

Let's Talk about Sex: How Family Communication Patterns and Family Sexual  
Communication Impact Adolescents' and Emerging Adults' Sexual Outcomes

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Alyssa Marie Isaacs

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Dr. Ascan Koerner

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## DEDICATION

I dedicate this dissertation to my family ~

My universe, my air, my everything

## ABSTRACT

This study has three primary goals. The first goal is to propose and test a new operationalization of family sexual communication. The second goal is to utilize this new measure to investigate how family sexual communication impacts adolescents' and emerging adults' sexual beliefs, sexual behaviors, sexual self efficacy, and sexual communication with their partner. The final goal of this study is to use Family Communication Patterns Theory to formulate predictions regarding how general family communication impacts sexual outcomes and test these predictions.

The new operationalization that is proposed is the Family Sexual Communication Scale. This scale consists of three subscales that measure the frequency, quality and content of family sexual communication. Through factor analysis, and reliability and validity testing, this measure demonstrated strong psychometric properties.

For the 326 participants in this study, family sexual communication was significantly associated with their sexual beliefs, sexual behavior, sexual self efficacy and sexual communication with their partner. Results from linear and logistic regression analyses demonstrate that the content of family sexual communication was the strongest and most consistent predictor of participants' sexual beliefs and sexual behaviors whereas frequency and quality were predictive of sexual self efficacy and quality and content were predictive of sexual communication with a partner.

Family Communication Patterns Theory proved to be a useful theory to apply when investigating how general family communication impacts sexual outcomes. The

predictions derived from the theory were all partially or fully supported, and the theory allows for interpretation and understanding of the relationships between the variables in this study. Participants from pluralistic and consensual families had higher levels of sexual self efficacy, partner sexual communication and safe sex than participants from protective and laissez faire families. Participants from laissez faire families had the lowest levels of sexual self efficacy and partner sexual communication while also having high rates of unprotected sex, group sex, and hook ups/one night stands.

Gender differences are examined as is the interaction between family communication patterns and family sexual communication.

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## Chapter 1

### Introduction

According to the Center for Disease Control and Prevention (CDC), during the period of 1991 to 2009 there has been a significant linear decrease in the percentage of high school students who have ever engaged in sexual intercourse, who are currently sexually active, and who have four or more sexual partners. There has also been a significant increase in condom use from 1991 to 2003 (though these rates plateau from 2003 to 2009), and though there was no change in birth control use from 1991 to 2007, there was a significant increase in birth control use from 2007 to 2009. This data comes from a 2009 nationwide survey, 42 state surveys and 20 local surveys of students in grades 9 through 12. These statistics are promising, but adolescents are still engaging in sexual behaviors that put them at risk for morbidity and social problems (CDC, 2010a).

According to the CDC (2010a), nearly fifty percent of high school students have had sexual intercourse and the percentage rises with each year of age. This percentage also increases when considering participation in oral sex (Kaiser Family Foundation, 2003). This percentage varies significantly between racial and gender groups. For example, a survey conducted by the CDC (2010a) found that 72.1% of black male students report that they had engaged in sexual intercourse while 39.6% of white male students report that they had engaged in sexual intercourse. Of those students who were sexually active, almost 40% had not used condoms the most recent time they had sex and over 80% had not used birth control the most recent time they had sex. This survey also found that 13.8% of sexually active high school students had had 4 or more sexual partners.

Other researchers have found that today's adolescents and emerging adults are having sex with multiple partners, with people they do not know well, and are experimenting in diverse sexual behaviors (Feldman, Turner, & Araujo, 1999; Sonenstein, 2001). The teen pregnancy rates in the United States are much higher than in other Western industrialized nations and the majority of teen pregnancies in the United States are unintended (Kirby, 1999; Troth & Peterson, 2000). Furthermore, adolescents and emerging adults represent half of all new sexually transmitted disease cases each year (Weinstock, Berman, & Cates, 2004) and the rates of HIV and AIDS diagnoses increased for people age 15 to 24 from 2006 to 2009 (CDC, 2010b). For people aged 15 to 19 rates went from 9.6 to 12.0 and for people aged 20 to 24 rates went from 28.2 to 36.9.<sup>1</sup>

Adolescents and emerging adults engaging in sexual activities, especially risky sexual activities, can experience significant negative consequences including unintended pregnancies and the contraction of STDs or HIV/AIDS. Such conditions can entail significant costs in terms of human pain and suffering and social and economical opportunities lost (Santelli, Lindberg, Abma, McNeely & Resnick, 2000). As stated in a 2010 CDC document:

Substantial morbidity and social problems also result from the approximately 757,000 pregnancies among women aged 15–19 years (2), the estimated 9.1 million cases of sexually transmitted diseases (STDs) among persons aged 15–24 years (3), and the estimated 6,610 cases of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) among persons aged 15–24 years (4) that occur annually (p.2)

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<sup>1</sup> Rate is per 100,000 population

The consequences of adolescents' and emerging adults' sexual activity reach beyond the individuals themselves. Finer and Zolna (2011) found that unintended pregnancies were associated with poorer maternal health behavior and worse child health outcomes. Also, risky adolescent sexual activity puts stress on the welfare and health care system (Santelli et al., 2000). Studies have shown that coming from a lower socioeconomic status and/or single parent home is associated with an increased likelihood of adolescents and emerging adults engaging in sex as well as an increased likelihood that these individuals will become pregnant (Lammers, Ireland, Resnick & Blum, 2000; Moore, Chase-Landsdale, 2001; Miller, 2002; Kirby, 2001). Adolescents and emerging adults who come from such homes and who find themselves pregnant or infected with an STD or AIDS will find it hard to pay for prenatal care, delivery costs, well baby checkups, prescriptions and/or antibiotics and other medical treatments.

Such costs are not the only reason why adolescents' and emerging adults' sexuality must be studied. Public service announcements (PSA) discourage adolescents from having sex, encourage parents to talk to their children about sex, and encourage adolescents to resist peer pressure. Schools hold assemblies and bring in guest speakers to talk to teens about sexual issues. Schools also fund sexual education programs. It is important to know if this money is well-spent or if society should focus on reaching adolescents and emerging adults in a different way.

### **Parental Influence on Adolescent Sexual Outcomes**

Parents can have a significant impact on adolescents' and emerging adults' sexual outcome. In fact, Strasburger (1997) states that family is the most important influence on teenagers today and Blake, Simkin, Ledsy, Perkins & Calabrese (2001) argue that two critical factors in the effort to prevent high-risk sexual behavior are the extent to which parents are involved in their children's lives and the manner in which they are involved. Family connectedness and attachment to one's parents has been shown to be a protective factor against adolescent sexual risk-taking (Lammers et al., 2000; Kirby, 2001; Miller, 2002). Also, having a close relationship with one's mother, having positive perceptions of one's mother, experiencing love from one's parents, experiencing support from one's parents and spending time with one's parents have all shown to be protective factors against adolescent sexual risk-taking (Pick & Palos, 1995; Strasburger, 1997; Scales, 2000; Calhoun & Friel, 2001; Moore & Chase-Landsdale, 2001; Van Den Akker & Lees, 2001; Collins, Elliott, Berry, Kanouse, Kunkel, Hunter & Miu, 2004; Luster & Small, 1994). Another way parents impact adolescents' and emerging adults' sexual outcomes is through their communication.

Both general family communication and family sexual communication specifically have been shown to influence adolescents' and emerging adults' sexual outcomes. General family communication has been shown to have a fairly consistent impact on sexual outcomes in that better communication, typically defined in terms of being open and honest and/or providing communication that is satisfying, serves as a protective factor against adolescents' and emerging adults' sexual risk-taking (e.g. Kotva &

Schneider, 1990; Kotchick, Dorsey, Miller & Forehand, 1999; Bersamin, Todd, Fisher, Hill, Grube & Walker, 2008). On the other hand, research regarding the impact family sexual communication has on adolescents' and emerging adults' sexual outcomes has yielded inconsistent and contradictory results (Fisher, 1993). Although the majority of research demonstrates family sexual communication to be a protective factor against sexual risk-taking (e.g. Holtzman & Rubinson, 1995; Trejos-Castillo & Vazsonyi, 2008; Kapungu, Baptiste, Holmbeck, McBride, Robinson-Brown, Strudivant, Crown & Paikoff, 2010), some research has shown such communication can increase the likelihood of an adolescent becoming sexually active (e.g. Calhoun & Friel, 2001; Usher-Seriki, Smith Bynum & Callands, 2008) and a handful of studies show no correlation between family sexual communication and adolescents' and emerging adults' sexual outcomes (e.g. Yoon, 2004; Aronowitz, Rennells & Todd, 2005).

Adolescents' and emerging adults' sexuality has life-altering implications for millions of people in this country and the vast majority of research shows that it is affected by family sexual communication (e.g. Hutchinson & Cooney, 1998; Jaccard & Dittus, 1993; Miller, Benson & Galbraith, 2001; Wright, 2009) so discovering exactly how family communication impacts these sexual outcomes is vitally important to many groups of people. For parents, knowing this information can impact what they communicate to their adolescents and emerging adults about sex and sexuality, how they communicate their messages, when they communicate these messages, or even whether or not they choose to broach the topic. For sexual educators, knowing this information can impact the curriculum they devise (e.g. to what extent will they include elements of parental

involvement). For public health and medical professionals, knowing this information can impact how they advise parents in terms of talking to their adolescents and emerging adults about sex. The medium of this advice can range from personal discussions to pamphlets available in medical offices to PSAs that run nation-wide. There are implications for academics as well.

The findings regarding how family communication impacts adolescents' and emerging adults' sexual outcomes have thus far been mixed, and given the implications of this subject, it is important to try to develop studies that can provide a more accurate and consistent picture of this relationship. This study attempts to provide such a picture; specifically, the goal of this study is to examine how family sexual communication, and family communication in general, impacts adolescents' and emerging adults' sexual outcomes. These outcomes include sexual beliefs, sexual self-efficacy, sexual communication with a partner and sexual behaviors. Though there have been several studies with similar goals in the past, the current study is unique in that it examines these relationships while also addressing two potential reasons for the varied results reported in the field to date. These two potential reasons are poor conceptualization and operationalization of family sexual communication, and a lack of a theoretical framework.

### **Purpose and Contributions of This Study**

As Wright (2009) points out in his review of father-child sexual communication research, the vast majority of research on the topic of family sexual communication is

conducted by scholars outside the communication field. The most prolific researchers in the field come from public health and psychology backgrounds. For example, DiIorio, Lehr, DiClemente and Wingood are all faculty at Rollins School of Public Health and each holds a nursing, public health and/or psychology degree. Hutchinson has a nursing background, and Dittus, K.S. Miller and Wyckoff work for the CDC. These authors have all conducted a plethora of studies. Most of the remaining prolific researchers in the field come from psychology backgrounds. Fisher, B.C. Miller, Kotchick, Armistead and Forehand all have degrees in psychology, as do Rosenthal, Feldman and Kirkman. Lefkowitz, Au, Sigman and Romo have backgrounds in psychology as well. Jaccard and Guilamo-Ramos both work as professors of social work but Jaccard has multiple degrees in psychology whereas Guilamo-Ramos has degrees in social work, management, social welfare and human services.

Having scholars from these diverse backgrounds is certainly beneficial in terms of providing a wider range of perspectives and approaches, but because these scholars do not have degrees in communication, it could be argued that their understanding of the complexities of this phenomenon is not at the same level as it is for those who have studied it primarily. This oversimplification of the communication process can be seen in the way family sexual communication has been conceptualized and operationalized. The vast majority of measures utilized in this field do not adequately operationalize family communication, and in many cases, no conceptual definition for this variable is even given. This issue is discussed at length in Chapter 2. Also, there has yet to emerge a “gold standard” measure that is widely used in the field. Instead, most researchers create their

own measure of family sexual communication to use in their study without adequately examining the reliability and validity of the measure. This makes it very difficult to compare results across different studies because the way this variable has been operationalized is highly variable.

In addition to lacking solid conceptual and operational definitions, the current body of research on how family communication impacts adolescents' and emerging adults' sexual outcomes is also lacking theory. The majority of studies do not invoke theory at all. A common formula that is used in this field is to take the general sentiment that family is important and influential and then justify the investigation of this socializing agent through the citation of previous empirical research. While this approach does supply justification for studying this phenomenon, simply saying that one chose a research topic because it has been fruitful in the past, or that one expects to find significant results because others have found the same results, is not sufficient. A research project should contain empirical and theoretical backing. Though there have been some studies that drew upon theory (e.g. Aronowitz et al., 2005: Information, Motivation, Behavior Skills Model), in his review Wright (2009) points out that because the majority of research is conducted by scholars outside the field of communication, communication theories are "rarely invoked" (p. 234).

The current study begins to fill these two gaps in hopes that through replication, we can start to build a more coherent body of literature in terms of how family communication, and specifically family sexual communication, impacts adolescents' and emerging adults' sexual outcomes. To combat the overwhelmingly poor

conceptualization and operationalization of family sexual communication, I have developed a comprehensive measure of this variable that is founded on clear conceptual and operational definitions. I pre-tested this measure and examined its psychometric properties and hope to demonstrate strong predictive validity in future studies. To combat the vacancy of communication theory in the current body of literature, I have utilized the sound and increasingly-prolific communication theory, Family Communication Patterns Theory (FCPT), in this study. I apply FCPT when investigating how general family communication impacts adolescents' and emerging adults' sexual outcomes.

In addition to examining the relationship between family communication and adolescents' and emerging adults' sexual outcomes, there are several other goals for this study. One such goal is to help determine why the results in this area of research are so varied. Several reasons have been proposed (e.g. exclusion of important mediating or moderating variables, methodology limitations, exclusion of important aspects of the broad concept "family sexual communication") and I have chosen to take two such reasons and test them. The results of this study should help determine whether poor conceptualization and operationalization of family sexual communication and/or a lack of a theoretical framework could play a role in the mixed results reported in this field of study.

Another primary goal of this study is to provide a starting point for a new body of literature in this field that is based in theory and founded on a solid quantitative measure of family sexual communication. It is my hope that this study is replicated and that FCPT and the FSCS (my Family Sexual Communication Scale) be utilized in similar studies so

that we are able to more effectively examine results across studies. The past 40 years of research on family communication and adolescents' and emerging adults' sexual outcomes has been enlightening, but not cohesive. Interdisciplinary research is extremely beneficial, but there needs to be a common denominator so that we can build a body of literature that can be reviewed and analyzed as a whole; thus far, no such denominator exists.

### **Overview of Paper**

In Chapter 2 I discuss my conceptual and operational definitions of family sexual communication, provide an exhaustive review of measures of family sexual communication that have been utilized from 1990 to 2010, and make an argument for the need of a more comprehensive and sound measure of this variable. I then propose my Family Sexual Communication Scale. In Chapter 3 I review the body of literature that examines how family sexual communication impacts adolescents' and emerging adults' sexual outcomes and lay out my hypotheses for how this communication affects these outcomes. In Chapter 4 I review the body of literature that examines how general family communication impacts adolescents' and emerging adults' sexual outcomes. I then provide an explanation of Family Communication Patterns Theory and lay out my hypotheses for how general family communication impacts adolescents' and emerging adults' sexual outcomes based on an application of this theory to this phenomenon.

Chapter 5 details the methodology of this study and includes an examination of the psychometric properties of my Family Sexual Communication Scale as well as

descriptive statistics from the sample. Chapter 6 provides the results of my analyses and Chapter 7 discusses key insights that can be gleaned from this study. Finally, in Chapter 8 I examine the limitations of this study along with possible areas of future research. I end with proposing future studies that I plan on conducting with my current data.

## Chapter 2

### Conceptualizing and Operationalizing Family Sexual Communication

That there exists a relationship between family sexual communication and adolescents' and emerging adults' sexual behavior has certainly been established (for a full review of literature see Chapter 3). However, the exact nature of this relationship has yet to be fully understood. While the majority of research has shown family sexual communication to have a protective effect on adolescents' and emerging adults' sexual behavior (e.g. Holtzman & Rubinson, 1995; Kotchick et al., 1999; Hutchinson, 2002; Aspy, Vesely, Oman, Rodine, Marshall & McLeroy, 2007; Weinman, Small, Buzi & Smith, 2008; Kapungu et al., 2010), there have been a few studies that have found no relationship between these variables (e.g. Yoon, 2004). There have also been a handful of studies that have linked family sexual communication to an increase in sexual activity in adolescents (e.g. Clawson & Reese-Weber, 2003; Pearson, Muller & Frisco, 2006; Deptula, Henry & Schoeny, 2010).

These inconsistent and, at times, contradictory findings are disconcerting to those trying to design and implement sexual risk prevention programs, parents who are trying to decide how they will discuss sex with their children, and, of course, the researchers themselves. These inconsistencies have been discussed in many articles (e.g. Jaccard, Dodge & Dittus, 2002).

One reason for these inconsistent results that has been frequently voiced is that the methodology of many of the studies that have examined family sexual

communication has been inconsistent, faulty, vague, and lacking (Fisher, 1988; Jaccard & Dittus, 1993; Kirby, 1999, Miller et al., 2001, Heisler, 2005). In their 1993 article, Jaccard and Dittus cataloged studies that examined the effect family sexual communication had on premarital pregnancy, and they came to several conclusions: first, the reported impact of family sexual communication was inconsistent and sometimes contradictory; second, in all of the studies they examined, the magnitude of such effects were “relatively weak” (p. 335); third, most studies they examined used inadequate measures and conceptualizations of communication; and finally, the researchers’ biases and assumptions, in terms of parental orientations toward sex and in terms of adolescents’ and emerging adults’ sexuality itself, potentially skewed the results that were reported. In a later article, Jaccard et al. (2002) implied that improvements to the way family sexual communication was being measured had allowed for more consistent results that demonstrate the protective effect such communication has on adolescents’ and emerging adults’ sexual risk-taking. However, if one reviews the measures of family sexual communication that are still being used today, one will still find the vast majority to be deficient in one or more ways.

The purpose of this chapter is to examine the conceptual definitions and operationalizations of family sexual communication that have been utilized in past research, discussing their strengths and weaknesses. Then, I discuss the conceptual definition and operationalization I will use in this study and I propose my own Family Sexual Communication Scale (FSCS). In the end, it is my goal to demonstrate that this

new measure of family sexual communication is more reliable, valid and predictive than the measures that are currently available in the existing body of literature.

To find articles to include in this analysis, I mirrored the approach taken by other scholars in the field who have conducted extensive literature syntheses (i.e. Jaccard & Dittus, 1993; Miller et al., 2001; DiIorio, Pluhar & Belcher, 2003; Wright, 2009). I conducted searches using PsycInfo, PsycArticles, Academic Search Premiere, and LibrariesOne databases and used combinations of the keywords “family,” “sex,” “communication,” “sexual,” “education” and “parent-adolescent communication.” I then limited the results to peer-reviewed journal articles that were published between 1990 and 2010. Also, each article had to include a measure of family sexual communication to be included in this study; it did not matter if this measure was used as a dependent or independent variable. I then read and cross-referenced each study to locate other studies that were not found by the database searches.

A meta-analysis of this body of literature would be fascinating; unfortunately the measures of family sexual communication are too varied to be compared. Similar to what Kotchick et al. (2001) observed about the available measures of the construct “sexual knowledge,” the content of the measures of family sexual communication have some overlap, but “it is impossible to conduct viable comparisons across studies without consistency in methods” (p.512). Because of this lack of standardization, I was unable to conduct a formal meta- analysis so I have taken a more qualitative approach to this analysis.

## **Conceptualizations and Operationalizations of Family Sexual Communication**

### **An Overview of Conceptualizations and Operationalizations**

Properly defining one's variables is essential. How researchers define their variables has implications for their target population, other researchers, and in the age of the sound bite, for the media and the general public as well. In social science research, defining one's variables includes two levels of definition: the conceptual definition and the operationalization. The conceptual definition of a variable is more theoretical and abstract and describes the variable of interest. The operationalization of a variable is more concrete and describes how the researchers intend to measure (or observe) the variable of interest. There can be a wide array of conceptual definitions and operationalizations for variables that are used in social science research, and communication is no exception.

For example, conceptual definitions of communication can focus on communication as information exchange, as the creation of meaning, as social influence, or as the creation of social reality. Conceptual definitions can include or exclude the cognitive processes necessary for effective communication (e.g. exposure, attention, comprehension, acceptance, retention, accurate retrieval of information (Jaccard et al., 2002)). Also, conceptual definitions can include or exclude components of the communication process (e.g. sender, receiver, the message, the medium, the context (Jaccard et al., 2002)). Conceptual definitions help create boundaries for the variable one wishes to study. It is not inherently good or bad to draw narrow or broad boundaries; the important thing is that the researchers are clear about these boundaries, and that the

researchers create an operationalization that reflects these boundaries. In essence, the operationalization of a variable is dependent on the conceptual definition of that variable and the adequacy of the operationalization is dependent on how well it matches the conceptual definition.

So, for instance, Ryan, Franzetta, Manlove and Holcombe (2007) wanted to measure parent-teenager communication. Though no explicit conceptual definition was provided, it was implied that this definition was the extent to which parents and teenagers communicated with each other in general. The operationalization Ryan et al. chose was a four-item measure asking teenagers whether or not they had discussed four topics with a “residential parent” (p. 151) in the last month. The topics were: someone they were dating or a party they went to, a personal problem, schoolwork or grades, and other things they were doing at school. Because the conceptual definition was very broad, the operationalization should also be very broad.

Ryan et al. did include topics of communication from different domains of a teenager’s life, but there are certainly facets of their conceptual definition that were not operationalized. General communication between parents and teenagers includes an infinite number of topics so unless Ryan et al. conducted thorough focus groups and an extensive review of literature to find out which topics were the most talked about in this relationship, it is difficult to say that the four chosen for the operationalization adequately reflect their conceptual definition. To remedy this, Ryan et al. could either expand their operationalization, or narrow their conceptual definition.

The example above describes the process of defining communication in general. The process of defining a more specific variable, family sexual communication, is just as complex. In the following section, I will review the existing measures of family sexual communication in terms of the conceptual definitions utilized. The goal of the next section is to demonstrate that there are several ways to define family sexual communication and that many of the currently used definitions are inadequate.

### **Conceptual Definitions of Family Sexual Communication**

Family sexual communication can mean many different things depending on who is discussing it. Definitions can range from a one-time lecture about “the birds and the bees” to having open and comfortable communication about sexual topics on an on-going basis. These definitions can focus on one or many dimensions of family sexual communication including, but not limited to, frequency of communication, breadth and depth of topics discussed, content of the message, quality of the communication, or timing of the message.

Unfortunately most of the conceptual definitions used in the family sexual communication research are vague or non-existent, leaving the reader to infer the researchers’ intended definition. For example, Weinman et al. (2008) simply state that “Four questions were asked concerning parental communication” (p. 159) before they go on to describe their operationalization of family sexual communication; they provide no conceptual definition and this is problematic because the reader does not know what Weinman et al. mean by “family sexual communication” and are left to make their own

assumptions of what this type of communication entails. Villarruel, Loveland-Cherry and Ronis (2010) state that their primary outcome variables were general parent-adolescent communication, parent-adolescent sexual risk communication, and comfort with communication but do not provide further description. They do, however, state that higher scores indicate “more communication or comfort when talking about sexual topics” (p. 538). One could infer, then, that their conceptualization of parent-adolescent sexual risk communication contains a more objective and a more subjective component, namely the extent of communication regarding sexual topics and how parents feel about such communication.

This reliance on implied conceptual definitions is prevalent in the family sexual communication research (e.g. Guzman, Schlehofer-Sutton, Vallanueva-Stritto, Casad & Feria, 2003; Crosby, DiClemente, Wingood, Cobb, Herrington, Davies, Hook & Oh, 2002a; Bersamin et al., 2008; Somers & Paulson, 2000). This makes it difficult to evaluate how well the researchers’ operationalization matches their conceptual definition and it also usually implies that the researchers are using too broad a conceptual definition.

There are, of course, researchers who have clearly articulated the conceptual definition they have utilized in their study. For example, Troth and Peterson (2000) provide a clear conceptual definition for their measure of family sexual communication (that they label “sex education”) and it is “the extent to which parents had attempted to educate their sons and daughters about sex in general, and HIV in particular” (p. 205). In their study of congruency between parents’ and adolescents’ reports of, among other

things, sexual communication, Jaccard, Dittus and Gordon (1998) conceptually define the variable as “the extent to which mothers and teens had engaged in communication about sex” (p.252). This lets the reader know that they are conceptualizing family sexual communication in terms of the amount of communication that occurs.

Similarly, Hutchinson (2002) provides a conceptual definition of what she labels “parent-adolescent sexual risk communication” stating that she is interested in the extent to which parents and adolescents discuss “specific sexual risk-related topics” (p. 240). This is an example where the researcher sets a clear boundary around her construct. She explicitly states that she is interested in sexual *risk* topics which allows for more accurate generalizing of her findings. In other words, she will not (or at least should not) be making claims regarding how family sexual communication impacts adolescent sexual behavior, but instead will be specifying the relationship between family sexual *risk* communication and sexual behavior. Though this may seem a small qualification, it has a significant impact in terms of the conclusions that can be drawn about how communication impacts sexual behavior.

It is important to note that having a clearly-articulated and proper conceptual definition does not ensure that the operationalization is sufficient. Many times researchers who have clear conceptual definitions do not adequately measure the construct with their operationalization. This will be discussed further in a later section of this chapter.

Not only do studies vary in terms of the clarity (i.e. explicitness/implicitness) of their conceptual definition, they also vary in the content of their conceptual definition of family sexual communication.

### **Definitions that focus on the channel.**

The vast majority of studies on family sexual communication rely solely on the verbal communication that occurs between family members. There has been at least one study, however, that has specifically focused on the nonverbal channel of communication.

Joffe and Franca-Koh (2001) investigated the effect that parental nonverbal sexual communication had on the sexual behavior of adolescents. Their conceptual definition of parental nonverbal communication included the way nudity was handled in the home, expressions of affection between parents, awareness of the mother's menstruation, and awareness of parental sexual behavior and use of contraceptives and sexual aids. Thus, family sexual communication was not conceptualized as the things parents say to their offspring or the ways in which they say them, but instead as the things parents do and the peripheral cues that are given that allows the family to address sex and sexuality.

As an aside, I found it surprising that in the era of texting and social media, I was unable to find articles that investigated the use of mediated channels of communication to conduct family sexual communication. Though the research on other types of communication and mediated channels is abundant, perhaps parents find it inappropriate to use such channels to discuss the topic of sex with their adolescents and emerging

adults. Or perhaps it is the researchers who assume parents would not utilize this medium for family sexual communication and thus have not investigated this connection.

### **Definitions that focus on the context.**

Many studies include some examination of the context in which family sexual communication occurs, but very few include this context in their actual conceptual definition of family sexual communication. Some of the contextual variables that have been examined include relationship quality (e.g. Pearson et al., 2006; Yoon, 2004), social norms (Aronowitz et al., 2005) and socioeconomic status (Calhoun & Friel, 2001), but in all of these cases, the contextual variables were measured independent of family sexual communication and were then correlated with such communication. One exception I found was Miller, Levin, Whitaker and Xu's (1998b) study that included the timing of family sexual communication in their conceptual definition of family sexual communication.

Miller et al. (1998b) were interested in whether or not the timing of maternal discussions about condoms influenced adolescents' condom use. Their conceptual definition of sexual communication focused on whether or not mothers discussed condoms before or after the adolescents became sexually active. Their goal was to see if it mattered whether or not mothers discussed condom use before or after their adolescents had become sexually active and they found that indeed it did matter. They found that when mothers discussed condoms before their adolescents became sexually active, the adolescents were significantly more likely to report using condoms than when mothers

discussed condoms after adolescent were already sexually active or when mothers failed to discuss condoms at all. Also of interest is the fact that there was no significant difference in adolescent condom use between those adolescents whose mothers discussed condoms after they were already sexually active and those adolescents whose mothers never discussed condoms. In this study, Miller et al. demonstrated the importance of including the context in definitions of family sexual communication.

### **Definitions that focus on the message.**

Conceptual definitions of family sexual communication that focus on the message are by far the most prevalent definitions. The most common conceptual definition of family sexual communication is the extent to which parents and adolescents/emerging adults have discussed sex. Though the actual measurement of this definition will be discussed at length in the Operationalizations section of this chapter, it is important to note that exactly how researchers conceptualize the term “extent” also varies from study to study.

For some researcher, the “extent” of family sexual communication is best defined as the breadth and/or depth of sexual topics covered. For example, Kotchick et al. (1999) conceptualized family sexual communication as whether or not mothers and adolescents had discussed ten different sexual items including birth control, physical and sexual development and choosing a sexual partner. Similarly, Kapungu et al. (2010) conceptualized this construct as whether or not mothers and adolescents had discussed 17 different sexual items including how parenthood changes life, STDs and mother’s

attitudes about teen sex. These two studies focused on the breadth of family sexual communication. Fisher (1987) defines family sexual communication as the amount of information parents provide their adolescents on an array of sexual topics; this conceptualization has been utilized by multiple researchers in the past 25 years (e.g. Clawson & Reese-Weber, 2003; Kim & Ward, 2007). Also, Hutchinson (2002) defines family sexual communication as the amount of information parents shared with their adolescents about eight sexual risk topics. These two researchers focus on both breadth and depth of family sexual communication.

This type of conceptual definition is popular among researchers but the strength of this definition is not uniform. For example, there are researchers who simply define sex in global terms and thus use sex as a singular topic (e.g. Holtzman & Rubinson, 1995; Pearson et al., 2006) and there are researchers who draw more distinct boundaries around what sexual communication entails which is evident in the high number of topics that are included in their definition (e.g. DiIorio, Kelley & Hockenberry-Eaton, 1999; Wyckoff, Miller, Forehand, Bau, Fasula, Long & Armistead, 2008). I realize that this discussion is closely tied with operationalization so I will again revisit it in the Operationalizations section of this chapter.

For other researchers, the “extent” of family sexual communication is more accurately defined as the frequency of family sexual communication. For example, Crosby, Wingood, DiClemente & Rose (2002b) define family sexual communication in terms of the frequency of discussions that parents and adolescents have about sexual topics. Also, Pick and Palos (1995) define family sexual communication as the frequency

with which parents and adolescents communicate about “problems in general and specifically concerning sex” (p. 668). Though many times a clear distinction is not made between definitions of breadth/depth and definitions of frequency, it is important to keep these concepts distinct because they have been shown to affect adolescents’ and emerging adults’ sexual behavior differently (Martino, Elliott, Corona, Kanouse & Schuster, 2008). For a comprehensive list of studies that have focused on the message in their conceptual definitions of family sexual communication please see Table 1.

Table 1

*Studies Whose Definition of Family Sexual Communication Focuses on the Message*

| Author(s)/(year)                                      | Definition      |
|---|-----------------|
| Beckett et al (2010)                                  | Extent – Amount |
| Kapungu et al (2010)                                  | Extent – Amount |
| Mollborn & Everett (2010)                             | Extent – Amount |
| Robert & Sonenstein (2010)                            | Extent – Amount |
| Trejos-Castillo & Vazsonyi (2009)                     | Extent – Amount |
| Bersamin et al (2008)                                 | Extent – Amount |
| Glenn, Demi & Kimble (2008)                           | Extent – Amount |
| Pluhar, DiIorio & McCarty (2008)                      | Extent – Amount |
| Sprecher, Harris & Meyers (2008)                      | Extent – Amount |
| Aspy et al (2007)                                     | Extent – Amount |
| Bynum (2007)  | Extent – Amount |
| Hutchinson & Montgomery (2007)                        | Extent – Amount |
| Zhang, Li, Shah, Baldwin & Stanton (2007)             | Extent – Amount |
| DiIorio, McCarty & Denzmore (2006)                    | Extent – Amount |
| Eisenberg, Sieving, Bearinger, Swain & Resnick (2006) | Extent – Amount |
| O'Donnell et al (2006)                                | Extent – Amount |
| Pearson, Muller & Frisco (2006)                       | Extent – Amount |
| Aronowitz et al (2005)                                | Extent - Amount |
| Lehr, Demi, DiIorio & Facticeau (2005)                | Extent – Amount |
| Yoon (2004)   | Extent – Amount |
| Hutchinson, Jemmott, Jemmott, Braverman & Fong (2003) | Extent – Amount |
| Weaver, Byers, Sears, Cohen & Randall (2002)          | Extent – Amount |
| Calhoun Davis & Friel (2001)                          | Extent – Amount |

|   |                    |
|---|--------------------|
| DiIorio, Dudley, Lehr & Soet (2000)         | Extent – Amount    |
| Troth & Peterson (2000)                     | Extent – Amount**  |
| Whitaker & Miller (2000)                    | Extent – Amount    |
| Dittus, Jaccard & Gordon (1999)             | Extent – Amount    |
| Downie & Coates (1999)                      | Extent – Amount    |
| Miller, Forehand & Kotchick (1999)          | Extent – Amount    |
| Chewning & Van Koningsveld (1998)           | Extent – Amount    |
| Jaccard, Dittus & Gordon (1998)             | Extent – Amount    |
| King & Lorusso (1997)                       | Extent – Amount    |
| Widmer (1997)                               | Extent – Amount    |
| Jaccard, Dittus & Gordon (1996)             | Extent – Amount    |
| Adolph, Ramos, Linton & Grimes (1995)       | Extent – Amount    |
| Holtzman & Rubinson (1995)                  | Extent – Amount    |
| Shoop & Davidson (1994)                     | Extent – Amount    |
| Leland & Barth (1993)                       | Extent – Amount    |
| Strader, Beaman & McSweeney (1992)          | Extent – Amount    |
| Treboux & Busch-Rossnagel (1990)            | Extent – Amount    |
| Fisher (1987) (1988) (1993) (2001)          | Extent – Amount    |
| Moore, Peterson & Furstenberg (1986)        | Extent – Amount    |
| Angera, Brookins-Fisher & Inungu (2008)     | Extent – Frequency |
| Epstein & Ward (2008)                       | Extent – Frequency |
| McDermott Sales et al (2008)                | Extent – Frequency |
| Teitelman, Ratcliffe & Cederbaum (2008)     | Extent – Frequency |
| Usher-Seriki, Smith Bynum & Callands (2008) | Extent – Frequency |
| Weinman et al (2008)                        | Extent – Frequency |
| Wyckoff et al (2008)                        | Extent – Frequency |
| Guilamo-Ramos et al (2007) (2008)           | Extent – Frequency |

|   |                     |
|---|---------------------|
| Kim & Ward (2007)   | Extent - Frequency  |
| Huebner & Howell (2003)                                   | Extent – Frequency  |
| Raffaelli & Green (2003)                                  | Extent – Frequency  |
| Somers & Canivez (2003)                                   | Extent – Frequency  |
| Crosby et al (2002a)                                      | Extent – Frequency  |
| Crosby et al (2002b)                                      | Extent – Frequency  |
| Crosby et al (2001)                                       | Extent – Frequency  |
| Sieving, McNeely & Blum (2000)                            | Extent – Frequency  |
| Somers & Paulson (2000)                                   | Extent – Frequency* |
| Rafaelli et al (1999)                                     | Extent – Frequency  |
| Rodgers (1999)  | Extent – Frequency  |
| Romers, Stanton, Galbraith, Freigelman, Black & Li (1999) | Extent – Frequency  |
| Booth-Butterfield & Sidelinger (1998)                     | Extent – Frequency  |
| Beazley & Brock (1995)                                    | Extent – Frequency  |
| Pick & Palos (1995)                                       | Extent – Frequency  |
| Luster & Small (1994)                                     | Extent – Frequency  |
| Baldwin & Baranowski (1990)                               | Extent – Frequency  |

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\* Though the researchers described their construct as the “amount” of sexual communication, their measure ranged from “never” to “a lot of times” thus indicating a measure of frequency

\*\* Though the researchers described their construct as the “frequency” of sexual communication, their measure ranged from “not at all” to “a great deal” thus indicating a measure of amount

When looking at definitions of family sexual communication that focus on the message, it is important to note that not all definitions have the same scope. For example, Jaccard, Dittus and Gordon (1996) make it clear that while they are interested in family sexual communication, they are specifically conceptualizing this in terms of discussions about birth control. Also, in their 1998 article, Jaccard, Dittus and Gordon make it clear that the conceptual definition for that study is the extent to which mothers discussed with

their adolescents the reasons for not having sex and reasons for not getting pregnant at that point in the adolescent's life. By being explicit about the boundaries of their conceptual definition, Jaccard et al. (1996; 1998) make it easier to gauge the accuracy of their operationalization.

Thus far I have addressed studies in which the conceptual definition of family sexual communication had only one facet. There are also studies that include multiple facets of communication in their conceptual definitions.

#### **Definitions that focus on multiple communication components.**

When examining definitions that focus on multiple components of communication, the most common combination is a definition that focuses on both the message and the sender/receiver components. For example, Villarruel et al. (2010) were interested in the effectiveness of a computer-based intervention that helped parents learn to effectively communicate about sex with their adolescents. Their conceptualization of family sexual communication included the amount of sexual communication as well as how comfortable parents and adolescents were when discussing sexual topics. A combination of the extent of sexual communication and the level of comfort the senders and receivers feel when discussing sexual topics is the most prevalent multi-faceted conceptual definition (e.g. Jerman & Constantine, 2010; McKee, Forehand, Miller, Whitaker, Long & Armistead, 2007; Klein, Sabaratnam, Pazos, Auerbach, Havens & Brach, 2005; McNeely, Shew, Beuhring, Sieving, Miller & Blum 2002; Jordan, Price &

Fitzgerald, 2000; Hovel, Sipan, Blumberg, Atkins, Hofstadter & Kreitner, 1994; Hutchinson & Cooney, 1998).

Other aspects of the sender and receiver have been included in multi-faceted conceptual definitions of family sexual communication. For example, Martino et al. (2008) conceptualized family sexual communication as the amount and frequency of communication, adolescents' perceived ability to communicate about sexual topics with their parents, and the degree of openness adolescents experienced when discussing such topics. Other aspects of the sender and receiver that have been included are parental competence, self-efficacy and responsiveness when discussing sexual topics (Deptula et al., 2010; DiIorio, Resnicow, Dudley, Thomas, Wang, VanMarter, Manteuffel & Lipana, 2000b; Whitaker, Miller, May & Levin, 1999), and adolescent sexual communication satisfaction (Heisler, 2005).

There have been a few studies that have included the extent of family sexual communication and the timing of this communication in their conceptual definition, thus creating a multi-faceted definition that focuses on the message and the context. For example Clawson and Reese-Weber (2003) and Hutchinson (2002) both defined family sexual communication in terms of the amount of communication about sexual topics and whether or not this communication occurred before or after adolescents became sexually active. These researchers chose different operationalizations for this definition, but I will save discussions of Operationalizations for a later section in this paper.

For a more comprehensive list of studies that have utilized multiple facets of communication in their conceptual definitions of family sexual communication please see Table 2.

Table 2

*Studies Whose Definition of Family Sexual Communication Focuses on Multiple Communication Components*

| Author(s)/(year)                           | Definition                                      |
|--|---|
| Jerman & Constantine (2010)                | Amount; Comfort                                 |
| Villarruel, Loveland-Cherry & Ronis (2010) | Amount; Comfort                                 |
| Jordan, Price & Fitzgerald (2000)          | Amount; Comfort                                 |
| DiIorio, Kelley & Hockenberry-Eaton (1999) | Amount; Comfort                                 |
| Hutchinson & Cooney (1998)                 | Amount; Comfort                                 |
| McKee et al (2007)                         | Frequency; Comfort                              |
| Somers & Vollmar (2006)                    | Frequency*; Comfort                             |
| Klein et al (2005)                         | Frequency; Comfort                              |
| Guzman et al (2003)                        | Frequency; Comfort                              |
| McNeely et al (2002)                       | Frequency; Comfort                              |
| Blake et al (2001)                         | Frequency; Comfort                              |
| Hovel et al (1994)                         | Frequency; Amount; Comfort                      |
| Deptula, Henry & Schoeny (2010)            | Amount; Comfort; Competence; Need               |
| Byers, Sears & Weaver (2008)               | Amount; Quality; Bidirectionality               |
| Martino et al (2008)                       | Amount; Frequency; Timing; Competence; Openness |
| Nagamatsu, Saito & Sato (2008)             | Frequency; Quality                              |
| Phetla et al (2008)                        | Amount; Frequency; Openness                     |
| Sneed (2008)                               | Amount; Quality                                 |
| Lefkowitz & Espinosa-Hernandez (2007)      | Frequency; Quality                              |
| Heisler (2005)                             | Amount; Openness; Satisfaction                  |
| Regnerus (2005)                            | Amount; Frequency; Ease                         |

|  |  |
|--|--|
| Clawson & Reese-Weber (2003)             | Amount; Timing                             |
| Hutchinson (2002)                        | Amount; Timing                             |
| Rosenthal et al (2001)                   | Frequency; Quality                         |
| DiIorio et al (2000)                     | Amount; Maternal Sex Comm Self-efficacy    |
| Feldman & Rosenthal (2000)               | Amount; Quality                            |
| Jaccard, Dittus & Gordon (2000)          | Amount; Concerns                           |
| Lehr et al (2000)                        | Amount; Openness                           |
| Kotchick et al (1999)                    | Amount; Openness/Receptiveness             |
| Rosenthal & Feldman (1999)               | Frequency; Importance                      |
| Whitaker et al (1999)                    | Amount; Responsiveness                     |
| Young Pistella & Bonati (1999)           | Quality; Ease                              |
| Miller, Kotchick et al (1998)            | Amount; Openness/Receptiveness             |
| Raffaelli, Bogenschneider & Flood (1998) | Frequency; Parental Sex Comm Competence    |
| Ward & Wyatt (1994)                      | Quality; Timing; Channel(verbal/nonverbal) |
| Kotva & Schneider (1990)                 | Frequency; Timeliness; Attitudes Conveyed  |

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\* Though the researchers described their construct as the “amount” of sexual communication, their measure ranged from “never” to “a lot of times” thus indicating a measure of frequency

There is no inherent ideal in terms of the scope of a conceptual definition; however, the definition should adequately encapsulate one’s theory and should clearly establish boundaries around the phenomenon that is being studied. Once researchers have decided on their conceptual definition of family sexual communication, then the task of using a proper operationalization begins.

### **Operationalizations**

As can be seen from the previous section, there are many ways in which researchers have conceptualized family sexual communication. What researchers must

then do is determine how they will measure this conceptualization. There are many methods by which researchers measure constructs in social science research. For example, if I was interested in the construct of lust, I could operationalize this as an increase in heart rate, a dilation of the pupils, a shortness of breath, and an increase in the flow of adrenaline. Another way I could operationalize lust is to construct a multi-item survey that measures different facets of lust and administer it to a sample; this is the predominant method utilized in family sexual communication research.

There have been, however, a few researchers who have operationalized family sexual communication through observation. For example, Lefkowitz and Romo have conducted multiple studies with fellow researchers in which they used videotaped conversations between mothers and adolescents to operationalize family sexual communication. In some cases Lefkowitz and Romo were interested in the content of such communication.

For example, Lefkowitz, Boone, Au and Sigman (2003) videotaped mother-adolescent dyads discussing dating, sexuality and AIDS/HIV, and measured the frequency with which messages regarding abstinence and safer sex were communicated. Romo, Lefkowitz, Sigman and Au (2001) videotaped Latina mother-adolescent dyads and measured the amount of time they discussed sexual behavior and birth control; similarly, Nadeem, Romo and Sigman (2006) videotaped pregnant Latina adolescents and their mothers and coded for implicit and explicit messages regarding contraception. Romo, Lefkowitz, Sigman and Au (2002) also videotaped Latina mother-adolescent dyads discussing dating and sexuality and coded for five types of maternal messages:

advice, maternal self disclosure about personal experience, cautionary messages, messages about sexual beliefs and values, and comments about adolescents' everyday experiences.

Other times, these researchers were interested in the ways in which family sexual messages were communicated as opposed to the actual messages themselves. For example, Lefkowitz, Kahlbaugh, and Sigman (1996), Lefkowitz, Romo, Corona, Au and Sigman (2000b), Romo, Nadeem, Au and Sigman (2004) and Boone & Lefkowitz (2007) were all interested in the conversational structure of family sexual communication. They all videotaped mother-adolescent dyads discussing dating and sexuality and coded for things such as maternal conversation dominance, turn-taking, maternal responsiveness and adolescent withdrawal. Lefkowitz, Boone, Sigman and Au (2002) videotaped mother-adolescent dyads and coded for mutuality of positive emotion and Kahlbaugh, Lefkowitz, Valdez and Sigman (1997) conducted a two year longitudinal study in which they videotaped mother-adolescent dyads discussing dating and sexuality, everyday events and conflict, and coded for nonverbal affiliative and avoidant behaviors.

There have been a few other researchers who have utilized videotaped family sexual conversations to operationalize this construct as well. Whalen, Henker, Hollingshead and Burgess (1996) observed parent-preadolescent dyads during a structured communication task focused on AIDS and used verbal and nonverbal cues to code for certain dimensions of communication, namely: mutuality, support, directiveness, negative feedback, withdrawal, emotional expressiveness and humor. And finally,

Yowell (1997) videotaped mother-daughter and daughter-best friend dyads to create a typology regarding the style in which these dyads discussed sexual issues.

The above researchers utilized observation to operationalize family sexual communication; however, family sexual communication has been almost exclusively measured with self-report survey data. Though qualitative research regarding family sexual communication has been conducted (for a list of such studies please see Table 3), this too has all been self-report. As Fisher (1993) points out, it would be ideal to observe and measure spontaneous family sexual communication, but this is not feasible. She concludes that survey data is thus a sufficient way to measure family sexual communication.

Table 3

*Qualitative Studies of Family Sexual Communication*

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Author(s)/(year)

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Akers, Schwarz, Borrero & Corbie-Smith (2010)

Bayer, Cabrera, Gilman, Hindin & Tsui (2010)

Coffelt (2010)

Crohn (2010)

Hutchinson & Cederbaum (2010)

Wilson, Dalberth & Koo (2010)

Ballard & Gross (2009)

Friedman & Morgan (2009)

Kim (2009)

Averett, Benson & Vaillancourt (2008)

Aronowitz, Todd, Agbeshie & Rennells (2007)

Gilliam (2007)

LaSala (2007)

Mbugua (2007)

O'Donnell et al (2007)

Peterson (2007)

Aronowitz & Munzert (2006)

Guilamo-Ramos et al (2006)

Lefkowitz & Stoppa (2006)

Chung, Borneo, Kilpatrick, Lopez, Travis, Lui, Khandwala & Schuster (2005)

Kirkman, Rosenthal & Feldman (2005)

Fitzharris & Werner-Wilson (2004)

Kirkman, Rosenthal & Feldman (2002)

Kirkman, Rosenthal & Feldman (2001)

O'Sullivan, Meyer-Bahlburg & Watkins (2001)

Raffaelli & Ontai (2001)

Bowling & Werner-Wilson (2000)

Rosenthal, Feldman & Edwards (1998)

DiIorio, Hockenberry-Eaton, Maibach, Rivero & Miller (1996)

Geasler, Harrison & Edlund (1995)

Brock & Jennings (1993)

Nolin & Peterson (1992)

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Though surveys are, in general, a sufficient way to operationalize family sexual communication, many of the specific surveys that have been created have failed to adequately operationalize family sexual communication. There exists a plethora of measures that examine family sexual communication and they range from crude and oversimplified (e.g. Moore, Peterson & Furstenberg, 1986; Shoop & Davidson, 1994; Pearson et al., 2006) to more sophisticated and complex (e.g. Raffaelli & Green, 2003; Epstein & Ward, 2008; Martino et al., 2008). They also vary in their definition of communication and the extent to which their psychometric properties have been examined. The following sections will detail the existing survey measures of family sexual communication and the potential pitfalls that exist when operationalizing this construct in this manner. I will also provide an in-depth discussion of one of the largest deficiencies that almost all existing survey measures of family sexual communication have which is a lack of examining their psychometric properties.

### **Existing measures of family sexual communication.**

There exists well over 100 measures of family sexual communication that have been utilized in this field, thus reviewing them all individually would create far too long a paper. Therefore, I have gone through each article and copied down specifics from each measure including the number of questions, the type of scale (e.g. dichotomous or likert-type and the range of the scale), how the items were treated (e.g. individually analyzed, summed or averaged), the Cronbach's alpha (when provided), and the actual questions that were asked (when included). From these notes I have tried to summarize in the most succinct way the types of operationalizations that have been used.

Because the vast majority of researchers focus on the message when conceptualizing family sexual communication, my review will concentrate on operationalizations of the message. I have chosen to discuss a sampling of measures that seem to be representative of the operationalizations that have been used thus far in the field. Before beginning this review, however, I will briefly discuss operationalizations that focus on the sender/receiver characteristic of comfort since several researchers include a measure of this in their studies.

Most researchers who have operationalized comfort with family sexual communication have done so with a one to ten-item scale that asks participants questions dealing with how easy it is to talk about sexual topics with their parent/offspring, how comfortable participants feel during such discussions, and participants' ability to initiate family sexual communication (e.g. Sneed, 2008; McKee et al., 2007; Somers & Vollmar, 2006; Klein et al., 2005). DiIorio et al. (1999) took a somewhat different approach and had both adolescents and mothers rate how comfortable they felt discussing each of the

14 items on their family sexual communication frequency scale. Villarruel et al. (2010) echoed this approach. The only other significant variance that exists between measures of family sexual communication comfort has to do with whose reports the researchers utilized. Some researchers were interested in the adolescents' or emerging adults' comfort (e.g. Pluhar, DiIorio & McCarty, 2008; Sneed, 2008; Somers & Vollmar, 2006; Hovel et al., 1994) whereas others were interested in parents' comfort (e.g. McKee et al., 2007; Klein et al., 2005). Some researchers utilized reports from both parties (e.g. Heisler, 2005; DiIorio et al., 1999).

