include longitudinal studies that will be more able to inform about the direction of effects as well as causality potentially.

Second, it is important to recognize that the data were collected from convenience samples across the three countries. The use of convenience samples from middle-sized cities in all three countries might simply limit the generalizability of findings, related to how representative the data were from each country. Also, data collection through schools may bias the sample towards adolescents who attend school regularly, potentially excluding those who are not enrolled or have dropped out. Furthermore, the reliance on self-report measures, particularly for sensitive topics like sexual behaviors and parent-child relationships, introduces the potential for response bias and social desirability effects.

Third, significant cultural nuances must be accounted for. Despite efforts to use culturally applicable and language-consistent measures, the adaptation and applicability

of certain constructs (e.g., perceptions of conflict or closeness) may vary across different cultural contexts, and nuances in language and cultural interpretations of survey items may still influence the observed results. Again, it is important to acknowledge that the study may lack consideration for the variability within each cultural group regarding norms around communication about sex and parental relationships, potentially oversimplifying the diversity within these cultures. Additionally, it is also important to consider individual differences such as temperament or personality when trying to understand risky sexual behaviors, something which the present study did not do. Previous research has shown that both sensation-seeking as well as impulsivity are highly associated with risky sexual behaviors (e.g., Wasserman et al., 2017).

Furthermore, several additional variables warrant consideration. For example, while SES and family structure were added as controls in the analyses, known influences on risky sexual behaviors (e.g., peer influences, community factors) that could impact risky sexual behaviors were not fully explored. It is also important to mention again that the study only focused on maternal-adolescent relationships, without considering influences by paternal figures or other caregivers on adolescent behaviors. Lastly, the current study samples consisted mostly of middle and late adolescents, which does not address the unique experiences of younger adolescents. Considering all these limitations, future research endeavors should aim to broaden cultural representation, diversify sample strategies, include a broader spectrum of ages including early adolescents, and incorporate a wider range of environmental factors to deepen understanding of adolescent risky sexual behaviors and the complexities of maternal-adolescent relationships.

CONCLUSION

In summary, the current study provided significant insights into the maternal-adolescent relationship and its effect on risky sexual behaviors. It demonstrated both the cultural nuances as well as the impact that culture has on constructs such as communication about sex and how it relates to risky sexual behaviors. Findings illustrated the importance of fostering close mother-adolescent relationships, supporting the notion that a strong maternal bond can protect youth from engaging in risky sexual behaviors, an idea that is supported by both Family Systems Theory and Bronfenbrenner's Ecological Theory. At the same time, the relationship between maternal-adolescent communication about sex and risky sexual behaviors was not consistent with study hypotheses (despite being consistent with some of the evidence found in the research synthesis by Miller and colleagues, 2001), demonstrating the strong influence of cultural context on maternal-adolescent communication about sex. This is not to say that communication about sex is not beneficial, but fostering a close relationship, which includes positive communication, is of greater importance as it relates to protecting youth from engaging in risky sexual behaviors. Certainly, a more detailed and comprehensive measurement tool is needed to be able to understand more clearly the relationship between maternal-adolescent communication about sex, in particular, that and adolescent risky sexual behaviors.

Overall, the study's cross-cultural approach provides valuable insights into how cultural norms and societal expectations shape the relationship between maternal-adolescent interactions and adolescent risky sexual behaviors. While some associations appear consistent across cultures, others are clearly influenced by cultural context,

highlighting the importance of culturally sensitive interventions. In conclusion, this study emphasizes the importance of maternal-adolescent relationships in influencing risky sexual behaviors and the potential need to consider cultural context, despite cross-cultural consistency of the negative relationship between maternal closeness and risky sexual behaviors. Interventions aimed at reducing risky behaviors should focus on fostering close maternal relationships and addressing family conflict while being mindful of cultural norms and expectations. The findings also highlight the need for ongoing research in order to better explore these complex relationships across diverse cultural settings.

APPENDIX A

Risky sexual behaviors

1. How old were you the first time you had sexual intercourse?
2. Did you use some type of contraception the first time you had intercourse?
3. With approximately how many different individuals have you ever had sexual intercourse?
4. With how many partners are you presently involved sexually?
5. How often do you use contraception during sexual intercourse?
6. How often do you use condoms?
7. Do you feel comfortable talking about contraception with your partner?
8. How many times have you been professionally treated for a sexually transmitted disease

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