#### ***Extent of family sexual communication.***

The most popular way to operationalize the amount of sexual communication that occurs within families is to compile a list of sexual topics and ask respondents to indicate whether or not (or the extent to which) they have been discussed. These operationalizations vary in the number of topics included and the choices from which respondents have to choose.

Some operationalizations include only a few topics in their measure. For example Shoop and Davidson (1994) operationalized family sexual communication via two dichotomous questions: had adolescents ever discussed sexual matters with their parents, and had adolescents ever discussed the risks of AIDS with their parents. Robert and Sonenstein (2010) also operationalized family sexual communication via two dichotomous questions: had adolescents ever discussed STDs with their parents, and had adolescents ever discussed birth control methods with their parents. McNeely et al.

(2002) operationalized family sexual communication as how frequently mothers had discussed sex and/or birth control with their adolescents. There are also a surprisingly large number of studies that utilize only one item to operationalize family sexual communication. This will be discussed later in the chapter, but to see a list of such studies please see Table 4.

Table 4

*Single-Item Measures of Family Sexual Communication*

| Author(s)/(year)                 | Single-item measure   | Potential range of response |
|----------------------------------|---|-----------------------------|
| Jerman & Constantine (2010)      | Parental comfort level talking to their adolescent about sex and relationships  | 1-5                         |
|                                  | How knowledgeable parents feel talking with adolescents about sex and relationships   | 1-5                         |
| Byers, Sears & Weaver (2008)     | Quality of sexual health education parents provided   | 1-5                         |
|                                  | How often parents encouraged children to ask questions about sexuality  | 1-5                         |
| Phetla et al (2008)              | Parental communicated with own or friends' children on sex/sexuality issues in past 12 months (reworded for child's response) | yes/no                      |
|                                  | Parent felt free/open to discuss sex/sexuality in the household   | yes/no                      |
| Sprecher, Harris & Meyers (2008) | How often adolescents discussed sex with mother/father  | 1-4                         |
| Pearson, Muller & Frisco (2006)  | How much parents talked to their adolescent about sex   | 1-4                         |
| Halpern-Felsher et al (2004)     | Adolescents could talk to their parents if they had a question or concern about sex   | 1-5                         |
| Adu-Mireku (2003)                | Ever communicated about HIV/AIDS with a parent or other adult in the family   | yes/no                      |
| Guzman et al (2003)              | Extent mother/father discussed sexual issues  | 1-5                         |
|                                  | Adolescent's comfort discussing sexual issues with mother/father  | 1-4                         |
| Blake et al (2001)               | Adolescent comfort in talking with parents about sex  | 1-4                         |
| Calhoun David & Friel (2001)     | How often mothers discussed sex with their children   | 1-3                         |
| Feldman & Rosenthal (2000)       | Adolescents evaluate how "good" a sexual communicator parents are   | 1-6                         |

|  |   |            |
|--|---|------------|
| Young Pistella & Bonati (1999)         | How easy it was for adolescents to discuss sexual issues with parents   | 1-4        |
| Jaccard, Dittus & Gordon (1998) (2000) | Extent mothers and teens engaged in sexual communication                | 1-5        |
| Booth-Butterfield & Sidelinger (1998)  | How often adolescents discuss sexual activities with parents            | 0-4        |
| Miller, Levin, Whitaker & Xu (1998)    | Age at which adolescents first discussed condoms with their mother      | Continuous |
| Holtzman & Rubinson (1995)             | Communication with parents or other adult family members about AIDS/HIV | yes/no     |
| Hovel et al (1994)                     | Adolescent comfort in discussing sexual issues with parents             | 1-4        |
| Luster & Small (1994)                  | How often adolescents discussed birth control with mother/father        | 1-4        |
| Moore, Peterson & Furstenberg (1986)   | Adolescents' report of whether they had discussed sex with a parent     | yes/no     |

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*Note:* Some of the articles cited above have multi-item measures in addition to the cited single-item measure

Other researchers who have utilized a list of two to seven sexual topics as their operationalization of family sexual communication include: Bynum (2007), Crosby, DiClemente, Wingood, Sionean, Cobb, Herrington, Davies, Hook & Oh (2001), Hovel et al. (1994), Hutchinson and Wood (2007), Jaccard et al. (1996), McNeely et al. (2002), O'Donnell, Stueve, Wilson-Simmons, Dash, Agronick and Jean Baptiste (2006), Rodgers (1999), Romer, Stanton, Galbraith, Seigelman, Black and Li (1999), Sieving, McNeely and Blum (2000), Widmer (1997), Zhang (2001), Miller, Forehand and Kotchick (1999), Crosby et al. (2002), Deptula et al. (2010), McDermott Sales, Millhausen, Wingood, DiClemente, Salazar & Crosby (2008), Usher-Seriki et al. (2008), Jerman and Constantine (2010), Bersamin et al. (2008), Aspy et al. (2007) and Beazley and Brock (1995). The most common topics that are included in these somewhat simplistic operationalizations include: birth control/ condom use, pregnancy, sexual intercourse, STDs/HIV/AIDS and abstinence.

Other operationalizations are more thorough and include several topics. For example Hutchinson and Cooney (1998) included 12 topics in their operationalization of family sexual communication and Guilamo-Ramos, Jaccard, Dittus & Collins (2008) included 21 topics. Other researchers who have utilized more extensive lists of sexual topics in their operationalization of family sexual communication include: Nagamatsu, Saito and Sato (2008), Byers, Sears and Weaver (2008), Trejos-Castillo and Vazsonyi (2009), Kapungu et al. (2010), DiIorio et al. (2000b) Baldwin and Baranowski (1990), Somers and Paulson (2000), Fisher (2001), Jordan et al. (2000), Kotchick et al. (1999), Kim and Ward (2007), and McKee et al. (2007). These operationalizations typically

include the topics listed in the preceding paragraph but tend to also include a broader range of sexual topics including dating, reproduction, gender specific information such as menstruation/ejaculation and physical development.

One way that some of the studies cited above have set themselves apart is the timeframe of family sexual communication in which they are interested. Most researchers are interested in the cumulative amount of family sexual communication that has occurred in the participants' lives, but a handful of researchers have set more restricted timeframes. For example, Huebner and Howell (2003) operationalized family sexual communication as how often parents and adolescents had discussed sexual topics in the year prior to the study as did Bersamin et al. (2008) and Weinman et al. (2008). McDermott Sales et al. (2008), Crosby et al. (2001) and Crosby et al. (2002b) were interested in the sexual communication that had occurred in the six months prior to the study, and Hovel et al. (1994) were only interested in the sexual communication that had occurred in the month prior to the study. Raffaelli, Smart, Van Horn, Holbein, Kline, Chan (1999) measured both cumulative family sexual communication and the communication that had occurred in the year prior to their study.

All of the operationalizations discussed this far have included a similar set of topics. There are, however, some researchers who have utilized a fairly unique set of topics in their operationalizations of family sexual communication. For example, Hutchinson (e.g. Hutchinson & Cooney, Hutchinson, 2002; Hutchinson, Jemmott, Jemmott & Braverman, 2003; Hutchinson & Montgomery, 2007) was specifically interested in family sexual risk communication and thus only included items that spoke to

sexual risk in her operationalization. Teitelman, Ratcliffe & Cederbaum (2008) utilized this approach as well and Deptula et al. (2010) were similarly interested specifically in sexual costs. Usher-Seriki et al. (2008) only included topics that dealt with sexual values in their operationalization and Glenn, Demi and Kimble (2008) operationalized family sexual communication in terms of interactions regarding sexual standards. Dittus, Jaccard and Gordon (1999) were interested specifically in communication regarding beliefs about the consequences of sex and Jaccard et al. (1998) were interested specifically in the reasons mothers provided adolescents for not having sex or getting pregnant and that time in the adolescents' lives.

Operationalizations of the extent of family sexual communication vary not only in terms of the number and types of topics included, but also in the ways in which participants are able to report such communication. Some researchers have utilized dichotomous measures where respondents indicate whether or not each topic has been discussed –yes or no (e.g. Treboux & Busch-Rossnagel, 1990; DiIorio, Dudley, Lehr & Soet, 2000a; Fisher, 2001; O'Donnell et al., 2006; Bersamin et al., 2008; Sneed, 2008; Kapungu et al., 2010). Other researchers have utilized likert-type measures where respondents indicate the extent to which each topic has been discussed (e.g. Rosenthal & Feldman, 1999; Blake et al., 2001; Weaver, Byers, Sears, Cohen & Randall, 2002; Lehr, Demi, DiIorio, Facticeau, 2005; Teitelman et al., 2008; Mollborn & Everett, 2010).

There have also been cases in which the researchers utilized a likert-type scale but had to convert their measure to a dichotomy due to lack of variance (e.g. Wyckoff et al., 2008) or skewness (e.g. McKee et al., 2007). The implications for using dichotomous

versus likert-type questions will be discussed in a later section of this chapter as will be the implications for analyzing multi-item scales separately versus summing or averaging the items to create a single variable.

Though the measures that are more comprehensive and allow for degrees of communication help account for some of the variance in family sexual communication, these operationalizations alone still do not completely capture the nuances of family sexual communication and can still create groups that are too heterogeneous, thus clouding the findings in these studies. For example, just because two adolescents indicated that their parents had discussed birth control to a certain extent does not mean that the same messages were being communicated. One family could have discussed how using birth control was against their religion whereas another could have discussed where to purchase condoms and how to use contraceptives. These families may score the same on this measure but the effect that these two conversations have on sexual behavior should not be expected to be the same. To more accurately predict the effect that these conversations have, it is important to know what specific messages were communicated during these family sexual interactions.

There have been a few researchers who have delved deeper into measuring the extent of family sexual communication and have included specific messages that have been communicated in their operationalization. Troth and Peterson (2000) included some specific messages in their measure of family sexual communication including “We’ve discussed contracting HIV from a sexual partner,” “We’ve discussed how one might negotiate to have safer sex” and “we’ve discussed the pros and cons of AIDS

precautions.” Jaccard et al. (1996) also utilized specific messages in their operationalization, namely: “We have talked about birth control in general,” “We have talked about the importance of using birth control” and “We have talked about specific birth control methods.”

Jerman and Constantine (2010) utilized six specific messages including “I have talked with my adolescent about where to get a condom” and “I have talked with my adolescent about the importance of using protection to prevent pregnancy or disease.” Bersamin et al. (2008) utilized seven specific messages including “In the past year [my] parents discussed how they would feel about [me] having sex at [my] age” and “In the past year [my] parents discussed how to say no.” Martino et al. (2008) utilized 22 items to operationalize family sexual communication and though not all of them were as specific as the items mentioned in the studies above, they were more specific than the items that are typically used. For example, they asked adolescents whether or not their parents discussed how to make decisions about whether or not to have sex, how to choose a birth control method and what it feels like to have sex.

Finally, in the most extensive examination of the specific message content of family sexual communication, Epstein and Ward (2008) asked participants to report the extent to which 37 values regarding sex and relationships were communicated to them by their parents. These values were factor analyzed into five subscales: sexual stereotypes about men, sexual stereotypes about women, importance of love to sexual relationships, sexual freedom and sex is for marriage.

While operationalizing family sexual communication in terms of the extent to which sexual topics have been discussed within families is helpful, it is also important to know the quality of these interactions.

*Quality of family sexual communication.*

Thus far the operationalizations discussed have focused on the message; the bulk of operationalizations in the field do fall under this category and this operationalization does provide important information about family sexual communication. However, it is also important to investigate the quality of these interactions. Just as it is illogical to expect different messages about one sexual topic to produce the same effect on adolescents' and emerging adults' sexual behavior, it is also illogical to expect high quality and low quality communication about one sexual topic to produce the same effect. Some researchers have tried to account for this discrepancy.

Byers, Sears, Voyer, Thurlow, Cohen and Weaver (2003) asked adolescents to report on the quality of sexual health education they felt they were receiving from their parents and then later (Byers et al., 2008) asked parents to report on the quality of sexual health education they felt they were providing to their adolescents. Weinman et al. (2008) and Raffaelli, Bogenschneider and Flood (1998) were only interested in the effects that high quality family sexual communication had on adolescent sexual behavior and they made this clear by specifically asking adolescents to report the frequency that they had a "good" talk about sexual topics with their parents.

Miller et al. (1999) and Kotchick et al. (1999) used similar items to operationalize the process of family sexual communication and included items that measured quality such as “My mother knows how to talk to me about topics like this” and “My mother and I talk openly and freely about these topics” (p. 224). Finally, Feldman and Rosenthal (2000) and Rosenthal, Senserrick, and Feldman (2001) were interested in multiple facets of quality of family sexual communication. They factor analyzed their operationalization of this construct and examined the following facets of quality: comfortable, mutual, controlling, unwanted, avoidant. They also included a global measure in which they asked adolescents to rate how “good” a sexual communicator their parents were. It is also important to note that multiple researchers have investigated openness and parental responsiveness (e.g. Martino et al., 2008; Phetla et al., 2008; Lehr, DiIorio, Dudley & Lipana, 2000; Kotchick et al., 1999; Whitaker et al., 1999; Miller et al., 1999) and these two concepts are certainly linked with the quality of family sexual communication.

While it is good that the studies described above included measures of quality of family communication in their operationalizations, what would be ideal is if there were a measure that looked at all three of the important message components of family sexual communication that I have discussed thus far: extent, message content and quality; this is what I hope to provide with the FSCS.

## **Potential pitfalls of operationalizing family sex comm. via survey measures.**

### ***Incongruence with conceptual definitions.***

It is important that the way researchers measure family sexual communication is congruent with how they conceptualize such communication. If there is incongruence, the claims researchers make regarding the impact of family sexual communication can be faulty. These definitions should be congruent in terms of scope (e.g. all family sexual communication vs. family communication about a specific area of sexuality) and focus (e.g. definitions focused on the channel, message, etc). While most researchers adequately match conceptual and operationalizations in terms of focus, there are many instances where the scope of these definitions is incongruent.

For example, many researchers purposefully narrow the scope of their operationalization to topics that are related to sexual-risk. This is probably because many of the researchers who conduct these studies are connected with public health and adolescents'/emerging adults' sexual behavior poses several threats to public health including high STD rates and unplanned pregnancies (Kirby, 1999; Santelli et al., 2000; Troth & Peterson, 2000; Berman, & Cates, 2004; Wright, 2009). When it is made clear that the researcher conceptualizes family sexual communication as family sexual *risk* communication, then it is absolutely appropriate that their operationalization only includes a range of items that encompasses sexual risk. For example, Hutchinson (2002) was clear that she was only interested in family sexual risk communication and she operationalized this communication with eight sexual risk topics including

contraception/birth control, STDs, HIV, protecting oneself against STDs and HIV, condoms, postponing/not having sex, pressure to have sex, and resisting pressure to have sex. Similarly, Deptula et al. (2010) conceptualized family sexual communication as discussions about sexual costs so when they operationalized this communication with four items measuring discussions regarding dangers of contracting STIs, the negative impact on social life due to loss of peer respect, moral reasons for not having sex and the negative consequences of pregnancy, this operationalization was congruent with their conceptualization.

What is problematic is when researchers do not draw their boundaries around specific areas of family sexual communication, but their operationalization is constrained to specific areas. For example, Miller et al. (1999) conceptualized family sexual communication in general terms, but only operationalized it in terms of sexual risk topics. Similarly Rodgers (1999) conceptualized family sexual communication in terms of the frequency with which adolescents had a “good talk” about sexually-related issues in the past year but only operationalized it in terms of the extent to which families had discussed the following: whether or not it is okay for teenagers to have sex, birth control, and the dangers of contracting HIV/AIDS or other STDs. In these cases, the operationalizations do not include an adequate range of items and are thus incongruent with the conceptual definition. There have also been a few cases where it could be argued that the operationalization of family sexual communication may be measuring a different construct altogether.

For example, Casper (1990) wanted to make claims about how family sexual communication impacted adolescent pregnancy. One of the areas of communication she wished to measure was communication about “abortion and adoption [and] prenatal care;” however, the data set she utilized had no direct measure for these interactions and so she “used coresidence with parents as a proxy for family interaction in the areas of alternatives to childbearing and the well-being of the adolescent and her child” (p. 112). To me this is one of the most blatant incongruencies between conceptual definitions and operationalizations of family sexual communication. This, in essence, is saying that adolescents who live with their parents discuss these sexual issues with their parents and that these interactions include the same information; all research in this field shows that this assumption is grossly inaccurate.

***Oversimplification and lack of specificity.***

There are researchers who simply use a one-item measure as their operationalization for family sexual communication. For example, Calhoun David and Friel (2001) assessed family sexual communication with a three-point item that asked mothers “how often” they had discussed sex with their child (p. 674). Pearson et al. (2006) utilized a four-point item that asked parents “how much” they discussed sex with their child (p. 75). Halpern-Felsher, Kropp, Boyer, Tschann and Ellen (2004) utilized a five point item that asked adolescents the extent to which they agreed that they could talk to their parents if they had a question or concern about sex. And Moore et al. (1986) utilized a dichotomous item that asked adolescents whether or not they had discussed sex

with a parent. For a more comprehensive list of one-item measures of family sexual communication please refer back to Table 4.

The danger in using these types of operationalizations is that they oversimplify the communication process and can obscure important differences that exist within the sample. Hutchinson & Cooney (1998) argue that when global measures of family sexual communication are utilized, they are more likely tapping topics such as menstruation and reproduction rather than communication about topics such as contraception, STDs and protection from sexual risk. This creates issues in terms of the inferences researchers make regarding how family sexual communication impacts adolescents' and emerging adults' sexual behavior. Receiving information about menstruation should not be expected to impact sexual activity in the same way receiving information about STDs or unplanned pregnancies would impact such behavior. If researchers use a global measure that is capturing sexual biology information when they think they are capturing sexual risk information, the generalizations they make can be faulty. Rosenthal & Feldman (1999) echo this sentiment when they argue that family sexual communication cannot be "characterized as a unified domain" (p. 846) and that factors should be utilized.

Of course there needs to be a balance between the comprehensiveness and the parsimony of an operationalization. If research participants are asked to fill out an exhaustive questionnaire, they may experience burn out. But if the questionnaire does not adequately operationalize family sexual communication, the findings that are reported can be inaccurate. This is a gray area and, in the end, it is up to the researcher to figure out where the balance lies. It should be mentioned that the sheer number of items does

not necessarily correlate with better operationalization. Including too few topics can lead to overgeneralizations, but including more topics just to have more topics is not the answer either. What is important is that the measure includes an appropriate range of items and that it measures all the facets of the construct that it is supposed to measure as laid out in the conceptual definition.

Another way researchers can inadvertently oversimplify family sexual communication is by using dichotomous items in their scales. If I have a dichotomous measure of family sexual communication, the only thing I know is whether or not parents and offspring have discussed sex. The participant whose parents simply said “If I catch you with a condom in your wallet, I will kill you” will be lumped in the same group as the participant whose parents thoroughly explained physical and emotional development along with how to say no to sexual pressure; these two participants will also be in the same group as the participant whose parents explained that it was against their religion to have any sexual contact until marriage and the participant whose parents said “I don’t care what you do as long as you don’t get pregnant.”

If my only measure of family sexual communication is a one-item measure asking whether or not parents and offspring have discussed sex, all four of these participants will be lumped into the same group who respond “yes” indicating they had talked with their parents about sex. Expecting such a heterogeneous group to behave in predictable ways is illogical and unreasonable. Therefore, this type of measure, when used by itself, is grossly inadequate and creates more chance of faulty findings that then contribute to the

mixed findings that are reported regarding how family sexual communication impacts adolescents' and emerging adults' sexual behavior.

Even if multiple dichotomous items are utilized, it can still create groups that are too heterogeneous. For example, if two participants indicate that they have discussed masturbation with their parents, one might have received a warning at one point that masturbation is wrong or dirty while the other participant may have on-going family jokes about the subject. This example speaks not only to the need for likert-type measures to capture the variance in the extent of sexual communication but also to the need to use items that measure the specific messages (or types of messages) that adolescents and emerging adults are receiving about these sexual topics.

***One-factor measures of family sexual communication.***

Most researchers use multiple items to assess family sexual communication. Once the data has been gathered, the researchers must decide how to treat each of these items. One avenue that a few researchers have taken is to analyze each item separately (e.g. Guilamo-Ramos et al. 2008; Aspy et al., 2007; Jordan et al., 2000; Rafaelli et al., 1999). Most researchers, however, chose to create a single variable by either averaging or summing the scores from these multiple items. For example, Bynum (2007), Crosby et al. (2001), Hovel et al. (1994), Hutchinson and Wood (2007), Jaccard et al. (1996), McNeely et al. (2002), O'Donnell et al. (2006), Rodgers (1999), Romer et al. (1999), Sieving et al. (2000), Widmer (1997), Zhang et al. (2001), Miller et al. (1999), Crosby et al. (2002), Deptula et al. (2010), McDermott et al. (2008), Usher-Seriki et al. (2008), Jerman and

Constantine (2010), Bersamin et al. (2008), Aspy et al. (2007) and Beazley and Brock (1995) all operationalized family sexual communication with multi-item scales (ranging from two items to seven items) that measured the extent to which parents and offspring had discussed certain sexual topics. They then averaged or summed these items to create a single score (or one-factor measure) for family sexual communication.

Another group of researchers utilized the same method but included substantially more items in their scale. Researchers including Angera, Brookins-Fisher & Inungu (2008), Nagamatsu et al. (2008), Byers et al. (2008), Trejos-Castillo and Vazsonyi (2009), Kapungu et al. (2010), DiIorio et al. (2000b), Baldwin and Baranowski (1990), Somers and Paulson (2000), Fisher (2001), Jordan et al. (2000), Kotchick et al. (1999), Kim and Ward (2007), and McKee et al. (2007) all operationalized family sexual communication with multi-item scales (ranging from nine items to twenty one items) that measured the extent to which parents and offspring had discussed certain sexual topics. They then averaged or summed these items into a one-factor measure for family sexual communication.

As Wright (2009) warns in his synthesis of the research, “such measures merge...diverse sexual topics into a single, overall index” and “It is possible that inquiries that assess specifically the messages [parents] send might yield more consistent results than measures that assess more globally the extent of [family sexual communication] across topics” (p. 244). Lefkowitz (2002) has similar sentiments and states that summing or averaging items “fails to capture the richness of the data collected” (p. 46). I would also argue that summing or averaging items can skew the

results of one's study, particularly if the individual items of the scale measure different facets of the construct in question.

For example, Troth and Peterson (2000) operationalized family sexual communication with 14 items. Some items measured specific messages of family sexual communication including "We've discussed contracting HIV from a sexual partner," "We've discussed how one might negotiate to have safer sex" and "we've discussed the pros and cons of AIDS precautions" (p. 207). These items were then averaged with other items such as "[My parents and I] agree about appropriate sexual behavior" and "[My parents] are well informed about HIV/AIDS." This is problematic because these items measure different aspects of family sexual communication. Kotva and Schneider (1990) operationalized family sexual communication with 14 items as well. These items measured the frequency and timeliness of such communication as well as the attitudes that were conveyed via such communication. They then created a single variable for these items that measure very different facets of family sexual communication. Averaging or summing different facets of a concept can oversimplify the construct and mask differences in the sample that could have been discovered if the facets had been examined separately.

One solution Lefkowitz (2002) poses is to either use apriori categories of sexual topics or to use factor analysis to create such categories once data is collected. Though I have not seen any studies that utilized apriori categorization, there have been multiple studies that utilized factor analysis to create groups of family sexual communication topics.

For example, Raffaelli and Green (2003) create 4 factors from their 19-item family sexual communication scale: sexual facts, relationships, protection and values. Wyckoff et al. (2008) created 3 factors from their 10-item family sexual communication scale: risk factors, sexuality education and sexual risk prevention. Whitaker et al. (1999) similarly created factors of sexuality discussions and risk discussions. Lehr et al. (2005) created factors of information-sharing and value-sharing, Downie and Coates (1999) created factors of factual knowledge, health issues, value-laden topics and sexual issues and Lefkowitz and Espinosa-Hernandez (2007) created factors of dating, fertility issues, behaviors and feelings, and dangers.

Also, Feldman and Rosenthal (2000) created factors of developmental and societal concerns, safe sex, solitary sex acts, and experience of sex from their 21-item family sexual communication scale. Finally, Epstein and Ward (2008) asked participants to report the extent to which 37 values regarding sex and relationships were communicated to them by their parents. These values were factor analyzed into five subscales: sexual stereotypes about men, sexual stereotypes about women, importance of love to sexual relationships, sexual freedom and sex is for marriage. Utilizing factor analysis can be a productive way to eliminate potential issues researchers face when summing or averaging all items of a scale into a one-factor measure.

### ***Restrictive sampling.***

There are several studies that solely rely on reports of maternal sexual communication (e.g. Adolph, Ramos, Linton & Grimes, 1995; Jaccard, Dittus & Gordon,

2000; O'Sullivan, Meyers-Bahlburg & Watkins, 2001; Aronowitz et al., 2005; Bynum, 2007; McKee et al., 2007; Pluhar et al., 2008; Miller, Fasula, Dittus, Weigand, Wyckoff & McNair, 2009). While relying solely on maternal reports is not inherently an issue, it becomes an issue when the researchers do not qualify that the results of the study can only be extended to mother-offspring sexual communication and not to family sexual communication overall. Most studies survey both parents (when available) and combine mothers and fathers in their analyses, thus creating a more comprehensive indication of how family sexual communication impacts adolescents' and emerging adults' sexual behavior (e.g. Miller, Norton, Fan & Christopherson, 1998; DiIorio et al., 2000; Heisler, 2005; Jerman & Constantine, 2010). There are also a few studies that separate maternal and paternal family sexual communication (e.g. Raffaelli et al., 1998; Rosenthal & Feldman, 1999; Rosenthal et al., 2001; Zhang, Li, Shah, Baldwin & Stanton, 2001; Hutchinson, 2002; Sneed, 2008; Wyckoff et al., 2008). And finally, there have been a handful of quantitative and qualitative studies interested solely in paternal sexual communication (e.g. Bowling & Werner-Wilson, 2000; Lehr et al., 2005; DiIorio, McCarty & Denzmore, 2006; Harris Peterson, 2007; Glenn et al., 2008).

It is well-documented that mothers tend to be the primary sexual educator in families (Pick & Palos, 1995; Miller, Kotchick, Dorsey, Forehand & Ham, 1998a; Rosenthal & Feldman, 1999; Raffaelli & Green, 2003; Kim & Ward, 2007; Averett, Benson & Vaillancourt, 2008; Friedman & Morgan, 2009). Though mothers may carry out the bulk of the sexual communication within a family, it is also documented that fathers play an important role in the process (e.g. Bowling & Werner-Wilson, 2000;

Harris Peterson, 2007; Glenn et al., 2008; Wright, 2009). Therefore, it is important to include paternal reports of family sexual communication as well.

### *Summary.*

Though some researchers have done a remarkable job operationalizing family sexual communication, the majority of the scales being utilized do not adequately operationalize this variable. Many times the operationalizations do not sufficiently measure the construct of family sexual communications because they oversimplify the process or do not adequately measure the aspect(s) of the process they set out to measure. Also, there are aspects of family sexual communication that are rarely included in operationalizations such as parental orientations towards sex. The danger of improperly operationalizing family sexual communication is that the claims regarding how this communication influences other variables such as adolescents' and emerging adults' sexual behavior are potentially faulty. Therefore, it is imperative that the operationalization of a study be thoroughly examined. One way to thoroughly examine the operationalization is to check its psychometric properties.

### **The psychometric properties of existing measures of family sexual communication.**

Examining the psychometric properties of a scale is an essential, yet largely overlooked, component to conducting legitimate research (Fisher, 1993; Somers & Canivez, 2003). In fact, in their 2008 article McDermott Scales et al. go so far as to say “no study has provided psychometric analyses characterizing the reliability and validity

of a measure of parent-adolescent sexual communication” (p.334). When examining the psychometric properties of a scale, one should be concerned with both reliability and validity. Testing these two concepts ensures that a scale is consistently measuring the same construct and that it is measuring the construct it is supposed to be measuring. Though it should be evident that these are important characteristics to test, few researchers have extensively (or even adequately) examined them. The following sections examine the existing measures of family sexual communication in terms of their reported psychometric properties. The goal of these sections is to demonstrate that, as noted above, the vast majority of existing scales have not been properly tested and there is a need for a measure that demonstrates strong reliability and validity.

### ***Reliability.***

Most scales of family sexual communication have been tested for reliability. Reliability, in the context of this project, is the extent to which all of the items of a scale hold together and measure the same latent construct, namely family sexual communication. Though there are many forms of reliability (e.g. test-retest reliability, equivalent forms reliability, and split-half reliability) the most widely used test for reliability in the social sciences is Cronbach’s alpha. This test provides a reliability coefficient that can then be checked against the standard in the field (0.70) to see if the reliability of a scale is satisfactory. If the items of a scale happen to be dichotomous, there are other tests of reliability that can be conducted and that provide a similar reliability coefficient (e.g. Kuder-Richardson Formula 20 or Kuder-Richardson Formula 21).

When examining the existing measures of family sexual communication, some of the measures cannot be subject to a test of reliability due to the nature of the measure, such as having a single-item measure. For example, Moore et al.'s (1986) measure of family sexual communication was a one-item dichotomous question that asked adolescents if they had ever discussed sex with a parent. Calhoun Davis and Friel's (2001) measure of family sexual communication was a single-item, three-point likert-type question that asked mothers to report how often they discussed sex with their children. And Pearson et al.'s (2006) measure of family sexual communication was a single-item, four-point likert-type question that asked parents how much they talked to their adolescent about sex. These types of measures cannot be subject to tests of reliability because the equation for reliability involves the covariance between a specific item in a measure and any other item in that measure (Field, 2005). Thus, because there are no other items with which to measure the item's covariance, there cannot be a test of reliability.

Sometimes researchers analyze items of a multi-item scale individually and thus reliability can be an issue because there is no way to assess it. For example, Jaccard et al. (1998) examined the congruency in mothers' and adolescents' reports of, among other things, communication about sex in an exclusively African American sample. They utilized two scales of sexual communication; all items used a four-point likert-type scale. The first scale examined the extent to which mothers had discussed with their adolescents 11 different reasons for not having sexual intercourse at that point in the adolescent's life. The second scale examined the extent to which mothers had discussed with their

adolescents nine different reasons for not getting pregnant at that point in the adolescent's life. Though Jaccard et al. (1998) could have collapsed these items into two scales, or factor analyzed them, they chose to analyze each of the 20 items individually. Among their reasons for this were that "each individual item was of conceptual interest in its own right" and "there was considerable unique variance in each item and collapsing them into an overall scale would obscure this unique variance" (p. 252). For a more comprehensive list of multi-item measures in which each item was analyzed individually please see Table 5.

Table 5

*Measures of Family Sexual Communication with Individually-Analyzed Items*

| Author(s)/(year)                          | # of Items in the scale       | # of Points in the scale                     |
|---|-------------------------------|--|
| Beckett et al (2010)                      | 24 items                      | ND   |
| Mollborn & Everett (2010)                 | 2 items                       | “Continuous”                                 |
| Robert & Sonenstein (2010)                | 2 items                       | Dichotomous                                  |
| Guilamo-Ramos et al (2008)                | 21 items                      | 4-point scale                                |
| Aspy et al (2007)                         | 5 items<br>3 items<br>4 items | Dichotomous*<br>Dichotomous<br>Dichotomous * |
| Guilamo-Ramos et al (2007)                | 21 items                      | 4-point scale                                |
| Crosby, Wingood, DiClemente & Rose (2002) | 3 items                       | 4-point scale                                |
| Jaccard, Dittus & Gordon (2000)           | 21 items<br>16 items          | 5-point scale<br>5-point scale               |
| Jordan, Price & Fitzgerald (2000)         | 17 items                      | 4-point scale                                |
| Dittus, Jaccard & Gordon (1999)           | 18 items                      | 4-point scale                                |
| Raffaelli et al (1999)                    | 18 items                      | 3-point scale                                |

|  |          |               |
|--|----------|---------------|
|  | 18 items | 5-point scale |
| Jaccard, Dittus & Gordon (1998)          | 11 items | 4-point scale |
|  | 9 items  | 4-point scale |
| Raffaelli, Bogenschneider & Flood (1998) | 3 items  | 5-point scale |
|  | 3 items  | Dichotomous   |
| Shoop & Davidson (1994)                  | 2 items  | Dichotomous   |

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Note: ND= Not disclosed

\* Scales were originally 4-point scales but were made dichotomous by combining “almost always”/”usually” and “some of the time”/”almost never”

There are several existing measures of family sexual communication for which no coefficients were reported. For example, both Epstein and Ward (2008) and Kim and Ward (2007) adopted Fisher's 1993 measure of family sexual communication that measures how much information parents provide on ten sexual topics. Each topic is measured on a four-point likert-type scale. They both averaged the responses on these ten items to create a single scale; however, neither of them reported the Cronbach's alpha for this compiled scale. Similarly, DiIorio et al. (1999) asked both mothers and adolescents whether or not they had discussed 14 sexual topics with each other (they were asked separately). The responses were dichotomous and were summed to create a single score of family sexual communication, but they did not report a reliability coefficient. It is true that the Cronbach's test of reliability cannot be utilized on dichotomous variables, but there are other non-parametric tests that can, and have been, utilized to report reliability of dichotomous scales (e.g. Jerman & Constantine, 2010; DiIorio et al., 2000). For a more comprehensive list of measures that did not include a reliability coefficient please see Table 6.

Table 6

*Measures of Family Sexual Communication with No Reported Reliability Coefficients*

| Author(s)/(year)                          | # of Items in the scale | # of Points in the scale       | Analysis Utilized |
|---|-------------------------|--------------------------------|-------------------|
| Bersamin et al (2008)                     | 7 items                 | Dichotomous                    | Summed            |
| Epstein & Ward (2008)                     | 10 items                | 4-point scale                  | Averaged          |
| Martino et al (2008)                      | 22 items                | Dichotomous                    | Summed            |
| Sneed (2008)                              | 5 items                 | 5-point scale                  | ND                |
| Weinman, Small, Buzi & Smith (2008)       | 4 items                 | Dichotomous                    | Summed            |
| Wyckoff et al (2008)<br>analyzed/Averaged | 10 items                | Dichotomous*                   | Factor            |
| Kim & Ward (2007)                         | 10 items                | 4-point scale                  | Averaged          |
| Ryan et al (2007)                         | 4 items                 | 5-point scale                  | Summed            |
| Eisenberg et al (2006)                    | 6 items                 | 4-point scale                  | ND                |
| Aronowitz, Rennells & Todd (2005)         | 16 items<br>5 items     | 5-point scale<br>5-point scale | ND<br>ND          |
| Klein et al (2005)                        | 3 items<br>6 items      | 4-point scale<br>4-point scale | ND<br>ND          |
| McNeely et al (2002)                      | 5 items                 | Dichotomous                    | ND                |

|  |                     |               |        |
|--|---------------------|---------------|--------|
| Fisher (2001)                              | 9 items             | Dichotomous   | Summed |
| DiIorio, Kelley & Hockenberry-Eaton (1999) | 14 items            | Dichotomous   | Summed |
| Downie & Coates (1999)                     | 19 items            | ND            | ND     |
| Hutchinson & Cooney (1998)                 | “several questions” | 4-point scale | ND     |
| Adolph et al (1995)                        | 3-items             | Dichotomous   | Summed |
| Pick & Palos (1995)                        | **                  | **            | **     |
| Baldwin & Baranowski (1990)                | 17 items            | 4-point scale | Summed |

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*Note:* Some of the articles cited above reported reliability for other measures included in their study; ND = not disclosed

\*Original scale was a likert-type scale but the scale was converted due to lack of variance

\*\* Only information disclosed about their measure was that it was “derived from closed questionnaires developed and validated for Mexican adolescents” (p. 668)

The rest of the current measures of family sexual communication have been tested and their reliability coefficients have ranged from .58 (Yoon, 2004) to .975 (Heisler, 2005). Higher coefficients indicate better internal consistency and though it has been noted that having extremely high coefficients can be an indicator of repetitious items and not necessarily a more thorough measure of a construct, low coefficients are more problematic because they can signal significant deficiencies in how latent constructs are being operationalized.

For example, the Cronbach's alpha for Yoon's (2004) measure of family sexual communication is well below the standard in the field. My hypothesis for the low Cronbach's alpha score in Yoon's (2004) study is because her scale a) was comprised of only three items and b) was measuring more than one latent construct. The three items that comprised Yoon's scale asked participants to report the extent to which they and their parents discussed sex, sexual problems and important matters on a five-point likert-type scale. While the first and second item seem to both be measuring the latent construct of family sexual communication, the third item is much more global and is more likely measuring general family communication or perhaps even another construct such as closeness. This is a clear illustration of how studies with inadequate methodology that are published can obscure the relationship between family sexual communication and adolescents' and emerging adults' sexual behavior that has been demonstrated in studies with stronger methodology. For a more comprehensive list of measures with reported reliability coefficients, please see Table 7.

Table 7

*Measures of Family Sexual Communication with Reported Reliability Coefficients*

| Author(s)/(year)                  | # of Items | # of Points           | Coefficient |
|-----------------------------------|------------|-----------------------|-------------|
| Deptula, Henry & Schoeny (2010)   | 5 items    | 5-point scale         | .86         |
|                                   | 4 items    | 4-point scale         | .87         |
| Jerman & Constantine (2010)       | 6 items    | Dichotomous           | .86         |
| Kapungu et al (2010)              | 17 items   | Dichotomous           | .81-.90     |
| Villarruel et al (2010)           | 9 items    | “4-or 5-point” scale* | .93/.96     |
| McDermott et al (2009)            | 5 items    | 4-point scale         | .88/.89/.90 |
| Trejos-Castillo & Vazsonyi (2009) | 4 items    | Dichotomous           | .91/.78     |
| Zamboni & Silver (2009)           | 4 items    | 4-point scale         | .72         |
|                                   | 11 items   | 4-point scale         | .94         |
| Angera et al (2008)               | 20 items   | 5-point scale         | .93/.93     |
|                                   | 20 items   | 5-point scale         | .89/.93     |
| Bersamin et al (2008)             | 3 items    | 4-point scale         | .74         |
| Byers, Sears & Weaver (2008)      | 10 items   | 4-point scale         | .91         |
| Epstein & Ward (2008)             | 8 items    | 4-point scale         | .90         |
|                                   | 6 items    | 4-point scale         | .86         |
|                                   | 9 items    | 4-point scale         | .83         |

|                                       |          |               |             |
|---------------------------------------|----------|---------------|-------------|
|                                       | 5 items  | 4-point scale | .86         |
|                                       | 6 items  | 4-point scale | .81         |
| Glenn et al (2008)                    | 15 items | ND            | .79/.85     |
| Martino et al (2008)                  | 7 items  | 4-point scale | .85         |
| Nagamatsu et al (2008)                | 5 items  | ND            | .82/.84     |
| Pluhar et al (2008)                   | 21 items | 4-point scale | .98         |
|                                       | 3 items  | 5-point scale | .87         |
| Teitelman et al (2008)                | 11 items | 5-point scale | .91-.95     |
| Usher-Seriki et al (2008)             | 3 items  | 5-point scale | .83         |
|                                       | 3 items  | 5-point scale | .77         |
| Bynum (2007)                          | 7 items  | 4-point scale | .83         |
| Hutchinson & Montgomery (2007)        | 8 items  | 5-point scale | .94         |
| Lefkowitz & Espinosa-Hernandez (2007) | 20 items | 4-point scale | .63-.92     |
|                                       | 4 items  | 4-point scale | .54-.84     |
|                                       | 13 items | 4-point scale | .88-.91     |
| McKee et al (2007)                    | 9 items  | Dichotomous** | .77-.84     |
|                                       | 5 items  | 3-point scale | .79         |
| DiIorio et al (2006)                  | 16 items | 3-point scale | .97         |
| Somers & Vollmar (2006)               | 20 items | 5-point scale | .88-.93     |
|                                       | 5 items  | 5-point scale | .76-.88     |
| Heisler (2005)                        | 8 items  | 7-point scale | .82/.86/.88 |
|                                       | 5 items  | 7-point scale | .96         |

|                              |          |               |         |
|------------------------------|----------|---------------|---------|
|                              | 5 items  | 7-point scale | .98     |
| Lehr et al (2005)            | 16 items | 5-point scale | .80/.91 |
| Rose et al (2005)            | 4 items  | 4-point scale | .69     |
| Yoon (2004)                  | 3 items  | 5-point scale | .58     |
| Clawson & Reese-Weber (2003) | 9 items  | 5-point scale | .91     |
| Hutchinson et al (2003)      | 5 items  | Dichotomous   | .86     |
| Raffaelli & Green (2003)     | 19 items | 5-point scale | .93/.93 |
|                              | 5 items  | 5-point scale | .85/.84 |
|                              | 3 items  | 5-point scale | .82/.77 |
|                              | 7 items  | 5-point scale | .93/.91 |
|                              | 4 items  | 5-point scale | .78/.82 |
|                              | 3 items  | 5-point scale | .66/.74 |
| Crosby et al (2002)          | 5 items  | 4-point scale | .88     |
| Hutchinson (2002)            | 8 items  | 5-point scale | .92/.95 |
| Blake et al (2001)           | 9 items  | 4-point scale | .90     |
|                              | 4 items  | 4-point scale | .80     |
|                              | 2 items  | 4-point scale | .91     |
|                              | 2 items  | 4-point scale | .83     |
| Crosby et al (2001)          | 5 items  | 4-point scale | .85     |
| Joffe & Franca-Koh (2001)    | 21 items | 5-point scale | .93     |
|                              | 18 items | 5-point scale | .92     |
| Rosenthal et al (2001)       | 20 items | 4-point scale | .71-.91 |
|                              | 6 items  | 4-point scale | .69-.80 |

|                                    |          |                |             |
|------------------------------------|----------|----------------|-------------|
|                                    | 9 items  | 4-point scale  | .66-.81     |
|                                    | 4 items  | 4-point scale  | .72-.90     |
|                                    | 9 items  | 4-point scale  | .72-.79     |
| DiIorio, Dudley & Soet (2000a)     | 5 items  | Dichotomous    | .83         |
| DiIorio et al (2000b)              | 20 items | Dichotomous    | .90         |
|                                    | 16 items | 10-point scale | .87         |
| Feldman & Rosenthal (2000)         | 21 items | 4-point scale  | .57-.91     |
|                                    | 33 items | 4-point scale  | .23-.87     |
| Lefkowitz et al (2000)             | 19 items | 4-point scale  | .79-.96     |
| Lehr et al (2000)                  | 4 items  | 5-point scale  | .84/.85     |
|                                    | 6 items  | Dichotomous    | .92/.93     |
| Sieving et al (2000)               | 6 items  | ND             | .89         |
| Somers & Paulson (2000)            | 20 items | 5-point scale  | .93/.92     |
| Troth & Peterson (2000)            | 14 items | 4-point scale  | .87/.83     |
| Kotchick et al (1999)              | 10 items | Dichotomous    | .76/.78     |
|                                    | 8 items  | 4-point scale  | .85/.75     |
| Miller, Forehand & Kotchick (1999) | 4 items  | Dichotomous    | .68/.71     |
| Rodgers (1999)                     | 3 items  | 5-point scale  | .84,.83,.87 |
| Romers et al (1999)                | 5 items  | ND             | .77         |
| Rosenthal & Feldman (1999)         | 6 items  | 4-point scale  | .80-.84     |
|                                    | 4 items  | 4-point scale  | .88-.90     |
|                                    | 8 items  | 4-point scale  | .82-.88     |

|                                  |          |               |             |
|----------------------------------|----------|---------------|-------------|
|                                  | 2 items  | 4-point scale | .68-.85     |
| Whitaker et al (1999)            | 11 items | Dichotomous   | .75, .66    |
|                                  | 8 items  | 4-point scale | .81         |
| Hutchinson & Cooney (1998)       | 8 items  | 5-point scale | .94/.94     |
| Miller et al (1998)              | 10 items | Dichotomous   | .78/.79/.86 |
|                                  | 10 items | 4-point scale | .74         |
| Widmer (1997)                    | 6 items  | Dichotomous   | .87         |
| Jaccard, Dittus & Gordon (1996)  | 3 items  | 4-point scale | .89         |
| Hovel et al (1994)               | 3 items  | ND            | .75         |
|                                  | 5 items  | ND            | .70         |
| Kotva & Schneider (1990)         | 14 items | 7-point scale | .87/.88     |
| Treboux & Busch-Rossnagel (1990) | 17 items | Dichotomous   | .90         |
| Fisher (1988)                    | 9 items  | 5-point scale | .87/.93     |

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*Note:* Some of the articles cited above did not report reliability for other measures included in their study; reporting multiple coefficients means that the scale was used for multiple members of a parent-adolescent dyad or triad; ND = not disclosed

\*Authors described multiple measures at the same time and did not specify which scales were 4-point and which were 5-point scales

\* \*Original measure was a 3-point likert-type scale but it was converted to a dichotomy due to skewness

In summary, when examining the reliability of existing family sexual communication measures, there is room for improvement, but it seems that the majority have been tested and been found to have adequate internal consistency. However, when examining validity, there is much left to be desired.

### ***Validity.***

There are several types of validity including face validity, content validity, convergent validity, discriminant validity, concurrent validity and predictive validity. It is important that researchers be able to demonstrate the validity of their measures of family sexual communication because validity ensures that the researchers are measuring the construct that they intend to measure. For example, I may think that the items of my scale are measuring family sexual communication, but perhaps they are really measuring a separate (but most likely related) construct such as openness or the quality of the parent-child relationship. It is important that I test my measure to ensure that I am, in fact, measuring family sexual communication and this can be done in many different ways which will be discussed throughout this section.

As an aside, it is important to note that though reliability is a necessary condition for validity, it is not a sufficient condition and therefore separate tests must be utilized to demonstrate the validity of a measure. Even though the majority of the studies on family sexual communication do discuss reliability, the majority of studies do not explicitly discuss or test validity (e.g. Deptula et al., 2010; Eisenberg, Sieving, Bearinger, Swain &

Resnick, 2006; Hovel et al., 2004; Sieving et al., 2000; Whitaker et al., 1999; Widmer, 1997). Please see Table 8 for a list of studies that do not report validity.

Table 8

*Measures of Family Sexual Communication with No Reported Validity*

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Author(s)/(year)

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Deptula, Henry & Schoeny (2010)

Jerman & Constantine (2010)

Mollborn & Everett (2010)

Robert & Sonenstein (2010)

Beckett, Elliott, Martino, Kanouse, Corona, Klein & Schuster (2009)

Bersamin, Todd, Fisher, Hill, Grube & Walker (2008)

Byers, Sears & Weaver (2008)

Martino, Elliott, Corona, Kanouse & Schuster (2008)

Phetla et al (2008)

Usher-Seriki, Bynum & Callands (2008)

Wyckoff, Miller, Forehand, Bau, Fasula, Long & Armistead (2008)

Bynum (2007)

Eisenberg, Sieving, Bearinger, Swain & Resnick (2006)

Fasula & Miller (2006)

Pearson, Muller & Frisco (2006)

Klein, Sabaratnam, Pazos, Auerbach, Havens & Brach (2005)

Regnerus (2005)

Yoon (2004)

Guzman et al (2003)

Huebner & Howell (2003)

Crosby, DiClemente, Wingood, Cobb, Harrington, Davies, Hook & Oh (2002a)

Crosby, Wingood, DiClemente & Rose (2002b)

McNeely, Shew, Beuhring, Sieving, Miller & Blum (2002)

Blake, Simkin, Ledsky, Perkins & Calabrese (2001)

Calhoun David & Friel (2001)

Crosby et al (2001)

DiIorio, Dudley, Lehr & Soet (2000)

Sieving, McNeely & Blum (2000)

Somers & Paulson (2000)

Raffaelli, Smart, Van Horn, Hohbein, Kline & Chan (1999)

Rodgers (1999)

Rosenthal & Feldman (1999)

Miller, Forehand & Kotchick (1999)

Whitaker, Miller, May & Levin (1999)

Miller, Levin, Whitaker & Xu (1998a)

Miller, Norton, Fan & Christopherson (1998b)

Raffaelli, Bogenschneider & Flood (1998)

Werner-Wilson (1998)

King & Lorusso (1997)

Widmer (1997)

Jaccard, Dittus & Gordon (1996)

Holtzman & Rubinson (1995)

Pick & Palos (1995)

Hovel, Sipan, Blumberg, Atkins, Hofstetter & Kreitner (1994)

Luster & Small (1994)

Shoop & Davidson (1994)

Leland & Barth (1993)

Baldwin & Baranowski (1990)

Moore, Peterson & Furstenberg (1986)

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*Face validity.*

When examining the validity of a measure, the most basic type of validity is face validity. Face validity requires no statistical test and is simply whether or not the operationalization of a construct seems to be in line with the conceptualization of the construct. One way researchers attempt to demonstrate face validity is to derive their measure from an extensive review of the literature. Several researchers have taken this approach when creating their family sexual communication scales. For example, Miller (1998a) created a 10-item measure that was “developed from the literature on adolescents and sex education” (p. 222) and Kim and Ward (2007) utilized a measure that Ward had developed based on “an extensive review of the sexual socialization and sexual scripts literatures and included themes drawn from existing findings” (p. 11).

Researchers may also utilize previously used measures to inform the creation of their own measure. For example, Troth and Peterson (2000) created a 14-item measure of family sexual communication. Though they created the majority of the items themselves, they included four items from Moore and Rosenthal’s (1991) measure of parental sexual attitudes. Epstein and Ward (2007) expanded Darling and Hicks’s (1982, 1983) methodology, and Hutchinson and Cooney (1998) adapted items from two national surveys along with recommendations from Card (1993) to create their Parent-Teen Sexual Risk Communication Scale (PTSRC).

One way to strengthen the face validity of a measure is to have experts examine the measure to see if, in their opinion, it adequately reflects the latent construct. For example, McKee et al. (2007) consulted fourth- and fifth-grade teachers while developing their measures that were to be administered to fourth- and fifth-grade students. Another way to strengthen the face validity of a measure is to conduct focus groups with individuals who represent the population to which the researchers wish to apply their findings. For example, Guilamo-Ramos, Jaccard, Dittus, Bouris, Holloway and Casillas (2007) developed measures of sexual communication and sexual outcome expectancies that were to be administered to inner-city middle school children. Before conducting their study, they held focus groups with this target population to examine, among other things, readability and comprehension. Other researchers who have utilized expert opinions and/or focus groups when developing their measure include Glenn et al. (2008), Troth and Peterson (2000), DiIorio et al. (1999) and Young-Pistella and Bonati (1999). For a full list of researchers who have demonstrated face validity via the methods described above please see Table 9.

Table 9

*Measures of Family Sexual Communication with Reported Face Validity*

| Author(s)/(year)                           | Method of Establishing Face Validity                  |
|--|---|
| Miller et al (2009)                        | Experts, focus groups & pilot test                    |
| Epstein & Ward (2008)                      | Adapted previous measure                              |
| Glenn et al (2008)                         | Experts & focus groups                                |
| Guilamo-Ramos et al (2008)                 | Focus groups & pilot tested                           |
| Aspy et al (2007)                          | Literature review                                     |
| Guilamo-Ramos et al (2007)                 | Focus groups & pilot tested                           |
| Kim & Ward (2007)                          | Literature review & adapted previous measures         |
| McKee et al (2007)                         | Literature review, focus groups, experts & pilot test |
| O'Donnell et al (2006)                     | Pilot tested  |
| Somers & Vollmar (2006)                    | Literature review                                     |
| Rose et al (2005)                          | Literature review                                     |
| Vesely et al (2004)                        | Literature review                                     |
| Joffe & Franca-Koh (2001)                  | Pilot tested  |
| DiIorio et al (2000)                       | Literature review & focus groups                      |
| Jaccard et al (2000)                       | Pilot tested  |
| Jordan, Price & Fitzgerald (2000)          | Literature review, experts & pilot tested             |
| Troth & Peterson (2000)                    | Adapted previous measures & focus group               |
| DiIorio, Kelley & Hockenberry-Eaton (1999) | Literature review & focus groups                      |
| Dittus et al (1999)                        | Pilot tested  |
| Downie & Coates (1999)                     | Pilot tested  |
| Young, Pistella & Bonati (1999)            | Literature review & focus groups                      |
| Hutchinson & Cooney (1998)                 | Adapted previous measures & pilot tested              |
| Jaccard, Dittus & Gordon (1998)            | Focus groups & pilot tested                           |

|                        |                   |
|------------------------|-------------------|
| Miller et al (1998a)   | Literature review |
| Beazley & Brock (1995) | Pilot tested      |
| Ward & Wyatt (1994)    | Pilot tested      |

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Of course there are researchers who choose to use established measures of family sexual communication instead of developing their own. (I use the term “established” loosely and imply only that the measure has been utilized in the past. The use of this term does not imply that the measure has been adequately developed and tested). This is a legitimate methodology; however, as has been shown, and I will continue to make this argument throughout this chapter, the vast majority of “established” family sexual communication measures insufficiently operationalize family sexual communication. Thus, simply using a measure that has been used in the past does not guarantee any type of reliability or validity unless that measure has been tested. (For a list of studies that have utilized previously established measures please see Table 10).

Table 10

*Studies Which Have Utilized Established Measures of Family Sexual Communication*

| Author(s)/(year)                      | Citation For Established Measure Utilized        |
|---------------------------------------|--|
| Kapungu et al (2010)                  | DiIorio et al. (1999)                            |
| Villarruel & Loveland-Cherry (2010)   | Hutchinson & Cooney (1998), DiIorio et al (1999) |
| Trejos-Castillo & Vazsonyi (2009)     | Sieving et al (2000)                             |
| Zamboni & Silver (2009)               | Warren & Neer (1988); Fisher (1987)              |
| Sneed (2008)                          | Miller et al (1998)                              |
| Teitelman et al (2008)                | Hutchinson & Cooney (1998)                       |
| Weinman et al (2008)                  | Coyle et al (1999); CDC & P (2000); Udry (1997)  |
| Kim & Ward (2007)                     | Fisher (1987)                                    |
| Lefkowitz & Espinosa-Hernandez (2007) | Feldman & Rosenthal (2000)                       |
| Aronowitz et al (2005)                | Lehr et al (2000)                                |
| Heisler (2005)                        | Miller et al (1998)                              |
| Lehr et al (2005)                     | DiIorio et al (2000)                             |
| Clawson & Reese-Weber (2003)          | Fisher (1987)                                    |
| Romer et al (1999)                    | Freeman & Rickels (1993)                         |
| Kotva & Schneider (1990)              | Murnen & Allegier (1985)                         |
| Treboux & Busch-Rossnagel (1990)      | Bennett & Dickinson (1980)                       |

For example both Kapungu et al. (2010) and Villarruel et al. (2010) utilized family sexual communication scales that were presented in DiIorio et al.'s 1999 article. However, DiIorio et al. (1999) reported neither the reliability nor the validity for either of these scales in their article; therefore, even though Kapungu et al. (2010) and Villarruel et al. (2010) seem to be utilizing "established" measures, the citation of the DiIorio et al.

(1999) article and measures holds little weight in terms of establishing the credibility of the measures utilized.

The previous examples aside, the most commonly used measures of family sexual communication seem to be Fisher's 1987 Weighted Topics Measure and Hutchinson & Cooney's Parent-Teen Sexual Risk Communication Scale (PTSRC-III). Both of these measures have been examined for reliability and validity to some extent (Fisher, 1987; Fisher, 1993; Hutchinson & Cooney, 1998) which makes the researchers' choice of using them more legitimate. It should also be noted that it is common for researchers to use measures they developed earlier in their research programs to measure variables in their later studies as can be seen with researchers such as Fisher, Hutchinson, Somers, DiIorio, Lefkowitz, Raffaelli and Rosenthal and Feldman. This, again, is legitimate when the researchers have examined the psychometric properties of the measure they are using; Fisher and Hutchinson have both demonstrated this. However, when researchers fail to report the reliability and/ or validity of the measure they are repeatedly using, it becomes difficult for the reader to assess the strength of the measure.

#### *Content validity.*

Another type of validity that is similar to face validity, but more rigorous, is content validity. Establishing content validity involves examining how well the measure of a construct matches the conceptualization of that construct, but it differs from face validity in two important ways. First, establishing content validity requires the researchers to make sure that all facets of the construct are adequately represented in the

measure. For example, the construct of family sexual communication has many facets: content of communication, frequency of communication, quality of communication, etc. To establish content validity, the researcher would need to make sure to address all of these facets with their measure. The way they establish content validity is the second important difference between face and content validity.

While face validity is qualitative and relies on the opinions of the researchers, participants and/or experts, construct validity requires the use of statistics and quantitative results. The most common way to establish construct validity is to, again, rely on the opinions of experts in the field; however, these experts are asked to analyze each item of a measure (e.g. Is this item relevant to the latent construct? How essential is this item to accurately measuring the latent construct?) and the results of these analyses are compiled and computed to help modify the measure. Very few studies report tests of content validity. One study that has reported tests of content validity was conducted by Jordan et al. (2000). These researchers sent their 28-item measure (which included a measure of family sexual communication) to multiple national authorities in the field of “adolescent sexuality/sexuality education or adolescent survey research” (p. 339) and they used the authorities’ feedback to refine their measure. Though they present no statistical output, Jordan et al. specifically stated that they established content validity.

Researchers can also run pilot tests of a measure to examine its properties and potentially refine the measure. For example, Jordan et al. (2000) were interested specifically in how rural parents communicate about sex with their adolescents. Once they developed their measure, they administered it to a convenience sample of 14 rural

parents of adolescents and were able to make minor revisions to the measure based on this pilot study. Beckett, Elliott, Martino, Kanouse, Corona, Klein & Schuster (2010) were interested in the extent to which parents discussed 24 specific sexual topics with their adolescents (aged 13-17) and before administering their measure to their sample of adolescents, they piloted the measure with parents and were able to make minor revisions based on parental feedback. Other researchers who have pretested their measures include Guilamo-Ramos et al. (2008), McKee et al. (2007), Joffe & Franca-Koh (2001), Jaccard et al. (2000), Hutchinson and Cooney (1998) and Dittus et al. (1996). For a full list of researchers who have utilized pretesting (or pilot testing) please refer back to Table 9.

Aside from the few studies that will be discussed at length in the next section, no studies of family sexual communication have explicitly addressed any other types of validity. That being said, it is still important to discuss these other types of validity because it will make the inadequacies of the current body of literature more apparent and these types of validity will be discussed throughout this paper.

#### *Construct validity.*

Convergent and discriminant validity make up what is called construct validity. Construct validity ensures that researchers are measuring what they intend to be measuring by examining how their measure correlates, and does not correlate, with other measures. If a scale demonstrates convergent validity, then it correlates with other established operationalizations of the same construct. Higher correlations between the measures are indicative of convergent validity. This process is difficult, however, when

there is no “gold standard” measure for a specific construct; this is the case with family sexual communication. No studies have examined convergent validity, probably for the reason cited above.

At the opposite end of the spectrum is discriminant validity. If a scale demonstrates discriminant validity, then it does not correlate with constructs with which it should not correlate. Aside from McDermott Sales et al. (2008) no other studies explicitly tested discriminant validity.

*Criterion validity.*

Another type of validity, criterion validity, is comprised of concurrent and predictive validity. Criterion validity is a more relational type of validity, and demonstrating that a measure has criterion validity requires that the proposed operationalization behaves in the ways one would predict it to behave in relation to other constructs. For the purpose of this project I will refer to these other constructs as criterion constructs. The two types of criterion validity, concurrent and predictive validity, are very similar in their definitions but what separates them is their temporal requirements. Concurrent validity can be assessed at a single point in time whereby the researchers administer their proposed measure along with measures of the criterion constructs at the same time and analyze their data to see if the predicted relationships were evident. Predictive validity requires longitudinal data whereby the researchers administer their proposed measure at a baseline and then administer measures of the criterion constructs at a later point (or points) in time to see if the predicted relationships become apparent.

For example, let's say that several studies have demonstrated that family sexual communication is significantly associated with conversation orientation. The Family Communication Patterns Theory would also predict this relationship; thus, theoretically and empirically it can be expected that a measure of family sexual communication correlates highly with a measure of conversation orientation. If I administer my measure of family sexual communication along with the Revised Family Communication Patterns measure at the same time, and if my correlations are significant and in the predicted direction, then I have demonstrated some level of concurrent validity. If my measure of family sexual communication does not correlate significantly with an established measure of conversation orientation, then my measure would fail to demonstrate concurrent validity.

No studies, aside from those discussed in the following section, have explicitly tested their measures for concurrent validity. Sometimes concurrent validity can be implied, however, because researchers typically measure variables that are expected to be correlated with their measure of family sexual communication. So, for example, I may not intend to demonstrate concurrent validity, but if I measure self-esteem and that construct is theoretically and empirically predicted to be correlated with family sexual communication and I find that it is, this finding can serve as a test of concurrent validity (though tests of concurrent validity should never duplicate one's hypotheses).

The other type of criterion validity is predictive validity. As noted above, predictive validity is similar to concurrent validity in that it examines whether the proposed measure behaves in predictable ways with other constructs; however, predictive

validity is stronger than concurrent validity in that it requires the researchers to conduct longitudinal studies because the proposed measure and the measures for the criterion constructs are administered at different points in time. This allows the researchers to examine how well baseline scores on the proposed measure predict future scores on the measures of the criterion constructs. For example, if I have strong theoretical and empirical evidence that family sexual communication should influence whether or not emerging adults contract STIs, I could establish predictive validity by having a sample of emerging adults complete my proposed measure of family sexual communication at a baseline and then have the same emerging adults complete a measure that indicates whether or not they have contracted an STI at a 3 month and 6 month follow up. If I find the significant relationship that I expected, then I have demonstrated predictive validity. Only McDermott Sales et al. (2008) have examined predictive validity and their study will be discussed at length in the following section.

#### **Formal examinations of the psychometrics of family sex comm. measures.**

As has been shown, the majority of existing family sexual communication measures have not been tested for validity and those that have been, have relied almost completely on face validity. There have been a few exceptions to this rule, and those exceptions are the subject of the following section. I address these formal examinations of psychometric properties in detail to show that they, in many ways, are not as strong as they could be and to demonstrate that my thorough examination of the psychometric properties of the FSCS will be a significant contribution to the field.

*Warren & Neer (1988).*

There have been a selection of articles that were dedicated to examining the psychometric properties of proposed scales. In 1988 Warren and Neer proposed their Family Sexual Communication Quotient (FSCQ) that, unlike other measures at the time, examined sexual communication as a dialogue between parents and adolescents rather than a unidirectional flow of information from parent to adolescent. Their operationalization of family sexual communication was to measure the adolescents' attitudes towards three dimensions of family discussions about sex: comfort, information and value. Their goal was to measure the family orientation toward sexual communication.

The original FSCQ was comprised of 18-items measured with a 5-point likert-type scale. The three dimensions, comfort, information and value, were constructed based on findings from previous research. The reliability for the overall scale was Cronbach's  $\alpha = .92$ ; however, there were no reliabilities reported for the three different dimensions. A factor analysis was conducted and Warren and Neer found the two-factor solution to be the best even though they also tested one-factor and three-factor solutions. In their article, they lament that this factor analysis did not support the "unidimensionality" (p. 94) of the FSCQ, but they do not go on to discuss the three dimensions. Warren and Neer did not discuss validity directly, though mentioning that the dimensions were constructed based on previous research can be a sign of face validity.

*Somers & Canivez (2003).*

In another article dedicated to the examination of psychometric properties, Somers and Canivez (2003) proposed the Sexual Communication Scale (SCS) which measured the frequency of sexual communication between parents and adolescents. The SCS asked adolescent respondents to describe the amount of communication that had occurred with both mothers and fathers (separately) regarding 20 sexual topics. The responses were given on a five-point likert-type scale ranging from “never” to “a few times” to “a lot of times” (p. 45). To examine the structure of the scale, Somers and Canivez performed exploratory factor analyses for both the maternal and paternal communication scales. Though they found some evidence for a two-factor solution, the one-factor solution was “more parsimonious,” and “much less problematic” (p. 52) than the two-factor solution and it also had high reliability coefficients (Cronbach’s alpha = .93 for reports of mother sexual communication and Cronbach’s alpha = .92 for reports of father sexual communication). Therefore, Somers and Canivez chose to keep the SCS a unidimensional scale and were able to report strong internal consistency.

In terms of validity, Somers and Canivez (2003) demonstrated some face validity for the SCS because all items from this scale were based on a thorough review of the literature in the field. However, they did not establish content validity. They did not include any other measures in this study and thus they cannot claim convergent, discriminant or concurrent validity. Also, their study was cross-sectional and thus they cannot claim predictive validity. They do state that the SCS was related to certain sexual outcomes in another study (Somers & Paulson, 2000) but that is the extent of their

discussion on validity. Though Somers and Canivez (2003) claim “the SCS demonstrated adequate psychometric properties” (p. 55) further tests of validity are needed as even they, themselves, pointed out in the limitations portion of their article. Overall, the fact that this article was published for the sole purpose of examining the psychometric properties and the only type of validity established was face validity is disappointing.

*Lehr et al. (2000).*

Lehr et al (2000) developed and tested two different measures of family sexual communication: the Openness of Sexual Communication Scale (OSCS) and the Sex-Related Communication Scale (SRCS). The OSCS is a four-item scale that measures the “perceived openness of parental communication about sex” (p. 184) on a five-point likert-type scale. The four items were: “As I was growing up, my mother/father gave me sexual information in a non-judgmental way”; “As I was growing up my mother/father openly discussed sex with me and my siblings in our home”; “As I was growing up my mother/father talked with me about sexual behaviors that were okay for someone my age”; and “As I was growing up, my mother/father would answer any questions I asked about sex” (p. 184). This scale was administered to 732 adolescents and emerging adults who filled out the OSCS twice – once regarding mothers and once regarding fathers. The allowed for a score for each parent that was based on the summation of the four responses.

The SRCS is a 10-item scale that measures the “amount of discussion with one’s mother/father about sex-related topics” (p. 184) on a scale from 1 to 6. The 10 topics in

this scale included sexual intercourse, AIDS, STDs, alcohol, pregnancy, condom use and 4 items that were not disclosed. This scale was administered in the same manner as the OSCS, allowing for a score for each parent that was based on the summation of the 10 responses.

Lehr et al. (2000) found that both scales had strong reliability. The internal consistency of the OSCS was Cronbach's alpha = .84 for mothers and .85 for fathers. The internal consistency for the SRCS was Cronbach's alpha = .92 for mothers and .93 for fathers. In terms of validity, the measures were developed based on a literature review and the experience of the first author which indicates a level of face validity. There was no mention of content validity. Lehr et al. (2000) do not mention criterion validity (neither concurrent nor predictive validity) either. They do, however, claim construct validity because the two scales "correlated in predicted directions with one another, and the ANOVA showed support for most of the hypothesized relationships" (p. 191). There are two parts to construct validity – discriminant and convergent validity – and discriminant validity was not measured. In terms of convergent validity, though these two measures correlate with each other, neither of them is established and so this is not a strong test of convergent validity; however, it is probably the best test used to date in the field.

Overall Lehr et al. (2000) demonstrate reliability, face validity and some level of convergent validity. Though they do not mention it, they could also probably claim some level of concurrent validity if their scales were able to demonstrate predicted relationships between family sexual communication and their outcome variables.

*McDermott Sales et al. (2008).*

More recently McDermott Sales et al. (2008) examined the psychometric properties of the Parent-Adolescent Communication Scale (PACS) which was developed by two of the authors, Wingood and DiClemente. The PACS is a five-item scale that examines frequency of family sexual communication. Adolescents are asked to report on a four-point likert-type scale (one = never to four = often) the answers to the following questions:

“In the past 6 months, how often have you and your parent(s) talked about the following things: (1) sex, (2) how to use condoms, (3) protecting yourself from sexually transmitted diseases (STDs), (4) protecting yourself from the AIDS virus, and (5) protecting yourself from becoming pregnant?” (p. 336).

The PACS was administered at three different points in time: baseline, a six-month follow up and a twelve-month follow up. This allowed the researchers to examine the test-retest reliability of the measure which was found to be strong. The intercorrelations between baseline and the six-month follow up and baseline and the twelve-month follow up were significant ( $r = .58, p < .001$  and  $r = .53, p < .001$  respectively). Also, the internal consistency of the PACS at each point was Cronbach's alpha = .88, .89, and .90 respectively. McDermott Sales et al. (2008) provided adequate information regarding the psychometric property of reliability for the PACS and demonstrated that its reliability was strong. They also were, by far, the most thorough of any researchers when examining the validity of their scale.

McDermott Sales et al. (2008) established face validity by basing the items of their scale on a review of relevant empirical literature. Also, because they were utilizing

an exclusively female, African American sample, they conducted five focus groups of African American adolescent females to determine the relevancy of the five sexual communication topics they had chosen to examine. They also consulted health educators who specialized in sexual health to determine the relevancy of the topics to the population. They then created a 36-item measure that they had evaluated by health educators who had expertise in female, African American sexual health. They then administered the measure to a pilot sample of fifteen African American adolescent females. After synthesizing the feedback provided by these groups, and examining assessments of the instrument's readability and reliability, the researchers retained five items thus creating the PACS. This is a strong demonstration of face validity. It is unclear whether or not they established content validity. They report that "The health educators were asked to evaluate each item in terms of relevance" but they do not report any statistics; thus, I consider this only face validity.

In terms of construct validity, McDermott Sales et al. (2008) wanted to examine the PACS's convergent validity. They would have performed this by correlating the PACS with other established measures of family sexual communication to ensure that the measures were all examining the same construct; however, due to the lack of a validated measure of family sexual communication, they were unable to demonstrate the convergent validity of the PACS. To demonstrate discriminant validity, McDermott Sales et al. (2008) examined the correlations between the PACS and other variables with which it should not be significantly associated, namely frequency of movie viewing and

frequency of television viewing. The PACS was not significantly correlated with either of these two variables thus providing evidence for its discriminant construct validity.

In terms of criterion validity, McDermott Sales et al. (2008) were able to test both concurrent and predictive validity. To demonstrate concurrent validity, McDermott Sales et al. (2008) examined the correlations between the PACS and other variables that were known to be associated with family sexual communication, namely frequency of sexual communication with a partner, sexual communication self-efficacy, family support, perceived parental knowledge, and depression. They also included sexual behaviors that had been shown to be associated with family sexual communication such as condom use at last sex, consistent condom use during the previous 30 days and during the previous 6 months, and frequency of sexual intercourse in the last 30 days. Though some of the correlations were small, the PACS was statistically significantly associated with all of the above constructs in the directions predicted thus providing evidence for its concurrent validity.

Finally, McDermott Sales et al. (2008) examined the predictive validity of the PACS by examining how well baseline PACS scores predicted sexual communication with partner, sexual communication self-efficacy with a new partner, sexual communication self-efficacy with an established partner, condom use and frequency of sexual intercourse at the six-month and twelve-month follow ups. Baseline scores of the PACS were significantly associated with frequency of sexual communication with partner, sexual communication self-efficacy with a new partner, and condom use at the 6-month follow up in the direction predicted ( $r = .29, p < .001$ ;  $r = .10, p < .015$ ; and  $r = .13, p$

= .04 respectively). Baseline scores of the PACS were also significantly associated with frequency of sexual communication with partner and condom use at the 12-month follow up in the direction predicted ( $r = .28, p < .001$  and  $r = .15, p < .05$  respectively). This provides evidence for the PACS's predictive validity. In conclusion, McDermott Sales et al. (2008) conducted a thorough investigation into the psychometric properties of the PACS and demonstrated its strong reliability and validity.

***Fisher (1993).***

The four articles described above are examples of researchers examining the psychometric properties of their own proposed scale. Fisher (1993) examined the psychometric properties of several scales simultaneously. Though Fisher has written several articles regarding family sexual attitudes and sexual communication and has contributed significantly to the field (e.g. Fisher, 1984; Fisher, 1986a; Fisher, 1986b; Fisher 1988; Fisher & Hall, 1988; Fisher, 1990), her comparison of the psychometric properties of several different scales needs to be interpreted with caution.

Fisher's (1993) goal was to examine the psychometric properties of six scales that had been used in the existing body of literature at the time. They were: The Fox and Inazu Measure (1980), The Darling and Hicks Measure (1982), The Newcomer and Udry Measure (1985), The Measure of Sexual Communication Climate (Rozema, 1986), The Weighted Topics Scale (Fisher, 1987), and The Sex Education Inventory (Bennett & Dickinson, 1988). Fisher gathered data over the course of three years by administering questionnaire packets to college students who would then fill out all six of these measures

of family sexual communication (along with other measures that will be discussed later). They were also given questionnaires for their mothers and fathers to complete and send back. In total 336 mothers, 233 fathers and 363 students completed the questionnaire. It is important to note that while most samples used in these types of studies are not necessarily representative of the population, this sample in particular has issues in terms of a lack of variance in race/ethnicity (98% of the sample was Caucasian) and religious affiliation (over 90% of families were Protestant or Catholic).

To assess reliability, Fisher (1993) utilized Cronbach's alpha scores which she reported based on the gender and role (parent or adolescent) of the respondent. The reliability was strongest for Fisher's (1987) Weighted Topics Scale with Cronbach's alphas ranging from .87 to .91. Reliability was weakest for The Darling and Hicks Measure (1982) with Cronbach's alphas ranging from .41 to .78. Reliability was sufficient for the other four scales. This assessment of reliability is adequate and in line with most other studies that examine this psychometric property. It is Fisher's assessment of validity, however, that concerns me.

Face validity was not discussed in this article nor was content validity. Typically, face validity has been demonstrated by a thorough review of literature, focus groups with the population of interest, and/or consultations with experts in the field. Fisher (1993) did not review how each scale was developed, though this may have been covered in the individual articles in which the scales had been proposed. In terms of construct validity, though the data was present to test convergent validity, at least to some extent, this concept was not directly addressed. Fisher (1993) reported the intercorrelations between

the six measures of family sexual communication but did not tie the results back to convergent validity. Instead, she only concluded that “most scales were significantly, although not strongly, related to one another” (p. 237). Discriminant validity was not tested in this article. In terms of criterion validity, predictive validity was not assessed in this study, but concurrent validity was. The only type of validity that Fisher really examined was concurrent validity and the variables she utilized to demonstrate this type of validity were somewhat questionable.

As described earlier, to demonstrate concurrent validity, the researcher should correlate the measure of family sexual communication with other variables that have been shown to have significant and predictable relationships with family sexual communication. When determining which other variables will be utilized, the variables should have a strong empirical (if not also theoretical) link to family sexual communication that has been demonstrated across several studies. This is where I see a problem with Fisher’s (1993) examination of the concurrent validity of these six scales.

The first variable that was used to demonstrate concurrent validity was whether or not the adolescent had informed her/his parent(s) that they were sexually active; similarly Fisher also examined the accuracy of the parent(s)’ reports of their adolescent’s sexual activity. Fisher chose these variables based on the findings of a study conducted by Fox and Medlin (1986) that found that mothers who had more accurate perceptions of their daughters’ sexual activity were more likely to have discussed sexual issues with their daughters. I find this problematic for multiple reasons. Firstly, it is difficult to extrapolate a finding that was only generalizable among daughters to sons because copious studies

have documented significant gender differences when it comes to family sexual communication itself (e.g. Robert & Sonenstein, 2010; Wyckoff et al., 2008; Guilamo-Ramos et al., 2007; Kim & Ward, 2007; Heisler, 2005; Regnerus, 2005; DiIorio et al., 1999; Raffaelli et al., 1999; ) as well as its impact on sexual behavior (e.g. Pearson et al., 2006; Somers & Vollmar, 2006; Hutchinson, 2002; Troth & Peterson, 2000; Jaccard et al., 1996; Luster & Small, 1994).

Secondly, although this study can be used to justify examining the accuracy of parents' reports of adolescent sexual behavior, it is too far a leap to say that the findings of this study also justify examining whether or not adolescents disclosed their sexually active status to their parents. The implication Fisher is making is that if parents have an accurate perception of their adolescent's sexual behavior, it is because the adolescent informed them of said behavior. There is little support for this notion. Instead, it seems that parents' perceptions of their adolescent's sexual behavior are more informed by perceived peer norms and indirect cues than by direct disclosure from the adolescent (Mollborn & Everett, 2010; Jaccard et al., 1998).

Finally, the inclusion of this variable is based on one study which is problematic as there has been at least one study that had contradictory findings. Mollborn and Everett (2010) also examined the relationship between accuracy of parental perceptions of adolescents' sexual activity and family sexual communication. Contrary to Fisher's (1987) finding, Mollborn and Everett (2010) found that an increase in parents talking with their adolescents about sex was not associated with an increase in the accuracy of their perceptions of whether or not their adolescent had engaged in sex. All of these

issues erode the credibility of the findings regarding these two variables and the concurrent validity of the six scales examined in this article that is based on said variables.

The second variable that was used to demonstrate concurrent validity was the accuracy of adolescents' perceptions of their parents' sexual attitudes. Fisher (1993) expected that higher levels of family sexual communication would be associated with greater accuracy of these perceptions. She only cites herself, but the area of sexual attitudes was her main research focus at the time and she had several studies that confirmed this relationship (e.g. Fisher, 1986; Fisher, 1987; Fisher 1988) so this seems an adequate measure of concurrent validity.

The final way in which concurrent validity was examined was by comparing the correlations between more general measures of family communication and sexual behavior and more specific measures of family sexual communication and sexual behavior. Fisher (1993) argued that the general measures of family communication should be more strongly correlated with sexual behavior than specific measures of family sexual communication. I find this choice of variables questionable for three reasons.

Firstly, Fisher again bases the inclusion of this measure on one study. Secondly, the one study on which she bases this inclusion was a study she conducted (Fisher, 1987). And finally, multiple other studies have obtained results that are in direct opposition to this claim (e.g. Trejos-Castillo & Vazsonyi, 2009; Nagamatsu et al., 2008 ) which would mean that the results regarding the concurrent validity of the six examined scales could

be the opposite of what Fisher (1993) reported. It is important to note that there have been studies (e.g. Miller et al., 1999; Ryan et al., 2007) that have supported Fisher's 1987 finding as well. Also, Aspy et al. (2007) found both general family communication and family sexual communication to serve protective functions against adolescent sexual risk-taking as did Hutchinson (2002) and DiIorio et al. (2000). All of these findings make it difficult to assess the strength of this test of concurrent validity. Also, general measures of family communication have been shown to be significantly associated with family sexual communication (e.g. Baldwin & Baranowski, 1999) and this further complicates Fisher's prediction that one type of communication will be a better predictor than another.

I applaud Fisher's (1993) attempt to examine the psychometric properties of multiple measures of family sexual communication. This is something that has not been replicated in the literature; however, she only examined reliability and concurrent validity, and her tests of concurrent validity were not as strong as they could have been.

### **Summary**

As has been shown, much of the existing body of research on family sexual communication is not founded on clear conceptual definitions. Also, the operationalizations that have been presented have been, for the most part, inadequate. In some cases researchers use multi-faceted conceptual definitions, but then fail to operationalize them in a comprehensive way. In other cases researchers propose a broad conceptual definition but then utilize a narrow operationalization. Finally, there are many

scales of family sexual communication that seem to be reliable, but many of these scales have not been proven to be valid.

There is a need for a measure of family sexual communication with a clearly-articulated conceptual definition that has been thoroughly operationalized. This operationalization needs to match the conceptual definition in terms of scope and content and needs to contain enough items to adequately measure exactly what it is intended to measure. The psychometric properties of this scale should be systematically examined and it should be demonstrated to be both reliable and valid. In the following section I propose my Family Sexual Communication Scale (FSCS) and argue that this scale makes a significant contribution to the existing body of literature because it follows the guidelines detailed above. While my hope is that this scale will prove to be reliable, valid and predictive, I realize that even though I took what I believe to be a solid approach to creating this measure, the measure may fail to attain the high expectations I have set forth in this chapter. It is my intention that this scale be the starting point for future measure development and I make no claims that it will be the new gold standard in the field. I simply wish to point out a gap in the research, start a dialogue about how to solve this methodological issue and provide an example of how we can start reconceptualizing and operationalizing family sexual communication.

## **My Definition of Family Sexual Communication**

### **Conceptual Definition**

When conceptualizing family sexual communication, I decided to focus on the message. The main reason for this choice was because most other researchers have taken this approach. My logic was not that others have done it this way and so I will as well, but instead I wanted to be able to compare my results with those of other researchers. Had I chosen to focus on another aspect such as the context or channel, I would only be able to compare my findings to a handful of studies. By examining the message I can speak to the existing body of literature. Also on a personal level, the message is my main area of interest and I believe it has the strongest potential for being predictive of the relationship between family sexual communication and adolescents' and emerging adults' sexual outcomes if operationalized appropriately.

When examining the message component of family sexual communication, most researchers have only been interested in the extent to which families have discussed a few sexual risk topics. I conceptualize family sexual communication more broadly as conversations that may include topics such as fidelity, non-sexual ways to show love, gender specific sexual information (e.g. menstruation and erections) and sexual orientation in addition to topics such as birth control, abstinence, STDs and unplanned pregnancies. This is one of the ways I am differentiating myself from the majority of researchers. Another way I am differentiating myself is by including multiple components of the message in my conceptual definition. I am not only interested in the

frequency with which (or extent to which) families discuss these topics; I am also interested in the quality of the sexual communication. Some researchers have investigated the quality of family sexual communication, but very few have looked at both frequency and quality.

A final way I am differentiating myself is by including a third message component in my conceptual definition. In addition to the frequency and quality of family sexual communication, I am also interested in the specific messages that are conveyed during these interactions. The group of participants whose parents discuss “abstinence” may be heterogeneous, but if I can divide this group into participants whose parents’ message was, for example, “Sex is only appropriate in marriage” and participants whose parents’ message was “Sex should be saved for someone special” hopefully these groups will become more homogeneous.

I am using the label “family sexual communication” but my true conceptualization is limited to parent-adolescent/emerging adult sexual communication. It could be argued, then, that I should use a different label that indicates that I am only interested in this type of communication as opposed to including sexual communication between siblings or with members of the extended family. I thought about using the label “parent-adolescent/emerging adult sexual communication” but thought better of it. Almost all other researchers who investigate family sexual communication conceptualize and operationalize this construct as communication between parents and children/adolescents/emerging adults so my use of the label, though perhaps a bit theoretically inaccurate, would be in line with how others in the field use this label. This

uniformity makes it easier for others to compare my research with other research in the field.

Therefore I have conceptually defined family sexual communication as: the frequency with which parents and adolescents/emerging adults have discussed a broad range of sexual topics, the quality of these interactions, and the specific messages that were communicated during these interactions.

### **Operationalization– The Family Sexual Communication Scale (FSCS)**

To operationalize the conceptual definition stated in the previous section, I developed the Family Sexual Communication Scale (FSCS). This scale has three subscales: frequency of family sexual communication, quality of family sexual communication, and content of family sexual communication.

To develop the frequency subscale, I wanted to provide a list of sexual topics and have participants indicate the extent to which each topic was discussed with their parents. I developed the list of sexual topics by reviewing the literature to find out which topics were typically included. After realizing that there were many important sexual topics that were missing from most researchers' lists, I specifically sought out studies that discussed a broader range of family sexual communication topics including both quantitative and qualitative studies. I also read articles regarding the topics educators, parents, adolescents and emerging adults felt were most important for parents to discuss with their adolescents and emerging adult children and tried to include these topics in my subscale. Because research has shown that most families tend to either not talk about sexual topics or

discuss them only once, I decided to limit the variability of this scale to four options: 0 (never discussed), 1 (discussed once), 2 (discussed a few times) and 3 (discussed frequently). I knew a dichotomy would not provide the variance I felt was necessary to capture from these items, but I also felt that having too many options may create variance that was not actually present.

Once I had my list of sexual topics I pretested them on a sample of over 100 university students. I will discuss the pretest process and results in Chapter 5: Methodology . The final version of the frequency subscale of the FSCS includes 20 sexual topics and they are: STDs (other than HIV/AIDS), HIV/AIDS, condom use, unplanned pregnancies, abortion, abstinence, oral sex, resisting sexual pressure, monogamy, fidelity, pleasure of sexual relationships, parental attitudes about the adolescent having sex, masturbation, rape/molestation/sexual harassment, resources available to help with family planning, resources available to help deal with sexual trauma/rape, statistics about sexually active adolescents, gender specific sexual information, non-sexual ways to show love and sexual orientation.

The quality subscale of the FSCS asks participants to report on their communication with their parents on the same twenty topics included in the frequency subscale. However, this time participants are asked to report on how good or bad the communication surrounding each topic was on a zero to seven point scale with zero meaning they had never discussed the topic, one meaning the discussion(s) were very bad and seven meaning the discussion(s) were very good.

Defining “good” or “bad” communication is a complicated task. Is good sexual communication defined by the content in that good communication deals with information that lessens the likelihood of the listener engaging in risky sexual behavior? Or is good communication defined by the delivery of the message in that good communication is delivered in a way that makes the listener comfortable with the topic and thus opens the lines for further communication? Or is good communication defined by the outcome of the discussion in that the communication produces the intended effects?

I deliberately chose the terms “good” and “bad” so that the participants could individually decide what it meant to have good or bad communication as I am interested in perceived quality of communication. Also, Lefkowitz (2002) points out that Rosenthal and Feldman (Feldman & Rosenthal, 2000; Rosenthal & Feldman, 1999) have also used the word “good” when operationalizing quality as opposed to being more explicit about what this term means. She argues that this type of measure “assesses the quality of the parent’s communication from the adolescent’s perspective, without the researchers’ imposing their notions of what communication is” (p. 47). This subscale was also pretested on a sample of over 100 university students. I will discuss the pretest process and results in Chapter 5: Methodology .

Finally, I developed the content subscale of the FSCS to measure specific messages that may or may not have been discussed within the family regarding the specific sexual behavior variables included in my model. I tried to account for variance of parental sexual attitudes and beliefs with these messages. I did this by creating

messages that reflected different potential orientations to sexual behavior. For example, I included the message “My parents have directly or indirectly encouraged me to have as few of sexual partners as possible” and “My parents have directly or indirectly encouraged me to “play the field.” It is important to note that a lack of one message cannot imply the presence of the other. To clarify, just because a participant may strongly disagree that her/his parents discussed playing the field does not mean that the parents encouraged the participant to have few sexual partners. It could be that neither message was conveyed and so it is important to differentiate between messages that are permissive, messages that are restrictive and messages that are not communicated. We cannot, as researchers, infer that if one ideological perspective is not communicated that another one is. As research has shown, many times these sexual attitudes and values are left unstated.

Once I developed a list of potential sexual messages I pretested them on over 100 university students. I will discuss the pretest process and results in Chapter 5: Methodology. The final version of the content subscale of the FSCS is comprised of 15 seven-point Likert-type questions with responses ranging from “strongly disagree” to “strongly agree.” There is also a “NA” option for each question which participants can circle if their families did not discuss the topic in question. Sample questions from this subscale include “My parents have discouraged me from engaging in sexual activities until I am older,” and “My parents have encouraged me to explore my sexual urges even at a young age.”

The version of the FSCS that was utilized in this study can be found in Appendix

A.

## Chapter 3

### Family Sexual Communication and Its Impact on Adolescents' and Emerging Adults' Sexual Outcomes

The body of research regarding family sexual communication can be divided into two primary areas: studies that describe family sexual communication and its potential antecedents, and studies that examine the effects family sexual communication has on adolescents' and emerging adults' sexual outcomes. Before examining the effects family sexual communication has on sexual outcomes, it is important to know things such as who is (and is not) communicating, what is (and is not) being said, and what types of antecedents and barriers exist to family sexual communication. Knowing this allows one to analyze the effects this communication has on adolescents and emerging adults more accurately because it helps define what is (and is not) conceptualized as family sexual communication.

#### **Describing Family Sexual Communication**

One of the most prevalent findings in the research regarding family sexual communication is that such communication is generally vague, restricted, infrequent, or non-existent (Simanski, 1998; Rosenthal & Feldman, 1999; Troth & Peterson, 2000; Fitzharris & Werner-Wilson, 2004; Gilliam, 2007; Kim & Ward, 2007; Averett et al., 2008; Beckett et al., 2010; Hutchinson & Cederbaum, 2011). For example, Rosenthal & Feldman (1999) found that over 50% of the adolescent males in their sample reported that their fathers “never” discussed 19 of the 20 sexual topics included in their survey while

over 50% of the adolescent females in their sample reported that their fathers “never” discussed 16 of the 20 topics. The results for maternal sexual communication were substantially higher, but yet the majority of males still reported that their mothers “never” discussed 15 topics with them whereas the females reported 7 topics that were “never” discussed.

In one sample of 290 female adolescents who were attending family planning clinics, less than two-thirds reported discussing any sexual matters with their parents (Weinman et al., 2008). Similarly, Kim (2009) found that 21 of the 30 Asian American females in her sample could not recall any direct family communication about sex and only 3 females indicated that there was at least one attempt at “The Big Talk.” Also, Averett et al. (2008) found that only 50 % of the women in their sample reported having a formal talk about sex with their parents. In a sample of 286 males, almost 25 % said their parents told them “nothing” about sex and relationships (Epstein & Ward, 2008). And in an analysis of five national data sets of adolescents aged 15 to 17, it was found that the number of female adolescents who reported discussing neither STDs nor birth control with their parents went up almost 50 % from 1995 to 2002 - in 2002 almost 35% of the female sample reported no discussions with their parents regarding these sexual topics as opposed to 24% in 1995 (Robert & Sonenstein, 2010).

In their qualitative study of father-daughter sexual communication, Hutchinson and Cederbaum (2011) found that less than 10 % of the 234 daughters in their sample felt that their fathers had prepared them “well” for dating and sexuality. In their all-Latino sample, Guzman et al. (2003) found that adolescents reported a moderate amount of

sexual communication with their mothers and a low amount of sexual communication with their fathers.

Beckett et al. (2009) conducted a longitudinal study that followed 141 parents and their adolescents aged 13 to 17 and examined their family sexual communication over the period of one year; they included both parental and adolescent reports of family sexual communication. Beckett et al. found that half of parents, and two-thirds of sons, reported that parents had not discussed how to use a condom by the time the son had initiated sexual intercourse. Also, a quarter of parents and daughters reported that parents had not discussed how to resist sexual pressure, how to choose an appropriate birth control method, or what to do if a partner refuses to use a condom by the time the daughter had initiated sexual intercourse. As Byers et al. (2008) state, “many parents do not appear to be providing detailed sexuality education to their children even on topics that are developmentally appropriate” (p. 94) and in some cases, peers and media are reported to be the primary source of sexual education and information rather than the parents (Heisler, 2005; Epstein & Ward, 2008). There can be many variables that impact the extent to which family sexual communication is enacted from both the parents’ and the offspring’s point of view.

### **Variables Affecting Family Sexual Communication**

There are a large number of variables that affect the extent to which, and manner in which, families communicate about sex. Some of these variables are demographic, such as gender, race, culture, age and educational level. Other variables are psychological

or affective in nature such as self-efficacy, sexual knowledge, comfort and perceived barriers to such communication.

### **Demographic variables.**

#### *Gender.*

One variable that has been extensively examined in relation to family sexual communication is gender. Almost all studies that examine gender and family sexual communication find that mothers are the primary sexual educators of the family (Pick & Palos, 1995; Miller et al., 1998a; Rosenthal & Feldman, 1999; Raffaelli & Green, 2003; Kim & Ward, 2007; Averett et al., 2008; Friedman & Morgan, 2009), that daughters are the recipients of more sexual communication than sons (Fisher, 1988; Guzman et al., 2003; Raffaelli & Green, 2003; Guilamo-Ramos, Jaccard, Dittus, Bouris, Holloway and Casillas, 2007; Kim & Ward, 2007; Kapungu et al., 2010) and that father-son dyads talk more about sex than father-daughter dyads (DiIorio, et al. 1999). In a slight departure from this norm, Wyckoff et al. (2008) found that although mothers talked more with daughters, mothers and fathers were equally likely to discuss sex with their sons. Also, Jerman and Constantine (2010) did not find a difference between mothers and fathers in terms of the number of sexual topics they reported discussing with their adolescents.

These trends are echoed in Wright's (2009) review of father-adolescent sexual communication. Seventeen studies in his review examined gender and of those seventeen, thirteen showed fathers engaging in more sexual communication with their sons than daughters, four found no difference in the amount of sexual communication between

father-son and father-daughter dyads, and two studies showed fathers engaging in more sexual communication with their daughters than their sons.

Gender has been linked to family sexual communication in other ways as well. Guzman et al. (2003) found that adolescents were more comfortable discussing sexual topics with their mothers than with their fathers, Beckett et al. (2009) found that parents discussed sex with their daughters earlier than with their sons, and McKee et al. (2007) found that more egalitarian maternal gender role beliefs were associated with greater mother-preadolescent sexual communication, regardless of the gender of the child. Several researchers have found that parents communicate a sexual double-standard to male and female adolescents (e.g. Guilamo-Ramos, Dittus, Jaccard, Goldberg, Casillas & Bouris, 2006; Averett et al., 2008; Akers, Bimla Schwarz, Borrero & Corbie-Smith, 2010; Kapungu et al., 2010) and several researchers have found that the sexual topics parents discuss differs depending on the gender of the adolescent (e.g. DiIorio et al., 1999; Rosenthal & Feldman, 1999; Wyckoff et al., 2008; Beckett et al., 2009; Kapungu, 2010).

### ***Race and culture.***

Two other variables that have been extensively examined in relation to family sexual communication are race and culture. Some researchers use selective samples that are comprised solely of one race or ethnicity such as African Americans (Jaccard et al., 1996; Jaccard et al., 1998; DiIorio et al., 2000; Jaccard et al., 2000; Crosby et al., 2002; Aronowitz et al., 2005; Aronowitz, Todd, Agbeshie & Rennells, 2007; Harris Peterson,

2007; McKee et al., 2007; Wyckoff et al., 2008; Akers et al., 2010; Kapungu et al., 2010), Asian Americans (Kim & Ward, 2007; Kim, 2009) and Latinos or Hispanic Americans (Guzman et al., 2003; Raffaelli & Green, 2003; Guilamo-Ramos et al., 2006; Gilliam, 2007; Trejos-Castillo & Vazsonyi, 2008; Villarruel et al., 2010). Others examine whether or not family sexual communication differs depending on race; the most common result is that African American families engage in the most family sexual communication and Asian families engage in the least amount of family sexual communication with white and Latino families falling somewhere in between (Hutchinson & Cooney, 1998; Miller et al., 1998a; Kim & Ward, 2007; Epstein & Ward, 2008).

In terms of culture, it has been proposed that some cultures, particularly the Latino and Asian cultures, may practice indirect rather than direct family sexual communication. For example, Kim and Ward (2007) found that Asian American parents used implicit and nonverbal ways to communicate their sexual values to their adolescents and emerging adults. The most common theme in their qualitative analysis of parental sexual messages was that sexual and romantic relationships were seen as a taboo topic and that parents' sexual attitudes and expectations were "just understood" (p. 20).

Similarly, in her qualitative work with 30 Asian American young women, Kim (2009) found that most of these women knew what their parents' sexual values and attitudes were through indirect and implicit messages. Indirect strategies that they recalled their parents using included gossiping about others' sexual lives, setting rules that restricted their choice of apparel and their ability to socialize, monitoring their

interactions with boyfriends and monitoring their use of media. They also reported using how parents showed affection towards each other as a cue about how they should conduct themselves in romantic relationships. It seems there is some support for Asian American parents utilizing indirect and nonverbal family sexual communication. However, Raffaelli and Green (2003) examined the use of both direct and indirect communication in a sample of Latino families and found that, contrary to prediction, these families used more direct than indirect family sexual communication.

Other cultural variables that have been examined include language barriers, immigration status and acculturation, and it has been shown that language barriers between parents and offspring can diminish family sexual communication (Kim & Ward, 2007) but that immigration status and acculturation may not necessarily impact such communication (Trejos-Castillo & Vazsonyi, 2008). One of the key themes that Guilamo-Ramos et al. (2006) discovered in the discussions of their Latina mothers' focus groups was that the mothers felt a tension between how their cultural background impacted their sexual discussions with their adolescents and how the urban neighborhood in which they lived impacted these same discussions.

***Other demographic variables.***

There are other demographic variables that have been linked to family sexual communication. For example, the age of the child and of the parent has been shown to impact the content, quality and frequency of family sexual communication (Byers et al., 2008, Wilson, Dalberth & Koo, 2010; White, Wright & Barnes). Also, the educational

level of parents has been shown to impact the content of family sexual communication in that more highly educated parents talked more about puberty, reproduction and the correct names for genitals whereas parents with less education talked more about STDs, birth control and sexual coercion (Byers et al., 2008).

### **Psychological and affective variables.**

Demographic variables are important to investigate, but it is also important to examine other types of variables that may impact family sexual communication. For example, Jerman and Constantine (2010) found that psychological variables predicted the number of sexual topics parents had discussed with their offspring better than demographic variables, and Raffaelli et al. (1998) found that, specifically, attitudinal and belief variable were better predictors of family sexual communication than demographic variables.

### ***Parental self-efficacy, outcome expectancies and sexual knowledge.***

DiIorio et al. (2000) examined why some mothers discuss sexual issues with their offspring while others do not. Their main variables of interest were mothers' self-efficacy and their outcome expectancies. They found that mothers who had higher self-efficacy and more positive outcome expectancies were more likely to discuss sexual issues with their adolescents than mothers with low self-efficacy and more negative outcome expectancies.

Guilamo-Ramos et al. (2008) were also interested in why some mothers spoke to their middle-schoolers more about sex than other mothers. They found that mothers were

more likely to engage in sexual communication if they felt such communication would help the adolescent develop more mature thinking and not cause embarrassment for the adolescent. Mothers were also more likely to engage in sexual communication if they had higher self-esteem, more confidence in their sexual knowledge, and if they felt that doing so would imply that they were a responsible parent. Guilamo-Ramos et al. found that the more difficult mothers thought sexual communication would be, the less likely they were to engage in it with their adolescents. Similarly, DiIorio et al. (2006) found that fathers who had higher sexual communication self-efficacy were more likely to discuss sexual issues with their sons than fathers with lower sexual communication self-efficacy.

Jaccard et al. (2000) investigated African American mothers' and adolescents' reservations about communicating about sex with each other. They found that the strongest predictors of communicating about sex within these dyads were mothers' reservations about embarrassing their adolescent and their adolescent not taking them seriously, and adolescents' reservations about the mother asking too many personal questions and the mother not knowing information the adolescents sought.

Jerman and Constantine (2010) were interested in parental sexual knowledge and found that in their representative statewide sample of over 900 parents, only 60% felt very knowledgeable about sexual topics and that this knowledge was predictive of the number of sexual topics they reported discussing with their adolescents. Similarly, it has been found that mothers and fathers are more likely to discuss sex with their adolescents if they are confident in their own knowledge of the subject (Guilamo-Ramos et al., 2008; Byers et al., 2008). From the adolescents' perspective, a perceived lack of parental sexual

knowledge was listed in multiple studies as a barrier to family sexual communication (Jaccard et al., 2000; Fitzharris & Werner-Wilson, 2004; Gilliam, 2007).

***Comfort with family sexual communication.***

The affective variable that has received the most attention in the family sexual communication literature is how comfortable parents and adolescents/emerging adults are with such communication; this variable has been shown to impact family sexual communication in many different studies. For example, in his review of the literature, Wright (2009) found that seven of the eight studies that examined father-adolescent sexual communication comfort and its relationship with the frequency of father-adolescent sexual communication showed support for the notion that fathers and adolescents who feel “more comfortable discussing sex with one another are more likely to do so” (p. 239) and that such discussions can, in turn, lead to feeling more comfortable.

Some researchers (e.g. Aronowitz et al., 2007) have found that parents tend to experience some degree of discomfort when talking about sex with their adolescents, and Jordan et al. (2000) found that only 65% of their sample of rural parents felt somewhat or very comfortable discussing sex with their adolescents. Jerman and Constantine (2010) found that 78% of the parents in their sample reported feeling somewhat or very comfortable discussing sex with their adolescents, and this comfort was predictive of the number of sexual topics parents discussed with their adolescents. Similarly, it has also been found that mothers and fathers are more likely to discuss sex with their adolescents if they are more comfortable with the subject matter (Byers et al., 2008) and that potential

discomfort and embarrassment for both parents and adolescents is perceived as a barrier for family sexual communication by some parents (Fitzharris & Werner-Wilson, 2004). From the adolescents' perspective, a sense of embarrassment or discomfort was listed in multiple studies as a barrier to family sexual communication (Jaccard et al., 2000; Fitzharris & Werner-Wilson, 2004), and adolescents seem to be more comfortable discussing sex with their friends as opposed to their parents (DiIorio et al., 1999).

***Real and perceived barriers to family sexual communication.***

A perceived lack of parental sexual knowledge and a sense of embarrassment or discomfort have already been discussed as potential barriers to family sexual communication, and there are several other real and perceived barriers to such communication. For example Fitzharris and Werner-Wilson (2004) found that parents included the fear of sending mixed messages as a barrier to family sexual communication. These parents felt it was their responsibility to talk about sex with their adolescents, but worried that doing so could be interpreted as promoting sexual behavior by some adolescents. It seems adolescents have similar concerns about sending mixed messages because multiple studies have shown that adolescents are reluctant to initiate sexual communication with their parents for fear that their parents would become suspicious or make assumptions about their sexual activity (Jaccard et al., 2000; Fitzharris & Werner-Wilson, 2004; Gilliam, 2007).

Hutchinson and Cedarbaum (2011) were specifically interested in father-daughter sexual communication and the barriers that inhibit such communication. In their

qualitative study they asked daughters to identify perceived barriers to father-daughter sexual communication. The most common barriers identified were: a lack of a solid father-daughter relationship, a perceived lack of care from their father, fathers viewing daughters as “daddy’s little girl,” and fathers being inhibited by the gender difference that exists between a father and daughter. Coffelt (2010) was interested in mother-daughter sexual communication and the dialectic tensions that exist in such communication. Through her qualitative work with mother-daughter dyads she found that, indeed, there was a strong open/closed dialectic tension in that both mothers and daughters viewed sex and sexuality as natural and therefore something that should be discussed openly, but also viewed it as private and difficult to discuss and therefore something that may not be discussed so openly. Crohn (2010) was also interested in mother-daughter dyads and found that older adolescents and emerging adults reported not discussing their past and current sexual relationships with their mothers because they did not want to disappoint their mothers, they were afraid of worrying their mothers, and they did not feel such topics were appropriate for the mother-daughter relationship.

In cases where family sexual communication actually is enacted, there tends to be a strong focus on safety and prevention. I state this claim with a caveat. Most of the time when researchers investigate the sexual topics families discuss, they utilize a rather limited checklist that focuses on sexual risk as opposed to a more comprehensive view of sex and sexuality (for a thorough critique please see Chapter 2). This inherently biases the results because there may be many sexual topics that families discuss that are not included on the researcher’s list and therefore go unmeasured. There have been a few

qualitative studies that have included open-ended questions regarding which subjects have been discussed within the family, as well as some quantitative studies that have included a more thorough list of potential family sexual communication topics, but as a whole, the literature on family sexual communication topics is skewed towards investigating communication about sexual risk. This is understandable given the current state of adolescent sexual health in the country as well as the vast negative consequences that can accompany adolescent sexual activity, but it is still important to acknowledge this methodological limitation.

### **Topics Discussed During Family Sexual Communication**

It is not surprising that the most common topics that parents and adolescents report discussing within the family are related to sexual safety and risk prevention. HIV/AIDS, STDs, and condoms and contraceptives are usually listed among the most frequently discussed sexual topics within the family (Miller et al., 1998a; DiIorio et al., 1999; Jordan et al., 2000; LaSala, 2007; Epstein & Ward, 2008; Jerman & Constantine, 2010; Kapungu et al., 2010). Other frequent topics include abstinence or delaying sexual activity (DiIorio et al., 1999; Jordan et al., 2000; Kim & Ward, 2007; Epstein & Ward, 2008; Kim, 2009; Jerman & Constantine, 2010; Kapungu et al., 2010; Wilson et al., 2010), and pregnancy and the responsibilities of becoming a parent (DiIorio et al., 1999; Jordan et al., 2000; Kapungu et al., 2010; Wilson et al., 2010). Rosenthal and Feldman (1999) found that the most common topic adolescents reporting discussing with their parents was sexual safety and many of the young women in Averett et al.'s (2008) study reported that the only message about sex they had received from their parents was that

sex was scary and something to be feared. Though sexual safety is an important topic, Lefkowitz and Stoppa (2006) argue that to ensure positive sexual socialization for adolescents and emerging adults, it is important to include a wide variety of sexual topics.

Some families do report discussing other topics in addition to those regarding safety and risk-prevention. In fact, many parents and adolescents report discussing things such as dating and relationship behavior (DiIorio et al., 1999; Jordan et al., 2000; Kim & Ward, 2007; Kim, 2009), the mechanics and biology of reproduction (DiIorio et al., 1999; Jerman & Constantine, 2010; Kapungu et al., 2010; Wilson et al., 2010) and aspects of physical development such as menstruation (DiIorio et al., 1999; Rosenthal & Feldman, 1999; Kim & Ward, 2007; Wilson et al., 2010). It is important to reiterate that these findings are certainly limited in that most of them are results of parents and adolescents/emerging adults being given a finite set of topics and being asked to indicate whether or not (or to what extent) they have discussed each of the topics. Many times this list does not even include topics that are recurring in the qualitative literature such as dealing with peer pressure or gendered messages of sexual aggression or passivity.

Researchers are not only interested in the topics that are being discussed; they are also interested in the topics that are not being discussed. Rosenthal and Feldman (1999) found that the topics least talked about within the family were those that involved solitary sexual activities and this is echoed in other studies that have found that masturbation, spontaneous erections and wet dreams were listed as the topics that were least discussed (DiIorio et al., 1999; Jordan et al., 2000; Kapungu et al., 2010). Other topics that have reportedly not been discussed very often in families include prostitution, pornography

and abortion (Jordan et al., 2000), peer attitudes about adolescent sexual activity (Kapungu et al., 2010), and paternal attitudes about adolescent sexual activity (DiIorio et al., 1999).

Again it is with caution that these results are interpreted. The topics listed in this paragraph are not even included in the majority of the studies referenced in this section. That being said, Epstein and Ward (2008) did find that their all-male sample described parents as focusing on the negative and risky aspects of sex while other sources of information (i.e. peers and media) focused more on the positive aspects of sex.

Still, parents, adolescents, emerging adults and researchers alike seem to agree that a more comprehensive sexual education is important for positive sexual socialization. The parents in Fitzharris and Werner-Wilson's (2004) sample felt anatomy and physiology, the mechanics of reproduction, STDs, birth control and facts/myths were all topics that their adolescents should be exposed to, and the majority of parents in Jordan et al.'s (2000) sample were in favor of comprehensive sex education in school. The majority of adolescents in Hutchinson and Cooney's (1998), Hutchinson and Cedarbaum's (2011), and Fitzharris and Werner-Wilson's (2004) samples wanted parents to discuss more sexual topics. And Lefkowitz and Stoppa (2006) suggest that it is important for parents to discuss topics such as risk and prevention, physical development, relationships, desire, sexual identity and orientation and morals with their adolescents and emerging adults to ensure positive sexual socialization.

Some parents are providing this type of comprehensive sexual education to their children. For example, the fathers in Wilson et al.'s (2010) sample report discussing the biology of reproduction, changes associated with puberty, delaying sex, potential negative consequences of sex, peer pressure, and self-respect with their adolescents. However, other parents are not only *not* providing comprehensive sexual education to their children, but they are providing misinformation (Gilliam, 2007) or perpetuating a gender double standard in the messages they communicate to their offspring (Averett et al., 2008; Akers et al., 2010). In his review of the father-adolescent sexual communication literature, Wright (2009) examined the percentage of adolescents who had discussed sexual topics with their fathers. He collapsed the sexual topics from eleven studies into five categories: safe sex, abstinence/delaying sex, sexual values, STDs and sex and dating. He found that across studies, 32% of adolescents reported discussing sex and dating (n = 657 of 2079 adolescents), 27% had discussed STDs (n= 682/2519), 24% had discussed abstinence or delaying sex (n=423/1796), and only 20% had discussed sexual values (n=227/1139) and safe sex (644/3155) with their fathers. As an aside, these percentages are not cumulative meaning each category is independent of the others.

### **Alternative Forms of Family Sexual Communication**

Perhaps due to the barriers described earlier in this chapter, sometimes parents utilize methods other than explicit verbal sexual messages to communicate their sexual attitudes and expectations to their adolescents. Nadeem et al. (2006) videotaped pregnant Latina adolescents and their mothers discussing dating and sexuality and coded for explicit and implicit maternal messages about contraception. They found that some

mothers relied more heavily on explicit messages such as “What will you use if you’re going to have sex. Will you use condoms?” (p. 119.e11) while other mothers relied more heavily on implicit messages such as “When you go out with him do you plan on taking care of yourself?” (p. 119.e11).

Joffe and Franca-Koh (2001) examined what they termed “nonverbal family sexual communication” and defined such communication in terms of how nudity was handled in the home and the affection that was displayed between parents. Similar concepts have been echoed in the work of Kim (2009) and Wilson et al. (2010). The Asian American females in Kim’s (2009) sample recalled learning about their parents’ sexual values and expectations through observing the affection that was displayed between their parents. The African American fathers in Wilson’s (2010) sample stated that even if they did not directly discuss sex with their offspring, that they used other methods to promote safe and healthy development such as setting a good example and trying to provide a model for what a healthy marriage looks like. These fathers also stated that they tried to help their offspring focus on life goals and encouraged them to avoid things that could hinder these goals such as unprotected sex. Parents in Akers et al.’s (2010) study utilized this approach as well.

### **Styles of Family Sexual Communication**

It has been shown that some parents alter their style of communication when topics of dating and sexuality arise and that the approach parents take to sexual communication is not always the most effective. For example, Lefkowitz et al. (1996)

videotaped mother-adolescent dyads having a nonstructured conversation and a conversation about conflict and sex. When it came to the sexual conversation, there was less turn-taking, fewer words, and mothers exhibited more dominance than in the nonstructured conversation.

In their longitudinal study of the stability of affective communication between mother-adolescent dyads, Kahlbaugh et al. (1997) concluded that “the nature of the affective communication seems to be a function of individual family style more than of conversational topic” (p. 235) but acknowledged that mothers exhibited more dominance when discussing sex and dating topics than they did when discussing everyday or conflict topics. This more dominant type of sexual communication has been shown to elicit “negative” responses from adolescents (negative meaning that the responses were not conducive to effective communication).

For example, when Chung et al. (2005) conducted focus groups with Filipino American adolescents and parents, they found that both adolescents and parents felt that sexual values should be taught by parents. However, the parents wanted to transmit these values through traditional Filipino manner which mandates a respect for elders that is manifested as not questioning elders and not engaging in open discussions. The adolescents wanted more open discussions and this divide proved to be a barrier to effective sexual communication because the adolescents’ response was to withdraw.

A similar pattern was discovered by O’Sullivan et al. (2001) who conducted focus groups with African American and Latina mother-daughter dyads. The typical approach

to family sexual communication was the mother wanting information regarding the daughter's sexual experience and the daughter wanting to withhold information. Romo et al. (2004) videotaped Mexican mother-adolescent dyads and found that mothers' questions about adolescents' points of view regarding dating and sexuality topics did not elicit negative responses from the adolescents; however, when adolescents were probed about their own sexual knowledge and experience, and the sexual experience of their peers, the adolescents displayed higher levels of negative affect (namely complaining, defensiveness, expressed anger or disgust, and/or a hostile tone of voice).

It seems there may also be a gender difference when examining parents' and adolescents' style of family sexual communication. Whalen et al. (1996) observed parents and adolescents during a structured communication task that focused on AIDS. They used verbal and nonverbal cues to code for mutuality, support, directiveness, feedback, withdrawal, emotional expression and humor. In general they found that parents exhibited a more mutual style with daughters and a more directive style with sons. Specifically they found that father-daughter dyads exhibited a communication style that was highly engaged, mutual, expressive and "laced with humor" (p. 353) where as father-son dyads exhibited a communication style that was sober, reserved and hierarchical. There have been some researchers who have created typologies based on these styles of family sexual communication.

## **Typologies of Family Sexual Communicators**

Rosenthal and Feldman (1998) were interested in categorizing parents into a typology based on the way in which the parents engaged (or did not engage) in sexual communication with their adolescents. They derived their typology from the focus groups they held for mothers of adolescents. These mothers discussed their family sexual communication experiences in terms of the style, content and frequency of such communication and from the discussions Rosenthal and Feldman discovered five types of sexual communicators.

*Avoidant mothers* felt uncomfortable discussing sex with their adolescents and waited for the adolescents to initiate such discussions. Above all, they tried to prevent such discussions from occurring. The reasons mothers gave for avoiding family sexual communication included discomfort, feeling that their adolescent was not ready or willing to participate, and feeling that their adolescent was entitled to her/his privacy.

*Reactive mothers* typically reported having only one or two conversations about sex and these conversations were one-sided, consisted of the mother's opinions, and were limited in terms of the topics that were covered. Reasons mothers gave for not engaging in more sexual communication included worrying that the adolescent would dismiss the conversation or be unresponsive and unwilling to listen, and worrying that such communication would alienate the adolescent resulting in a loss of communication with her/him. Interestingly the other concerns that were mentioned by these mothers were contradictory. Mothers felt that adolescents knew all the information already and thus

would not benefit from the discussion, but they also felt that the adolescent was not ready for such information and were therefore hesitant to discuss such information.

*Opportunistic mothers* were willing to discuss sex with their adolescent and typically did so in a context where sexual communication was not the sole purpose of the interaction. For example, many mothers reported engaging in sexual communication with their adolescents after viewing sexual material on TV or hearing sexual lyrics in a song that was playing. Though this category was comprised of the highest number of mothers, the mothers still reported that their adolescents were typically uninterested or unwilling to engage in such communication.

Mothers who engaged in *child-initiated* sexual communication waited for the child to initiate conversations. These mothers felt that when the adolescent was ready for information, she/he would ask for it. These mothers were open to discussing sexual topics but found that they had little control over what topics were covered and that many times these interactions were initiated in front of other people or in context that were not most appropriate for family sexual communication. These mothers did report, however, that their children seemed comfortable communicating with them about sexual topics.

Finally, mothers who engaged in *mutually-interactive* sexual communication characterized such communication as both mothers and adolescents feeling comfortable and open about sexual communication and reported that the conversations tended to be intimacy and emotions-based. Many times these conversations developed in response to a catalyst, much like the opportunistic sexual communication.

Harris Peterson (2007) created a similar typology for fathers, but he based the typology on female emerging adults' reports rather than parental reports of family sexual communication. Harris Peterson found that typically fathers were categorized as *absent/avoidant*, *insightful* or *directive*. Females who reported having an *absent/avoidant* father reported little sexual communication with their fathers and said their fathers tended to defer to their mothers on such matters. The discussions that did take place were described as belated. The female emerging adults felt that having this type of father led to feelings of rejection and regret, and led to more risky sexual behavior. Daughters who reported having an *insightful* father reported ongoing father-daughter discussions about romantic and sexual relationships that addressed emotional risk and also directly related to the daughters' experiences. The daughters linked having an insightful father to having a positive father-daughter relationship and to engaging in less risky sexual behavior. Finally, daughters who reported having a *directive* father recalled clear messages from their father in terms of sexual protection, norms and expectations. These fathers were also clear about how they wanted their daughter to act in their sexual relationships. The daughters linked having a directive father to having a positive father-daughter relationship and to engaging in less risky sexual behavior (Harris Peterson, 2007).

Yowell (1997) chose to record mother-daughter sexual conversations and interview both parties after the conversation to develop two communicator typologies: one for mothers and one for daughters. Though the sample was very small (n=12 dyads) Yowell found evidence of three types of sexual communicators for each group. Mothers

were *power-assertive*, *conflicted* or *collaborative* while daughters were *passively engaged*, *avoidant* or *actively engaged*.

*Power-assertive* mothers transmitted sexual values and rules via their power and authority. These mothers reported no obstacles to effective sexual communication with their daughters. *Conflicted* mothers were torn between feeling the need for openness and honesty in their sexual communication with their daughters and worrying that such communication could either alienate their daughters or condone sexual behavior. These mothers perceived many obstacles to effective sexual communication with their daughters. Mothers who were *collaborative* reported sexual discussions with their daughters that were dominated by openness. These mothers believed in the utility of family sexual communication and developed strategies for creating collaborative discourse with their daughters. Strategies included listening to their daughters, allowing daughters to guide the conversation, and accommodating the style and needs of the daughter.

Yowell's (1997) typology for daughters also consisted of three types of sexual communicators: those who were *passively engaged*, those who were *avoidant* and those who were *actively engaged*. Daughters who practiced *passive engagement* were willing to communicate with their mothers about sexual topics and wanted to obey their parents' rules regarding sexual conduct. One of the reasons cited for wanting to obey was that daughters felt their mothers led "good" lives and wanted to have similar lives. *Avoidant* daughters desired privacy and did not want to engage in sexual discussions with their mothers. They also perceived a lack of maternal understanding. Finally, daughters who

practiced *active engagement* acknowledged differences between theirs and their mothers' perspective on sex and attributed the majority of these differences to a generation gap. These daughters actively tried to bridge this gap to have effective sexual conversations with their mothers.

It is clear that there are differences in terms of the sexual subjects that are discussed (and not discussed) within families and the ways in which these subjects are discussed. Another difference that has been observed in the literature is the difference between the family sexual communication that is reported by parents and the family sexual communication that is reported by adolescents and emerging adults. For example, Fitzharris and Werner-Wilson (2004) conducted focus groups for parents and adolescents and found that the parent focus groups reported far more family sexual communication occurring in the home than the adolescent focus groups. This disconnect, or incongruence in reporting, is a common theme in the family sexual communication literature.

### **Incongruence in Reports of Family Sexual Communication**

Many times, the correlation between parent and offspring reports of family sexual communication are modest or low (Jaccard et al., 1998; Guilamo-Ramos et al.; 2007; Guilamo-Ramos et al., 2008). In fact, Aronowitz et al. (2005) found no correlation between mother and daughter reports of sexual communication in their study. The stated, "There was no relationship between the topics that a mother said she discussed and the topics that a girl reported her mother discussed" (p. 132). And Byers et al. (2008) found

that mothers' and fathers' reports of general and sexual family communication were not associated with adolescents' reports of the same variables.

A strong example of this incongruence can be found in Kapungu et al.'s (2010) study of 162 African American late adolescents and their mothers living in impoverished neighborhoods with high rates of HIV. At least 90% of mothers reported talking with their sons about the dangers of having many sexual partners, the benefits of waiting to have sex, how life would change if the son became a parent, what sex is, STDs, pregnancy prevention and condom use; however, only 33% to 49% of sons reported discussing these topics with their mothers. Similarly at least 95% of mothers reported discussing these same topics with their daughters whereas only 59% to 75% of daughters reported discussing these topics with their mothers. There were only two topics that the majority of mothers reported not discussing with their daughters (wet dreams and spontaneous erections), whereas there were seven topics that the majority of daughters reported not discussing. More striking is the fact that there were only two topics that the majority of mothers reported not discussing with their sons (what friends think about teens having sex and who to date), whereas the majority of sons reported not discussing any of the seventeen topics that were included in this study. DiIorio et al. (1999) found similar results with a similar sample.

Researchers have posited different potential reasons for this incongruence including methodological limitations (Raffaelli et al., 1999), differences between parents and adolescents in terms of motives, orientations and expectations (Wyer, 2004) and differences between parents and adolescents in terms of what constitutes a discussion

about sex and sexuality (Fitzharris & Werner-Wilson, 2004). Because parents and adolescents/emerging adults approach family sexual communication from different places, “what information they process, how they process it, how it is stored in memory, and how it is retrieved from memory” can all be impacted (Wyer, 2004). These differences in cognitive processes can certainly impact self-report measures of family sexual communication.

Another potential factor that can impact the level of incongruence between parent and adolescent reports of family sexual communication may be the age of the adolescent. As Fisher (2001) found, there tends to be higher levels of congruence in parents and adolescents’ sexual attitudes in early adolescence and later adolescence and lower levels of congruence during middle adolescence. This notion was supported by the longitudinal work for Wyckoff et al. (2008) who found that in their sample of African American mothers, fathers and preadolescents (aged nine to twelve years old), the majority of parents and preadolescents report communication about sexual topics. Wyckoff et al. state that contrary to research that utilizes older adolescents, their data “indicate similar percentages of preadolescents and parents reporting whether a sexuality communication had occurred” (p. 659).

Finally, there may certainly be a social desirability bias impacting the parental reports of family sexual communication. Most parents report that it is important for parents to provide sexual education to their children (e.g. Fitzharris & Werner-Wilson, 2004; Guilamo-Ramos et al., 2006; Wilson et al., 2010). This pressure to uphold the responsibilities of being a parent may lead some parents to overestimate (or at least over

report) the amount of sexual communication that occurs within their family. For example, when Jordan et al. (2000) asked their sample of rural parents if they had talked to their teenagers about sex 94% answered yes. However, when these parents were asked whether or not they felt parents in general adequately communicated with their teenagers about sex only 9% answered yes.

### **Adolescents' Recommendations for Improving Family Sexual Communication**

Despite one study that reported “It is clear that both boys and girls [consider] it unimportant for parents to deal with many of the sexual topics” (Rosenthal & Feldman, 1999, p. 843), other studies have shown that adolescents would welcome more family sexual communication (e.g. King & Lorusso, 1997; Noland, 2006; O’Donnell, Wilson-Simmons, Dash, Jean Baptiste, Myint-U, Moss & Stueve, 2007). Hutchinson and Cooney (1998) asked their all-female sample to list any sexual topics their parents had not discussed with them but that they wish had been discussed. They found that the vast majority of their sample would have liked more sexual communication from their parents, regardless of the amount of sexual communication they were currently receiving. Ninety seven percent of the sample listed at least one topic they wished their mother would discuss and eighty nine percent listed at least one topic they wished their father would discuss.

In another all-female sample Hutchinson and Cedarbaum (2011) asked what sexual topics the participants wished their fathers had discussed with them. The most frequently cited topics included understanding men, ways to deal with the pressure to

have sex, fathers sharing their own life experiences regarding relationships and dating, providing more information on specific sexual risk topics, and communicating values and expectations. Fitzharris and Werner-Wilson (2004) conducted focus groups in which they asked 15 and 16 year old virgins about the family sexual communication that occurred within their homes. The adolescents reported minimal family sexual communication and described the communication that did occur as more lecture-based as opposed to discussion-based. Some of the adolescents professed a want for more family sexual communication, especially regarding contraception, STDs, how to deal with sexual pressure, and how to deal with sexual restraint, but they were reluctant to initiate discussions for fear of being lectured or judged by the parents.

Young Pistella and Bonati (1999) asked adolescent females what recommendations they had for parents who wanted to enhance family sexual communication. The most common recommendations were for parents to treat adolescents as equals, for parents to increase their knowledge about the lifestyle and peer pressure that adolescents dealt with, and for parents to improve their listening skills. Similarly, Brock and Jennings (1993) asked adult females in their 30s to reflect on the sexual communication their mothers shared with them in childhood and adolescence. They found that women wished their mothers had been more open in their sexual communication and wished mothers had discussed feelings and sexual choices. These women remembered their mothers focusing on warnings and rules and these messages were accompanied by negative nonverbal messages about sex (e.g. "I guess I got the message you should not be questioning that... I got that unsaid message from my mom,

or I felt like I did.... More of a hidden message than something I was told directly” (p. 63). These women wished their mothers could have utilized a more positive approach without the use of negative nonverbals.

### **Summary**

Many families are failing to engage in any type of meaningful family sexual communication. Those who are discussing sex tend to focus mostly on sexual risk therefore not providing a comprehensive or well-rounded education about sex and sexuality. The family sexual communication that has been reported seems to be leaving parents uncomfortable and uncertain and adolescents/emerging adults wanting clearer messages – and more of them. Also, incongruence in parental and adolescents/emerging adults reports of family sexual communication speak to potential issues with this type of communication in general. It is on this chaotic backdrop that we examine the effects that family sexual communication has on adolescents’ and emerging adults’ sexual outcomes.

### **Effects of Family Sexual Communication on Adolescents’ and Emerging Adults’ Sexual Outcomes**

The vast majority of research on the effects of family sexual communication on adolescents’ and emerging adults’ sexual outcomes uses sexual behavior as the outcome variable of interest. However, there have been studies that have used other outcome variables such as partner sexual communication, sexual attitudes or beliefs, and sexual self-efficacy. This section will be divided according to these four sexual outcome variables. Also, due to the variance in how researchers define and measure family sexual

communication, each section will be subdivided based on how family sexual communication was operationalized or, for shorter sections, the operational definition will be included for each study. I do this so the reader can see how operationalizations of family sexual communication can influence the results of the research.

### **Effects of Family Sexual Communication on Partner Sexual Communication**

In their 1986 article Warren and Neer argued that family sexual communication may serve as a model for adolescents' communication patterns. DiClemente, Crosby and Wingood (2002) posited that "Parent/adolescent communication about sex may lay the foundation for adolescents' sexual communication with their dating partners" (p. 144). Indeed such a relationship has been found in multiple studies. Hutchinson and Cooney (1998) utilized an all-female sample to examine the relationships between family sexual communication and adolescent daughters' sexual communication with their most recent sexual partner. They found that higher levels of family sexual risk communication, operationalized as how often parents talked with adolescents about eight sexual risk topics (e.g. STD and HIV prevention, resisting peer pressure), were associated with a higher frequency of partner sexual communication; specifically, daughters whose parent engaged in more family sexual risk communication were more likely to discuss STDs with their partner prior to engaging in sexual activity. Also these daughters were more likely to ask their partner about previous sexual partners prior to engaging in sexual activity.

Troth and Peterson (2000) were interested in what separated adolescents who were able to engage in effective partner sexual communication and those who were unable to engage in such communication. They conceptualized family sexual communication as the extent to which parents had discussed sex and HIV with their adolescents and operationalized this variable with a 14 item scale. Their univariate analysis found that more frequent family sexual communication was associated with an increase in adolescents' willingness to discuss safe sex with a partner; however, at the multivariate level of analysis this association was overshadowed by paternal conflict style and gender.

Crosby et al. (2002) were also interested in the antecedents of partner sexual communication. Their focus was on the frequency with which their African American sample discussed STD and pregnancy prevention with their sexual partner. They found that infrequent communication with parents about STDs and pregnancy prevention was associated with infrequent communication with partners about STDs and pregnancy prevention. Specifically, they found that those adolescents who spoke less frequently with parents about these topics were *four times* less likely to talk with their partners about these subjects. Crosby et al. (2002) state that the "most important correlate of infrequent communication with sex partners was infrequent communication with parents about sex and sex-related issues" (p. 225).

These studies demonstrate that the type of sexual communication that occurs within an adolescent's family tends to be enacted in the adolescent's sexual relationships. Based on this research, I posit the following hypotheses:

H<sub>1a</sub>: Higher frequency of family sexual communication will be associated with higher frequency of partner sexual communication

H<sub>1b</sub>: Higher quality family sexual communication will be associated with higher quality partner sexual communication

H<sub>1c</sub>: The types of messages that are communicated during family sexual communication will be similar to the types of messages that are communicated during partner sexual communication

### **Effects of Family Sexual Communication on Sexual Attitudes and Beliefs**

In his review of father-adolescent sexual communication research, Wright (2009) discussed eight studies that either directly or indirectly measured the effect father-adolescent sexual communication had on adolescents' sexual attitudes. His overall conclusion was that father-adolescent sexual communication does impact adolescents' sexual attitudes but that significant gender differences are present. For example, in one study higher frequency of father-daughter sexual communication was associated with more restrictive attitudes, more negative attitudes towards having sex in the next three months and more positive attitudes towards condoms for daughters; however father-son sexual communication did not significantly impact these attitudes for sons. Somers and Vollmar (2006) had similar results.

Other researchers who have examined the impact that family sexual communication has on adolescent sexual attitudes include Warren and Neer (1986) who argue that family sexual communication does not promote "an attitude of sexual license"

(p. 86) and Hutchinson and Montgomery (2007) who found that a higher amount of family sexual risk communication, operationalized as how often parents talked with adolescents about eight sexual risk topics (e.g. STD and HIV prevention, resisting peer pressure) was associated with more restrictive sexual attitudes and beliefs of adolescents. Lefkowitz and Espinosa-Hernandez (2007) similarly found that discussing abstinence was associated with adolescents holding more restrictive sexual attitudes.

An interesting contradiction takes place when we look at researchers who operationalized family sexual communication in broader terms than sexual risk or abstinence. DiIorio et al. (1999) operationalized family sexual communication as whether or not families had discussed 14 sexual topics ranging from dating to pregnancy and Somers and Paulson (2000) similarly operationalized this construct as the extent to which families had discussed 20 sexual topics ranging from dating to pregnancy. DiIorio et al. found that more sexual communication with mothers was associated with holding more restrictive sexual attitudes whereas Somers and Paulson (2000) found that for daughters, more mother-daughter sexual communication was associated with holding less restrictive sexual attitudes. This type of contradicting results is common in the family sexual communication research. Some of these contradictions can be explained through methodological limitations and inadequacies (for a further review please see Chapter 2).

For example, higher frequency of family sexual communication has not been shown to have a uniform effect on adolescent sexual attitudes and beliefs in terms of how permissive or restrictive they are, but higher frequency of family sexual communication has been shown to increase congruency in parents' and adolescents' sexual attitudes (e.g.

Fisher, 1987) and increase the adolescents' endorsement of the sexual beliefs that are explicitly communicated during family sexual communication (Dittus et al., 1999). Guilamo-Ramos et al. (2007) found that when mothers discussed the advantages and disadvantages of adolescents becoming sexually active at that time in their lives, adolescents were more likely to have sexual outcome expectancies that were congruent with their mothers'. Several researchers have argued that it is imperative to take into account parental sexual attitudes when examining the connections family sexual communication has with adolescent sexual outcomes (e.g. Moore et al., 1986; Jaccard & Dittus, 1993; Calhoun Davis & Friel, 2001; Miller et al., 2001; Wright, 2009)

If researchers only measure frequency of family sexual communication, they may not be accounting for the types of messages that are being transmitted or the types of sexual values that are being instilled. It may be that some parents engage in a high amount of sexual communication with their adolescents and emerging adults, but that the messages they are conveying are permissive in nature. If this is the case, then the association between frequency of family sexual communication and sexual beliefs will most likely be that more family sexual communication is associated with more permissive sexual beliefs. Therefore, it seems that the more appropriate relationships to explore are those that exist between *frequency* of family sexual communication and the *congruency* between parents' and adolescents'/emerging adults' sexual beliefs and those that exist between *content* of family sexual communication and *permissiveness/restrictiveness* of adolescents'/emerging adults' sexual beliefs and beliefs. I posit the following hypotheses:

H<sub>2a</sub>: Higher frequency of family sexual communication will be associated with more similarity between perceived parental sexual beliefs and adolescents'/emerging adults' sexual beliefs

H<sub>2b</sub>: Higher quality family sexual communication will be associated with more similarity between perceived parental sexual beliefs and adolescents'/emerging adults' sexual beliefs

H<sub>2c</sub>: The types of messages adolescents/emerging adults receive from parents will be congruent to the types of sexual beliefs adolescents/emerging adults endorse such that receiving restrictive sexual messages will be associated with endorsing restrictive sexual beliefs and receiving permissive sexual messages will be associated with endorsing permissive sexual beliefs

### **Effects of Family Sexual Communication on Sexual Self-efficacy**

Studies on the effects family sexual communication has on adolescents' and emerging adults' sexual self-efficacy are not as abundant as those that investigate other sexual outcomes. This may be because, both theoretically and empirically, self-efficacy tends to be seen as an independent variable rather than as an outcome variable (e.g. Theory of Planned Behavior, Social Cognitive Theory, and Health Belief Model) . However, there are a few studies that speak directly to this relationship.

Hutchinson and Cooney (1998) found that daughters who reported higher frequency of family sexual communication also reported higher condom use self-efficacy, and Hutchinson and Montgomery (2007) found that sons who reported higher

frequency of father-son sexual communication reported higher self-efficacy in terms of being able to talk to a partner about using a condom and being able to abstain from sex. For both of these studies, family sexual communication was operationalized as how often parents talked with adolescents about eight sexual risk topics (e.g. STD and HIV prevention, resisting peer pressure). Also, Lefkowitz and Espinosa-Hernandez (2007) found that higher quality family sexual communication, defined as parents' ability to discuss sexual topics with comfort, openness and a lack of embarrassment, was associated with an increase in adolescents' condom use self-efficacy (defined as the perceived lack of barriers to condom use).

Glenn et al. (2008) found similar results in that higher amounts of father-son sexual communication regarding having high sexual standards was associated with higher sexual self-efficacy to abstain from sex. However, they did not find a relationship between this type of father-son communication and the sons' efficacy to engage in safe sex. Glenn et al. (2008) posited that their sample may have influenced this finding in that the sample of fathers was taken from Christian churches and this element of religiosity might explain why abstinence would be valued over safe sex. I would add that the measure of self-efficacy was completed by the fathers regarding the father's perception of the son's self-efficacy and consisted of two questions: how sure the fathers were that their sons would practice abstinence/ safer sex. This is certainly a methodological choice that could hinder the validity of these findings.

Another study with mixed results was conducted by Shoop and Davidson (1994) who found that adolescents who reported discussing *general* sex issues with their parents

also reported feeling *more* self-efficacy in terms of perceived ability to discuss AIDS with a sexual partner, but adolescents who reported *specifically discussing AIDS* with their parents reported feeling *less* self-efficacy in terms of perceived ability to discuss AIDS with a sexual partner. More specifically, adolescents who reported discussing general sex issues with their parents were 7.5 times more likely to feel able discussing AIDS with a sexual partner than adolescents who reported no discussing general sexual issues with their parents whereas adolescents who reported specifically discussing AIDS with their parents were 8.25 times *less* likely to feel able to discuss AIDS with a sexual partner than adolescents who reported not discussing AIDS with their parents.

Shoop and Davidson (1994) acknowledge that this finding “requires explanation” but add that without further information, “we can only speculate on its meaning” (p. 146). I, however, would argue that this is an example of when poor methodology skews study results and hinders our ability to discover the true relationship between these variables. Shoop and Davidson measured family sexual communication through two dichotomous variables: “have you ever discussed sexual matters with your parents” and “have you ever discussed the risk of AIDS with your parents.” This does not adequately conceptualize and operationalize the construct of family sexual communication which leads me to be leery of the results reported in this study (for a more in-depth discussion of methodology please see Chapter 2).

In summary, Hutchinson and Cooney (1998), Hutchinson and Montgomery (2007) and Lefkowitz and Espinosa-Hernandez (2007) found a positive association between family sexual communication and adolescent sexual self-efficacy. Shoop and

Davidson (1994) and Glenn et al. (2008) reported similar associations but also reported a null finding and a contradictory association. Measurement and sampling issues have been discussed but another explanation may be that these results are confounded by variables such as the quality of family sexual communication or satisfaction with said communication. In their examination of sexual self-efficacy Farmer and Meston (2006) found that satisfaction with partner sexual communication impacted condom use self-efficacy. Though this study measured partner sexual communication and not family sexual communication, it is worth examining how the quality of family sexual communication may impact adolescents' and emerging adults' sexual self-efficacy in addition to how the quantity (or frequency) of such communication impacts adolescents' and emerging adults' sexual self-efficacy. Therefore, I posit the following hypotheses:

H<sub>3a</sub>: Higher frequency of family sexual communication will be associated with greater sexual self-efficacy

H<sub>3b</sub>: Higher quality family sexual communication will be associated with greater sexual self-efficacy

### **Effects of Family Sexual Communication on Sexual Behavior**

Multiple syntheses have been written of the literature on family sexual communication and its impact on adolescents and emerging adults' sexual behavior, and they all come to the same conclusion: results of the existing studies are mixed and sometimes contradictory, and no simple relationship has been found between these two variables. Jaccard and Dittus (1993) reviewed 20 years of research from the 1970s and

1980s and their summary was that some research demonstrated no impact of family sexual communication on adolescent sexual behavior, some research demonstrated an effect for one gender but not the other, some research demonstrated effects for maternal sexual communication but not paternal sexual communication and vice versa, and some research demonstrated positive (or protective) effects of such communication while others demonstrated negative effects of such communication. They also stated that all reported effects were “relatively weak” (p. 335).

Miller et al. (2001) reviewed 20 years of research from the 1980s and 1990s regarding familial influences on adolescent sexual behavior. Regarding the effect family sexual communication has on adolescent sexual behavior they stated that results are “very inconclusive; no simple direct effect is apparent” (p. 25). DiIorio et al. (2003) also reviewed the literature during these two decades and came to a similar conclusion. Finally, in his review of the research specifically on father-adolescent sexual communication Wright (2009) states, “There is no predictable zero-order correlation between [father child sexual communication] and children’s sexual behavior” (p. 246). More recent articles seem to be following this trend as well.

In preparing this section of the literature review I systematically went through the studies I wished to discuss looking for a way to organize them. I wrote this section multiple times and tried to focus on operationalizations because that is the focal point of this project; however, no operationalization demonstrated consistent results (though Hutchinson’s Parent-Teen Sexual Risk Communication scale (PTSRC-III) arguably produces the most consistent findings). Organizing this section according to

operationalization was not helpful. I chose to organize the following studies by their results and tried to group results by operationalizations when possible.

**Results indicating family sex comm. decreases adolescents' and emerging adults' sexual risk-taking.**

The majority of research demonstrates family sexual communication to be a protective factor in adolescents' and emerging adults' sexual risk-taking behavior. The most common operationalization of family sexual communication that is used by researchers interested in how family sexual communication impacts this outcome is a four to eight item scale measuring whether or not (or the extent to which) parents and offspring have discussed topics related to sexual risk and risk-taking. Typical topics included in these scales include STDs, HIV/AIDS, condoms and/or birth control, and pregnancy or other risks associated with sexual activity. Using this type of operationalization, Hutchinson et al. (2003), Leland and Barth (1993) and Whitaker et al. (1999) all found that higher frequency of family sexual communication was associated with a lower likelihood that adolescents had become sexually active. Similarly, in their sample of Japanese adolescents, Nagamatsu et al. (2008) found that family sexual communication regarding HIV was associated with adolescents delaying sexual initiation. It was also found that adolescents who reported engaging in sexual communication with their mothers were more likely to initiate sexual intercourse at a later age than adolescents who did not report engaging in such communication (Pick & Palos, 1995; DiIorio et al., 1999).

Guzman et al. (2003) operationalized family sexual communication with one item asking how comfortable adolescents were during sexual conversations with their mother and father. They found that adolescents who experienced more comfort were less likely to be sexually active and had stronger intentions to delay sexual initiation. Romo et al. (2002) took a different methodological approach and videotaped mothers and adolescents engaging in sexual communication. They coded the conversations for five types of messages: advice, maternal sexual self disclosure, cautionary messages, messages regarding sexual beliefs and values and messages about everyday life. They found that adolescents were more likely to be abstinent when there were more messages about sexual beliefs and values communicated. The studies cited in the preceding paragraphs demonstrate that family sexual communication can impact adolescent abstinence and other studies have demonstrated that such communication also influences adolescents and emerging adults who are already sexually active.

For those adolescents and emerging adults who are already sexually active, engaging in more family sexual communication has been associated with an increase in using contraceptives, a decrease in frequency of sex, a decrease in the number of sexual partners, a decrease in HIV risk reported in the last 90 days, a decrease in the probability of becoming pregnant, and an overall decrease in risky sexual behavior (Pick & Palos, 1995; Miller et al., 1999; Teitelman et al., 2008; Trejos-Castillo & Vazsonyi, 2008; Kapungu et al., 2010). Utilizing the operationalization of family sexual communication laid out at the beginning of this section, engaging in more family sexual communication has been associated with less unprotected sex, higher rates of condom use, higher

condom use consistency and more frequent use of dual method birth control (Leland & Barth, 1993; Romer et al., 1999; Cosby et al., 2001; Hutchinson & Montgomery, 2007).

These researchers have also found higher frequency of family sexual communication to be associated with fewer incidents of pregnancy (Leland & Barth, 1993; Hutchinson & Montgomery, 2007), fewer incidents of anal sex (Romer et al., 1999), fewer sexual partners (Leland & Barth, 1993) and less unprotected sex at a three month follow up (Hutchinson et al., 2003).

Utilizing a single, dichotomous item to operationalize family sexual communication Holtzman and Rubinson (1995) found that specifically discussing HIV within the family was associated with a decrease in the number of sexual partners adolescents report having and a decrease in unprotected sex in which adolescents reported engaging. Also using a single-item operationalization, Weinman et al. (2008) found that an increase in family communication about birth control was associated with an increase in adolescent condom use.

Though many researchers seem to operationalize family sexual communication solely in terms of sexual risk, there have been a few researchers who have included a broader definition of family sexual communication in their work. For example, Whitaker et al. (1999) included frequency and maternal responsiveness in their operationalization. To measure the frequency of family sexual communication they included 11 sexual topics in their scale that were then factor analyzed. One of their factors was – in fact – risk, but the other was a more general factor they labeled “sexuality”. They operationalized

maternal responsiveness in terms of how open, skilled and comfortable adolescents perceived their mothers to be when discussing sexual topics. Using this broader operationalization, Whitaker et al. (1999) found that more frequent family sexual communication was associated with an increase in condom use for adolescents but only when mothers were perceived as highly responsive during these sexual conversations.

Kotva and Schneider (1990) operationalized family sexual communication in terms of frequency, timeliness and the attitudes that were conveyed during such communication. They found that higher scores on their family sexual communication scale (indicating more frequent, on-time, comfortable and positive messages about sex) were associated with more consistent birth control use in their adolescent female sample. Though this particular finding supports my hypotheses, it is a prime example of why some scales should not be averaged. Scoring higher on an item such as “My mother told me about menstruation before my first period occurred” and scoring higher on an item such as “My parents generally give me the impression that sexuality can be pleasurable or positive” do not seem part of the same theoretical construct and even if the Cronbach’s alpha of this scale was sufficient, that does not inherently mean that these two items will (or should) be associated with adolescents’ and emerging adults’ sexual behavior in the same manner.

Another researcher who utilized an operationalization that went beyond sexual risk was Harris Peterson. Harris Peterson’s (2007) qualitative work also speaks to the importance of including the affective component of family sexual communication. She asked her female sample to describe the way their fathers communicated with them about

sex and the implications they felt this communication had on their sexual behavior. She found that daughters who described their fathers as either directive or insightful (meaning they either sent clear messages about sexual protection and sexual behavior expectations or they engaged in ongoing discussions about sex that were emotions-based) stated father-daughter sexual communication had a protective effect on the amount of risky sexual behavior in which they participated. Daughters who described their fathers as absent or avoidant (meaning they engaged in little to no sexual communication with their daughters) stated father-daughter sexual communication had a negative effect on the amount of risky sexual behavior in which they participated. This provides support not only for the idea that engaging in family sexual communication can help curb adolescents' and emerging adults' sexual risk-taking but also that a lack of family sexual communication may lead to an increase in sexual risk-taking.

In summary, the studies discussed here all demonstrate the protective function family sexual communication can serve against adolescents' and emerging adults' sexual risk-taking. Though their operationalizations of family sexual communication are not uniform, they all point to the fact that such communication can delay sexual initiation, increase condom and contraceptive use, decrease incidents of pregnancy and decrease other risky behaviors including anal sex and having a high number of sexual partners.

**Results indicating family sex comm. increases adolescents' and emerging adults' sexual risk-taking.**

There are, however, a few studies that have found family sexual communication to be positively associated with adolescents' and emerging adults' sexual risk-taking. For example, Calhoun Davis and Friel (2001), Somers and Paulson (2000) and Usher-Seriki et al. (2008) all found that higher amounts of family sexual communication were associated with higher levels of adolescent sexual behavior; however, there are caveats to each of these studies. Calhoun Davis and Friel (2001) did find that higher levels of mother-adolescent sexual communication was associated with earlier sexual initiation; however, there was no relationship found between this type of communication and the number of partners adolescents reported having, and their operationalization was one item which does not solidify the credibility of this finding. Somers and Paulson (2000) found that less family sexual communication, which was operationalized as the extent to which parents and adolescents discussed 20 various sexual topics, was associated with less adolescent sexual behavior; however, they also found less family sexual communication to be associated with less sexual knowledge.

Usher-Seriki et al. (2008) found that higher frequency of *general* mother-daughter sexual communication (which was operationalized by how much mothers and daughters had discussed sex, birth control and the dangers of STDs) was associated with a higher likelihood that the daughters were sexually active; however, when mothers reported *specifically* discussing the negative consequences of sex while using moral rationales, this association was completely reversed indicating that higher frequency of this specific

sexual message was associated with *lower* likelihood that the daughters were sexually active. This is a very important finding and will be discussed more at length later in this chapter.

Deptula et al. (2010) also found that family sexual communication can have a negative impact on adolescent sexual behavior. Namely, they found that higher reports of family sexual risk communication, operationalized as the extent to which parents and adolescents had discussed sexual costs including STIs and negative consequences of pregnancy, were associated with earlier sexual initiation and less frequent condom use among adolescents in their sample. Deptula et al. state, “It appears from these results that parental communication focused solely on discouraging risky behavior does not serve as a protective factor for adolescent sexual behavior” (p. 737). This sentiment has been echoed in the qualitative work of Averett et al. (2008).

Averett et al.’s (2008) study focused on family sexual communication and daughters’ view of their sexual agency. The vast majority of women in this study reported that the only message they received from their parents about sex was that sex was scary and something to be feared. Men were portrayed as sexual predators. Over 70% reported instances of sexual passivity either via messages received from parents or through instances of being tolerant of sexual aggression, objectification or violence. Almost all of the women in this sample connected these messages to having general insecurity about sex and sexuality. Certainly this type of family sexual communication does not seem to be serving a protective function.

**Results indicating no relationship between family sex comm. and adolescents' and emerging adults' sexual risk-taking.**

Though the majority of studies do find significant relationships between family sexual communication and adolescents'/emerging adults' sexual behavior, there have been some that have produced null results. Some of these studies have used simplistic operationalizations of family sexual communication. McNeely et al. (2002) operationalized family sexual communication with two items: how frequently mothers talked with their adolescents about sex and birth control. They found that this variable was not associated with the age of adolescents' sexual debut. Chewning and Van Koningsveld (1998) operationalized family sexual communication with two items: if adolescents had ever discussed sex with their mother and if adolescents had ever discussed sex with their father. They found that this variable was not associated with the age of adolescents' sexual debut or their contraceptive use. Both of these studies were longitudinal. Finally, Yoon (2004) asked respondents to report the extent to which they and their parents discussed sex, sexual problems and important matters on a five-point likert-type scale and labeled this family sexual communication. She found that this variable was not associated with adolescent sexual behavior.

Other studies that have produced null results have utilized operationalizations of family sexual communication that are similar to those of other studies that produced significant results. Miller et al. (1999) operationalized family sexual communication with four dichotomous items asking if parents and adolescents had discussed when to start having sex, birth control, HIV/AIDS and condoms. They found that this variable was not

associated with the age of adolescents' sexual debut or their condom use. O'Donnell et al. (2006) operationalized family sexual communication with six dichotomous items asking the extent to which parents and their 6<sup>th</sup> graders had discussed male and female body changes, waiting to have sex, waiting to get pregnant and how pregnancy can impede life goals, and how to prevent contracting HIV. They found that this variable was not associated with the 6<sup>th</sup> graders sexual behavior of holding hands, kissing, or kissing and hugging for a long time.

Fisher (1988) operationalized family sexual communication as the extent to which parents and adolescents had discussed nine sexual topics (i.e. pregnancy, fertility, intercourse, menstruation, venereal disease, birth control, abortion, prostitution and homosexuality). She found no difference between high and low sexual communication families with respect to premarital sex and birth control rates of adolescents. Aronowitz et al. (2005) expanded Lehr et al.'s (2000) scale and operationalized family sexual communication as the extent to which mothers had discussed 16 sexual topics with their daughters. They found that neither maternal nor adolescent reports of this variable were associated with adolescents' risky sexual behavior.

A final study that produced null results was conducted by Angera et al. (2008) who operationalized family sexual communication in terms of the extent to which parents and adolescents had discussed 20 sexual topics and how comfortable participants were with each of these topics. They found that neither of these measures related to the age of adolescents' sexual debut.

These null results are important to acknowledge, but so is the fact that many times, null results are difficult to interpret unless we know the power of the study. As Aberson (2002) points out, if a study does not have enough power, then it is likely that the research design is “not sensitive enough to detect effects” and so if the study has null results, “we must be careful as to what we conclude as failing to reject  $H_0$  does not tell us enough to conclude anything about the viability of  $H_0$ ” (p. 38).

### **Studies with mixed results.**

There have also been studies whose results are mixed. Aspy et al. (2007) found that when adolescents reported discussing how to say no and delaying sex with their parents, they were also more likely to report not being sexually active (positive outcome). When adolescents and parents reported discussing birth control and STD prevention, adolescents were more likely to report being sexually active (negative outcome), but were also more likely to report using birth control (positive outcome). And when parents reported discussing right/wrong sexual behaviors, delaying sexual activity, adolescents were more likely to report being sexually active (negative outcome). I realize the use of the terms “positive” and “negative” outcome are extremely value-laden and while most would agree that outcomes such as condom use are positive, not all would agree that outcomes such as sexual initiation are negative. This will be discussed further in this chapter.

Jaccard et al. (1996) examined, among other things, how maternal discussions of condom use impacted adolescent sexual behavior. They found that adolescents who

reported such conversations with their mother were more likely to have engaged in sex (negative outcome), but among the sexually-active adolescents in their sample, such discussions did not relate to the frequency of sexual intercourse over the past six months (null outcome). Also, these discussions had no association with contraceptive use for females (null outcome), but these discussions were associated with more contraceptive use for males (positive outcome).

Lefkowitz et al. (2007) operationalized family sexual communication as the extent to which parents and adolescents had discussed 20 sexual topics in the past 3 months as well as the quality of said discussions (i.e. degree of comfort, openness and lack of embarrassment). They found that the quality of family sexual communication was not significantly associated with adolescent sexual behavior (null outcome), and that reporting more discussions of dating was associated with adolescents being more sexually active (negative outcome) whereas reporting more discussions of abstinence were associated with adolescents being less sexually active (positive outcome).

Lefkowitz et al. (2007) used these findings as evidence of the pitfalls of creating one-factor measures of family sexual communication that are based on the summation or average of the extent to which families discuss diverse sexual topics. This method is widely practiced which, again, may be clouding the true relationship between family sexual communication and adolescent sexual behavior.

Finally, Joffe and Franca-Koh (2001) investigate the effects that nonverbal family sexual communication (namely expressions of affection between parents and how nudity was handled in the home) had on adolescent sexual outcomes. They found that higher

frequencies of nudity in the house were associated with an earlier sexual debut (negative outcome) while expressions of affection between parents showed no impact (null outcome). More expression of affection between parents was associated with adolescents having fewer sexual partners in the last two years (positive outcome) whereas nudity in the house showed no impact (null outcome). No measure of nonverbal sexual communication was associated with contraceptive use by adolescents (null outcome). Finally, though measures of nonverbal sexual communication were not significantly associated with their overall scale of sexual guilt (null outcome), they were significantly associated with individual items from this scale including feeling that masturbation was okay, not fighting to have complete control of one's body when experiencing sexual desires, enjoying sexual desire as healthy, not condemning unusual sex practices and less belief that sex before marriage is not recommended.

The three studies described above demonstrate that results in this area of research not only vary from study to study, but vary within studies as well. Another way results have varied within studies is by gender.

Some studies have demonstrated gender effects in the ways that family sexual communication impacted adolescents' and emerging adults' sexual behavior. For example, Nagamatsu et al. (2008) found that higher frequency of communication with mothers about HIV was associated with a delay of first intercourse for adolescents, but such communication with fathers did not significantly impact this outcome. Also Hutchinson (2002) found that if mothers discussed condoms with adolescents before the

adolescents became sexually active, the adolescents were more likely to consistently use condoms, but such communication with fathers did not significantly impact this outcome.

In terms of adolescent gender, Holtzman and Rubinson (1995) found family communication regarding HIV was associated with less sexual risk-taking but this association was significantly stronger for females than males. Pearson et al.(2006) found higher amounts of family sexual communication were associated with higher likelihood of sexual initiation for adolescent females but no such relationship existed for males; they operationalized family sexual communication with one item asking the extent to which parents talked to adolescents about sex. And Moore et al. (1986) found that higher amounts of family sexual communication were associated with lower likelihood of sexual initiation for females but *higher* likelihood of sexual initiation for males; they operationalized family sexual communication with one dichotomous item asking if parents and adolescents had ever discussed sex.

### **Potential Reasons for Varying Results**

#### **Inclusion of age of sexual initiation as a risk variable.**

Just as it is important to properly conceptualize the independent variables in a study, it is also important to properly conceptualize the dependent variables. When discussing the outcome of a study, researchers focus on how communication impacts adolescents' and emerging adults' sexual risk-taking. It is easy to see why some behaviors are used to operationalize this concept. Having unprotected sex certainly indicates sexual risk-taking as it increases the chances of contracting STIs, HIV/AIDS

and experiencing an unintended pregnancy. Also, having more sexual partners can indicate sexual risk-taking as it increases the chances of contracting STIs or HIV/AIDS and has been shown to be connected to other risky behaviors such as engaging in unprotected sex. The other variable that many researchers use as an indication of sexual risk-taking is the age at which adolescents begin engaging in sexual activities. I would like to put forth the argument that this particular variable is not as indicative of risk-taking and that including it in the operationalization of adolescent risk-taking is part of the reason there are so many inconsistent findings reported in this field.

Certainly if an adolescent begins engaging in sex at age 10 it is different than if an adolescent begins engaging in sex at age 18; however, for the vast majority of adolescents, age is used as a proxy for other variables such as intellect, self-efficacy, maturity and self esteem. It is assumed that adolescents who engage in sexual activities earlier in life have not developed emotionally and cognitively enough to understand and deal with the impact that having sex can have on their lives. This may be true, but simply knowing the age at which adolescents begin having sex does not tell us how emotionally and cognitively developed they are. A 15 year old may be more self assured, logical and mature than a 17 year old so using age as an indicator for risk, in this case, may be faulty. I want to be clear that I am in no way advocating for adolescents to begin engaging in sex at an earlier age, but I want to start a dialogue that really looks at whether or not age of sexual initiation should be deemed an indicator of sexual risk-taking.

From an empirical standpoint, almost all of the results that have shown family sexual communication has a “negative” impact on adolescent sexual behavior have used

age of sexual initiation as the indicator of adolescent sexual risk-taking. For example, Calhoun Davis and Friel (2001) and Joffe and Franca-Koh (2001) both showed that more family discussions about sex (or more nonverbal family sexual communication) were associated with earlier sexual initiation. Jaccard et al. (1996), Aspy et al. (2007), Lefkowitz et al. (2007) Usher-Seriki et al. (2008), and Deptula et al. (2010) all showed that more family discussions about sex were associated with an increased likelihood that the adolescent was sexually active. All of these negative results have to do with age of initiation. The only other negative finding was that Deptula et al. (2010) found that more family sexual discussions were associated with a decrease in condom use in their sample. However, Jaccard et al. (1996) found the opposite to be true with the males in their sample; more family sexual discussions were associated with an increase in contraceptive use for males. This is the summary of the findings that show family sexual communication can be linked to adolescent sexual risk-taking.

As one can see, if we eliminate age of sexual initiation from the operationalization of adolescent risk-taking, the results become much more consistent and clear. Eliminating this variable from this operationalization should not be done simply to make the results clearer, but I feel there is a theoretical argument for why this variable is not the best indicator of adolescent sexual risk-taking and believe researchers should discuss whether or not a reconceptualization and operationalization of adolescent sexual risk-taking is in order.

**Different definitions.**

Another potential explanation for why the results in this body of literature are so discrepant is the many ways in which the construct of family sexual communication has been conceptualized and operationalized. I provide a lengthy discussion of the existing measures of family sexual communication in Chapter 2, so I will only briefly discuss issues of measurement at this point. As Jaccard and Dittus (1993) note in their synthesis of the literature, many of the measures of family sexual communication that have been used are “crude measures and conceptualizations of the communication process” (p. 336) which oversimplify the complex relationship that exists between family sexual communication and adolescents’/emerging adults’ sexual behavior. Poor measurement of this core construct can lead to skewed results that cloud the true relationship that exists between this type of communication and adolescents’/emerging adults’ sexual behavior.

Not only are many of the currently used measurements inadequate, they are also very different from one another and measure different aspects of family sexual communication (or perhaps even measure related constructs). As Miller et al. (2001) note in their synthesis of the research, “Some of the contradictory results across studies arise from using widely different measures of parent/teen communication” (p. 14). In some areas of research, researchers utilize a handful of measures that have been vetted. In the family sexual communication field, each researcher (with a few exceptions) creates her/his own measure which tends not to be used by other researchers in the field. This practice makes it difficult to create a cohesive body of literature.

In addition to varying in terms of content (e.g. measuring frequency of family sexual communication, comfort with family sexual communication, focusing solely on sexual risk), this body of measurements also varies in terms of number of items (typically between one and twenty items), types of responses (dichotomous vs. continuous), level of specificity (general vs. detailed) and how variables are computed (items analyzed individually vs. summed or averaged). These last two points are especially important given that Usher –Seriki et al. (2008) found that a general measure of family sexual communication was associated with an *increased* likelihood of daughters being sexually active but a specific measure of family sexual communication was associated with a *decreased* likelihood of daughters being sexually active. This finding is particularly troubling to me because of the popularity of using a global measure of family sexual communication or of creating a one-factor measure of family sexual communication based on the summation or average of scores on a multi-item measure.

#### **Other potential methodological issues.**

Another potential reason for the contradicting and varied results reported in the family sexual communication literature is because many researchers do not investigate mediating, moderating and non-linear relationships among variables (Kotchick et al., 2001). Without investigating these types of relationships, researchers can come to an incorrect conclusion regarding how certain variables impact others. For example, Lehr et al. (2000) found a curvilinear relationship between family sexual communication and the age at which adolescents become sexually active. For white mother-adolescent dyads and African American father-adolescent dyads, adolescents who reported the most open

sexual communication and adolescents who reported the least open sexual communication with their parents were more likely to have initiated sex than adolescents who reported a moderate level of sexual communication openness. Had Lehr et al. (2000) assumed, as many researchers do, that the relationship between family sexual communication and sexual behavior was linear, they would have come to the conclusion that more open sexual communication is associated with earlier sexual debut which is not exactly the case.

Another study in which the findings would be misinterpreted if a direct-effect model was assumed was conducted by Bynum (2007) who proposed that the relationship between family sexual communication and adolescent sexual outcomes would be moderated by the quality of general family communication. Her sample consisted of African American mothers and their college-enrolled daughters. She found support for her model, though the results are in opposition with the hypotheses I set forth in this paper. She found that when general family communication was poor, there was no relationship between mother-daughter sexual communication and daughters' sexual behavior; however, when general family communication was better, the relationship between mother-daughter sexual communication and daughters' sexual behavior became significant in that more frequent sexual communication was associated with engaging in *more* sexual behavior. Had Bynum (2007) not investigated this moderating variable, she would not have discovered that having poor general family communication nullifies the effects of family sexual communication.

Another methodological consideration that may impact the results of family sexual communication studies is whether researchers utilize parental or offspring reports of this construct. As stated earlier in this chapter, many times there is a large discrepancy between adolescent and parental reports of family sexual communication. Having blatant incongruence between parent and adolescent reports of family sexual communication poses a large methodological issue for researchers. In a field that relies heavily on self report data, it is important that researchers can trust the validity of their measures. When two reports of a single variable are so different that little to no association exists between them, it provokes the question: which report should researchers use - the report from the parents or from the adolescents/emerging adults?

Some researchers argue that it is better to use adolescent reports. Jaccard et al. (1998), who examined the congruence of family sexual communication reports between 745 African American mother-adolescent dyads, found that the congruence of such reports was low, and that adolescent reports were more predictive of sexual behavior than maternal reports. Kapungu et al. (2010) found that adolescents' reports of family sexual communication were significantly associated with levels of HIV risk in the past 90 days as well as level of protection against HIV whereas mothers' reports of family sexual communication were not significantly associated with such outcome variables. Adolescents' reports of family sexual communication have been shown to be more predictive of adolescent sexual behavior than parental reports of such communication and so researchers can benefit from taking adolescents' perspective into account. However, there has been some evidence that parental reports may be more accurate.

Lefkowitz et al. (2002) videotaped mother-adolescent dyads discussing dating and sexuality. They coded these videotaped conversations but also administered self-report questionnaires to measure each individual's perception of family sexual communication. They found that the adolescents' reports indicated a gender difference in family sexual communication; these reports indicated that mother-daughter dyads discussed family sexual communication more than mother-son dyads. However, the mothers' reports indicated no gender difference. The coded observations did not indicate a gender difference. Though this is only one study, it shows that mothers' reports of family sexual communication may be more in line with observers' reports thus implying that these reports may be more accurate. Just because adolescents' reports have been shown to be more predictive does not mean they are more accurate.

### **Lack of temporal ordering.**

Another reason for the varied and contradictory results that has been proposed by some researchers is that temporal ordering is rarely established. Most studies of family sexual communication are cross sectional and thus researchers cannot know for sure the cause and effect relationship that exists between such communication and adolescent behavior. Researchers who have found that more frequent family sexual communication is associated with higher levels of adolescent/emerging adult sexual behavior have many times reasoned that parents start engaging in more sexual communication when they receive cues that their adolescent may be sexually active thereby arguing that it is the adolescents' sexual behavior that serves as a catalyst for family sexual communication instead of the other way around.

After observing Latina mothers and daughters communicate about dating and sexuality and analyzing both parties' self-report surveys, Romo et al. (2001) came to the conclusion that the concern for adolescents' well-being motivates mothers to discuss sex and self protective practices. Beckett et al. (2009) state, "...when parents believe that their children have not yet initiated intercourse, parent-child communication focuses on parent values regarding teen sex; once parents suspect that their adolescents have initiated intercourse parents focus more on concrete matters, such as birth control and STDs" (p. 39). Raffaelli et al. (1998) argue if parents think their adolescent is sexually active, they are more likely to engage in sexual communication with the adolescent. Similarly, Eisenberg et al. (2006) found that when parents thought their adolescent was romantically involved, they were more likely to discuss sexual topics than if they did not believe their adolescent was romantically involved. And in her qualitative work, Kim (2009) argues that family sexual communication was "perceived to be initiated in response to specific cues including physical changes related to puberty, developmental milestones such as the transition to college, or the growing presence of boys in their daughters' lives" (p. 341).

There have been two methodological approaches that have been utilized to investigate the timing of family sexual communication in relation to its impact on adolescents' and emerging adults' sexual behavior. The first approach has been to find out if family sexual communication occurred before or after adolescents' sexual debut and what impact this has on adolescent sexual behavior. Miller et al. (1998b) wanted to know if the timing of maternal discussions of condom use influenced adolescents' condom use. They found that when mothers discussed condoms before their adolescents

became sexually active, the adolescents were significantly more likely to report using condoms than when mothers discussed condoms after adolescent were already sexually active or when mothers failed to discuss condoms at all. Also of interest is the fact that there was no significant difference in adolescent condom use between those adolescents whose mothers discussed condoms after they were already sexually active and those adolescents whose mothers never discussed condoms. This study demonstrates that it is imperative that parents discuss sexual topics with their adolescents prior to adolescent sexual debut and these results have been supported by other researchers as well.

In her all-female sample Hutchinson (2002) found that daughters whose mothers discussed sex before daughters' sexual debut were *seven* times more likely to report consistent condom use throughout adolescence than daughters whose mothers did not discuss sex before daughters' sexual debut. Clawson and Reese-Weber (2003) also looked at the moderating role of the timing of first parent-adolescent discussion about sexual intercourse . When looking solely at the relationship between the amount of sexual communication and adolescent sexual behavior, they found that more sexual communication with both mothers and fathers was associated with earlier sexual debut, more sexual partners and higher likelihood of having been tested for HIV/AIDS in adolescents. However, when they added the moderating variable of timing ("on time" meaning parents discussed sex before adolescent sexual debut and "off time" meaning they did not) they found that on time sexual discussions with fathers were associated with *later* sexual debut and *fewer* sexual partners and on time sexual discussions with mothers were associated with *later* sexual debut, *fewer* sexual partners, and *more* birth control

use. In this case, accounting for the timing of family sexual communication completely reversed the effects such communication had on adolescent sexual behavior.

These studies create a strong case for why it is important to take the timing of family sexual communication into account. All three found that on time discussions served a protective function against adolescent sexual risk and Clawson and Reese-Weber (2003) demonstrated that accounting for timing can reverse findings of negative effects family sexual communication has on adolescent sexual behavior. The other methodology that has been utilized to account for the timing of family sexual communication is a longitudinal design.

Pearson et al. (2006) established temporal ordering by collecting data at two points in time. They only included adolescents who completed measure at both times, and only included adolescents who were virgins at time one. They found that those adolescents who engaged in more family sexual communication were 16% more likely to have become sexually active by time two than adolescents who engaged in less family sexual communication. When they separated the sample by gender and ethnicity, they found that this association was not significant for sons but was significant for white and Latina daughters. Bersamin et al. (2008) used a similar longitudinal design that involved two data collection points and restricted the sample to adolescents who were virgins at time one. They found that adolescents whose parents engaged in more comprehensive family sexual communication were more likely to have engaged in oral sex as well as sexual intercourse between time one and time two.

These results seem to be at odds with those of Miller et al. (1998b), Hutchinson (2002) and Clawson and Reese-Weber (2003) in that on time family sexual communication increased adolescent sexual behavior. One explanation for the majority of this contradiction may be that the studies mentioned above were primarily measuring safe sex outcome variables while Pearson et al. (2006) and Bersamin et al. (2008) were measuring abstinence vs. sexual initiation. It may be that on time family sexual communication is associated with *earlier* sexual behavior but also *safer* sexual behavior. So do these results mean that family sexual communication actually encourages adolescents to become sexually active? Most researchers still say no.

There are other lines of reasoning that have been used to explain these associations that are more popular than arguing that family sexual communication encourages adolescent sexual initiation. Mollborn and Everett (2010) have demonstrated support for a self-fulfilling prophecy explanation. They found that parents' expectations of adolescents' sexual experiences created self-fulfilling prophecies whereby the adolescents' subsequent sexual behavior conformed to these parental expectations. They found that parents who believed their adolescents were sexually active engaged in more sexual communication with them; this held true even for those adolescents who reported not engaging in sexual activity. Then they found that more frequent family sexual communication at time one increased the odds of subsequently having sex for both adolescents who had been sexually active and those who had not.

In essence, Mollborn and Everett (2010) argue, parents who assume their adolescents are sexually active engage in more family sexual communication and the

behaviors that have been projected onto the adolescent (correct or incorrect) then impact the adolescent's subsequent sexual behavior. It is important to note that the effect of an opposite self-fulfilling prophecy (whereby parents do not believe their adolescent is sexually active so they do not engage in family sexual communication and adolescent subsequently does not have sex) has not been investigated or supported.

Another line of reasoning that has been used to explain the results of longitudinal studies is similar to that which has been used in cross sectional data. Some researchers (e.g. Bersamin et al., 2008) argue that even if family sexual communication precedes earlier sexual initiation, this communication is instigated by cues that the adolescent will soon become sexually active. In this case, adolescent sexuality would be the driving force behind adolescent sexual initiation – not family sexual communication.

### **Ignoring parental orientations toward sex.**

A final potential reason for the inconsistency of results in family sexual communication research is that many researchers have not taken into account parental attitudes and orientations towards sex in their research. As Jaccard and Dittus (1993) and Wright (2009) state in their syntheses of the literature, there has been an assumption by researchers that all parents have similar values, beliefs and attitudes about various aspects of sexuality (e.g. all parents promote the use of condoms and contraceptives, all parents are strictly against their adolescents/emerging adults engaging in premarital sex) when, in fact, some parents may hold different views. For example, some parents may think premarital sex is okay so long as it is with someone special, and some parents may

encourage their adolescents and emerging adults to explore their sexuality. Researchers such as Moore et al. (1986) and Calhoun Davis and Friel (2001) have also acknowledged that sexual attitudes and beliefs of the parents need to be included when examining the relationship between family sexual communication and adolescent sexual behavior. In their synthesis of the research, Miller et al. (2001) argue that parental values could be a moderating variable in the equation. They state, “Failure to include parental value orientations along with parent/teen communication could explain the null results in some previous studies” (p. 14).

One way parental sexual beliefs and attitudes manifest themselves is in the content of the sexual communication that they engage in with their adolescents and emerging adults. As parents’ sexual beliefs and attitudes vary, so, too, do the messages they convey through family sexual communication (Jaccard & Dittus, 1993). Unfortunately few studies have examined the actual content of family sexual communication. Many studies will provide lists of sexual topics and ask adolescents, emerging adults or parents to describe the extent to which these topics were discussed, but this does not provide insight into the specific messages that were conveyed.

Though this section has demonstrated that the results in the existing literature are inconsistent, the majority of studies have found higher amounts of family sexual communication to be associated with less sexual risk-taking by adolescents. Also, strong lines of reasoning have been used to try and explain any contradictions that have been found. Based on the review above, I posit the following hypothesis:

H<sub>4a</sub>: Higher frequency of family sexual communication will be associated with less sexual risk-taking by adolescents and emerging adults (i.e. fewer partners, fewer incidents of infidelity, fewer incidents of anal sex, group sex, hookups/ one night stands, and friends-with-benefits relationships, and more consistent condom/ birth control use) and beginning to engage in sexual activities at an older age.

I am also interested in how the quality of family sexual communication is linked with adolescents' and emerging adults' sexual behavior. Though this particular aspect of family sexual communication has not been as thoroughly explored in terms of its relationship with sexual behavior, the effect that the quality of *general* family communication has on sexual behavior has been explored to a greater extent (see Chapter 4 for a full review). The majority of the research illustrates that more open, honest and comfortable family communication serves a protective function against adolescents' and emerging adults' sexual risk-taking (e.g. Kotchick et al., 1999; Bynum, 2007; Bersamin et al., 2008). These results lead me to posit the following hypothesis:

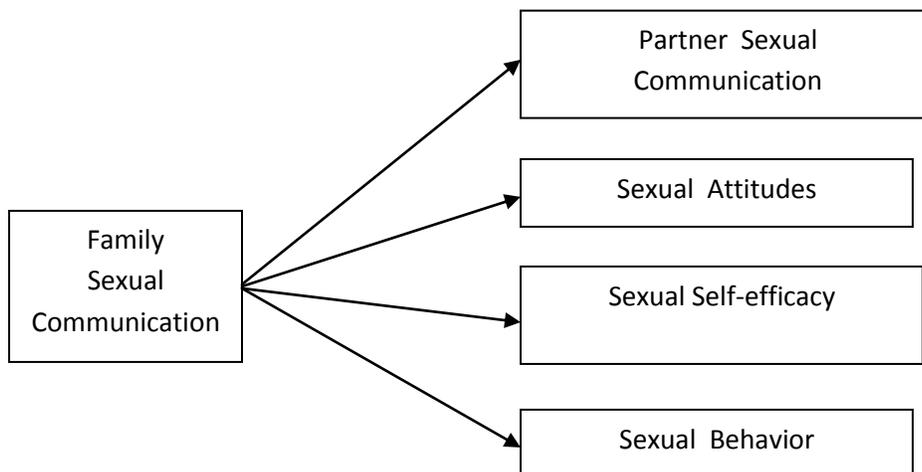
H<sub>4b</sub>: Higher quality family sexual communication will be associated with less sexual risk-taking by adolescents/emerging adults (i.e. fewer partners, fewer incidents of infidelity, fewer incidents of anal sex, group sex, hookups/ one night stands, and friends-with-benefits relationships, and more consistent condom/ birth control use) and beginning to engage in sexual activities at an older age.

Finally, I wish to take into account parental attitudes as they are manifested in the actual messages parents communicate to their adolescents and emerging adults regarding

sex. As Jaccard and Dittus (1993) stated, parental sexual beliefs and attitudes influence the types of sexual messages they convey to their children, and it is important to account for the variance of parental sexual beliefs and attitudes when examining how they influence adolescents' and emerging adults' sexual behavior. I posit the following hypothesis:

H<sub>4c</sub>: More permissive messages in family sexual communication will be associated with more permissive sexual behavior by adolescents/emerging adults and more restrictive messages in family sexual communication will be associated with more restrictive sexual behavior by adolescents/emerging adults.

The hypotheses listed in this chapter have been visually depicted in Figure 1.



*Figure 1: Model of my hypotheses regarding family sexual communication.*

## Summary

Though the research on how family sexual communication impacts adolescents' and emerging adults' sexual outcomes is vast, the results of said research have been

inconsistent and at times contradictory. It is certainly true that a simple relationship between these variables does not exist and that, in reality, this relationship is not only complex but also influenced by many outside factors. This is not to say, however, that the results that have been found to date adequately depict this complex relationship. Instead I would argue that some of the results have clouded the relationship between family sexual communication and adolescents'/emerging adults' sexual outcomes through the use of poor methodology and measurement. If I am to investigate this relationship, I need to make sure that I am using a measure that adequately and accurately conceptualizes and operationalizes the concept of family sexual communication.

I have developed the Family Sexual Communication Scale (FSCS) in hopes that it will prove more reliable, valid, and predictive than the current measures that are available for researchers to utilize. In chapter 5 I will test the psychometric properties of my FSCS in order to be sure that the results of my study are not skewed by methodological limitations.

## Chapter 4

### General Family Communication and its Impact on Adolescent Sexual Outcomes

Family communication impacts a wide array of adolescent outcomes from sibling closeness to adolescents' social competencies, communication apprehension and sense of self (Elwood & Schrader, 1998; Hillaker, Brophy-Herb, Villarruel & Haas, 2008; Dailey, 2010; Samek & Rueter, 2011). Family communication has also been shown to impact adolescents' and emerging adults' sexual outcomes (e.g. Luster & Small, 1994; Miller et al., 1999; Hutchinson, 2002; Ream & Savin-Williams, 2003; LaSala, 2007; Bersamin et al., 2008); however, there has been little to no theoretical explanation for this effect. As mentioned in the first chapter of this project, most of the research on family communication and adolescents'/emerging adults' sexual outcomes is conducted by medical practitioners, child development scholars and public health experts and, thus, when theory is invoked, the theories are typically outside the communication field. Wright (2009) calls for researchers in the communication field to start applying our own theories to this phenomenon and that is what I intend to do.

The first part of this chapter is dedicated to a review of the literature that has empirically demonstrated a connection between family communication and adolescents'/emerging adults' sexual outcomes. The second part of this chapter is dedicated to explaining that connection using the Family Communication Patterns Theory. The final part of this chapter examines the relationship between family communication patterns and family sexual communication and proposes the full model that I will be testing in this study.

## **Literature Review: How General Family Communication Impacts Adolescents' and Emerging Adults' Sexual Outcomes**

To begin, it is important to note that the concept of “general family communication” has similar conceptual and operational issues as those discussed in Chapter 2 regarding “family sexual communication.” Many times researchers who make claims about general family communication do not provide a conceptual definition of this type of communication, and the operationalizations of this construct vary from whether or not families have discussed 2 topics (Aspy, Vesely, Oman, Rodine, Marshall, Fluhr & McLeroy, 2006) to a 20-item scale investigating several facets of communication including content and process (Miller et al., 1999). Because of this variation, I will try to include definitions for each study; however, most of these definitions will be deduced from analyzing the scales utilized in the study and thus will not be the researchers' definitions but my own inferred definitions.

### **The Impact of General Family Communication on Partner Sexual Communication**

General family communication has been shown to impact adolescents' safe sex communication with their partners. DiIorio et al. (2000b) found that adolescents who reported higher quality general family communication (e.g. talking with parents about “things that are important” p. 661) were more likely to report discussing safe sex with their sexual partners than adolescents who reported poorer quality communication with their family. In their longitudinal study, Ryan et al. (2007) found that adolescents who discussed everyday life with their parents more frequently were more likely to discuss contraceptives and STDs with their partner before engaging in sexual intercourse for the first time. Troth and Peterson (2000) examined conflict management within the family

and found that an increase in the father's conflict avoidance was associated with an increase in the adolescent's reluctance to discuss AIDS and safe sex with her/his dating partner.

General family communication has also been shown to impact adolescents' and emerging adults' sexual behavior. Though the majority of the research illustrates that more frequent, open, honest and comfortable family communication serves a protective function against sexual risk-taking, there have been null findings and gender differences reported.

### **The Protective Effect of Positive General Family Communication on Adolescent Sexual Risk-Taking**

The majority of research indicates that having better family communication serves a protective function against adolescents' and emerging adults' sexual risk-taking. Bersamin et al. (2008) found that adolescents who reported higher quality family communication, defined as being able to talk about anything with parents and receiving honest answers to questions, were less likely to engage in oral sex and sexual intercourse than adolescents who reported lower quality family communication. Similarly, Kotchick et al. (1999) found that adolescents who reported better family communication, defined as more open and receptive communication, were less likely to engage in sexual activities than adolescents who reported poorer quality family communication. Bynum (2007) specifically examined African American mother-daughter dyads and found that higher quality family communication, defined as positive perceptions of the quality of communication with mothers, was associated with a decrease in likelihood that the daughter was sexually active. In their all-male sample of Mexican adolescents, Pick and

Palos (1995) found that the group of boys who reported the lowest frequency of impregnating a partner also reported the best communication (no definition or scale provided) with their parents.

LaSala (2007) conducted qualitative research with a sample of gay sons and their parents and found that some sons cited better communication, described as positive and open communication, with their parents as a deterrent to risky sexual activity. Bayer, Cabrera, Gilman, Hindin and Tsui (2010) also conducted qualitative research and their sample was Peruvian adolescents who were asked to list individual and environmental factors that they perceived as being linked to adolescent sexuality. Through cluster analysis Bayer et al. (2010) found that one cluster that impacted adolescent sexuality was trust and communication with parents.

There have been a few studies that have investigated aspects of family communication other than its quality. Ream and Savin-Williams (2003) conducted a longitudinal study in which they measured the level of problem-focused family interactions and adolescent sexual behavior. Problem-focused interactions were not necessarily problematic, but instead were interactions that focused on discussing personal problems, arguing about behavior and talking about life. They found that adolescents who became sexually active over the course of the study reported higher levels of problem-focused family communication at baseline and that once they became sexually active, the levels of this type of family communication continued to increase.

Karofsky, Zen and Kosorok (2000) measured frequency of family communication; they utilized one likert-type item as their operationalization. In their ten year longitudinal study they found that those adolescents who were virgins at baseline

reported more communication with their parents than those who were sexually active. Five years later, the individuals who remained virgins were the ones who reported the most communication with their parents.

Aspy et al. (2006) chose to look at the congruency between parental and adolescent reports of family communication. Parents and adolescents were asked to report how often they discussed high parental expectations and how often parents told adolescents they loved them and wanted good things for them. They found that higher levels of agreement between parental and adolescent reports were associated with increased likelihood of abstinence and, for those who were sexually active already, increased use of contraceptives.

Some studies have shown that family communication positively impacts some sexual behaviors but has no impact on others. Miller et al. (1999) found that positive general communication (characterized by openness, honesty, satisfying interactions and good listening) with mothers was associated with less frequent intercourse and fewer sexual partners for adolescents; however, this communication was not significantly associated with age of sexual debut or condom use for the adolescents.

On the other hand, Vesely et al. (2004) found that family communication was significantly associated with more consistent birth control use if the adolescent was sexually active but this communication was not significantly associated with age of sexual debut, number of sexual partners, or the adolescent's current level of sexual activity. No conceptual or operational definition was provided for their variable of "Family Communication." Finally, Kotva and Schneider (1990) examined mother-daughter communication and found that better communication (as reported by the

mother) was positively associated with the age at which the adolescent began dating and better communication (as reported by the daughter) was associated with more consistent birth control use, but that these reports of communication were not associated with age of sexual debut or frequency of sexual intercourse. Kotva and Schneider (1990) defined general family communication in terms of two factors that were not elaborated upon. They were openness and “problems in family communication.”

For these three studies, two out of three studies reported associations with birth control use, one out of two studies reported associations with the number of sexual partners, one out of three studies reported associations with the adolescent’s level of sexual activity, and none of the three studies reported associations with age of sexual debut. While these results cannot be deemed consistent, it is important to note that some associations that were not statistically significant were still in the direction predicted (e.g. Kotva & Schneider’s findings regarding age of sexual debut and frequency of sexual intercourse) and that no studies have found contradictory results (i.e. frequent and/or higher quality family communication impacts adolescent sexual risk-taking in a negative way). These studies still demonstrate that family communication has a positive influence on adolescent sexual risk-taking, but their findings are not as consistent as those mentioned previously.

Finally, there have been a couple studies that have found virtually no association between general family communication and adolescents’/emerging adults’ sexual behavior. For example, in their longitudinal study Chewing and VanKoningsveld (1998) found no relationship between family communication (as measured by six items from the Family Communication Patterns scale – three measuring socio-orientation and three

measuring concept-orientation) and age of sexual debut or contraception use by adolescents. Sneed (2008) found no association between family communication comfort and adolescent sexual risk-taking. In their study of sexually active adolescents, Huebner and Howell (2003) found no direct effect of family communication (as measured by frequency of discussing six different topics) on whether the adolescent was part of the high or low-risk group, but they did find an interaction effect with parental monitoring. They found that the group of adolescents who were in the highest risk group was comprised of those who reported low parental monitoring and infrequent family communication.

### **Gender Differences in the Effects of General Family Communication**

Gender differences have been demonstrated in some of the general family communication research. These differences typically apply to the gender of the child rather than the gender of the parent, though this may be due to the methodological choice to use parents as a single source rather than separating mothers and fathers in analyses. In their international study of family communication and adolescent sexual behavior, Madkour, Farhat, Halpern, Godeau, and Gabhainn (2010) found that positive communication with one's parents, defined as how easy it was to talk to parents and how satisfied adolescents were with the way parents communicated with them, was a protective factor against risky sexual behavior but that this was only the case for female adolescents in the United States. They also had samples in Finland, Scotland, France and Poland but there was no significant effect in any of these samples. In their study of adolescent sexual behavior Mueller, Gavin, Oman, Vesely, Aspy, Tolma and Rodine (2010) found that better family communication (no conceptual or operational definition

provided) was associated with adolescents abstaining from sex or, if they were sexually active already, adolescents using birth control more consistently; however, these results were only significant for female adolescents.

Hutchinson (2002) gathered data regarding sons, daughters, mothers and fathers, and her results demonstrated gender differences for both parents and adolescents. She found that for both sons and daughters, better communication (assessed by asking how well parents could share ideas or talk about things that really mattered to adolescents) with their fathers was associated with not having engaged in sexual activity. For daughters, but not sons, better communication with their mothers was associated with participating in more consistent condom use. Werner-Wilson (1998) was interested in whether individual or familial variables had more impact on adolescent sexual attitudes. Using data from a 1984 survey, he found that for adolescent females, better communication with fathers significantly impacted the daughters' sexual attitudes in both the familial model and the full model (which incorporated the individual variables as well). Better communication was characterized as open, honest and satisfying and included listening components. For adolescent males, better communication with fathers significantly impacted the sons' sexual attitudes but only in the familial model. Once the individual variables were added, this association became non-significant. Maternal communication was not a significant predictor for either female or male adolescents.

### **Summary**

The majority of research indicates that frequent, high-quality family communication serves a protective function against adolescents' and emerging adults'

sexual risk-taking behaviors. There have been some studies that report null findings and gender differences, but the results are much more consistent than those from research that examines the relationship between family sexual communication and adolescents'/emerging adults' sexual behavior (for a review please see Chapter 3). No studies have demonstrated an association between frequent, high-quality family communication and an increase in adolescent sexual risk-taking, so striving for such interactions would be a beneficial goal for families in their quest to curb adolescent sexual risk-taking.

It is important to know the effects that family communication has on adolescents' and emerging adults' sexual behavior, but it is also important to be able to posit why family communication has these effects. This is a gap in the literature that needs to be filled. Many researchers have examined this relationship, but few have examined the mechanisms through which this relationship exists. In the next section I will use Family Communication Patterns Theory to provide a possible explanation for why family communication impacts adolescents' and emerging adults' sexual outcomes and make predictions about the relationship between these variables that are rooted in theory.

### **Application of Family Communication Patterns Theory**

Before applying Family Communication Patterns Theory (FCPT) to how family communication impacts adolescents' and emerging adults' sexual outcomes, it is important to describe the theory in detail so as to establish a baseline understanding of the fundamentals of this theory.

## **Description of Family Communication Patterns Theory**

The FCPT is an important theory in the field of Communication Studies and it has been associated with important outcomes. In their 2008 meta-analysis of the 56 articles that have used FCPT, Schrodt, Witt and Messersmith concluded that “family communication patterns have a meaningful association with a variety of cognitive activities and relational behaviors, as well as individual well-being” (p. 248). Specific to child and adolescent outcomes, FCPT has been associated with aspects such as emotional intelligence, intellectual inflexibility, listening anxiety, conflict strategies, locus of control, shyness, self esteem and even adjustment for adolescents who were adopted (Zhang, 2007; Ledbetter & Schrodt, 2008; Tajalli & Latifian, 2008; Shearman & Dumlao, 2008; Rueter & Koerner, 2008; Farahati, 2011). The version of FCPT we know today was informed by the work of McLeod and Chaffee and Ritchie and Fitzpatrick as well as work by Baldwin, Fletcher, Pinker, and Fiske and Taylor.

### **The origins and axioms of Family Communication Patterns Theory.**

FCPT began with the work of McLeod and Chaffee in 1972. McLeod and Chaffee were mass communication researchers who were interested in how family communication influenced children’s perceptions of reality; more specifically, they looked at how family norms (created via family communication patterns) influenced children’s use of news media. They based their theory on the concept of co-orientation which is defined as how people focus on and evaluate objects in their social and material world. Co-orientation has three parts: agreement, accuracy and congruence. McLeod and Chaffee focused on agreement which is defined as the extent to which individuals’

evaluations of an object are the same as other individuals' evaluations. They argued that families could achieve high agreement in two ways.

The first way would be to focus on other family members' evaluations and adopt those evaluations. Families that relied heavily on this process were deemed high in socio-orientation. The other way to achieve high agreement would be for family members to focus on the object and come to a shared perception of said object via family discussions. Families that relied heavily on this process were deemed high in concept orientation. In 1988 Ritchie, an interpersonal scholar, reinterpreted socio and concept orientation as conformity and conversation orientation and in 1990 Ritchie and Fitzpatrick (another interpersonal scholar) revised McLeod and Chaffee's work in order to obtain a more accurate and broader picture of family communication. They continued to work together through the 1990's and the current version of FCPT is laid out explicitly in Koerner and Fitzpatrick's 2002 article.

Koerner and Fitzpatrick (2002) argue that family communication patterns are primarily informed by family relational schemata and that these schemata provide syntax for what it means to be a family and what family communication should look like. Knowledge that constitutes these schemata can be gathered from experience (e.g. "This is what it was like when I grew up"), from talking with others (e.g. discussing family matters with peers and comparing how their families deal with the issue) and through other sources such as the media. The axioms of this theory are informed by the work of other researchers so I will go through each axiom and very briefly describe its origin.

The first axiom is that family relational schemata have both declarative and procedural knowledge. This stems from Baldwin's (as cited in Koerner & Fitzpatrick,

2002) work and he defines declarative knowledge as the attributes of an object or stimuli and procedural knowledge as being aware of if-then contingencies.

The second axiom is that family communication is informed by family relational schema – not general social schema or relationship specific schema. This stems from Fletcher's (as cited in Koerner & Fitzpatrick, 2002) work with hierarchical schemata. Fletcher argued that our schema is set up hierarchically (which makes sense as it would be most economical in terms of cognitive energy and space) and that the information contained in each level has little overlap with other levels. He argued there are three main levels of relational schema. The highest and most broad level is general social schema. The knowledge in this schema pertains to most social relationships. The second level is relationship type schema and this contains knowledge pertaining to types of relationships we have with people (e.g. what a coworker relationship looks like, what a romantic relationship should be like). Finally, the third level is relationship specific schema and this contains knowledge that is specific to one relationship we have with another person and contains information that makes that relationship unique (e.g. the relationship I have with my brother specifically – not what a brother-sister relationship should look like). Again, Koerner and Fitzpatrick argue that family communication is primarily informed by the middle level – the family relationship schema.

The third axiom is that individuals will first try to retrieve information from the relationship specific schema, then from the family relational schema and finally from the general social schema. This is based on Pinker's (as cited in Koerner & Fitzpatrick, 2002) linguistic work and basically argues that we try to retrieve the most specific information we have in a social situation. So if I am interacting with my brother and we already have

stored information specific to our relationship in a given situation, I will retrieve that information first. If we are in a new situation, I will rely on what I think brother-sister communication should look like in that situation.

The fourth axiom is that family relationship schema are relatively stable and are not likely to change unless many members of the family act in such a way that it would change what the members think family communication (or family in general) should be like. So, for example, if my father suddenly started using phrases like “Because I said so” or “Because I’m the parent” it is not likely to change my family relational schema but would impact my relationship specific schema I have with my father. If, however, my mother also started using those phrases and my brother started acquiescing, it may change my family relationship schema. This idea stems from the work of Fiske and Taylor (as cited in Koerner & Fitzpatrick, 2002). So does the final axiom which is that schema can influence family communication via controlled and automatic processes.

### **The fundamentals of Family Communication Patterns Theory.**

As stated earlier, FCPT is based on the assumption that creating a shared social reality is a basic process that defines families and is necessary for families to function. Families create a shared reality through two communication behaviors: *conversation* orientation and *conformity* orientation, which also determine families’ communication patterns. These two theoretically (though not necessarily empirically) orthogonal dimensions of communication interact to create four family types. This next section will detail conversation and conformity orientation as well as map out the four family types that are derived from combining families’ scores on the two communication dimensions.

*Conversation orientation* is the extent to which free, open and spontaneous communication is encouraged for all members of the family. Families high in conversation orientation discuss a wide array of topics with each other and share their individual thoughts, dreams and beliefs with one another. Family members enjoy conversing with each other and parents see communication as a valuable educational and socializing tool. Parents in these families encourage their children to express themselves and explore the world – assigning their own meaning to it (though it is more likely co-creation of reality because all family members are likely to converse about such meaning and come to a shared perception). Decision-making in these families is based on the merit of the argument rather than who puts forth the argument.

*Conformity orientation* is the extent to which homogeneity of attitudes and beliefs is encouraged and obedience is mandated. Families high in conformity orientation tend to be cohesive and hierarchical. These families value harmonious relationships with each other. Parents dictate their views to their children and the children are expected to adopt these views, thus reality is created for the children. Family relationships take precedence over relationships held outside the family, and family goals and needs take precedence over individual goals and needs. Family resources are also shared, not divided up. Decision-making in these families is done by the parent. When looking at the interaction between conversation and conformity orientation, four family types emerge: protective, pluralistic, consensual and laissez-faire.

Families low in conformity orientation and high in conversation orientation are *pluralistic* families. These families are characterized by the earlier description of families high in conversation orientation. They engage in open discussions where all members

are free to participate. Also, children are many times allowed to make decisions for themselves, so long as they provide a good argument for their decision. Parents are invested in their children's choices even if they, the parents, did not make the choice. Children from these families tend to have confidence in their decision-making ability because they have had ample practice.

Families high in conformity orientation and low in conversation orientation are *protective* families. These families are characterized by the earlier description of families high in conformity orientation. These families do not place value on explanations or family communication in general. They look to authority to assign meaning to social objects, and many times phrases such as, "Because I said so" and "Because I'm the parent" are utilized. Parents make the decisions for the children and thus many times children do not have confidence in their own decision-making abilities because they have not practiced this skill.

Families high in both conformity and conversation orientation are *consensual* families. These families have to handle unique tensions. On one hand, they value open communication and engage in conflict, but on the other hand, they value harmony and homogeneity. On one hand they want their children to express themselves and explore, but on the other hand they want the children to hold the same beliefs as they do. One way these tensions are managed can be seen in family decision-making. Many times parents want their children to have input, but the parents want to ultimately make the decision. Parents reconcile this tension by hearing the children's point of view before making a decision. The parents will still make the final decision, but it may be informed by what

the children said and parents spend a lot of time justifying their decision and using reasoning with the children.

Finally, families low in both conformity and conversation orientation are *laissez-faire* families. These families are emotionally divorced, do not interact often or deeply, and the parents usually have little concern for, and investment in, the children. As in pluralistic families, children in laissez-faire families tend to make their own decisions, but unlike pluralistic families, laissez-faire parents do not much care about the outcome of these decisions.

In summary, the FCPT creates a typology of families based on their general communication patterns. Each type of family approaches communication in a unique way and these approaches have been shown to impact several important adolescent outcomes. In this next section I will attempt to fill a void in the current literature by utilizing a communication theory to predict adolescents' and emerging adults' sexual outcomes. I will describe how family communication patterns will impact these sexual outcomes and use FCPT as the basis for my hypotheses.

### **Theoretical Application**

The FCPT divides families into four types; thus, I will be positing four hypotheses with each hypothesis attempting to predict how a certain type of family communication will impact adolescent sexual outcomes.

#### **Pluralistic families.**

The first family type is pluralistic families. Homogeneity of beliefs is not emphasized in these families and so the offspring would be able to hold sexual attitudes and beliefs that are different than those of their parents without incurring familial

sanctions. Offspring in these families experience open, frequent communication about an array of topics and are allowed to practice their questioning, negotiating, persuading, asserting and decision-making skills within the family. This combination should provide an environment in which they can build their communication competence through trial and error without the worry of disrupting the family dynamic, disappointing their parents or violating family norms.

These adolescents and emerging adults would have had much practice in articulating their opinions and beliefs, in handling disagreements where no absolute authority is present, and in making decisions based on the merit of arguments presented. This practice should translate into higher sexual self-efficacy and more frequent sexual communication with their partners because they will have faith in their ability to stand up for themselves, to behave in the way they want to behave rather than the way their partner wants them to behave, and to discuss sensitive topics with their partners. They will also have many communication tools to choose from when they are in sexual situations.

I would expect adolescents and emerging adults from pluralistic families to be in the low risk group for sexual behavior. I define low risk sexual behavior as having fewer sexual partners, fewer incidents of infidelity, fewer incidents of anal sex, group sex, hook ups/one night stands, and friends-with-benefits situations, and consistently using condoms and/or birth control. Whether or not they are abstinent and at what age they began engaging in sexual activities would depend on their own personal sexual beliefs since they would not be dictated by parental or partner beliefs.

I argue that most adolescents and emerging adults from these families would be low risk because they are used to making decisions based on the merit of the argument, and their parents are also concerned for the outcome of their decisions; thus, assuming that parents would rather have their offspring practice abstinence or low-risk sexual behavior (which I realize is an assumption on my part), this would mean that the parents would probably provide several sound reasons why their adolescents and emerging adults should not engage in risky sexual behavior.

Based on this application of the FCPT, I posit the following hypothesis:

H<sub>5</sub>: Adolescents and emerging adults from pluralistic families will have high levels of sexual self-efficacy, high levels of sexual communication with their partners, will be in the low-risk sexual behavior group (i.e. fewer partners, fewer incidents of infidelity, fewer incidents of anal sex, group sex, hookups/ one night stands, and friends with benefits relationships, and more consistent condom/ birth control use), and the association between parental and adolescent sexual beliefs will not be significant for this group.

I also pose the following research question:

RQ<sub>1</sub>: Is there a correlation between pluralistic family communication patterns and the age of sexual initiation and/or abstinence?

**Consensual families.**

Offspring from consensual families will experience some outcomes that are similar to offspring from pluralistic families, but I anticipate that some outcomes will be different. These adolescents and emerging adults will have exposure to frequent and open communication on a plethora of topics similar to adolescents and emerging adults from

pluralistic families do; however, they will be more restricted in their practice of communication processes such as questioning, negotiating, persuading, asserting and decision-making skills. The reason for this is that although these families encourage open dialogue, they are still high in conformity orientation and so homogeneity, harmony and respect for parents are also familial goals.

As noted previously, one way parents handle this tension is through communication processes including listening, justifying and discussing reasoning. The adolescents' and emerging adults' exposure to these types of communication processes should be beneficial in sexual circumstances. Although these adolescents and emerging adults may not have the experience of utilizing these processes themselves, they will have seen them modeled by their parents and thus, invoking Social Learning Theory (Bandura, 1986), may be more able to engage in them than adolescents and emerging adults who do not see this type of communication modeled.

Because homogeneity of attitudes and beliefs is important in consensual families, I would posit that there would be high congruence between parental and offspring sexual attitudes. Offspring from these families will be used to talking about many topics and this should enable them to discuss many topics with their partners – including sexual topics. These adolescents and emerging adults may not have firsthand experience practicing certain communication skills that can impact sexual self-efficacy such as asserting one's self, questioning authority and negotiating. However, they will have exposure to listening, justifying and reasoning that could positively impact their sexual self-efficacy. Thus I would expect that offspring from consensual families may have slightly lower

sexual self-efficacy than offspring from pluralistic families, but that they would still have higher sexual self-efficacy than offspring from protective and laissez-faire families.

The high levels of conformity orientation in these families can be linked with convention, tradition and social norms and thus it is reasonable to assume consensual parents want their offspring to remain abstinent or at least be low-risk as opposed to high risk. Adolescents and emerging adults from consensual families want to preserve family harmony, do not want to disappoint or disobey their parents, and at the same time they know they can talk to their parents about topics if they have questions. These characteristics lead me to posit that consensual families would have the largest proportion of virgins in comparison to the other family types, and for those adolescents who are sexually active, I would predict that they would be low-risk and begin engaging in sexual activities at a later age.

Based on this application of the FCPT, I posit the following hypothesis:

H<sub>6</sub>: Adolescents and emerging adults from consensual families will have high levels of sexual self-efficacy, high levels of sexual communication with their partners, will become sexually active at a later age, will be in the low-risk sexual behavior group (i.e. fewer partners, fewer incidents of infidelity, fewer incidents of anal sex, group sex, hookups/ one night stands, and friends-with-benefits relationships, and more consistent condom/ birth control use), and the association between parental and offspring sexual beliefs will be significant for this group. Also, this group will have the largest proportion of virgins.

**Protective families.**

Offspring from protective families have been taught to hold the same beliefs as their parents and to not question authority. They do not have exposure to extensive bidirectional communication, or, arguably, any type of extensive communication because parents do not see the value in discussing things with their offspring. These parents do not model communication processes such as listening, justifying and articulating reasoning, and their offspring do not have practice with communication processes such as questioning, negotiating, persuading, asserting and decision-making; their opinions are dictated to them and their decisions are made for them.

Because homogeneity of attitudes and beliefs is valued in these families, I would anticipate that parental and offspring sexual beliefs would be similar; however, there is the possibility that because of the way these beliefs are dictated to the adolescents and emerging adults rather than discussed, they may only be extrinsically motivated to hold these beliefs and thus, the beliefs may not influence their sexual behavior as much as they would if the offspring were intrinsically motivated.

Because adolescents and emerging adults from protective families are not used to open, frequent discussions within the family, they may be more hesitant or less capable of having important discussions with their sexual partner. Also, because they have not been allowed to flex their metaphoric decision-making and self-asserting muscles, they may question their ability to engage in these behaviors – especially in sexual encounters that can be awkward, intense and intimidating.

The effect that protective family communication has on adolescents' and emerging adults' sexual behavior is a bit more complex. As mentioned earlier, higher

levels of conformity orientation are linked to conventional and traditional ideology, so parents most likely mandate abstinence (or at least low risk sexual activity). It could be argued that due to the high conformity nature of these families, adolescents and emerging adults would obey their parent's requests and remain abstinent or low-risk. However, a boomerang effect has been demonstrated whereby up to a certain point parental control serves a protective function, but past that point adolescents and emerging adults are more likely to rebel and go against parents' wishes (Miller, 2002). In this case, very high levels of conformity orientation within protective families may incite rebellion from the adolescents and emerging adults, and in the domain of sexual activity, this may lead to high risk sexual behaviors.

Also, adolescents and emerging adults tend to become sexually active at a time in their lives where peers replace parents as the main socializing agent. What this means is that adolescents and emerging adults from protective families may be more influenced by the perceived authority their peers or sexual partner holds and thus engage in the sexual behavior that these referents deem as appropriate rather than what their parents deem as appropriate. Because peers have typically been shown to have more promiscuous sexual attitudes than parents, this transfer of authority from parents to peers/partner may lead to more promiscuous sexual behavior, thus landing adolescents and emerging adults from protective families in the high-sexual risk group.

Based on this application of the FCPT, I posit the following hypothesis:

H<sub>7</sub>: Adolescents and emerging adults from protective families will have lower levels of sexual self-efficacy and lower levels of sexual communication with their partners. Adolescents and emerging adults from moderately protective families

will be in the low-risk sexual behavior group (i.e. fewer partners, fewer incidents of infidelity, fewer incidents of anal sex, group sex, hookups/ one night stands, and friends-with-benefits relationships, and more consistent condom/ birth control use) and the association between parental and offspring sexual beliefs will be significant for this group. However, adolescents and emerging adults from extremely protective families will be in the high-risk sexual behavior group and the association between parental and offspring sexual beliefs will not be significant. The association between peer and offspring sexual beliefs will be significant.

#### **Laissez-faire families.**

Offspring from laissez-faire families experience something similar to what Baumrind termed “non-parenting.” These adolescents and emerging adults do not experience much familial communication or structure, and many times they are left to their own devices. Because these families are detached, the parents’ model of non-communication may not be instilled in the offspring because, according to Social Cognitive Theory (Bandura, 2002 as cited in Andsager, Bemker, Choi & Torwel, 2006), learning is not as likely to occur if there is not a strong identification between the observer and model. This means that offspring’s communicative behaviors will probably be influenced by person(s) outside the family with whom they strongly identify. I would also assume that the offspring’s self-efficacy would be informed by the same person(s) outside the family with whom the offspring strongly identify. Because parental attitudes and beliefs are probably not discussed, they should not impact adolescents’ and emerging adults’ attitudes and beliefs because this would mean that the adolescents/emerging

adults would not have a clear idea of what the parental attitudes and beliefs were; they could only make assumptions or inferences that should not be as predictive as they would be if these attitudes and beliefs had been explicitly (or at least implicitly) discussed.

I would argue that the sexual outcomes of offspring from laissez-faire families would also be influenced by reference groups outside the immediate family. If there is little communication, little transmission of values, beliefs, and attitudes, no sense of family solidarity, power or expectations, then it seems that family would not be an influential factor in adolescents' and emerging adults' sexual behavior. Instead, whoever it is that these adolescents/emerging adults identify as their closest social network would probably be the most influential in their decision-making – sexual and non-sexual alike. During adolescence, this closest social network will most likely be their peers.

Adolescents and emerging adults from laissez-faire families will be looking for companionship and intimacy because they likely cannot fulfill these needs within their families. This may lead them to gravitate to peers that are also seeking close relationships outside their families. During adolescence, peers have been shown to have more positive attitudes about sex and engaging in sex. Because laissez-faire adolescents and emerging adults will identify more strongly with these peers, they, too, may endorse more pro-sex beliefs. Also because laissez-faire adolescents and emerging adults do not experience a high level of parental monitoring, they will have more opportunities to act on these beliefs.

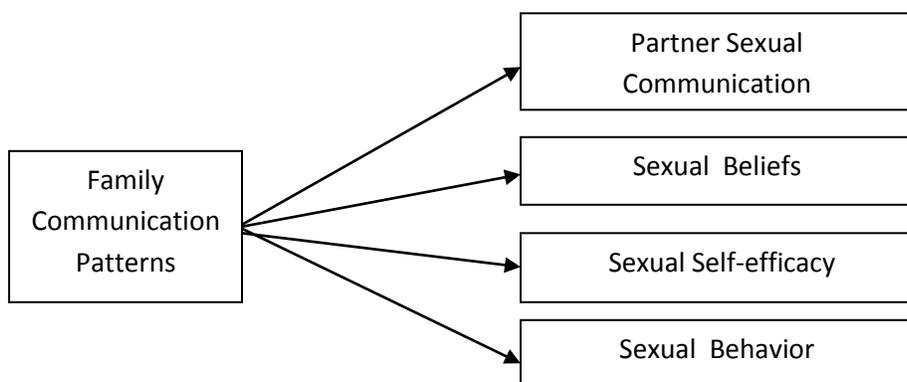
The degree to which offspring from laissez-faire families engage in partner sexual communication may be partly determined by their peer group, but they may also be influenced by the lack of communication they received growing up and thus not see

communication as important. In terms of self-efficacy, because these adolescents and emerging adults rely so heavily on their peer group, they may be more susceptible to peer pressure and more influenced by peer norms. They may feel the need to engage in the behaviors their peers seem to be engaging in whether or not they want to.

Based on this application of the FCPT, I posit the following hypothesis:

H<sub>8</sub>: Adolescents and emerging adults from laissez-faire families will have lower levels of sexual self-efficacy lower levels of sexual communication with their partners. These adolescents and emerging adults will be in the high-risk sexual behavior group (i.e. more partners, more incidents of infidelity, more incidents of anal sex, group sex, hookups/ one night stands, and friends-with-benefits relationships, and less consistent condom/birth control use) and will engage in sex at an earlier age. The association between parental and offspring sexual beliefs will not be significant, but the association between peer and offspring sexual beliefs will be significant.

The hypotheses listed in this chapter have been visually depicted in Figure 2.



*Figure 2: Model of my hypotheses regarding family communication patterns.*

The model above will be added to the model from Chapter 3 regarding the effects family sexual communication has on adolescents' and emerging adults' sexual outcome, but one important question remains: what is the relationship between family communication patterns and family sexual communication?

### **The Relationship Between Family Communication Patterns and Family Sexual Communication**

There is empirical and theoretical evidence that family communication patterns and family sexual communication are significantly associated with one another. The relationship that has been articulated in the majority of the empirical literature is that general family communication impacts family sexual communication. Extrapolating on this, it would seem logical to propose the model: family communication patterns impact family sexual communication that then impacts adolescents'/emerging adults' sexual outcomes; however, general family communication has demonstrated a clear protective effect on adolescents' and emerging adults' sexual outcomes whereas the effect of family sexual communication on adolescents' and emerging adults' sexual outcomes is not as clear. Because of this, it does not seem prudent to propose the model discussed above. Thus, the question remains: what is the best way to conceptualize the relationship between family communication patterns and family sexual communication that will be consistent with empirical and theoretical evidence? This question is explored in this final section of the chapter.

## **Empirically Linking Family Communication Patterns and Family Sexual Communication**

Several researchers have discovered a relationship between aspects of general family communication and family sexual communication. There are two main ways these variables have been utilized in the literature. The first way is to utilize them both as predictors of adolescents' and emerging adults' sexual outcomes. The second way is to group general family communication with other variables that are used as predictors of family sexual communication.

Raffaelli et al. (1998) and Zhang et al. (2007) found a positive relationship between the quality of general family communication and the extent of family sexual communication. Similarly, in their sample of mother-daughter dyads, Kotva and Schneider (1990) found that positive general communication was positively associated with family sexual communication. Baldwin and Baranowski (1990) and Booth-Butterfield and Sidelinger (1998) found a positive relationship between openness of general family communication and the extent of family sexual communication, and in their sample of father-son dyads, Lehr et al. (2005) found a positive relationship between general family communication and family sexual communication; specifically they found that more general family communication led to more info-sharing and value-sharing sexual communication between fathers and sons. Finally, Martino et al. (2008) found that when adolescents reported being more able to talk with parents about general topics, they also reported more frequent family sexual communication.

Two cases that have not demonstrated a significant relationship between general family communication and family sexual communication are Bynum's (2007) and Pluhar

et al.'s (2008) research. Bynum (2007) found no significant relationship between general family communication and family sexual communication, but she proposed a moderating model whereby general family communication moderated the relationship between family sexual communication and adolescent sexual outcomes. Pluhar et al. (2008) were investigating predictors of mother-child sexual communication. In their bivariate analyses, general family communication significantly impacted mother-child sexual communication; however, in the final regression this relationship became non-significant as it was overshadowed by maternal comfort and self-efficacy regarding sexual communication. That being said, several prominent researchers in the field have proclaimed the importance of the link between general family communication and family sexual communication.

Lefkowitz and Stoppa (2006) state that "Having a positive relationship and high-quality general communication are likely to be necessary, but not sufficient, conditions for having positive sex-related communication" (p. 46). Hutchinson (2002) states that in her study, "By far, the single greatest predictor of parent-adolescent sexual communication was the quality of parent-adolescent general communication" (p. 243). Feldman and Rosenthal (2000) were interested in familial evaluations of parents as sexual educators. They compiled data from mothers, fathers, sons and daughters and based on their analyses, they argue that to "improve the effectiveness of parents as sex educators, we should help them improve their general communication skills" (p. 120). In his review on father-child sexual communication, Wright (2009) concluded that the extent to which fathers communicated with their children about nonsexual topics positively correlates with father-child sexual communication. And Lefkowitz (2002) states that "Parent-child

communication about sex-related topics needs to be understood within the context of general communication patterns” (p. 50). These comments demonstrate that accounting for the relationship between general family communication and family sexual communication is essential when proposing a model for this project.

### **Theoretically Linking Family Communication Patterns and Family Sexual Communication**

The link between general family communication and family sexual communication can be theoretically examined through the lens of the FCPT. According to this theory, family communication patterns are stable due to our reliance on familial schemata that govern our cognitions and actions; thus, a family’s general communication patterns should theoretically be consistent across topic domains (though a recent study that will be discussed shortly questions this consistency). Families generally high in conversation orientation would be predicted to remain high in conversation orientation across a variety of topics from school performance to religion to sex, whereas families generally low in conversation orientation would be predicted to remain low in this orientation across these topics. The same application can be conducted for conformity orientation.

For example, I would anticipate that families labeled as pluralistic in general would retain that label when investigating the specific topic of family sexual communication. These families would allow their offspring to ask questions about various aspects of dating and sexuality and would hold open forums of discussion. These families would allow their offspring to hold different sexual beliefs than the parents without disruption to the family unit. Consensual families would be predicted to still

allow questioning regarding dating and sexuality, but the topic range may be more constrained so as to conform to parental sexual ideology. Parents would communicate familial sexual values and expect their offspring to abide by them. Parents would make sure to explain to their offspring why they held these expectations.

Protective families would be characterized by either an absence of sexual communication, an infrequent comment such as “Don’t have sex or else” or perhaps by one encounter that has been labeled in the literature as the “big talk” that would entail the parents lecturing (rather than discussing) sex. The content of this lecture would most likely focus on parental expectations with which the adolescents and emerging adults would be mandated to comply and there would be little to no explanation for why the parents held these expectations or why the adolescents and emerging adults should maintain them. Laissez-faire families would most likely not engage in any family sexual communication and though the parents may not invest significantly in their offspring’s sexual decisions, these parents would most likely expect that school sex education would provide all the sexual information their offspring required.

This application makes sense in the way family communication patterns have historically been conceptualized; however, a recent examination of the underlying principles of FCPT could point to a different application.

Baxter and Akkooor (2011) questioned the conceptualization of family communication patterns as a stable, traitlike characteristic and instead proposed that such communication patterns could be “fluid [and] statelike” (p. 2). They used Bakhtin’s Dialogic Theory to frame their study. This theory is interested in the multiple voices that are (or are not) present in communication. In some cases, there is a single, authoritative

voice whereas in others, multiple voices are allowed to be heard. Bakhtin uses the terms dialogically contractive and dialogically expansive to describe conversation, and argues that conversations fall somewhere on a continuum between these two extremes.

Monologues and lectures would be examples of more dialogically contractive conversations and open dialogues would be examples of more dialogically expansive conversations.

To empirically test their reconceptualization of family communication patterns, Baxter and Akkoo (2011) examined whether family communication varied in terms of being dialogically contractive or expansive depending on topic. They had parents and adolescents fill out the FCP measure a total of 10 times. Instead of using the original FCP measure, they adapted it so that each time the participants filled out the measure, it was in reference to a specific topic. They had family members reflect on their conversation and conformity orientation regarding family relationship rules, family relationship concerns, friendships, sexual issues, dating, drinking/drugs/smoking, money, tradition, education and everyday things.

Baxter and Akkoo (2011) argued that while family communication patterns was typically identified as depending on three levels of schemata (relationship specific, relationship type and general social), another level of schema should be added. They labeled this schema “genre” schema and argued that while this type of schema was “social, to be sure, [it was] not of the globalized nature envisioned by Koerner and Fitzpatrick in their treatment of social schemata” (p. 8). They stated the following:

If the current study finds a common pattern across families, with topics varying systematically in FCP, this may underscore the fact that given families do not

exist in isolated social bubbles guided only by relationship-specific and relationship-type schematas but in addition are inflected with larger sociocultural influences about how topical genres are to be enacted (p. 7-8).

Baxter and Akkoo (2011) found support for their reconceptualization in that there were systematic differences in family communication patterns across topics. They argued that if family communication patterns were stable and traitlike that “topics would have consistently hovered in the middle, with variation a result of family communication type” (p. 14) and that they would not have found “systematic topical differences in dialogic expansiveness across the sample of parent-adolescent dyads” (p. 14). Their conclusion is that topic-specific schema may “trump” family orientations toward family communication patterns and that future research should examine family, relationship-specific and topic-specific levels of schema to discover “when one kind of schema trumps another in guiding communication in a given conversation” (p. 15).

If one subscribed to this conceptualization of family communication patterns, one would not be able to make the predictions described earlier that family sexual communication would mirror general family communication. There will no doubt be theoretical and empirical follow ups conducted by multiple researchers regarding this reconceptualization, and this debate should invigorate and increase the richness of the FCPT.

### **A Model Linking Family Communication Patterns and Family Sexual Communication**

Given the empirical and theoretical relationship between general family communication and family sexual communication, there seems to be three potential

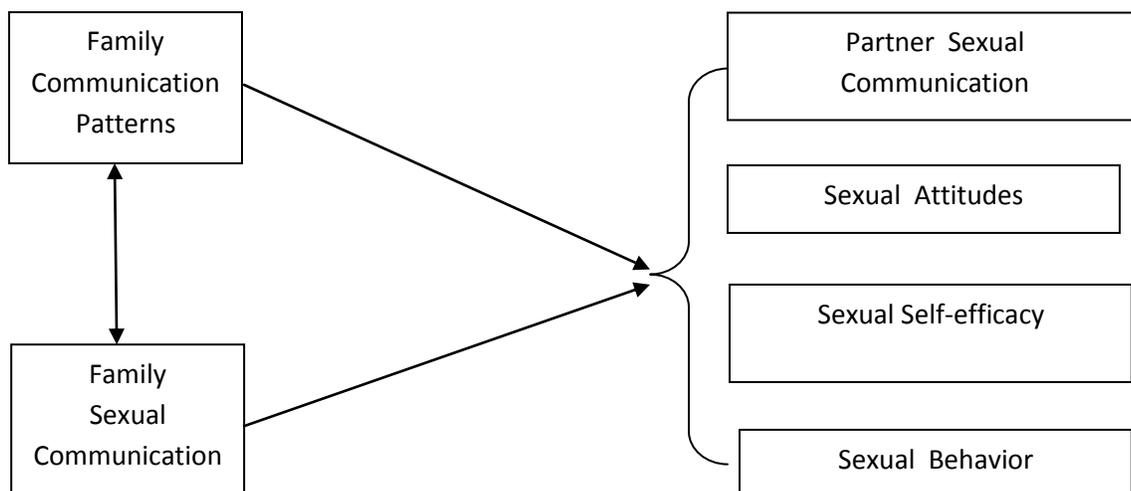
models for this project: one that predicts direct effects on adolescents' and emerging adults' sexual outcomes for both family communication patterns and family sexual communication, one that predicts that family sexual communication mediates the relationship between family communication patterns and adolescents' and emerging adults' sexual outcomes, and one that predicts that family communication patterns moderates the relationship between family sexual communication and adolescents' and emerging adults' sexual outcomes. I will be testing the direct effect model for this project.

The benefit of the direct effect model is that I can explore the strength of the impact that family communication patterns and family sexual communication have on adolescents' and emerging adults' sexual outcomes in relation to each other and can investigate interactions. Also, this model accounts for the empirical evidence of a relationship between the two types of communication. In their discussion of the association between general family communication and family sexual communication, researchers often times create temporal ordering stating that general family communication leads to family sexual communication. This makes logical sense because general communication does not necessarily have a starting point but family sexual communication typically does, and this starting point comes after general family communication has been established.

However, methodologically they cannot truly make this claim as the samples utilized are cross-sectional – not longitudinal – and therefore temporal ordering cannot empirically be established. Thus, having general family communication and family sexual communication at the same level accounts for the empirical connection between

the two variables – even if it does not account for the researchers interpretations of this relationship.

Also, the results regarding the effect general family communication has on adolescents’ and emerging adults’ sexual outcomes are fairly consistent which suggests a direct relationship like the one proposed in this model. Though the results regarding the effect family sexual communication has on adolescents’ and emerging adults’ sexual outcomes are inconsistent and contradictory, I am hoping that through my solid methodology and my investigation into the interactions between general and sexual family communication the relationships between these three variables will become clearer. Therefore, the full model I will be testing in this study is depicted in Figure 3.



*Figure 3:* Full model of my hypotheses.

### **Comparing Virgins and Non-Virgins**

Most of the dependent variables in my model are only applicable to those who have engaged in sexual activities. If participants have never had sex, most of the sexual

behavior measures (which gauge participants' sexual history) will not apply. Partner sexual communication and sexual self-efficacy are measured in reference to the participants' current sexual relationship. And though there are certainly people in romantic relationships who do not participate in sex, several of the questions in these two measures assume some level of sexual activity, thus those who have never had sex would not be able to answer these questions (e.g. "I am able to tell my partner if she/he hurts me during sex" "I am able to initiate sex with my partner when I want to have sex.")). This means that participants who have remained virgins will not be included in the analyses regarding three of my four dependent variables. They will be included in my analyses regarding sexual beliefs, but this group warrants inclusion in more analyses.

For the purpose of this study, I will define virgins as individuals who have not yet engaged in sexual intercourse. Participants who have engaged in oral sex but not sexual intercourse are included in the category "virgins." Though I am anticipating that the majority of my sample will fall into the "non-virgin" category based on previous research I have conducted with similar samples, I am hoping that there is a large enough group of virgins to conduct analyses that examine the attributes that make this group different than the group who have chosen to engage in sexual intercourse. I wish to investigate the following research question:

RQ<sub>2</sub>: In what ways do virgins and non-virgins differ significantly?

## Chapter 5

### Methodology

I begin this chapter with how I obtained my sample as well as general information regarding the participants. The second section details the instruments I utilized to gather my data and also includes the testing of the psychometric properties of the FSCS. The final section of this chapter details the descriptive statistics of my sample.

### Sample

Originally, this study was going to be dyadic in nature and was meant to examine romantic couples. I still plan on conducting this original study in the future; for more information please see the Future Research section of Chapter 8. Because my primary analyses were going to be dyadic, I recruited sexual couples; however, if individuals had no relationship on which to report, they were still allowed to participate in the study. I recruited partner A (and single participants) by asking instructors in the Communication Studies department to offer extra credit to students for completing my questionnaire. I recruited partner B through partner A. Partner B was offered a \$5 gift card to Target for participating.

Partners A and B did not necessarily have to currently be in a romantic relationship; they could also be previous partners, friends-with-benefits, hook ups, etc. The only qualification was that A and B must have had a sexual relationship at some point in the past year. A sexual relationship was not defined strictly as a relationship in which the couple engaged in sexual intercourse because this would exclude virgins and

those waiting to engage in sex until marriage. Therefore, a sexual relationship was simply defined as a relationship in which both partners experienced sexual feelings toward each other. This project focuses on heterosexual partners because I was not able to recruit enough partners of other sexual orientations to warrant further analyses.

The sample consisted of 326 individuals; there were 110 couples ( $n = 220$ ) and 106 individual participants. The majority of the sample consisted of college students from a large Midwestern university ( $n=216$ ). The other portion of the sample ( $n=110$ ) was comprised of the sexual partners of these students. Of the 326 participants, 136 were male (42.5%) and 182 were female (56.9%). Eight participants did not complete the biological sex question on the survey. When asked to identify their race, 243 participants (77.6%) classified themselves as white or Caucasian, 39 participants (12.5%) classified themselves as Asian, 14 participants (4.5%) classified themselves as black or African American, 10 participants (2.9%) classified themselves as multiracial or a “mix,” and 7 participants (2.2%) classified themselves as Hispanic or American Indian. Thirteen participants did not complete the question referring to race. The average age for this sample was 21.2 years old with a standard deviation of 2.30 years. The youngest participant was 17 and the oldest was 30. When asked whether or not they were currently living with their parents, 75 (23.4%) participants answered yes while 240 (75.0%) answered no. Eleven participants did not answer this question.

When asked if they affiliated with a particular religion, 196 participants (62.0%) indicated that they did while 120 (38.0%) indicated that they did not. Ten participants did not complete this question. Those who affiliated with a religion reported being

moderately religious ( $\bar{x} = 2.6$  on a scale from 1 to 5 with a standard deviation of 1.27). For those who did affiliate with a religion, the vast majority were Christian with 178 out of the 196 religious participants (90.8%) indicating this religion. Within this section of the sample, 72 participants indicated being Catholic and the other 106 indicated belonging to a branch of Christianity other than Catholicism (i.e. Lutheran, Protestant, Evangelical, and Baptist). The religious participants who did not affiliate with Christianity indicated affiliating with Islam (n=6), Judaism (n=4), Shamanism (n=4) or Buddhism (n=2). Two participants did not indicate with which religion they affiliated.

### **Instruments**

In this section of Chapter 5, I begin by examining the psychometric properties of the FSCS. I have included information regarding how it was developed and pretested as well as the results from reliability and validity tests. I then detail all other instruments that were utilized in this study.

#### **The Family Sexual Communication Scale (FSCS)**

My interest in family sexual communication began as an undergraduate student. For my senior capstone project I administered Warren and Neer's Family Sexual Communication Quotient to my sample and correlated the reports with the participants' sexual behavior. In my Master's program I delved deeper into the literature but when it was time to choose an instrument to measure family sexual communication, I again utilized Warren and Neer's measure. Neither of these studies produced the results I had anticipated. Then in my Doctorate program I began investigating why the results in the

family sexual communication literature were so inconsistent and contradictory. One of the reasons seemed to be a lack of a solid measure for family sexual communication. I decided to create my own measure of family sexual communication for my doctoral dissertation.

### **Developing the FSCS.**

After thoroughly reviewing the literature, I did not find a measure that I felt adequately conceptualized and operationalized this construct. In addition to these deficiencies, most of the measures had not been tested for reliability and/or validity. This was the catalyst for creating my own scale. I synthesized the available measures of family sexual communication and made note of their strengths and weaknesses. From this review I developed the Family Sexual Communication Scale (FSCS). I conceptualize family sexual communication as: the frequency with which parents and adolescents/emerging adults have discussed a broad range of sexual topics, the quality of these interactions, and the specific messages that were communicated during these interactions. The FSCS has three subscales that attempt to operationalize these three facets of family sexual communication and they are: Frequency, Quality, and Content.

The Frequency subscale of the FSCS asks participants to report how frequently they discuss 20 sexual topics with their parents. These topics are: STDs (other than HIV/AIDS), HIV/AIDS, condom use, unplanned pregnancies, abortion, abstinence, oral sex, resisting sexual pressure, monogamy, fidelity, pleasure of sexual relationships, parental attitudes about the adolescent having sex, masturbation, rape/molestation/sexual

harassment, resources available to help with family planning, resources available to help deal with sexual trauma/rape, statistics about sexually active adolescents, gender specific sexual information, non-sexual ways to show love and sexual orientation.

I developed the list of sexual topics by reviewing the literature to find out which topics were typically included. After realizing that there were many important sexual topics that were missing from most researchers' lists, I specifically sought out studies that discussed a broader range of family sexual communication topics, including both quantitative and qualitative studies. I also read articles regarding what topics educators, parents, adolescents and emerging adults felt were most important for parents to discuss and tried to include these topics in my subscale. The FSCS was pretested on a group of over 100 participants. The pretest results for the Frequency subscale showed it to be reliable with Cronbach's  $\alpha = .92$  so it was not modified for this study.

The Quality subscale of the FSCS asks participants to report on their communication with their parents on the same 20 topics included in the Frequency subscale. However, this time participants are asked to report on how good or bad the communication surrounding each topic is. For an explanation of why I chose "good" and "bad" please review the final section of Chapter 2. The pretest results for the Quality subscale showed it to be reliable with Cronbach's  $\alpha = .94$  so it was not modified for this study.

The Content subscale of the FSCS measures the extent to which specific sexual messages are transmitted within the family. I chose messages that were relevant to the

specific sexual behavior variables that are included in this study, namely abstinence, age of sexual initiation, number of sexual partners, fidelity, unplanned pregnancy, STIs, anal sex, group sex, hook ups/one night stands, friends-with-benefits situations and condom/contraceptive use. The scale is comprised of 15 seven-point Likert-type questions with responses ranging from “strongly disagree” to “strongly agree.” There is also a “NA” option for each question that participants can circle if their families did not discuss the topic in question. The pretest results for the Content subscale showed it to be reliable with Cronbach’s alpha = .80 so it was not modified for this study.

### **Testing the psychometric properties of the FSCS.**

After pretesting the FSCS, I administered this measure, along with several other measures, to my sample of 326 participants. I utilized this data to test the psychometric properties of the FSCS.

#### ***Reliability.***

To examine the reliability of the FSCS I checked the Cronbach’s alphas for each of the three subscales against the standard in the field which is .70. The Frequency subscale had a Cronbach’s alpha of .93, the Quality subscale had a Cronbach’s alpha of .95 and the Content subscale had a Cronbach’s alpha of .74. This demonstrates empirical support for using each of these subscales as a whole, but I do not wish to do that for the various reasons outlined in Chapter 2. I have criticized other researchers for using this method and have argued that averaging or summing such diverse sexual topics into one-variable scale is problematic, so I decided to conduct an exploratory factor analysis on

the items in the Frequency subscale to see if any distinct factors emerged; they did. For the results of this factor analysis please see Table 11.

Table 11

*Exploratory Factor Analysis for Frequency Subscale of the FSCS*

| Sexual Topics Discussed                      | Risk       | Values     | Pleasure   | Sensitive  |
|--|------------|------------|------------|------------|
| STDs (other than HIV/AIDS)                   | <b>.72</b> | .27        | .18        | .39        |
| HIV/AIDS                                     | <b>.67</b> | .24        | .08        | .47        |
| Condom use                                   | <b>.77</b> | .05        | .35        | .16        |
| Unplanned pregnancies                        | <b>.71</b> | .25        | .14        | .16        |
| Abstinence                                   | .13        | <b>.77</b> | -.07       | .27        |
| Resisting sexual pressure                    | .24        | <b>.65</b> | .04        | .31        |
| Monogamy (having only one partner)           | .22        | <b>.74</b> | .33        | .08        |
| Fidelity (being faithful to a partner)       | .13        | <b>.74</b> | .32        | .13        |
| Parents' attitudes about me having sex       | .45        | <b>.47</b> | .30        | .05        |
| Non-sexual ways to show love                 | .22        | <b>.53</b> | .37        | .37        |
| Oral Sex                                     | .33        | .17        | <b>.67</b> | .29        |
| Enjoyment/pleasure of sexual relationships   | .37        | .24        | <b>.71</b> | .20        |
| Masturbation                                 | .13        | .13        | <b>.81</b> | .13        |
| Rape/molestation/sexual harassment           | .21        | .41        | .00        | <b>.68</b> |
| Resources to help with family planning       | .35        | .12        | .16        | <b>.64</b> |
| Resources to help deal with sexual trauma    | .22        | .10        | .15        | <b>.78</b> |
| Statistics about sexually active adolescents | .25        | .16        | .14        | <b>.69</b> |
| Gender specific (menstruation, ejaculation)  | -.02       | .39        | .36        | <b>.39</b> |
| Abortion                                     | .35        | .38        | .21        | <b>.39</b> |
| Sexual orientation                           | .03        | .23        | .30        | <b>.66</b> |

When choosing which type of rotation to utilize for a factor analysis, Abdi (2003) states in the Encyclopedia of Social Science Research Methods that there are primarily two types of rotation: orthogonal and oblique. I chose an orthogonal rotation – the Varimax rotation – which is “indubitably the most popular rotation method by far” (p. 980) and which simplifies interpretation because “each original variable tends to be associated with one (or a small number) of factors, and each factor represents only a small number of variables” (p. 980). I used Varimax rotation and extracted factors with Eigen values greater than one. This produced four distinct factors that I have labeled sexual risk, sexual values, sexual pleasure and sensitive sexual topics. The sexual risk factor is comprised of four topics and these four topics are commonly included in other researchers’ measures of family sexual communication. They are: STDs, HIV/AIDS, condom use and unplanned pregnancy. The sexual values factor is comprised of six topics and many of them are not included in the majority of existing measures of family sexual communication. They are: abstinence, monogamy, fidelity, resisting sexual pressure, non-sexual ways to show love and parental attitudes about the participant having sex.

The sexual pleasure factor is comprised of three topics: oral sex, masturbation and the enjoyment/fun/pleasure of sexual relationships. Though masturbation is a topic included in some measures of family sexual communication, oral sex and enjoyment typically are not included. Finally, the sensitive sexual topics factor is comprised of seven topics, the majority of which are not included in most measures of family sexual communication. The topics are: abortion, rape/molestation/harassment, resources

available to help with family planning, resources available to help deal with sexual trauma/rape, sexual orientation, gender specific information (e.g. wet dreams and menstruation), and statistics about sexually active adolescents.. These factors made theoretical sense, but I needed to check their reliabilities. All four had high reliabilities (sexual risk = .85, sexual values = .86, sexual pleasure = .82 and sensitive sexual topics = .83).

I conducted an exploratory factor analysis using the same method of extraction and rotation on the Quality subscale of the FSCS and found that three factors emerged. For the results of the exploratory factor analysis please see Tables 12.

Table 12

*Exploratory Factor Analysis for Quality Subscale of the FSCS*

| Sexual Topics Discussed                      | Factor 1   | Factor 2   | Factor 3   |
|--|------------|------------|------------|
| STDs (other than HIV/AIDS)                   | <b>.80</b> | .27        | .30        |
| HIV/AIDS                                     | <b>.74</b> | .27        | .33        |
| Condom use                                   | <b>.82</b> | .21        | .22        |
| Unplanned pregnancies                        | <b>.77</b> | .30        | .23        |
| Abstinence                                   | .18        | <b>.77</b> | .30        |
| Resisting sexual pressure                    | .27        | <b>.59</b> | .44        |
| Monogamy (having only one partner)           | .23        | <b>.82</b> | .17        |
| Fidelity (being faithful to a partner)       | .23        | <b>.80</b> | .17        |
| Parents' attitudes about me having sex       | .33        | <b>.57</b> | .39        |
| Non-sexual ways to show love                 | .32        | <b>.62</b> | .36        |
| Oral Sex                                     | .47        | .19        | <b>.62</b> |
| Enjoyment/pleasure of sexual relationships   | .44        | .31        | <b>.59</b> |
| Masturbation                                 | .21        | .19        | <b>.71</b> |
| Rape/molestation/sexual harassment           | .24        | .38        | <b>.61</b> |
| Resources to help with family planning       | .36        | .17        | <b>.63</b> |
| Resources to help deal with sexual trauma    | .20        | .20        | <b>.79</b> |
| Statistics about sexually active adolescents | .22        | .26        | <b>.67</b> |
| Gender specific (menstruation, ejaculation)  | .16        | .41        | <b>.49</b> |
| Abortion                                     | .38        | <b>.43</b> | .34        |
| Sexual orientation                           | .14        | .39        | <b>.57</b> |

When examining how items loaded, I found that the sexual risk factor and the sexual values factor were the same in the Frequency and Quality subscales, but that sexual pleasure and sensitive sexual topics were combined into one factor on the Quality subscale. The only exception to this statement was the abortion item that loaded on the sexual values factor. The four factors are distinct and make theoretical sense so I will be using the same four factors when examining the Quality subscale. The reliabilities for the four factors of the Quality subscale were all high (sexual risk = .91, sexual values = .87, sexual pleasure = .81 and sensitive sexual topics = .89).

I used the same method of rotation and extraction for the Content subscale of the FSCS. Using Varimax rotation and extracting factors with Eigen values greater than one produced three factors. For the results of the exploratory factor analysis please see Table 13.

Table 13

*Exploratory Factor Analysis for Content Subscale of the FSCS*

| Messages from Parents                           | Factor 1   | Factor 2   | Factor 3   |
|---|------------|------------|------------|
| Explore urges even at a young age               | .08        | <b>.78</b> | .06        |
| Okay not to use protection                      | .44        | <b>.57</b> | .09        |
| We all make mistakes when trying to be faithful | .16        | <b>.74</b> | -.03       |
| Encouraged me to “play the field”               | .04        | <b>.80</b> | .05        |
| It’s okay to have sex for pleasure and joy      | .02        | <b>.75</b> | .21        |
| Explore sexual urges even if unconventional     | .13        | <b>.78</b> | .15        |
| Wait to have sex until married                  | <b>.78</b> | -.00       | .16        |
| Discouraged sexual activities until married     | <b>.85</b> | .16        | .08        |
| Sex is only appropriate for marriage            | <b>.89</b> | .11        | -.01       |
| Discouraged sexual activities until older       | <b>.79</b> | .03        | .18        |
| There is appropriate/ inappropriate sex         | <b>.56</b> | .32        | .31        |
| Have as few sexual partners as possible         | <b>.58</b> | .10        | .57        |
| Never cheat on one’s partner                    | .34        | -.03       | <b>.73</b> |
| Always use protection                           | .08        | .20        | <b>.75</b> |
| Sex should be saved for someone you love        | -.05       | .54        | <b>.49</b> |

When examining how the items loaded, there was a distinct factor related to permissive messages. The two other factors were not as clear, but one contained mostly messages reflecting safe sex messages and the other contained messages mostly reflecting messages of abstinence. The permissive factor was comprised of six messages

and they were: “My parents have encouraged me to explore my sexual urges even at a young age,” “My parents have directly or indirectly said it was okay for me not to use protection when I have sex,” “My parents have made it clear that we all make mistakes when it comes to being faithful to a partner,” “My parents have directly or indirectly encouraged me to ‘play the field’,” “My parents have directly or indirectly said it was okay for me to have sex for the pleasure and joy of it,” and “My parents have directly or indirectly encouraged me to explore my sexual urges even if they are unconventional.”

The safe sex factor was comprised of three messages and they were: “My parents have made it clear that one should never cheat on one’s partner,” “My parents have told me to always use protection,” and “My parents say that sex isn’t necessarily only for marriage but must be saved for someone you love.” The abstinence factor was comprised of six messages and they were: “My parents have told me to wait to have sex until I am married,” “My parents have discouraged me from engaging in sexual activities until I am married,” “My parents have made it clear that sex is only appropriate in marriage,” “My parents have discouraged me from engaging in sexual activities until I am older,” “My parents have directly or indirectly made it clear that there are appropriate and inappropriate types of sexual behavior” and “My parents have directly or indirectly encouraged me to have as few of sexual partners as possible.”

When examining the reliabilities for these three factors they were, for the most part, adequate. The permissive factor had a Cronbach’s alpha of .85 and the abstinence factor had a Cronbach’s alpha of .87, but the safe sex factor had a Cronbach’s alpha of .51. I re-examined the individual items and decided that theoretically there seemed to be

only two factors: permissive messages and restrictive messages. I conducted a confirmatory factor analysis with Varimax rotation and fixed the number of extracted factors to two. For the results of the confirmatory factor analysis please see Table 14.

Table 14

*Confirmatory Factor Analysis for Content Subscale of the FSCS*

| Messages from Parents                           | Restrictive | Permissive |
|---|-------------|------------|
| Explore urges even at a young age               | -.24        | <b>.70</b> |
| Okay not to use protection                      | .16         | <b>.49</b> |
| We all make mistakes when trying to be faithful | .06         | <b>.58</b> |
| Encouraged me to “play the field”               | -.22        | <b>.65</b> |
| It’s okay to have sex for pleasure and joy      | -.07        | <b>.78</b> |
| Explore sexual urges even if unconventional     | -.12        | <b>.75</b> |
| Wait to have sex until married                  | <b>.83</b>  | -.19       |
| Discouraged sexual activities until married     | <b>.83</b>  | -.08       |
| Sex is only appropriate for marriage            | <b>.80</b>  | -.14       |
| Discouraged sexual activities until older       | <b>.80</b>  | -.06       |
| There is appropriate/ inappropriate sex         | <b>.49</b>  | .38        |
| Have as few sexual partners as possible         | <b>.78</b>  | .08        |
| Never cheat on one’s partner                    | <b>.54</b>  | .19        |
| Always use protection                           | .16         | <b>.34</b> |
| Sex should be saved for someone you love        | .06         | <b>.49</b> |

All of the items loaded on the anticipated factor with two exceptions: “My parents say that sex isn’t necessarily only for marriage but must be saved for someone you love” and “My parents have told me to always use protection” loaded on the permissive factor instead of the restrictive factor.

Though these two items in other contexts may seem to fit with the label of “permissive messages,” within the context of this measure they theoretically align more with the restrictive message factor. For example, the item “My parents have directly or indirectly said it was okay for me not to use protection when I have sex” is part of the permissive factor. Having this item and the item “My parents have told me to always use protection” is problematic. So I checked the reliabilities if these two items were deleted from the permissive factor and it did not make a significant difference; therefore, I chose to put these two items in the restrictive factor. The reliability for the permissive factor was Cronbach’s alpha = .85 and the reliability for the restrictive factor was Cronbach’s alpha = .84.

### *Summary of reliability.*

The examination of the reliability of the FSCS has demonstrated that all subscales and factors are highly reliable. In addition, the way in which the factors were created was both theoretically and methodologically sound. This demonstrates that the FSCS is a reliable measure of family sexual communication. The other step in testing the psychometric properties of a measure is to examine its validity.

### ***Validity.***

#### *Face and content validity.*

To demonstrate face validity I conducted an exhaustive review of the literature on family sexual communication measures. I also had an expert in family communication (Dr. Ascan Koerner) examine the measure before I administered it to my sample. Though I did not demonstrate content validity, I did pretest my measure which allowed me to make any necessary alterations before administering it to my actual sample.

#### *Criterion validity: Concurrent and predictive validity.*

The two types of criterion validity, concurrent and predictive validity, are very similar in their definitions but what separates them, in my interpretation, is their temporal requirements. Concurrent validity can be assessed at a single point in time whereby the researchers administer their proposed measure along with measures of the criterion constructs at the same time and analyze their data to see if the predicted relationships were evident (though it should be noted that tests of concurrent validity should never duplicate one's hypotheses).

Predictive validity requires longitudinal data whereby the researchers administer their proposed measure at a baseline and then administer measures of the criterion constructs at a later point (or points) in time to see if the predicted relationships become apparent. Only McDermott Sales et al. (2008) have examined predictive validity. Given the cross-sectional nature of my study, I will not be able to demonstrate this type of validity, but plan to do so in my future research. I realize I am utilizing a narrow

definition of predictive validity and that some researchers do not feel that this type of validity has a temporal requirement. It is important to maintain this narrower definition so that we do not conduct cross sectional studies and claim predictive validity if we find the anticipated results but claim poor operationalization if we do not.

In terms of concurrent validity, I examined the correlations between the FSCS and conversation orientation. For a list of all correlations please see Table 15.

Table 15

*Examining Concurrent Validity: Correlating the FSCS with Conversation Orientation*

| Subscales and Factors of FSCS | <i>r</i> |
|-------------------------------|----------|
| Frequency                     |          |
| Risk                          | .39**    |
| Values                        | .38**    |
| Pleasure                      | .19**    |
| Sensitive Topics              | .39**    |
| Quality                       |          |
| Risk                          | .40**    |
| Values                        | .47**    |
| Pleasure                      | .35**    |
| Sensitive Topics              | .36**    |
| Content                       |          |
| Permissive                    | .01      |
| Restrictive                   | .16**    |

*Note:* \*\* $p \leq .01$

Though conversation orientation is in my model, I do not hypothesize a specific relationship between family sexual communication and family communication patterns. I used the subscales and factors of the FSCS and correlated them with conversation orientation; all correlations were significant with the exception of the permissive factor of the Content subscale of the FSCS.

*Summary of validity.*

The FSCS has strong face validity. I was able to demonstrate concurrent criterion validity as well. Because there is no gold standard measure of family sexual communication in the field, and because those that have been vetted to any degree represent a much narrower conceptualization of family sexual communication than the FSCS utilizes, I was unable to demonstrate convergent construct validity. Also, because this study was cross-sectional I was not able to demonstrate predictive criterion validity; however, I plan to accomplish this in future research (for a brief discussion please see the Future Research section of Chapter 8).

*Summary of the psychometric properties of the FSCS.*

The FSCS has demonstrated very strong internal consistency. All reliability coefficients are far above the standard .70 in the field, and the subscales and factors that are utilized are theoretically and methodologically sound. The FSCS has also demonstrated strong validity. An extensive literature review, consultation with an expert, and pretesting were used to establish face validity. Concurrent validity were also established. I was unable to establish convergent validity, but no measure in the field has established this type of criteria and thus this does not point to a deficiency in the FSCS. I was also unable to establish predictive validity but I intend to establish this in future research. This is also not a deficiency as only one measure in the field has adequately demonstrated predictive validity with a longitudinal sample.

The FSCS has established stronger validity and as strong – if not stronger – reliability than the vast majority of measures that have been used to measure family sexual communication. The only measure that has trumped the validity of the FSCS is the PACS because it also measured predictive validity; however, the PACS only conceptualizes and operationalizes family sexual communication in terms of risk so the FSCS still provides a meaningful contribution to the field because a) it is one of the few measures that have actually been tested for reliability and validity b) those tests have demonstrated that it is reliable and valid c) it demonstrates congruence with the conceptual definition of family sexual communication utilized and d) the conceptual and operational definitions utilized are broader, clearer and stronger than others utilized in the field.

### **Model Variables**

#### **Family communication patterns and family sexual communication.**

To measure family communication, participants were asked to complete Fitzpatrick and Ritchie's (1994) Revised Family Communication Patterns (RFCP) which measures family communication patterns along two dimensions: conformity orientation and conversation orientation. Conformity orientation measures the extent to which a family climate of homogeneity of attitudes and beliefs is experienced. An example of a question measuring conformity orientation is "My parents often said things like 'A child should not argue with adults.'" Conversation orientation measures the extent to which a family climate of open participation in a variety of discussion topics is experienced. An

example of a question measuring conversation orientation is “I can tell my parents almost anything.” The RFCP consists of 26 seven-point Likert-type questions with responses ranging from “strongly disagree” to “strongly agree.” The RFCP is a well-established measure and the reliabilities of the 15 item conversation orientation and the 11 item conformity orientation subscales are Cronbach’s alpha = .92 and Cronbach’s alpha = .81 respectively.

To measure family sexual communication I utilized the FSCS. As discussed in the previous section, the FSCS is comprised of three subscales measuring the frequency with which participants’ families discussed sex, the quality of their family sexual communication, and the content of these sexual discussions. The Frequency and Quality subscale are comprised of four factors: sexual risk, sexual values, sexual pleasure and sensitive sexual topics. The Content subscale is comprised of two factors: restrictive messages and permissive messages. All factors are highly reliable and the measure has demonstrated validity.

### **Sexual beliefs scale.**

The Sexual Beliefs Scale measures participants’ beliefs regarding the appropriateness of engaging in specific sexual acts. I created this scale and tailored it to measure the specific sexual behavior variables I am interested in analyzing namely abstinence, age of sexual initiation, number of sexual partners, condom and other contraceptive use, unplanned pregnancy, sexual fidelity, and other types of sexual behavior that might be deemed “deviant” or “unconventional” by some communities such

as anal sex, group sex, hook ups/one night stands and friends-with-benefits situations. This scale consists of 21 seven-point Likert-type questions with responses ranging from “strongly disagree” to “strongly agree.” This sexual belief measure was completed by the participants four times throughout the questionnaire - once to gauge their own sexual beliefs, once to gauge their perceptions of their parents’ sexual beliefs, once to gauge their perceptions of their peers’ sexual beliefs and once to gauge their perceptions of their current sexual partner’s sexual beliefs.

Because this scale was developed for this study, it was also administered to a pretest group of over 100 participants so that it could be altered if found unreliable or invalid. My hope was to find three separate and distinct sexual belief subscales: beliefs regarding abstinence, beliefs regarding restrictive sexual behavior, and beliefs regarding permissive sexual behavior. This was not the case. I contemplated reformulating the questions to more clearly measure these factors, but realized that the analysis I was interested in was to what extent a belief regarding a specific sexual behavior (i.e. using protection) was influenced by family communication so I kept the scale as is.

After gathering my dissertation data I, again, tried an exploratory factor analysis to see if I could create subscales for this measure. The exploratory factor analysis produced five factors that did not make inherent theoretical sense but after dropping two items that did not load well onto any factor and that were not theoretically important to my model, I found the factors were more cohesive. I used Varimax rotation and extracted factors with Eigen values greater than one. This produced four distinct factors that I have

labeled permissive sexual beliefs, sex positive beliefs, protection beliefs and pregnancy beliefs. For the results of the exploratory factor analysis please see Table 16.

Table 16

*Exploratory Factor Analysis for Sexual Beliefs*

| Sexual Belief                                 | Permissive  | Positive    | Protection  | Pregnancy   |
|---|-------------|-------------|-------------|-------------|
| Group sex is okay                             | <b>.74</b>  | .17         | .05         | .09         |
| Hooking up and FWB is part of college         | <b>.58</b>  | .25         | -.03        | .01         |
| If committed, sometimes okay to cheat         | <b>.61</b>  | -.15        | .13         | .04         |
| It's okay to have sex at early age            | <b>.51</b>  | .38         | .16         | -.17        |
| Okay to have number of partners in lifetime   | <b>.68</b>  | .43         | -.17        | -.02        |
| If monogamous, no sex with others             | <b>-.52</b> | .36         | -.04        | -.05        |
| Should have few partners                      | <b>-.78</b> | -.14        | .11         | .03         |
| Sex before marriage is okay if in love        | .12         | <b>.54</b>  | -.22        | .08         |
| Sex is an important part of relationships     | -.06        | <b>.72</b>  | -.07        | .06         |
| Exploring sexual desires is okay              | .21         | <b>.73</b>  | -.05        | .13         |
| Oral sex is okay                              | .12         | <b>.81</b>  | -.01        | -.03        |
| Anal sex is okay                              | .34         | <b>.48</b>  | .11         | .03         |
| Sex only appropriate in marriage              | -.44        | <b>-.60</b> | .20         | .06         |
| Sex only appropriate in missionary position   | .04         | <b>-.70</b> | .05         | .05         |
| If monogamous, no need for birth control      | -.07        | .01         | <b>.83</b>  | .03         |
| If committed, no need for birth control       | .11         | -.16        | <b>.82</b>  | -.02        |
| Should always use birth control               | -.03        | .09         | <b>-.71</b> | .26         |
| Pregnancy in early life leads to difficulties | -.01        | .06         | -.10        | <b>.83</b>  |
| Pregnancy in early life leads to joys         | -.05        | -.02        | .08         | <b>-.81</b> |

The first factor, permissive sexual beliefs, consists of beliefs that reflect a recreational approach to sex and is comprised of the following beliefs: “It is okay to have sex with multiple partners simultaneously,” “Hooking up, one night stands, and friends-with-benefits is a part of the college experience,” “Even if you are in a committed relationship there are circumstances in which it is okay to have sex with someone else,” “It is okay to have sex at an early age” and “It is okay to have a number of sexual partners throughout your lifetime.” The following beliefs also loaded on the permissive factor but loaded negatively and were therefore recoded: “If you are in a monogamous relationship, you should never have sex with another person” and “You should have as few sexual partners as possible in a lifetime.” The Cronbach’s alpha for this factor is .78.

The second factor, sex positive beliefs, consists of beliefs that regard sex as positive and important but that do not reflect the recreational approach to sex that is found in the permissive factor. This factor is comprised of the following beliefs: “It’s okay to have sex before marriage so long as it is with someone you love,” “Sex is an important part of a romantic relationship,” “People should be able to explore their sexual desires,” “It’s okay to have oral sex” and “It’s okay to have anal sex.” The following beliefs also loaded on the sex positive factor but loaded negatively and were therefore recoded: “Sex is only appropriate in marriage” and “You should only have sex in the missionary position.” The Cronbach’s alpha for this factor is .80.

The third factor, protection beliefs, consists of beliefs that regard birth control as optional if one is in a romantic relationship and is comprised of the following beliefs: “As long as you are in a monogamous relationship, you don’t need to use birth control” and

“As long as you are in a committed relationship you don’t need to use birth control.” The following belief also loaded on the protection belief factor but loaded negatively and was therefore recoded: “You should always use birth control – regardless of how long you have been in a relationship.” The Cronbach’s alpha for this factor is .70.

The fourth and final factor, pregnancy beliefs, consists of beliefs that becoming pregnant early in life can have a negative impact on one’s life and is comprised of the following belief: “Becoming pregnant early in life leads to difficulties.” The following belief also loaded on the pregnancy belief factor but loaded negatively and was therefore recoded: “Becoming pregnant early in life leads to joys.” The Cronbach’s alpha for this factor is .58 which is below the standard .70 in the field, but given that the factor only has two items it is understandable why the reliability coefficient is lower than normal.

### **Sexual self-efficacy.**

The Sexual Self-efficacy Scale was designed to be comprised of a general sexual self-efficacy subscale and a specific sexual self-efficacy subscale. The general subscale measured the extent to which the participants felt they were able to initiate, decline and terminate sexual behaviors. This subscale also measured the extent to which participants felt they were able to determine the type of sexual behavior that went on in their relationship. This subscale consisted of eight seven-point likert type questions with responses ranging from “strongly disagree” to “strongly agree.” Sample questions from this subscale included “I find it difficult to ask my partner to have sex with me,” “I feel

that once we start becoming physical, I have to go all the way” and “Even if my partner wants to have sex, I feel comfortable telling her/him no if I don’t want to have sex.”

The specific sexual self-efficacy subscale measured the extent to which the participants felt they were able to control the specific sexual behaviors in my model. This subscale consisted of ten seven-point likert type questions with responses ranging from “strongly disagree” to “strongly agree.” Sample questions from this subscale included “I am able to insist on using a condom during sex, even if my partner does not want to use a condom,” “If people other than my partner make sexual advances towards me it’s hard for me to stop them” and “I am comfortable asking my partner to engage in sexual acts that are ‘unconventional’.”

Because this scale was developed for this study, it was included in the pretest described earlier with over 100 participants. I found that the two proposed subscales were not evident in factor analyses or correlation matrices. I, therefore, decided to use the scale as a whole. I dropped three items that theoretically and mathematically did not fit with the rest of the items and the pretest results for this new scale showed it to be reliable with Cronbach’s alpha = .83. The reliability of the scale for this study is Cronbach’s alpha = .82.

### **Partner sexual communication.**

Partner sexual communication was measured by using portions of Koerner’s (2009) Partner Sexual Communication Scale. This scale indicates how openly the participant is able to communicate about sex with her/his partner and how openly the

participant perceives her/his partner to communicate about sex. This scale was included in the pretest and I found that two of the items I chose to include in my measure did not fit well with the others. These two questions measured sexual behavior more than communication about sexual behavior so they were dropped from the final version of this scale. The pretest results for this final version showed it to be reliable with Cronbach's  $\alpha = .91$ . The reliability of the subscale when administered for this study is Cronbach's  $\alpha = .93$ .

This scale consists of 22 seven-point Likert-type questions with responses ranging from "strongly disagree" to "strongly agree." Sample questions for this scale include "I have clearly communicated my sexual desires to my partner," "My partner is able to tell me if he/she is not enjoying something I am doing during sex," and "I openly talk about contraception with my partner." Each question was asked both of the participants and their partners (i.e. "I am able to tell my partner if she/he hurts me during sex" and "My partner is able to tell me if I hurt him/her during sex.")

### **Sexual history.**

The participants were asked very specific questions about their sexual history. Participants were asked to identify if they had engaged in certain sexual behaviors, and at what age they began engaging in that sexual behavior. These behaviors include receiving oral sex, giving oral sex and having sexual intercourse (anal or vaginal). Participants were also asked how often they or their partners used condoms and/or other contraceptives during sexual intercourse, if they had ever contracted an STI, if they had

ever been emotionally and/or physically unfaithful to a partner and if they had ever dealt with an unplanned pregnancy. Finally, participants were asked how often they had engaged in sexual activities that some communities feel are “unconventional” or “inappropriate” including anal sex, group sex, hook ups/one night stands and friends-with-benefits situations. These sexual behaviors will all be analyzed individually.

### **Other Variables**

#### **Current sexual behavior.**

This section was specific to the sexual behavior that occurred within the participant’s current sexual relationship. This section included questions regarding the length and type of relationship in which the participant was involved and the sexual behavior within this relationship. The behaviors include kissing, sexual petting, oral sex, sexual intercourse, condom and other contraceptive use, including other sexual partners in their sexual acts, emotional and physical fidelity and pregnancy. Because I recruited couples, I have this information from both partners and plan to utilize this information in future studies; it is not included in the current study.

#### **Commitment and comparison level of alternatives.**

Commitment and alternatives were measured using two subscales of Rusbult, Martz and Agnew’s (1998) Investment Model Scale. The Commitment subscale measures the “intent to persist in a relationship, including long-term orientation toward the involvement as well as feelings of psychological attachment” (p. 395). This subscale consists of seven nine-point Likert-type questions with responses ranging from “do not

agree at all” to “agree completely.” Sample questions from this subscale include “I would not feel very upset if our relationship were to end in the near future” and “I want our relationship to last forever. The reliability for this scale is Cronbach’s alpha = .92.

The Quality of Alternatives subscale measures the degree to which one’s relational needs could be met outside one’s current relationship. This subscale consists of ten nine-point Likert-type questions with responses ranging from “do not agree at all” to “agree completely.” Sample questions from this subscale include “If I weren’t dating my partner, I would do fine-I would find another appealing person to date” and “My needs for intimacy, companionship, etc., could easily be fulfilled in an alternative relationship.” The reliability for this scale is Cronbach’s alpha = .94. These two measures will be utilized in future research projects.

### **Conformity.**

Conformity was measured using a portion of Feldman’s (2003) Social Conformity-Autonomy Belief scale. The portion I used measures participants’ respect for common norms and values. This portion of the scale consists of six seven-point Likert-type questions with responses ranging from “strongly agree” to “strongly disagree.” Sample questions from this subscale include “Rules are there for people to follow, not to change” and “People should constantly try to question why things are the way they are.” The reliability for this scale is Cronbach’s alpha = .69. This measure will be utilized in future research projects.

### **Demographics.**

Many researchers have shown that age, sex and race are linked with sexual behavior (e.g. Atkins, 2008; Morris, 2009) thus I have measured these variables to gauge their impact on my model. Many researchers have also shown that religion and religiosity are linked with sexual behavior (e.g. Helm, 2009; Washington, Wang & Browne, 2009) so I plan to account for this important covariate as well. Finally, research has shown that many times family communication changes when the children leave the house (e.g. Golish, 2000) so I feel it is important to know whether or not participants are still living with their parents because this could impact their reports on the RFCP and the FSCS.

### **Descriptive Statistics**

#### **Family Communication Variables**

The sample reported moderate levels of conversation and conformity orientation with the average for conversation orientation being somewhat higher than for conformity orientation ( $\bar{x} = 4.76$  and  $3.92$  respectively). Females reported significantly higher level of conversation ( $t = -2.10$ ,  $p = .036$ ) than males reported ( $\bar{x} = 4.88$  for females,  $\bar{x} = 4.60$  for males). Stronger gender differences were found when looking at family sexual communication.

Twenty sexual topics were assessed in terms of the frequency with which families discussed them. For information about the descriptive statistics of the Frequency subscale of the FSCS please see Table 17.

Table 17

*Descriptive Statistics for the Frequency Subscale of the FSCS*

| Sexual Topics                                | $\bar{x}$ | <u>% Who Have Discussed Topic</u> |         |
|--|-----------|-----------------------------------|---------|
|  |           | Males                             | Females |
| Fidelity (being faithful to a partner)       | 2.57      | 72%                               | 71%     |
| Unplanned pregnancies                        | 2.53      | 73%                               | 73%     |
| Gender specific (menstruation, ejaculation)  | 2.39      | 46%                               | 80%     |
| Non-sexual ways to show love                 | 2.39      | 62%                               | 68%     |
| Parents' attitudes about me having sex       | 2.37      | 70%                               | 69%     |
| Condom use                                   | 2.34      | 70%                               | 65%     |
| Monogamy (having only one partner)           | 2.31      | 60%                               | 64%     |
| Abortion                                     | 2.20      | 55%                               | 59%     |
| Abstinence                                   | 2.18      | 54%                               | 66%     |
| Rape/molestation/sexual harassment           | 2.14      | 49%                               | 66%     |
| STDs (other than HIV/AIDS)                   | 2.10      | 63%                               | 60%     |
| Sexual orientation                           | 2.08      | 52%                               | 60%     |
| HIV/AIDS                                     | 2.02      | 59%                               | 56%     |
| Resisting sexual pressure                    | 1.99      | 44%                               | 58%     |
| Enjoyment/pleasure of sexual relationships   | 1.91      | 43%                               | 44%     |
| Resources for family planning                | 1.68      | 33%                               | 41%     |
| Oral sex                                     | 1.65      | 35%                               | 37%     |
| Masturbation                                 | 1.59      | 43%                               | 26%     |
| Statistics about sexually active adolescents | 1.48      | 24%                               | 31%     |

|                                  |      |     |     |
|----------------------------------|------|-----|-----|
| Resources for rape/sexual trauma | 1.43 | 19% | 27% |
|----------------------------------|------|-----|-----|

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*Note:*  $\bar{x}$  indicates the average extent to which each topic has been discussed on a 4 point scale

There were only six topics that at least two-thirds of the sample reported discussing with their parents and they were (in ascending order): nonsexual ways to show love, gender specific information, condom use, parental attitudes about the participants engaging in sexual behaviors, fidelity and unplanned pregnancy. Pregnancy was the most frequently discussed with 74% of the sample stating that their parents had discussed unplanned pregnancies with them at least once. When separating this list by gender, there were seven topics that at least two-thirds of female participants reported discussing with their parents and they were (in ascending order): abstinence, rape, nonsexual ways to show love, parental attitudes about them engaging in sexual behaviors, fidelity, unplanned pregnancy and gender specific information. There were only four topics that at least two-thirds of the male participants reported discussing with their parents and they were (in ascending order): condom use, parental attitudes about them engaging in sexual behaviors, fidelity and unplanned pregnancy.

When looking at the other end of the list of sexual topics, there were six topics that less than 50% of the sample reported discussing with their parents and they were (in descending order): enjoyment/fun/pleasure of sexual relationships, resources for family planning, oral sex, masturbation, statistics about sexually active adolescents and resources for dealing with sexual trauma/rape. Resources for dealing with sexual trauma/rape was the least frequently discussed with only 24% of the sample stating that their parents had discussed this topic with them at least once.

When separating the list by gender, there were six topics that less than 50% of female participants reported discussing with their parents and they were (in descending order): Enjoyment/fun/pleasure of sexual relationships, resources for family planning, oral sex, statistics about sexually active adolescents, resources for dealing with sexual trauma/rape and masturbation. Only 26% of female participants reported discussing masturbation with their parents at least once. There were nine topics that less than 50% of male participants reported discussing with their parents and they were (in descending order): rape, gender specific information, resisting sexual pressure, masturbation, enjoyment/fun/pleasure of sexual relationships, oral sex, resources for family planning, statistics about sexually active adolescents, and resources for dealing with sexual trauma/rape. Only 19% of male participants reported discussing resources for dealing with sexual trauma/rape with their parents at least once.

These results show that there is much to be desired in terms of the sexual topics that are discussed within the family. Many topics were not discussed within the family, and it seems that this is especially true for males. I ran t-tests to see if any of the gender differences noted in Table 18 were significant. Females reported significantly more discussions about abstinence ( $t=-2.90$ ,  $p=.004$ ), resisting sexual pressure ( $t=-3.05$ ,  $p=.003$ ), rape ( $t=-3.92$ ,  $p<.001$ ) and gender specific information ( $t=-7.69$ ,  $p<.001$ ) than their male counterparts reported; however, males reported significantly more discussions about masturbation than their female counterparts reported ( $t=2.33$ ,  $p=.020$ ).

When looking at the four frequency factors of sexual risk, sexual values, sexual pleasure and sensitive sexual topics, the most frequently discussed group of topics were

those regarding sexual values. This is followed by sexual risk, sensitive sexual topics and then sexual pleasure. When looking at these factors in terms of the quality of family communication, conversations regarding sexual values were perceived to be the highest quality followed by sensitive sexual topics, sexual risk and then sexual pleasure. For more descriptive statistics about the frequency and quality factors please see Table 18.

Table 18

*Descriptive Statistics for Factors of the Frequency and Quality Subscales of the FSCS*

| Subscales and Factors | $\bar{x}$ | <i>SD</i> | <i>Range</i> | <i>Kurtosis</i> | <i>Skewness</i> |
|-----------------------|-----------|-----------|--------------|-----------------|-----------------|
| Frequency             |           |           |              |                 |                 |
| Risk                  | 2.25      | .89       | 1-4          | -.94            | .23             |
| Values                | 2.30      | .89       | 1-4          | -1.04           | .16             |
| Pleasure              | 1.72      | .90       | 1-4          | .25             | 1.18            |
| Sensitive Topics      | 1.92      | .75       | 1-4          | .07             | .80             |
| Quality               |           |           |              |                 |                 |
| Risk                  | 4.49      | 1.46      | 1-7          | -.16            | -.25            |
| Values                | 4.77      | 1.33      | 1-7          | .09             | -.44            |
| Pleasure              | 4.11      | 1.60      | 1-7          | -.43            | -.09            |
| Sensitive Topics      | 4.58      | 1.34      | 1-7          | .03             | -.17            |

*Note:*  $\bar{x}$  indicates the average extent to which each topic has been discussed on a 4 point scale

Overall, both male and female participants reported that the quality of family sexual communication they experienced was mediocre. For descriptive statistics about the Quality subscale of the FSCS please see Table 19.

Table 19

*Descriptive Statistics for the Quality Subscale of the FSCS*

| Sexual Topics                           | $\bar{x}$ | <i>SD</i> | <i>Range</i> | <i>Kurtosis</i> | <i>Skewness</i> |
|---|-----------|-----------|--------------|-----------------|-----------------|
| Fidelity (being faithful)               | 5.24      | 1.44      | 1-7          | -.05            | -.65            |
| Non-sexual ways to show love            | 5.18      | 1.43      | 1-7          | .15             | -.67            |
| Monogamy (having one partner)           | 5.04      | 1.47      | 1-7          | .00             | -.57            |
| Gender specific information             | 4.95      | 1.49      | 1-7          | -.16            | -.51            |
| Condom use                              | 4.83      | 1.55      | 1-7          | -.33            | -.37            |
| Resisting sexual pressure               | 4.77      | 1.57      | 1-7          | -.34            | -.39            |
| Enjoyment/pleasure of sex               | 4.73      | 1.6       | 1-7          | -.33            | -.39            |
| Unplanned pregnancies                   | 4.72      | 1.61      | 1-7          | -.28            | -.43            |
| Abortion                                | 4.65      | 1.71      | 1-7          | -.64            | -.34            |
| Resources for family planning           | 4.65      | 1.58      | 1-7          | -.17            | -.30            |
| Rape/molestation/sexual harassment      | 4.57      | 1.61      | 1-7          | -.43            | -.37            |
| STDs (other than HIV/AIDS)              | 4.56      | 1.56      | 1-7          | -.04            | -.37            |
| Abstinence                              | 4.54      | 1.62      | 1-7          | -.37            | -.34            |
| HIV/AIDS                                | 4.54      | 1.57      | 1-7          | -.23            | -.27            |
| Stats about sexually active adolescents | 4.53      | 1.42      | 1-7          | .16             | -.28            |
| Sexual orientation                      | 4.51      | 1.60      | 1-7          | -.42            | -.28            |
| Resources for rape/sexual trauma        | 4.46      | 1.59      | 1-7          | -.45            | -.06            |
| Parents' attitudes about me having sex  | 4.43      | 1.68      | 1-7          | -.72            | -.22            |
| Oral sex                                | 4.09      | 1.76      | 1-7          | -.74            | -.02            |
| Masturbation                            | 3.89      | 1.75      | 1-7          | -.86            | .09             |

On a scale of one to seven, almost all factors and individual topics were rated somewhere between 4.00 and 4.99. When looking at the sample as a whole, there were three topics about which participants reported having particularly high quality conversations. They were (in ascending order): monogamy, nonsexual ways to show love and fidelity. When looking at the female participants, there were five topics about which participants reported having particularly high quality conversations. They were (in ascending order): resisting sexual pressure, monogamy, gender-specific information, fidelity and nonsexual ways to show love. When looking at the male participants, there was only one topic about which participants reported having particularly high quality conversations and it was fidelity. The only topic that had an average below 4.00 was masturbation which scored below a 4.00 for the sample as a whole as well as for both males and females separately.

Significant gender differences were found for the sexual values and sensitive sexual information factors for the Quality of family sexual communication subscale. Females reported significantly better communication about sexual values ( $t = -2.03$ ,  $p = .044$ ) and about sensitive sexual information ( $t = -2.49$ ,  $p = .014$ ) than males reported having with their parents.

In terms of the content of family sexual communication, the sample reported far stronger restrictive messages than permissive messages. For descriptive statistics about the Content subscale of the FSCS please see Table 20.

Table 20

*Descriptive Statistics for the Content Subscale of the FSCS*

| Message from Parents           | $\bar{x}$ | <i>SD</i> | <i>Range</i> | <i>Kurtosis</i> | <i>Skewness</i> |
|--------------------------------|-----------|-----------|--------------|-----------------|-----------------|
| Restrictive Messages           | 4.60      | 1.28      | 1-7          | -.23            | -.43            |
| Always use protection          | 5.69      | 1.64      | 1-7          | 1.13            | -1.32           |
| Never cheat on one's partner   | 5.68      | 1.65      | 1-7          | .62             | -1.20           |
| Few sex partners as possible   | 5.19      | 1.84      | 1-7          | -.13            | -.89            |
| Sex when older                 | 4.52      | 2.08      | 1-7          | -1.13           | -.43            |
| Save sex for someone you love  | 4.11      | 2.13      | 1-7          | -1.34           | -.20            |
| Wait to have sex until married | 4.09      | 2.21      | 1-7          | -1.44           | -.06            |
| Discourage sex until married   | 3.95      | 2.14      | 1-7          | -1.32           | .12             |
| Appropriate/inappropriate sex  | 3.87      | 2.05      | 1-7          | -1.25           | -.05            |
| Sex only in marriage           | 3.76      | 2.19      | 1-7          | -1.34           | .21             |
| Permissive Messages            | 2.45      | 1.32      | 1-7          | .71             | .93             |
| Okay to "play the field"       | 2.93      | 1.99      | 1-7          | -1.19           | .50             |
| Okay to have sex for pleasure  | 2.90      | 1.88      | 1-7          | -1.09           | .50             |
| Hard to be faithful            | 2.54      | 1.77      | 1-7          | -.43            | .86             |
| Unconventional sex is okay     | 2.13      | 1.55      | 1-7          | .18             | 1.13            |
| Explore urges at a young age   | 2.04      | 1.56      | 1-7          | 1.08            | 1.40            |
| Okay not to use protection     | 1.78      | 1.35      | 1-7          | 2.77            | 1.83            |

On a scale of one to seven, the average strength of restrictive sexual messages was 4.60 whereas the average strength of permissive messages was 2.45. The messages that were most frequently reported were the same for both males and females and they were:

“My parents have told me to always use protection,” “My parents have made it clear that one should never cheat on one’s partner” and “My parents have directly or indirectly encouraged me to have as few of sexual partners as possible.” The messages that were least frequently reported were also the same for both males and females and they were: “My parents have encouraged me to explore my sexual urges even at a young age,” “My parents have directly or indirectly said it was okay for me not to use protection when I have sex” and “My parents have directly or indirectly encouraged me to explore my sexual urges even if they are unconventional.”

Significant gender differences were found for both the permissive and restrictive factors of the Content subscale of the FSCS. Females reported receiving stronger restrictive messages from parents than males reported receiving ( $t = -2.31, p = .022$ ) and males reported receiving stronger permissive messages from parents than females reported receiving ( $t = 2.28, p < .001$ ).

### **Sexual Outcome Variables**

#### **Partner sexual communication and sexual self-efficacy.**

This sample reported moderate-to-high levels of partner sexual communication and sexual self-efficacy. For descriptive statistics regarding these two variables please see Table 21.

Table 21

*Descriptive Statistics for Partner Sexual Communication and Sexual Self-efficacy*

| Message from Parents         | $\bar{x}$ | <i>SD</i> | <i>Range</i> | <i>Kurtosis</i> | <i>Skewness</i> |
|------------------------------|-----------|-----------|--------------|-----------------|-----------------|
| Sexual Self-efficacy         | 5.46      | .83       | 1-7          | -.57            | -.38            |
| Females                      | 5.63      | .81       | 1-7          | -.49            | -.56            |
| Males                        | 5.25      | .80       | 1-7          | -.36            | -.31            |
| Partner Sexual Communication | 5.57      | 1.00      | 1-7          | .03             | -.78            |
| Females                      | 5.67      | .95       | 1-7          | -.46            | -.76            |
| Males                        | 5.47      | 1.04      | 1-7          | .52             | -.83            |

Interestingly, females ( $\bar{x}$ =5.63) reported significantly higher levels of sexual self-efficacy than males ( $\bar{x}$ =5.25) reported ( $t = -4.03, p < .001$ ). They also reported slightly higher levels of partner sexual communication though the difference was not statistically significant ( $\bar{x} = 5.67$  and  $5.47$  respectively).

### **Sexual beliefs.**

In terms of sexual beliefs, the beliefs the sample most strongly *agreed* with were: “Sex is an important part of a romantic relationship,” “It’s okay to have oral sex,” “If you are in a monogamous relationship, you should never have sex with another person,” and “People should be able to explore their sexual desires.” The beliefs the sample most strongly *disagreed* with were: “You should only have sex in the missionary position,” “Even if you are in a committed relationship there are circumstances where it is okay to have sex with someone else,” “As long as you are in a committed relationship you don’t

need to use birth control” and “As long as you are in a monogamous relationship you don’t need to use birth control.”

I ran t-tests to see if there were gender differences in the strength of the sexual beliefs that participants held and several differences were significant. For statistics regarding the gender differences in sexual beliefs please see Table 22.

Table 22

*T-test results: Gender differences in sexual beliefs*

| Sexual Beliefs  | <i>t</i> | <i>p</i> < |
|---|----------|------------|
| You should have as few sexual partners as possible in a lifetime  | -3.54    | .001       |
| You should always use protection against STIs regardless of how long you have been in a relationship                  | -2.47    | .015       |
| As long as you are in a monogamous relationship, you don't need to use birth control                                  | 2.32     | .022       |
| As long as you are in a committed relationship you don't need to use birth control                                    | 2.66     | .009       |
| Even if you are in a committed relationship there are circumstances in which it is okay to have sex with someone else | 3.97     | .001       |
| It's okay to have sex at an early age   | 4.07     | .001       |
| It's okay to have a number of sexual partners throughout your lifetime  | 2.10     | .038       |
| It's okay for people to have sex in high school   | 3.46     | .001       |
| It's okay to have sex with multiple partners simultaneously   | 4.96     | .001       |
| It's okay to have anal sex  | 3.64     | .001       |
| Hooking up, one night stands, and friends-with-benefits is part of the college experience                             | 4.57     | .001       |

Females held the beliefs that “you should have as few sexual partners as possible in a lifetime” and “you should always use protection against STIs regardless of how long you have been in a relationship” more strongly than did males. Males held the following beliefs more strongly than did females: “as long as you are in a monogamous relationship, you don't need to use birth control,” “as long as you are in a committed

relationship you don't need to use birth control," "even if you are in a committed relationship there are circumstances in which it is okay to have sex with someone else," "it's okay to have sex at an early age," "it's okay to have a number of sexual partners throughout your lifetime," "it's okay for people to have sex in high school," "it's okay to have sex with multiple partners simultaneously," "it is okay to have anal sex" and "hooking up, one night stands, and friends-with-benefits is part of the college experience." These gender differences show that females held certain restrictive beliefs more strongly than did males and that males held several permissive beliefs more strongly than did females.

When looking at the sexual belief factors, sex positive beliefs were most strongly held followed closely by the beliefs that pregnancy early in life can negatively impact one's life. Permissive sexual beliefs were not strongly held by this sample and the belief that it was not important to use birth control in romantic relationships was weakly held by this sample. For descriptive statistics please see Table 23.

Table 23

*Descriptive Statistics for Factors of Sexual Beliefs*

| Factors    | $\bar{x}$ | <i>SD</i> | <i>Range</i> | <i>Kurtosis</i> | <i>Skewness</i> |
|------------|-----------|-----------|--------------|-----------------|-----------------|
| Positive   | 5.73      | 1.03      | 1.75-7.00    | 2.10            | -1.36           |
| Pregnancy  | 5.64      | 1.23      | 2.00-7.00    | -.81            | -.53            |
| Permissive | 3.02      | 1.15      | 1.00-6.57    | -.40            | .26             |
| Protection | 2.23      | 1.22      | 1.00-5.50    | -.66            | .68             |

*Note:*  $\bar{x}$  indicates the average strength to which each belief was held on a 7 point scale

**Sexual behavior.**

In terms of sexual behavior, 87% of the sample reported having received oral sex and 85% reported having given oral sex. For descriptive statistics regarding the oral sex behavior of the sample please see Table 24.

Table 24

*Descriptive Statistics for Oral Sex Behavior*

| Oral Sex Behavior             | $\bar{x}$ (Median) | SD    | Range | Kurtosis | Skewness |
|-------------------------------|--------------------|-------|-------|----------|----------|
| Females                       |                    |       |       |          |          |
| Age first received oral sex   | 17.14              | 1.82  | 12-22 | -.13     | -.05     |
| Age first gave oral sex       | 16.72              | 1.81  | 12-21 | -.10     | .04      |
| # partners received oral from | 3.60(3)            | 2.91  | 1-15  | 1.70     | 1.38     |
| # partners gave oral sex to   | 4.22(3)            | 3.55  | 1-20  | 4.67     | 1.93     |
| Males                         |                    |       |       |          |          |
| Age first received oral sex   | 16.69              | 2.07  | 12-25 | 1.03     | .58      |
| Age first gave oral sex       | 17.10              | 2.19  | 10-23 | .94      | -.02     |
| # partners received oral from | 7.56(5)            | 10.70 | 1-90  | 33.49    | 4.96     |
| # partners gave oral sex to   | 5.87(3)            | 11.37 | 1-100 | 47.39    | 6.26     |

The average age at which participants reported first receiving and giving oral sex was 16.93 years and 16.87 respectively. Females reported receiving oral sex at a slightly later age than males and giving oral sex at a slightly younger age than males though these differences were not statistically significant ( $\bar{x}$  = 17.14 vs. 16.69 and 16.72 vs. 17.10 respectively). The age range for first engaging in oral sex was from 10 to 25 years old.

The number of oral sex partners participants reported having in their lifetime ranged from 1 to 100; however, the mode for this variable was one for both males and females. The average number of partners the sample reported receiving oral sex from was 5.35 but the average number of partners for males was over double that of the females ( $\bar{x}$

= 7.56 and 3.60 respectively) and this difference was statistically significant ( $t = 4.88$ ,  $p < .001$ ). Also, the range of the number of partners was from 1 to 90 for males and only 1 to 15 for females.

The average number of partners the sample reported giving oral sex to was 4.88. Again, males reported giving oral sex to more partners than women ( $\bar{x} = 5.87$  vs. 4.22) but this difference was not statistically significant. The range was larger for males than it was for females (1 to 100 for males and 1 to 20 for females).

In terms of sexual intercourse, 82% of the sample reported having engaged in anal or vaginal sex. For descriptive statistics regarding the sexual intercourse behavior of the sample please see Table 25.

Table 25

*Descriptive Statistics for Sexual Intercourse Behavior*

| Sexual Intercourse Behavior      | $\bar{x}$ (Median) | SD    | Range | Kurtosis | Skewness |
|----------------------------------|--------------------|-------|-------|----------|----------|
| Females                          |                    |       |       |          |          |
| Age first had sexual intercourse | 17.04              | 1.83  | 12-21 | .18      | -.31     |
| # sexual intercourse partners    | 4.98(3)            | 4.86  | 1-31  | 6.56     | 2.11     |
| Males                            |                    |       |       |          |          |
| Age first had sexual intercourse | 17.15              | 2.08  | 11-23 | .98      | .43      |
| # sexual intercourse partners    | 7.70(4)            | 11.52 | 1-90  | 25.86    | 4.41     |

The average age at which participants reported engaging in sexual intercourse was 17.12 years old. There was virtually no gender difference in terms of the age of sexual

initiation (males = 17.15 years old; females = 17.04 years old). The age range for first engaging in sexual intercourse was from 11 to 24 years old. The number of sex intercourse partners participants reported having in their lifetime ranged from 1 to 90; however, the mode for both males and females was one partner, and the median was four partners for males and three partners for females. The average number of sexual partners the sample reported having was 6.23 but the average number of partners for males was one-and-a-half times that of the females ( $\bar{x} = 7.70$  and  $4.98$  respectively) and this difference was significantly different ( $t = 2.28$ ,  $p = .024$ ). Also, the range of the number of partners was from 1 to 90 for males and 1 to 31 for females.

In terms of unconventional and risky sexual behaviors, I was interested in anal sex, group sex, hook ups/one night stands, friends-with-benefits, unprotected sex, contracting an STI, dealing with an unplanned pregnancy and being emotionally and/or physically unfaithful to a partner. For a summary of these specific sexual behaviors please see Table 26.

Table 26

*Percentage of Males/Females who have Experienced These Sexual Behaviors/Outcomes*

| Sexual Behavior/Outcome                          | Males | Females |
|--|-------|---------|
| <i>Anal sex</i>                                  |       |         |
| Never  | 57.0  | 66.9    |
| Once/Few times                                   | 34.9  | 29.8    |
| Numerous times                                   | 8.1   | 3.4     |
| <i>Sex with multiple partners simultaneously</i> |       |         |
| Never  | 80.6  | 90.5    |
| Once/Few times                                   | 18.6  | 8.4     |
| Numerous times                                   | 0.7   | 1.1     |
| <i>Hook up/One night stand</i>                   |       |         |
| Never  | 37.8  | 49.2    |
| Once/Few times                                   | 47.4  | 40.2    |
| Numerous times                                   | 14.8  | 10.6    |
| <i>Friends with benefits</i>                     |       |         |
| Never  | 40.7  | 48.3    |
| Once/Few times                                   | 48.1  | 44.9    |
| Numerous times                                   | 11.1  | 6.8     |
| % time use condoms/contraceptives                | 87.8  | 94.1    |
| Contracted an STI                                | 3.7   | 12.4    |
| Dealt with unplanned pregnancy                   | 5.2   | 6.3     |
| Emotionally unfaithful to a partner              | 48.9  | 47.5    |

|                                    |      |      |
|------------------------------------|------|------|
| Physically unfaithful to a partner | 35.3 | 29.8 |
|------------------------------------|------|------|

---

The *majority* of both males and females reported *never* engaging in anal sex (57% and 67% respectively) or group sex (81% and 91% respectively); however, males reported engaging in these behaviors significantly more frequently than females ( $t = 2.31$ ,  $p = .022$  for anal sex and  $t = 2.00$ ,  $p = .046$  for group sex). The *majority* of both males and females reported *having engaged* in one night stands/hook ups (62% and 51% respectively) and friends-with-benefits relationships (59% and 52% respectively). Again, males reported engaging in these behaviors significantly more frequently than females ( $t = 2.59$ ,  $p = .010$  for one night stands/hook ups and  $t = 2.11$ ,  $p = .036$  for friends-with-benefits).

Overall the sample reported using condoms and/or birth control an average of 91% of the time when engaging in sexual intercourse; the average was significantly higher for females than males ( $\bar{x} = 94.1\%$  and  $87.8\%$  respectively with  $t = -2.60$ ,  $p = .010$ ). Less than 4% of males reported ever contracting an STD while over 12% of females reported contracting an STD; this difference was statistically significant ( $\chi^2(1) = 7.30$ ,  $p = .007$ ). The results for unplanned pregnancy and fidelity showed no significant gender differences; 5% of males and 6% of females reported having dealt with an unplanned pregnancy at some point in their lives. Nearly half of the sample reported having been emotionally unfaithful to a partner and nearly a third reported having been physically unfaithful to a partner ( $\bar{x} = 47.5\%$  and  $32.4\%$  respectively).

## Brief Summary of Descriptive Statistics

The descriptive statistics for this sample have brought to light some interesting gender differences. In terms of family communication patterns, females reported higher levels of conversation orientation than males. When looking at the frequency of family sexual communication, the descriptive statistics show that: a) there are gender differences in terms of the amount of family sexual communication adolescents report, b) there are gender differences in terms of the topics that are discussed with parents particularly masturbation, gender-specific information, condom use and rape and c) when researchers only assess sexual risk communication, they are missing the larger view of what parents are actually talking about (e.g. fidelity, parental attitudes, nonsexual ways to show love).

The results regarding the quality and content of family sexual communication show that: females reported higher quality communication with their parents about sexual values and sensitive sexual topics than their male counterparts, b) females reported receiving stronger restrictive messages from their parents than their male counterparts and c) males reported receiving stronger permissive messages from their parents than their female counterparts.

The results regarding receiving and giving oral sex show that: a) males report more oral sex partners than females, b) males report *receiving* oral sex from *more* partners than they report *giving* oral sex to c) females report *receiving* oral sex from *fewer* partners than they report *giving* oral sex to d) while there are a few male individuals who report a very high number of oral sex partners, the vast majority of

sexually active males and females in my sample have between one and ten oral sex partners.

The results regarding sexual intercourse show that: a) males report more sexual partners than females, b) males and females report engaging in sexual intercourse at about the same age and c) while there are a few male individuals who report a high large number of sexual partners, the vast majority of sexually active males (82%) and females (88%) in my sample have between one and ten sexual partners.

The results regarding unconventional and risky sexual behavior show that: a) the majority of participants had *not* engaged in anal sex or sex with multiple partners simultaneously, b) the majority of participants *had* engaged in one night stands/hook ups and friends-with-benefits relationships, c) very few participants had dealt with an unplanned pregnancy, d) many participants had been emotionally and/or physically unfaithful to a partner and e) significantly more females reported contracting an STI at some point in their lives than their male counterparts.

One of the difficult aspects of conducting research about sexual behavior is having to rely on self report measures of behavior. Other studies have shown that there are gender reporting biases and that female participants tend to under-report their sexual behavior while male participants tend to exaggerate their sexual behavior due, at least in part, to “false accommodation to gender role norms” (Alexander & Fisher, 2003, p. 32). This coupled with the fact that I ran quite a few t – tests, which increases the chance of

family-wise error, may lead me to interpret these findings with caution, but I can still gain insight by examining these gender differences.

## Chapter 6

### Results

In this chapter I begin with a description of how the independent variables relate to each other and how the dependent variables relate to each other. I then discuss the findings in relation to each of my hypotheses regarding family sexual communication and family communication patterns and their impact on adolescents' and emerging adults' sexual outcomes. I end with an examination of the interaction between these two types of communication.

#### **Examining the Independent Variables and the Dependent Variables**

##### **Correlating the Independent Variables**

The independent variables in my model are family communication patterns, which is measured by conversation and conformity orientation, and family sexual communication, which is measured by the Frequency, Quality and Content subscales of the FSCS. Conversation and conformity orientation were significantly associated with each other ( $r = -.412, p < .001$ ). In terms of family sexual communication, all eight factors that comprise the Frequency and Quality subscales of the FSCS (frequency: risk, values, pleasure and sensitive topics; quality: risk, values, pleasure and sensitive topics) were positively and significantly correlated with each other. The correlation coefficients ranged from .203 to .685 and the  $p$  values ranged from  $< .001$  to .002 indicating that the factors were moderately to highly correlated and that these correlations were extremely significant.

The permissive and restrictive factors of the Content subscale were significantly and negatively correlated with each other ( $r = -.134$ ,  $p = .020$ ), and these two factors were significantly correlated with many, but not all, of the factors of the Frequency and Quality subscales. Higher reports of permissive sexual messages from parents were positively associated with reports of more frequent discussions of sexual risk, sexual pleasure, and sensitive sexual topics. Permissive messages were also positively associated with higher quality discussions regarding sexual risk and pleasure. Higher reports of restrictive messages were positively associated with reports of more frequent discussions of sexual values and sensitive sexual topics. Restrictive messages were also positively associated with higher quality discussions regarding sexual values.

When investigating the associations between family communication patterns and family sexual communication, an interesting pattern emerged. To see the full correlation matrix please reference Table 27.

Table 27

*Correlating Family Communication Patterns and Family Sexual Communication*

| Subscales and Factors | Conversation | Conformity |
|-----------------------|--------------|------------|
| Frequency             |              |            |
| Risk                  | .391**       | ---        |
| Values                | .376**       | ---        |
| Pleasure              | .191**       | ---        |
| Sensitive Topics      | .389**       | ---        |
| Quality               |              |            |
| Risk                  | .401**       | -.191**    |
| Values                | .469**       | -.210**    |
| Pleasure              | .349**       | ---        |
| Sensitive Topics      | .363**       | -.243**    |
| Content               |              |            |
| Restrictive           | .156**       | .161**     |
| Permissive            | ---          | ---        |

Note: \*\* p<.01

Conversation orientation was significantly and positively correlated with all factors of the Frequency and Quality subscales as well as with the restrictive messages factor of the Content subscale. Conformity orientation was significantly and negatively correlated with the factors of the Quality subscale and was positively correlated with the restrictive messages factor of the Content subscale. This shows that, at least when examined individually, having a more open communication environment is positively

associated with an increase in family conversations about a wide variety of sexual topics and that these conversations tend to be of a higher quality. It also shows that such an open environment is not associated with more permissive messages from parents, but instead is associated with more restrictive messages from parents.

Conversely, conformity orientation is not associated with the frequency of family sexual conversations, but having a communicative environment that stresses homogeneity and obedience is associated with lower quality family sexual communication. Not surprisingly, having this type of communicative environment is also associated with more restrictive sexual messages from parents. It is important to note that the interaction between these variables must be examined to align this research with Family Communication Patterns Theory which makes predictions based on family type – not based on these two variables separately.

### **Correlating the Dependent Variables**

There are four sexual outcomes I am trying to predict. Two of these outcomes, partner sexual communication and sexual self-efficacy, are measured by one variable (the average of the items used to measure the construct). The other two outcomes, sexual behavior and sexual beliefs, are measured by several variables. The implication for this design is that there are a plethora of correlations that need to be examined. Therefore, I begin by examining how partner sexual communication and sexual self-efficacy relate to each other and to sexual behavior and sexual beliefs. I then examine all the correlations between the sexual beliefs items and the sexual behavior items.

It should also be mentioned that although I proposed four factors for the Sexual Beliefs Scale in Chapter 5, I will also be examining the correlations for individual beliefs. I originally ran the statistics using each belief and found rich and complex relationships between these beliefs and the other variables in my model. Once I distilled the 21 beliefs to 4 factors and reran the statistics, I found that too many of the intricacies were erased and that the findings were not nearly as informative. Therefore, when looking at the correlations, I reverted back to using the beliefs individually.

#### **Partner sexual communication and sexual self-efficacy.**

Partner sexual communication and sexual self-efficacy were highly correlated with each other ( $r = .579$ ,  $p < .001$ ) and tended to interact with the other dependent variables in similar ways. Both of these variables were associated with whether or not participants had engaged in oral sex or sexual intercourse, but neither was associated with the age at which participants began engaging in these behaviors or the number of sexual partners participants reported having. For a correlation matrix please see Table 28.

Table 28

*Correlating Partner Sex Communication and Sexual Self-efficacy with Sexual Behaviors*

| Behaviors                | Partner Sex Comm | Sexual Self-efficacy |
|--------------------------|------------------|----------------------|
| Ever received oral sex   | .355**           | .173**               |
| Ever gave oral sex       | .323**           | .120*                |
| Ever had sex intercourse | .357**           | .237**               |
| Ever unplanned pregnancy | .132*            | ---                  |
| Safe sex                 | ---              | .122*                |

Note: \* p<.05. \*\* p<.01

Engaging in more partner sexual communication and having higher sexual self-efficacy were associated with having given and received oral sex as well as having engaged in sexual intercourse. Higher sexual self-efficacy was also associated with engaging in safe sex, and engaging in more partner sexual communication was associated with having experienced an unplanned pregnancy. Partner sexual communication and sexual self-efficacy were not significantly associated with the other sexual behaviors measured in this study including contracting an STI, being emotionally or physically unfaithful, or engaging in activities including anal sex, group sex, hookups or friends-with-benefits situations.

Partner sexual communication and sexual self-efficacy were associated with sexual beliefs in similar ways as well. For the full correlation matrix for partner sexual communication, sexual self-efficacy and sexual beliefs please see Table 29.

Table 29

*Correlating Partner Sex Communication and Sexual Self-efficacy with Sexual Beliefs*

| Beliefs                                       | Partner Sex Comm | Sexual Self-efficacy |
|---|------------------|----------------------|
| If monogamous, never have sex with others     | .181*            | .228**               |
| Pregnancy in early life leads to difficulties | .143*            | ---                  |
| Okay to have number of partners in lifetime   | .126*            | .145*                |
| Oral sex is okay                              | .306**           | .250**               |
| It's okay to have sex in high school          | .182**           | .147**               |
| Exploring sexual desires is okay              | .317**           | .254**               |
| Sex is an important part of relationships     | .332**           | .249**               |
| Sex before marriage okay if love              | .271**           | .183**               |
| Should always use birth control               | .182**           | ---                  |
| If monogamous, no need for birth control      | -.125*           | -.208**              |
| If committed, no need for birth control       | -.169**          | -.220**              |
| Sex only appropriate in marriage              | -.192**          | -.159**              |
| Sex only in missionary position               | -.271**          | -.291**              |
| If committed, sometimes okay to cheat         | ---              | -.164**              |

Note: \* p<.05. \*\* p<.01

Both of these variables were significantly associated with a variety of sexual beliefs. Engaging in more partner sexual communication and having higher sexual self-efficacy were associated with endorsing sexual beliefs that regarded sex as important and okay outside of marriage, but did not endorse sexual beliefs that condoned sexual behavior that was unconventional or risky.

For example, engaging in more partner sexual communication and having higher sexual self-efficacy were associated with *endorsing* the belief that it is okay for people to have sex in high school, it is okay to have sex before marriage so long as it is with someone you love, it is okay to have a number of sexual partners in one's lifetime, people should be able to explore their sexual desires, sex is an important part of a romantic relationship and it is okay to engage in oral sex. They were associated with *disagreeing* with the belief that sex is only appropriate in marriage and that one should only have sex in the missionary position. However, engaging in more partner sexual communication and having higher sexual self-efficacy were also associated with *endorsing* sexual beliefs that advocated fidelity and the use of birth control – even in committed or monogamous relationships. And there was no significant association between partner sexual communication or sexual self-efficacy and beliefs about unconventional sexual behaviors such as anal sex, group sex, hook ups/one night stands, friends-with-benefits situations.

Because these associations are correlations, we cannot establish causation or temporal ordering so it is interesting to examine these associations in another light. These results also demonstrate that participants who endorse beliefs such as sex should occur only in marriage, that one should not explore one's sexual urges or engage in oral sex or sexual positions other than missionary position also tended to report less partner sexual communication and sexual self-efficacy. One could posit that these participants report less partner sexual communication because either a) these participants do not have sexual partners or b) there is little need to discuss sex in these relationships because it is “off the

table” so to speak. But the association between these beliefs and lower sexual self-efficacy are more intriguing.

The results show a relationship between endorsing strict abstinence and having lower sexual self-efficacy. The implications for this association and the mechanism by which it exists would be interesting to research. Especially given the fact that lower sexual self-efficacy was also significantly correlated with endorsing the belief that even in committed relationships, there are circumstances under which it is okay to have sex with someone else. Figuring out the temporal ordering of these variables (i.e. do people hold these beliefs and then act upon them or are there occasions in which people’s actions influence and possibly change their behavior so that they do not experience cognitive dissonance?) is something I am interested in examining in the future.

It is also interesting to note that partner sexual communication and sexual self-efficacy demonstrated significant associations with several sexual beliefs, but not with many sexual behaviors. Perhaps there is something mediating the relationship between partner sexual communication/sexual self-efficacy and sexual behaviors; perhaps sexual beliefs are the mediators. It would be interesting to investigate the relationship between these four sexual outcomes to see if temporal ordering could be established. This idea is commented upon further in the Future Research section of Chapter 8.

### Sexual behaviors and sexual beliefs.

#### *Correlations amongst sexual behavior variables.*

When looking at the age at which participants began giving oral sex, receiving oral sex and engaging in sexual intercourse, and the number of partners participants had for each of these sexual activities, all correlations were significant. For a correlation matrix please see Table 30.

Table 30

#### *Correlating Age of Sexual Initiation and Number of Sexual Partners*

|         | Age ROS | Age GOS | Age Sex | # ROS  | #GOS   |
|---------|---------|---------|---------|--------|--------|
| Age GOS | .759**  |         |         |        |        |
| Age sex | .666**  | .705**  |         |        |        |
| # ROS   | -.510** | -.342** | -.344** |        |        |
| # GOS   | -.352** | -.371** | -.288** | .736** | .      |
| # sex   | -.372** | -.284** | -.407** | .768** | .640** |

*Note:* GOS=gave oral sex. ROS = received oral sex. \* p<.05. \*\* p<.01.

Engaging in oral sex at a later age was associated with engaging in sexual intercourse at a later age, and having fewer oral sex partners was associated with having fewer sexual intercourse partners. Also, engaging in oral sex and sexual intercourse at a later age was associated with having fewer oral sex and sexual partners.

When examining the relationship between age of sexual initiation and risky and unconventional sexual behavior, almost all correlations were significant. For a correlation matrix please see Table 31.

Table 31

*Correlating Age of Sexual Initiation with Risky and Unconventional Sexual Behaviors*

| Behaviors              | Age ROS | Age GOS | Age Sex |
|------------------------|---------|---------|---------|
| STI                    | -.190** | -.237** | -.162** |
| Emotionally unfaithful | -.234** | -.192** | -.190** |
| Physically unfaithful  | -.264** | -.259** | -.235** |
| Unplanned pregnancy    | ---     | ---     | .121*   |
| Anal sex               | -.296** | -.263** | -.289** |
| Group sex              | -.208** | -.184** | -.214** |
| One night stand        | -.390** | -.286** | -.243** |
| Friend with benefits   | -.338** | -.322** | -.253** |

*Note:* GOS=gave oral sex. ROS = received oral sex. \* p<.05. \*\* p<.01.

Engaging in oral sex and sexual intercourse at a later age was associated with a lower likelihood of having contracted an STI or having been unfaithful, emotionally or physically, to a partner. Also, engaging in oral sex and sexual intercourse at a later age was associated with a lower likelihood of having engaged in anal sex, group sex, hookups/one night stands, and friends-with-benefits situations.

When examining the relationship between number of sexual partners and risky and unconventional sexual behavior, almost all correlations were significant. For a correlation matrix please see Table 32.

Table 32

*Correlating Number of Sexual Partners with Risky and Unconventional Sexual Behaviors*

| Behaviors              | # ROS  | # GOS  | # Sex  |
|------------------------|--------|--------|--------|
| STI                    | .172** | .163** | .269** |
| Emotionally unfaithful | .212** | .227** | .211** |
| Physically unfaithful  | .338** | .337** | .295** |
| Unplanned pregnancy    | ---    | ---    | .136*  |
| Anal sex               | .393** | .390** | .324** |
| Group sex              | .349** | .391** | .327** |
| One night stand        | .583** | .547** | .549** |
| Friend with benefits   | .511** | .506** | .478** |

*Note:* GOS=gave oral sex. ROS = received oral sex. \* p<.05. \*\* p<.01.

Having more oral sex and sexual intercourse partners was associated with a higher likelihood of having contracted an STI and having been emotionally and physically unfaithful to a partner. Having more oral sex and sexual intercourse partners was also associated with a higher likelihood of having engaged in anal sex, group sex, hookups/one night stands, and friends-with-benefits situations. Having more sexual intercourse partners was associated with a higher likelihood of having dealt with an unplanned pregnancy.

When looking at the relationship between fidelity and risky and unconventional sexual behavior, nearly all correlations were significant. For a correlation matrix please see Table 33.

Table 33

*Correlating Infidelity with Risky and Unconventional Sexual Behaviors*

| Behaviors            | Emotional Infidelity | Physical Infidelity |
|----------------------|----------------------|---------------------|
| STI                  | ---                  | .123*               |
| Anal sex             | .181**               | .210**              |
| Group sex            | .209**               | .251**              |
| One night stand      | .282**               | .394**              |
| Friend with benefits | .249**               | .311**              |

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

Having been emotionally unfaithful to a partner was associated with having been physically unfaithful, and both types of infidelity were associated with more frequent participation in all four unconventional sexual behaviors measured in this study (i.e. anal sex, group sex, hook ups/one night stands, friends-with-benefits situations). Also, these four unconventional sexual behaviors were all significantly correlated with each other. Having contracted an STI was significantly associated with having been physically unfaithful to a partner and having engaged in anal sex and hook ups/one night stands.

Interestingly, the extent to which participants practiced safe sex (meaning the percentage of the time they used a condom and/or birth control when engaging in sexual

intercourse) did not significantly correlate with any other sexual behaviors or sexual outcomes. Having dealt with an unplanned pregnancy did not significantly correlate with many other variables either. This second statement is understandable given that very few participants had dealt with an unplanned pregnancy. Perhaps the reason for the lack of significant correlations with safe sex practices also has to do with the fact that there was not enough variance in this variable; the vast majority of this sample reported practicing safe sex a very high percentage of the time.

*Correlating sexual belief variables with sexual behavior variables.*

The overwhelming trend that emerges when examining the correlations between sexual beliefs and sexual behaviors is that participants demonstrate a high level of congruence between their beliefs and behaviors.

The age at which participants first received oral sex, gave oral sex and engaged in sexual intercourse all interacted with the sexual beliefs variables in similar ways. For a correlation matrix please see Table 34.

Table 34

*Correlating Age of Sexual Initiation and Sexual Beliefs*

| Sexual Beliefs                                | Age ROS | Age GOS | Age Sex |
|---|---------|---------|---------|
| Should have few partners                      | .274**  | .173**  | .136*   |
| Sex only appropriate in marriage              | .257**  | .254**  | .234**  |
| Sex only in missionary position               | .188**  | .230**  | .200**  |
| Should always use protection against STIs     | .149*   | ---     | ---     |
| Pregnancy in early life leads to joy          | ---     | .122*   | ---     |
| Pregnancy in early life leads to difficulties | ---     | ---     | .173**  |
| Anal sex is okay                              | -.251** | -.244** | -.174** |
| It's okay to have sex at early age            | -.277** | -.256** | -.250** |
| Okay to have number of partners in lifetime   | -.304** | -.253** | -.145*  |
| It's okay to have sex in high school          | -.390** | -.356** | -.365** |
| Hooking up and FWB is part of college         | -.311** | -.181** | ---     |
| Exploring sexual desires is okay              | -.209** | -.163** | ---     |
| Group sex is okay                             | -.233** | -.148*  | ---     |
| Sex before marriage okay if in love           | ---     | -.126*  | -.122*  |
| Oral sex is okay                              | -.165** | ---     | ---     |
| Sex is an important part of relationships     | ---     | -.137*  | ---     |

Note: GOS=gave oral sex. ROS = received oral sex. \* p<.05. \*\* p<.01.

Engaging in these activities at a later age was associated with *endorsing* the beliefs that sex is only appropriate in marriage, that one should have as few sexual partners as possible in a lifetime, and that one should only have sex in the missionary position. Engaging in these activities at a later age was also associated with *disagreeing* with the belief that it is okay to have sex before marriage so long as it is with someone you love, that it is okay to have a number of partners in one's lifetime, that it is okay for people to have sex in high school, that people should be able to explore their sexual desires, that it is okay to engage in sex at an early age, that it is okay to engage in anal sex, that it is okay to engage in sex with multiple partners simultaneously and that hooking up, one night stands and friends-with-benefits is a part of the college experience.

The number of oral sex and sexual partners the participants reported having interacted with the sexual beliefs variables in similar ways as well. For a correlation matrix please see Table 35.

Table 35

*Correlating Number of Sexual Partners and Sexual Beliefs*

| Sexual Beliefs                              | # ROS   | # GOS   | # Sex   |
|---|---------|---------|---------|
| Should have few partners                    | -.329** | -.284** | -.265** |
| Sex only appropriate in marriage            | -.267** | -.250** | -.248** |
| Sex only in missionary position             | .188**  | .230**  | .200**  |
| Should always use protection against STIs   | -.231** | -.212** | -.142*  |
| Should always use birth control             | ---     | -.126*  | -.138*  |
| If monogamous, never have sex with others   | -.177** | -.216** | ---     |
| Anal sex is okay                            | .308**  | .279**  | .221**  |
| It's okay to have sex at early age          | .271**  | .308**  | .222**  |
| Okay to have number of partners in lifetime | .331**  | .322**  | .267**  |
| It's okay to have sex in high school        | .312**  | .279**  | .266**  |
| Hooking up and FWB is part of college       | .411**  | .374**  | .334**  |
| Exploring sexual desires is okay            | .166**  | .153*   | .137*   |
| Group sex is okay                           | .366**  | .329*   | .256**  |
| Oral sex is okay                            | .158*   | .131*   | .129*   |
| If committed, sometimes okay to cheat       | .264**  | .211**  | .190**  |
| Sex is an important part of relationships   | ---     | ---     | .124*   |

Note: GOS=gave oral sex. ROS = received oral sex. \* p<.05. \*\* p<.01.

Having fewer sexual partners was associated with *endorsing* the belief that if one is in a monogamous relationship, one should never have sex with another person, that one should have as few of sexual partners as possible in a lifetime, that sex is only appropriate in marriage and that one should always use protection against STIs regardless of how long one has been in a relationship. Having fewer sexual partners was associated with *disagreeing* with the belief that even if one is in a committed relationship there are circumstances in which it is okay to have sex with someone else, that it is okay to have a number of sexual partners throughout one's lifetime, that it is okay for people to have sex in high school, that it is okay to have sex at an early age, that people should be able to explore their sexual desires, that it is okay to engage in anal sex, that it is okay to engage in sex with multiple partners simultaneously and that hooking up, one night stands and friends-with-benefits is a part of the college experience.

The extent to which participants had engaged in anal sex, group sex, hook ups/one night stands and friends-with-benefits situations interacted with the sexual beliefs variables in similar ways. The one exception to this was that sometimes the association was not significant for the group sex variable. I would guess that this is because the variance on this variable is limited and so it is more difficult to find an association statistically significant. For a correlation matrix please see Table 36.

Table 36

*Correlating Unconventional Sexual Behavior and Sexual Beliefs*

| Sexual Beliefs                              | Anal sex | Group sex | One night | FWB     |
|---|----------|-----------|-----------|---------|
| Should have few partners                    | -.243**  | -.211**   | -.337**   | -.302** |
| Sex only appropriate in marriage            | -.239**  | -.135*    | -.325**   | -.265** |
| Should always use protection against STIs   | -.191**  | -.112*    | -.219**   | -.211** |
| If monogamous, never have sex with others   | ---      | -.216**   | -.177**   | -.159** |
| Sex only in missionary position             | ---      | ---       | -.142*    | -.117*  |
| Should always use birth control             | ---      | -.162**   | ---       | ---     |
| Anal sex is okay                            | .428**   | .171**    | .235**    | .213**  |
| Okay to have number of partners in lifetime | .213**   | .184**    | .345**    | .284**  |
| It's okay to have sex in high school        | .265**   | .146**    | .351**    | .299**  |
| Hooking up and FWB is part of college       | .219**   | .179**    | .507**    | .402**  |
| Group sex is okay                           | .222**   | .301**    | .309**    | .239**  |
| If committed, sometimes okay to cheat       | .119*    | .165**    | .148**    | .166**  |
| Exploring sexual desires is okay            | .147**   | ---       | .234**    | .238**  |
| It's okay to have sex at early age          | .271**   | ---       | .229**    | .210**  |
| Oral sex is okay                            | .167**   | ---       | .231**    | .160**  |
| Sex is an important part of relationships   | ---      | ---       | .158**    | .113*   |
| Sex before marriage is okay if in love      | .126*    | ---       | ---       | ---     |
| If committed, no need for birth control     | ---      | .125*     | ---       | ---     |

Note: \* p<.05. \*\* p<.01

Reporting less frequent participation in unconventional sexual activities was associated with *endorsing* the belief that if one is in a monogamous relationship, one should never have sex with another person, that one should always use protection against STIs regardless of how long one has been in a relationship, that sex is only appropriate in marriage, that one should have as few sexual partners as possible in a lifetime, and that one should only have sex in the missionary position. Reporting less frequent participation in unconventional sexual activities was also associated with *disagreeing* with the belief that even if one is in a committed relationship there are circumstances in which it is okay to have sex with someone else, that it is okay to have sex at an early age, that it is okay for people to have sex in high school, that people should be able to explore their sexual desires, that it is okay to have a number of sexual partners in one's lifetime, that it is okay to engage in anal sex, that it is okay to engage in sex with multiple partners simultaneously and that hooking up, one night stands and friends-with-benefits is a part of the college experience.

The extent to which participants had remained emotionally and physically faithful to their partners interacted with the sexual beliefs variables in similar ways. For a correlation matrix please see Table 37.

Table 37

*Correlating Infidelity and Sexual Beliefs*

| Sexual Beliefs                                | Emotional Infidelity | Physical Infidelity |
|---|----------------------|---------------------|
| Should have few partners                      | -.204**              | -.249**             |
| Sex only appropriate in marriage              | -.167**              | -.186**             |
| Sex only in missionary position               | -.126*               | -.121*              |
| It's okay to have sex in high school          | .163**               | .164**              |
| Hooking up and FWB is part of college         | .175**               | .225**              |
| It's okay to have sex at early age            | .140*                | .194**              |
| If monogamous, never have sex with others     | ---                  | -.156**             |
| If committed, sometimes okay to cheat         | ---                  | .187**              |
| Oral sex is okay                              | ---                  | .155**              |
| Pregnancy in early life leads to difficulties | .142*                | ---                 |

Note: \* p<.05. \*\* p<.01

Those participants who reported never cheating on a partner reported *endorsing* the belief that if one is in a monogamous relationship, one should never have sex with another person, that one should have as few sexual partners as possible in a lifetime, and that one should only have sex in the missionary position. Those participants who reported never cheating on a partner reported *disagreeing* with the belief that even if one is in a committed relationship there are circumstances in which it is okay to have sex with someone else, that it is okay to have sex at an early age, that it is okay for people to have

sex in high school, that people should be able to explore their sexual desires, that it is okay to have a number of sexual partners in one's lifetime, that it is okay to engage in anal sex, that it is okay to engage in sex with multiple partners simultaneously and that hooking up, one night stands and friends-with-benefits is a part of the college experience.

The degree to which participants practiced safe sex was associated with six sexual beliefs. Not surprising, participants who reported higher levels of safe sex practices reported *endorsing* the belief that one should always use protection against STIs regardless of how long one has been in a relationship and *disagreeing* with the beliefs that as long as one is in a monogamous relationship or a committed relationship, one does not need to use birth control. Participants who reported higher levels of safe sex practices also reported *disagreeing* with the belief that if one is in a committed relationship there are circumstances in which it is okay to have sex with someone else but *endorsing* the belief that sex is an important part of a romantic relationship and that it is okay to engage in oral sex.

Finally, whether or not participants had ever contracted an STI was only significantly correlated with two sexual beliefs. Participants who reported never having contracted an STI reported *endorsing* the belief that one should always use protection against STIs regardless of how long one has been in a relationship and *disagreeing* with the belief that becoming pregnant early in life leads to joy.

*Summary of correlating sexual beliefs with sexual behaviors.*

In summary, participants who reported engaging in sexual behaviors at an *earlier* age also reported *endorsing* beliefs that it was okay to engage in sex at an earlier age and that it was okay to engage in unconventional behaviors such as anal sex, group sex, one night stands and friends-with-benefits. Participants who reported engaging in sexual behaviors at a *later* age also reported *endorsing* beliefs that it was not okay to engage in sex at an earlier age or outside of marriage and that it was not okay to engage in unconventional sexual behaviors. Participants who reported *higher* numbers of sexual partners reported *endorsing* sexual beliefs that it was okay to engage in sex at an earlier age, that it was okay to engage in unconventional sexual behaviors, that it was okay to not use birth control and that it was okay to be unfaithful to a sexual partner. Participants who reported *lower* numbers of sexual partners reported *endorsing* sexual beliefs that it was not okay to engage in sex at an earlier age, that it was not okay to engage in unconventional sexual behaviors, that one should always use birth control and that one should always remain faithful to one's partner.

Participants who reported having been *unfaithful* emotionally or physically to a partner reported *endorsing* sexual beliefs that it was okay to engage in sexual behaviors at an early age, to have many sexual partners, to engage in unconventional sexual behaviors, and to be unfaithful to a partner. Participants who reported *never being unfaithful* to a partner reported *endorsing* sexual beliefs that it was not okay to engage in sexual behaviors at an early age, not okay to have many sexual partners, not okay to engage in unconventional sexual behaviors and not okay to be unfaithful to a partner. And finally,

participants who reported engaging in *more* unconventional sexual behaviors reported *endorsing* sexual beliefs that it was okay to engage in sexual behaviors at an early age, to have many sexual partners, to engage in unconventional sexual behaviors, and to be unfaithful to a partner. Participants who reported engaging in *fewer* unconventional sexual behaviors reported *endorsing* sexual beliefs that it was not okay to engage in sexual behaviors at an early age, not okay to have many sexual partners, not okay to engage in unconventional sexual behaviors and not okay to be unfaithful to a partner.

### **Family Sexual Communication and Adolescents' and Emerging Adults' Sexual Outcomes**

To test my hypotheses regarding how family sexual communication affects adolescents' and emerging adults' sexual outcomes I ran correlational analyses as well as linear and binary logistic regression analyses. I used logarithmic transformations on variables that were severely skewed (e.g. number of sexual partners and safe sex behavior) to create more normally-distributed variables. I also used collinearity diagnostics to check for multicollinearity, the Durbin-Watson test statistic to check the assumption of independent error and casewise diagnostics to check for influential cases and outliers. I used scatter plots to check for homoscedasticity and linearity.

### **Family Sexual Communication and Participants' Partner Sexual Communication**

My first set of hypotheses predicted the relationship between family sexual communication and partner sexual communication. I predicted that a higher frequency of family sexual communication would be associated with a higher frequency of partner

sexual communication ( $H_{1a}$ ), that a higher quality of family sexual communication would be associated with a higher quality of partner sexual communication ( $H_{1b}$ ) and that the types of messages that are communicated during family sexual communication will be similar to the types of messages that are communicated during partner sexual communication ( $H_{1c}$ ).

When examining the correlations between family sexual communication and partner sexual communication, I found that the frequency and quality of family sexual communication were significantly correlated with partner sexual communication. Engaging in more frequent discussions of sexual risk, sexual values and sensitive sexual topics with one's parents was associated with engaging in more sexual communication with one's partner ( $r = .161^{**}$ ,  $r = .142^*$ ,  $r = .160^{**}$ ). Also, engaging in higher quality discussions of sexual risk, sexual values and sexual pleasure with one's parents was associated with engaging in more sexual communication with one's partner ( $r = .129^*$ ,  $r = .147^*$ ,  $r = .175^*$ ).

Because I am interested in both the individual impact each of my subscales (Frequency, Quality and Content) has on sexual outcomes and the cumulative impact that family sexual communication has on sexual outcomes, I ran regressions using each individual subscale as well as a regression that combined all three subscales for each dependent variable of interest; in other words, I ran four different regressions for each of the sexual outcomes in my study. As a reminder, the Frequency and Quality subscales each have four factors (sexual risk, sexual values, sexual pleasure and sensitive sexual topics) and the Content subscale has two factors (permissive and restrictive messages).

So to test my first set of predictions, I first ran a regression that utilized the four factors of the Frequency subscale to see their impact on partner sexual communication. I then ran a regression that utilized the four factors of the Quality subscale as the independent variables. Thirdly I ran a regression that utilized the two factors of the Content subscale as the independent variable, and finally I ran a regression that utilized all ten factors of the three subscales as the independent variables.

The combined regression equation was significant ( $R^2 = .031$ , adjusted  $R^2 = .025$ ,  $F(1, 169) = 5.35$ ,  $p = .022$ ) demonstrating support for the notion that family sexual communication impacts partner sexual communication. When analyzed separately, both the Frequency subscale and Quality subscale were significantly associated with this outcome variable ( $R^2 = .026$ , adjusted  $R^2 = .023$ ,  $F(1, 313) = 8.37$ ,  $p = .004$  and  $R^2 = .031$ , adjusted  $R^2 = .025$ ,  $F(1, 169) = 5.35$ ,  $p = .022$  respectively) demonstrating support for  $H_{1a}$  and  $H_{1b}$ . To see the results of the stepwise regression analyses please see Table 38. I only included coefficients if a) the overall regression equation was significant and b) the individual coefficient was also significant.

Table 38

*Significant Standardized Betas, t Values and p Values for the Family Sexual Communication and Partner Sexual Communication Stepwise Regressions*

| Predictors           | $\beta$ | $t$ ( $df$ ) | $p$  |
|----------------------|---------|--------------|------|
| Subscale Regressions |         |              |      |
| Frequency: Risk      | .161    | 2.89(313)    | .004 |
| Quality: Pleasure    | .175    | 2.31(169)    | .022 |
| Combined Regression  |         |              |      |
| Quality: Pleasure    | .175    | 2.31(169)    | .022 |

Independent of the shared variance accounted for, frequency of sexual risk communication and quality of sexual pleasure communication accounted for unique variance in partner sexual communication in the subscale regressions. Specifically, engaging in more frequent discussions about sexual risk with parents and having higher quality discussions about sexual pleasure with parents were positively associated with engaging in more discussions regarding sex with one's partner.

When all three subscales were combined in the same regression, the association between the quality of discussions about sexual pleasure and partner sexual communication remained significant indicating that this is the driving force behind the relationship between family sexual communication and partner sexual communication. The Content subscale was not significantly associated with partner sexual communication so  $H_{1c}$  was not supported.

## **Family Sexual Communication and Participants' Sexual Beliefs**

### **Correlating family sexual communication and sexual beliefs.**

To examine the relationship between family sexual communication and participants' sexual beliefs, I first examined the correlations amongst these variables. The associations that frequency and quality of family sexual communication had with the sexual beliefs participants held were somewhat enigmatic; however, the associations that the content of family sexual communication had with sexual beliefs were consistent and clear. For a correlation matrix for the frequency of family sexual communication and sexual beliefs please see Table 39.

Table 39

*Correlating Frequency of Family Sexual Communication and Sexual Beliefs*

|   | Risk   | Values  | Pleasure | Topics |
|---|--------|---------|----------|--------|
| Should have few partners                  | ---    | .143**  | ---      | ---    |
| Sex only appropriate in marriage          | -.117* | ---     | ---      | ---    |
| It's okay to have sex in high school      | .214** | ---     | .122*    | ---    |
| Hooking up and FWB is part of college     | .139*  | ---     | .153**   | ---    |
| Group sex is okay                         | ---    | -.169** | ---      | ---    |
| If committed, sometimes okay to cheat     | ---    | ---     | .129*    | ---    |
| Exploring sexual desires is okay          | .179** | ---     | ---      | ---    |
| Oral sex is okay                          | .146** | ---     | ---      | ---    |
| Sex is an important part of relationships | .132*  | ---     | ---      | ---    |
| Sex before marriage is okay if in love    | .134*  | ---     | ---      | ---    |
| Pregnancy in early life leads to joy      | ---    | .144*   | ---      | ---    |

Note: \* p<.05. \*\* p<.01

Engaging in more frequent discussions of *sexual risk* with one's parents was associated with *endorsing* the belief that hooking up, one night stands and friends-with-benefits is a part of the college experience, it is okay to have oral sex, people should be able to explore their sexual desires, it is okay for people to have sex in high school, it is okay to have sex before marriage so long as it is with someone you love, and that sex is an important part of romantic relationships. Frequent discussions of *sexual risk* were also associated with *disagreeing* with the belief that sex is only appropriate in marriage.

Engaging in more frequent discussions of *sexual values* with one's parents was associated with *endorsing* the belief that one should have as few sexual partners as possible in a lifetime and that becoming pregnant early in life can lead to joy. Frequent discussions of *sexual values* were also associated with *disagreeing* with the belief that it was okay to have sex with multiple partners simultaneously.

Finally, engaging in more frequent discussions of *sexual pleasure* with one's parents was associated with *endorsing* the belief that hooking up, one night stands and friends-with-benefits is a part of the college experience, it is okay for people to have sex in high school and that even if one is in a committed relationship, there are circumstances in which it is okay to have sex with someone else. The factor of *sensitive sexual topics* had no significant correlations with sexual beliefs.

For a correlational matrix for the quality of family sexual communication and sexual beliefs please see Table 40.

Table 40

*Correlating quality of family sexual communication and sexual beliefs*

|   | Risk   | Values | Pleasure | Topics |
|---|--------|--------|----------|--------|
| If monogamous, no need for birth control    | -.122* | ---    | ---      | ---    |
| Should have few partners                    | ---    | .175** | ---      | ---    |
| Group sex is okay                           | ---    | -.153* | ---      | ---    |
| Exploring sexual desires is okay            | .131*  | ---    | ---      | .157** |
| Sex before marriage is okay if in love      | ---    | ---    | ---      | .132*  |
| Pregnancy in early life leads to joy        | ---    | .133*  | ---      | .143*  |
| Sex only appropriate in missionary position | ---    | ---    | ---      | -.123* |

Note: \* p<.05. \*\* p<.01

Engaging in higher quality discussions of *sexual risk* with one's parents was associated with *endorsing* the belief that people should be able to explore their sexual desires and with *disagreeing* with the belief that as long as one is in a monogamous relationship one does not need to use birth control. Engaging in higher quality discussions of *sexual values* with one's parents was associated with *endorsing* the belief that one should have as few sexual partners as possible in a lifetime and that becoming pregnant early in life can lead to joy. Higher quality discussions of *sexual values* were also associated with *disagreeing* with the belief that it was okay to have sex with multiple partners simultaneously.

Finally, engaging in higher quality discussions about *sensitive sexual topics* with one's parents was associated with *endorsing* the belief that it is okay to have sex before marriage so long as it is with someone you love, people should be able to explore their sexual desires and that becoming pregnant early in life can lead to joy. Higher quality discussions about *sensitive sexual topics* were also associated with *disagreeing* with the belief that one should only have sex in the missionary position. The factor of *sexual pleasure* had no significant correlations with sexual beliefs.

The content of family sexual communication was strongly associated with participants' sexual beliefs. *Permissive messages* were significantly correlated with 10 of the 21 sexual beliefs included in this study and *restrictive messages* were significantly correlated with 14 of the 21 sexual beliefs included in this study. For a correlation matrix please see Table 41.

Table 41

*Correlating content of family sexual communication and sexual beliefs*

|   | Permissive | Restrictive |
|---|------------|-------------|
| Should have few partners                    | -.264**    | .367**      |
| Sex only appropriate in marriage            | -.191**    | .377**      |
| Should always use protection against STIs   | ---        | .190**      |
| Sex only in missionary position             | ---        | .179***     |
| Anal sex is okay                            | .213**     | -.197**     |
| Okay to have number of partners in lifetime | .255**     | -.360**     |
| It's okay to have sex in high school        | .216**     | -.344**     |
| Hooking up and FWB is part of college       | .260**     | -.217**     |
| Group sex is okay                           | .207**     | -.324**     |
| If committed, sometimes okay to cheat       | .203**     | ---         |
| Exploring sexual desires is okay            | .133*      | .220**      |
| It's okay to have sex at early age          | .223**     | -.273**     |
| Oral sex is okay                            | ---        | -.153**     |
| Sex is an important part of relationships   | ---        | -.124*      |
| Sex before marriage is okay if in love      | ---        | -.185**     |

Note: \* p<.05. \*\* p<.01

Receiving more *permissive messages* from one's parents was associated with *endorsing* the following beliefs: it is okay to have anal sex, it is okay to have sex with multiple partners simultaneously, hooking up, one night stands and friends-with-benefits

is part of the college experience, even if one is in a committed relationship there are circumstances in which it is okay to have sex with someone else, it is okay to have sex at an early age, it is okay to have a number of sexual partners throughout one's lifetime, it is okay for people to have sex in high school, and people should be able to explore their sexual desires. Receiving more *permissive messages* from one's parents was associated with *disagreeing* with the belief that sex is only appropriate in marriage and that one should have as few sexual partners as possible in a lifetime.

Receiving more *restrictive messages* from one's parents was associated with *endorsing* the following beliefs: sex is only appropriate in marriage, one should only have sex in the missionary position, one should have as few sexual partners as possible in a lifetime and one should always use protection against STIs regardless of how long one has been in a relationship. Receiving more *restrictive messages* from one's parents was associated with *disagreeing* with the following beliefs: it is okay to have anal sex, it is okay to have sex with multiple partners simultaneously, hooking up, one night stands and friends-with-benefits is part of the college experience, it is okay to have oral sex, it is okay to have sex at an early age, it is okay to have a number of sexual partners throughout one's lifetime, it is okay for people to have sex in high school, people should be able to explore their sexual desires, sex is an important part of a romantic relationship and it is okay to have sex before marriage so long as it is with someone you love.

**Examining my predictions regarding family sex comm. and sexual beliefs.**

To test the predictions that higher frequency ( $H_{2a}$ ) and higher quality ( $H_{2b}$ ) of family sexual communication will be associated with more similarity between parental sexual beliefs and participants' sexual beliefs I created a difference score by running regressions using perceived parental sexual beliefs as the independent variable and participant sexual beliefs as the dependent variable; I saved the standardized residuals and multiplied them by -1 to get a similarity score. I then correlated these residuals with the Frequency and Quality factors of the FSCS. Having higher quality conversations about sexual values with parents was associated with more similar permissive beliefs between parents and participants ( $r = .135$ ,  $p = .02$ ) which demonstrates partial support for  $H_{2b}$ . There was not support for  $H_{2a}$ . I also used stepwise regression analyses to see if the frequency and/or quality of family sexual communication could predict the types of beliefs the participants held; the results were not significant.

To test the prediction that more restrictive family sexual communication messages will be associated with more restrictive sexual beliefs and more permissive family sexual communication messages will be associated with more permissive sexual beliefs ( $H_{2c}$ ) I utilized stepwise regression analyses. For parsimony I utilized the four factors of sexual beliefs rather than the individual beliefs. To see the results of the analyses please see Table 42.

Table 42

*Significant Standardized Betas, t Values and p Values for Family Sexual Communication and Sexual Beliefs Stepwise Regressions*

| Predictors           | $\beta$ | $t(df)$    | $p <$ |
|----------------------|---------|------------|-------|
| Permissive beliefs   |         |            |       |
| Permissive messages  | .284    | 5.52(299)  | .000  |
| Restrictive messages | -.338   | -6.57(300) | .000  |
| Sex positive beliefs |         |            |       |
| Permissive messages  | .145    | 2.65(299)  | .000  |
| Restrictive messages | -.297   | -5.43(300) | .000  |

The findings provided strong support for this prediction. Receiving more *permissive* sexual messages from parents was associated with *endorsing* more permissive sexual beliefs and receiving more *restrictive* sexual messages from parents was associated with *disagreeing* with more permissive sexual beliefs ( $R^2 = .221$ , adjusted  $R^2 = .212$ ,  $F(1,168) = 17.01$ ,  $p < .001$ ). Also, receiving more *permissive* sexual messages from parents was associated with *endorsing* more positive beliefs about sex whereas receiving more *restrictive* sexual messages from parents was associated with *disagreeing* with more positive beliefs about sex ( $R^2 = .121$ , adjusted  $R^2 = .110$ ,  $F(1,168) = 3.96$ ,  $p = .048$ ). The content of family sexual communication was not significantly associated with beliefs about protection or pregnancy.

Due to the variability of beliefs encapsulated in the “sex positive” factor, I felt it important to look at the individual beliefs and the relationships they had with the content of family sexual communication so I ran a regression for each of the seven beliefs in this factor. Receiving more restrictive sexual messages from parents was significantly associated with each belief in this factor. Receiving more *restrictive* sexual messages from parents was associated with *endorsing* the beliefs that sex was only appropriate in marriage and in the missionary position and was associated with *disagreeing* with the beliefs that oral sex and anal sex were okay, that it is okay for people to explore their sexual desires, that it is okay to have sex before marriage if you love the person and that sex is an important part of romantic relationships.

Receiving more *permissive* sexual messages from parents was only significantly associated with two of the seven items in this factor. Receiving more *permissive* sexual messages from parents was associated with *endorsing* the belief that anal sex is okay and *disagreeing* with the belief that sex is only appropriate in marriage. It seems that restrictive messages have a larger impact on sexual beliefs than permissive messages.

### **Family Sexual Communication and Participants’ Sexual Self-efficacy**

My third set of hypotheses predicted a relationship between family sexual communication and sexual self-efficacy. I predicted that more frequent (H<sub>3a</sub>) and higher quality (H<sub>3b</sub>) family sexual communication will be associated with greater sexual self-efficacy for participants. I did not have theoretical or previous empirical grounds to

propose a hypothesis  $H_{3c}$  relating to the impact of the content of family sexual communication.

When examining the correlations between family sexual communication and sexual self-efficacy, I found that the quality and content of family sexual communication were significantly correlated with sexual self-efficacy. Engaging in higher quality discussions of sexual risk, sexual values and sensitive sexual topics with one's parents was associated with having higher sexual self-efficacy ( $r = .140^*$ ,  $r = .195^{**}$ ,  $r = .208^{**}$ ). Also, receiving fewer permissive sexual messages from one's parents was associated with having higher sexual self-efficacy ( $r = -.199^{**}$ ).

I again ran four regression analyses to test my predictions regarding the effect family sexual communication has on sexual self-efficacy (one for each subscale and one for the three subscales combined). The combined regression equation was significant ( $R^2 = .088$ , adjusted  $R^2 = .077$ ,  $F$  statistic = 8.24(1,168),  $p = .005$ ) demonstrating support for the notion that family sexual communication impacts adolescents' and emerging adults' sexual self-efficacy. When analyzed separately, both the Quality subscale and Content subscale were significantly associated with this outcome variable ( $R^2 = .043$ , adjusted  $R^2 = .038$ ,  $F(1,169) = 7.67$ ,  $p = .006$  and ( $R^2 = .040$ , adjusted  $R^2 = .036$ ,  $F(1,290) = 11.99$ ,  $p = .001$  respectively) demonstrating support for  $H_{3b}$ . I had not made a prediction regarding the relationship between the content of family sexual communication and sexual self-efficacy, but these results show support for a relationship between the content of family sexual communication and adolescents' and emerging adults' sexual self-efficacy.

To see the significant coefficients of the stepwise regression analyses please see Table 43. I only included coefficients if the overall regression equation was significant.

Table 43

*Significant Standardized Betas, t Values and p Values for Family Sexual Communication and Sexual Self-efficacy Stepwise Regressions*

| Predictors                   | $\beta$ | $t(df)$    | $p$  |
|------------------------------|---------|------------|------|
| Subscale Regressions         |         |            |      |
| Quality: Sensitive topics    | .208    | 2.77(169)  | .006 |
| Content: Permissive messages | -.199   | -3.46(290) | .001 |
| Combined Regression          |         |            |      |
| Quality: Sensitive topics    | .220    | 2.99(169)  | .003 |
| Content: Permissive messages | -.212   | -2.87(168) | .005 |

Independent of the shared variance accounted for, the quality of sensitive sexual topic conversations and receiving permissive sexual messages from parents accounted for unique variance in sexual self-efficacy in the subscale regressions. Specifically, higher quality discussions about sensitive sexual topics were positively associated with having higher sexual self-efficacy and receiving more permissive sexual messages from parents was associated with having lower sexual self-efficacy.

When all three subscales were combined in the same regression, both of these relationships remained significant indicating that they are the driving forces behind the relationship between family sexual communication and sexual self-efficacy. The

Frequency subscale was not significantly associated with sexual self-efficacy so there was not support for H<sub>3a</sub>.

### **Family Sexual Communication and Participants' Sexual Behavior**

My final set of hypotheses predicted the relationship between family sexual communication and participants' sexual behavior. I predicted that higher frequency (H<sub>4a</sub>) and higher quality (H<sub>4b</sub>) of family sexual communication would be associated with less sexual risk-taking by participants (i.e. fewer partners, fewer incidents of infidelity, fewer incidents of anal sex, group sex, hookups/ one night stands, and friends-with-benefits relationships, and more consistent condom/ birth control use) and with an older age of sexual initiation. I also predicted that more permissive messages in family sexual communication would be associated with more permissive sexual behavior by participants whereas more restrictive messages in family sexual communication would be associated with more restrictive sexual behavior by participants (H<sub>4c</sub>). To test these predictions I ran several sets of analyses.

#### **Sexual activity status.**

To see if family sexual communication was associated with whether or not participants had engaged in oral sex and/or sexual intercourse I first conducted point-biserial correlation analyses. Participants who reported more frequent discussions of sexual risk with their parents also indicated that they had participated in sexual intercourse ( $r = .138, p = .013$ ). Participants who reported receiving more restrictive

messages from their parents also indicated that they had never received oral sex from a partner ( $r = -.135$ ,  $p = .017$ ) or engaged in sexual intercourse ( $r = -.169$ ,  $p = .003$ ).

To further investigate the impact family sexual communication had on participants' sexual activity status I utilized logistic regression. I ran separate analyses for the Frequency, Quality and Content subscales of the FSCS and then combined all ten factors of the FSCS in a final regression.

The combined regression equation predicting whether or not participants had engaged in sexual intercourse was significant, demonstrating support for the notion that family sexual communication impacts whether or not emerging adults remain virgins or become sexually active. The Frequency and Content regression equations were also significant. For model summaries please see Table 44.

Table 44

*Model Summaries for Family Sexual Communication and Sexual Activity Status Stepwise Regressions*

| Dependent variable   | <i>Log likelihood</i> | <i>Nagelkerke R<sup>2</sup></i> | $\chi^2$ (df)           |
|----------------------|-----------------------|---------------------------------|-------------------------|
|                      |                       |                                 | Received oral sex (Y/N) |
| Content regression   | 217.87**              | .042**                          | 6.76(1)                 |
|                      |                       |                                 | Had sex (Y/N)           |
| Frequency regression | 277.56**              | .070**                          | 13.67(2)                |
| Content regression   | 261.88*               | .047**                          | 8.46(1)                 |
| Combined regression  | 135.58*               | .043*                           | 4.12(1)                 |

*Note:* \*p<.05. \*\* p<.01.

To see the logistic coefficients, Wald  $\chi^2$ , odds ratios and p values please see Tables 45.

Table 45

*Significant Logistic Coefficients, Wald  $\chi^2$ , Odds Ratio and p Values for Family Sexual Communication and Sexual Activity Status*

| Predictors                    | <i>B</i> | <i>Wald <math>\chi^2</math></i> | <i>Exp(B)</i> | <i>p</i> |
|-------------------------------|----------|---------------------------------|---------------|----------|
| Received oral sex (Y/N)       |          |                                 |               |          |
| Individual regressions        |          |                                 |               |          |
| Content: Restrictive messages | -.384    | 6.18                            | .68           | .013     |
| Had sex (Y/N)                 |          |                                 |               |          |
| Individual regressions        |          |                                 |               |          |
| Frequency: Risk               | .904     | 12.19                           | 2.47          | .001     |
| Frequency: Sensitive topics   | -.788    | 7.14                            | .46           | .008     |
| Content: Restrictive messages | -.377    | 7.75                            | .686          | .005     |
| Combined regression           |          |                                 |               |          |
| Content: Restrictive messages | -.409    | 3.79                            | .664          | .052     |

Independent of the shared variance accounted for, frequency of sexual risk communication, frequency of sensitive sexual topics communication and receiving restrictive sexual messages accounted for unique variance in sexual activity status in the subscale regressions. Specifically, engaging in more frequent discussions about sexual risk with parents was negatively associated with being a virgin whereas engaging in more frequent discussions about sensitive sexual topics with parents and receiving more restrictive sexual messages from parents were positively associated with being a virgin.

When all three subscales were combined in the same regression, the association between restrictive messages and sexual activity status remained significant indicating that content is the driving force behind the relationship between family sexual communication and whether or not participants had become sexually active. The Quality subscale was not significantly associated with this sexual outcome.

Regarding oral sex behavior, the Content subscale was significantly associated with whether or not participants had received oral sex (See Table 45). Independent of the shared variance accounted for, receiving restrictive sexual messages accounted for unique variance in this sexual outcome variable in the subscale regressions (See Table 46). Specifically, receiving more restrictive sexual messages from parents was negatively associated with having received oral sex.

When all three subscales were combined in the same regression, the association between restrictive messages and having received oral sex became non-significant; however, there are two methodological issues that may contribute to this non-significant finding. First, there was significantly more missing data in my logistic regressions than my linear regressions. With linear regression I could choose to exclude data “pairwise” instead of “listwise” and this helped me keep the amount of missing data to a minimum; there was no such option with logistic regression. Second, adding ten factors further decreased my power which can result in null findings.

None of the regression equations were significant when examining if family sexual communication predicts whether or not participants had ever given oral sex to a partner.

### **Age of sexual initiation and number of sexual partners.**

To see how family sexual communication impacted participants' age of sexual initiation and number of sexual partners, I first examined the correlations between these variables. Though none of the factors of the Frequency and Quality subscales were significantly associated with age of initiation or number of sexual partners, the Content subscale contained many significant associations. For a correlation matrix please see Table 46.

Table 46

#### *Correlating Content with Age of Sexual Initiation and Number of Partners*

| Sexual variables              | Permissive | Restrictive |
|-------------------------------|------------|-------------|
| Age first received oral sex   | -.132*     | .189**      |
| Age first gave oral sex       | ---        | ---         |
| Age first engaged in sex      | ---        | ---         |
| # partners received oral from | .216**     | -.244**     |
| # partners gave oral sex to   | .204**     | -.242**     |
| # sexual partners             | .152*      | -.188**     |

Note: \*p<.05. \*\* p<.01

Receiving more restrictive sexual messages from one's parents was associated with having fewer oral sex and sexual intercourse partners and with first receiving oral sex at a later age. Receiving more permissive sexual messages from one's parents was associated with having more oral sex and sexual intercourse partners and with first receiving oral sex at an earlier age.

To further investigate the impact of family sexual communication, I ran stepwise regression analyses to see if family sexual communication could predict the age of sexual initiation and the number of sexual partners participants had. I ran separate analyses for the Frequency, Quality and Content subscales of the FSCS and then utilized all ten factors of the three subscales in a combined regression. Many of the combined regression equations were significant demonstrating support for the notion that family sexual communication impacts age of sexual initiation and number of sexual partners. For model summaries please see Table 47.

Table 47

*Model Summaries for Family Sexual Communication and Age of Sexual Initiation and Number of Sexual Partners Stepwise Regressions*

| Dependent variable             | $R^2$  | Adj. $R^2$ | $F(df1,df2)$ |
|--------------------------------|--------|------------|--------------|
| Age received oral              | .036*  | .029*      | 5.73(1,155)  |
| Age gave oral                  | ----   | ----       | ----         |
| Age sex intercourse            | ----   | ----       | ----         |
| # oral sex partners (received) | .091*  | .078*      | 5.65(1,146)  |
| # oral partners (gave)         | .077** | .070**     | 11.87(1,143) |
| # sex partners                 | .046*  | .039*      | 6.64(1,139)  |

*Note:* Only the combined regressions are reported in this table – the regressions for the individual subscales are not. Statistics are not provided for non-significant regression equations because “No variables were entered into the equation.” \* $p < .05$ . \*\*  $p < .01$ .

To see the beta, t, and p values please see Table 48. I only included coefficients if a) the overall regression equation was significant and b) the individual coefficient was also significant.

Table 48

*Significant Standardized Betas, t Values and p Values for Family Sexual Communication and Age of Sexual Initiation and Number of Sexual Partners Stepwise Regressions*

| Predictors                     | $\beta$ | $t(df)$    | $p$  |
|--------------------------------|---------|------------|------|
| Age received oral              |         |            |      |
| Subscale regressions           |         |            |      |
| Content: Restrictive messages  | .189    | 3.12(263)  | .002 |
| Combined regression            |         |            |      |
| Content: Restrictive messages  | .189    | 2.39(155)  | .018 |
| # oral sex partners (received) |         |            |      |
| Subscale regressions           |         |            |      |
| Content: Permissive messages   | .189    | 3.10(248)  | .002 |
| Content: Restrictive messages  | -.210   | -3.44(249) | .001 |
| Combined regression            |         |            |      |
| Content: Permissive messages   | .189    | 2.38(146)  | .019 |
| Content: Restrictive messages  | -.210   | -2.64(147) | .009 |
| # oral partners (gave)         |         |            |      |
| Subscale regressions           |         |            |      |
| Content: Permissive messages   | .149    | 2.41(240)  | .017 |
| Content: Restrictive messages  | -.257   | -4.15(241) | .001 |
| Combined regression            |         |            |      |
| Content: Restrictive messages  | -.277   | -3.45(143) | .001 |
| # sex partners                 |         |            |      |
| Subscale regressions           |         |            |      |

|                               |       |            |      |
|-------------------------------|-------|------------|------|
| Content: Restrictive messages | -.213 | -3.37(238) | .001 |
| Combined regression           |       |            |      |
| Content: Restrictive messages | -.213 | -2.58(139) | .011 |

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The Content subscale of family sexual communication was a strong and consistent predictor of age of sexual initiation and the number of sexual partners. Specifically, receiving more restrictive sexual messages from parents was associated with receiving oral sex at a later age and having fewer oral sex and sexual intercourse partners. Receiving more permissive sexual messages from parents was associated with having more oral sex partners. Independent of the shared variance accounted for, content of family sexual communication accounted for unique variance in age of sexual initiation and number of sexual partners in both the subscale regressions and the combined regression. This indicates that the content of family sexual communication is the driving force behind the relationship between family sexual communication and age of sexual initiation and number of sexual partners. The Frequency and Quality subscales were not significantly associated with these sexual outcomes.

### **Unconventional sexual behaviors.**

To see how family sexual communication influenced participants' participation in unconventional sexual behavior, I first examined the correlations between my factors of family sexual communication and how often participants reported engaging in anal sex, group sex, hook ups/one night stands, and friends-with-benefits situations. I found that the *content* of family sexual communication was significantly correlated with the extent

to which participants had engaged in these behaviors. The *frequency* and *quality* of family sexual communication were not significantly associated with these sexual outcome variables with the exception that engaging in more frequent discussions of sexual risk with one's parents was associated with a *higher* likelihood of engaging in friends-with-benefits situations ( $r = .117, p = .037$ ). For a correlation matrix please see Table 49.

Table 49

*Correlating Family Sexual Communication with Unconventional Sexual Behaviors*

| Sexual Behaviors      | Permissive | Restrictive |
|-----------------------|------------|-------------|
| Anal sex              | .241**     | -.198**     |
| Group sex             | .242**     | ---         |
| One night stand       | .245**     | -.241**     |
| Friends-with-benefits | .281**     | -.242**     |

Note: \*\*  $p < .01$

Receiving more permissive sexual messages from one's parents was associated with a *higher* likelihood of engaging in anal sex, group sex, hook ups/one night stands, and friends-with-benefits situations. Receiving more restrictive sexual messages from one's parents was associated with a *lower* likelihood of engaging in anal sex, hook ups/one night stands, and friends-with-benefits situations.

To further investigate the impact family sexual communication has, I ran stepwise regression analyses to see if family sexual communication could predict the frequency

with which participants engaged in anal sex, group sex, hook ups/one night stands and friends-with-benefits situations. I ran separate analyses for the Frequency, Quality and Content subscales of the FSCS and then combined all ten factors of the three subscales in a final regression.

All of the combined regression equations for the dependent variables measuring unconventional sexual behavior were significant. This demonstrates support for the notion that family sexual communication impacts these sexual outcomes. For model summaries please see Table 50.

Table 50

*Model Summaries for Family Sexual Communication and Unconventional Sexual Behavior Stepwise Regressions*

| Dependent variable | $R^2$  | Adj. $R^2$ | $F(df1,df2)$ |
|--------------------|--------|------------|--------------|
| Anal sex           | .086*  | .075*      | 5.13(1,168)  |
| Group sex          | .058** | .053**     | 10.49(1,169) |
| Hook ups           | .104** | .094**     | 8.29(1,168)  |
| FWB                | .122** | .111**     | 8.17(1,168)  |

*Note:* Only the combined regressions are reported in this table – the regressions for the individual subscales are not. \* $p < .05$ . \*\*  $p < .01$ .

To see the beta, t, and p values please see Tables 51. I only included coefficients if a) the overall regression equation was significant and b) the individual coefficient was also significant.

Table 51

*Significant Standardized Betas, t Values and p Values for Family Sexual Communication and Unconventional Sexual Behavior Stepwise Regressions*

| Predictors                    | $\beta$ | $t(df)$    | $p <$ |
|-------------------------------|---------|------------|-------|
| Frequency anal sex            |         |            |       |
| Subscale regressions          |         |            |       |
| Content: Permissive messages  | .219    | 3.90(297)  | .000  |
| Content: Restrictive messages | -.169   | -3.01(296) | .004  |
| Combined regression           |         |            |       |
| Content: Permissive messages  | .219    | 2.94(169)  | .005  |
| Content: Restrictive messages | -.169   | -2.27(168) | .026  |
| Frequency group sex           |         |            |       |
| Subscale regressions          |         |            |       |
| Content: Permissive messages  | .242    | 4.30(297)  | .000  |
| Combined regression           |         |            |       |
| Content: Permissive messages  | .242    | 3.24(169)  | .002  |
| Frequency hook ups            |         |            |       |
| Subscale regressions          |         |            |       |
| Content: Permissive messages  | .217    | 3.92(298)  | .000  |
| Content: Restrictive messages | -.212   | -3.83(297) | .000  |
| Combined regression           |         |            |       |
| Content: Permissive messages  | .217    | 2.95(169)  | .005  |
| Content: Restrictive messages | -.212   | -2.88(168) | .006  |

|                               |       | Frequency friends-with-benefits |      |
|-------------------------------|-------|---------------------------------|------|
| Subscale regressions          |       |                                 |      |
| Frequency: Risk               | .117  | 2.09(317)                       | .038 |
| Content: Permissive messages  | .253  | 4.61(297)                       | .000 |
| Content: Restrictive messages | -.208 | -3.79(296)                      | .000 |
| Combined regression           |       |                                 |      |
| Content: Permissive messages  | .253  | 3.47(169)                       | .002 |
| Content: Restrictive messages | -.208 | -2.86(168)                      | .006 |

The Content subscale of family sexual communication was a strong and consistent predictor of the extent to which participants had engaged in unconventional sexual behavior. Specifically, receiving more restrictive sexual messages from parents was associated with less frequent participation in anal sex and friends-with-benefits relationships. Receiving more permissive sexual messages from parents was associated more frequent participation in anal sex, group sex, hook ups and friends-with-benefits relationships.

Independent of the shared variance accounted for, frequency of family sexual communication accounted for unique variance in the extent to which participants had engaged in friends-with-benefits relationships in the subscale regression. Independent of the shared variance accounted for, content of family sexual communication accounted for unique variance in the extent to which participants engaged in each of the unconventional sexual behaviors in both the subscale regressions and the combined regression. This indicates that the content of family sexual communication is the driving force behind the relationship between family sexual communication and the extent to which participants

engaged in unconventional sexual behavior. The Quality subscale was not significantly associated with these sexual outcomes.

### **Safe sex practices.**

To explore the impact family sexual communication has on participants' safe sex practices I first examined the correlations between these variables. Participants who reported more frequent discussions about sexual risk and sexual values with their parents also reported practicing safe sex a higher percentage of the time ( $r = .127, p = .037$ ;  $r = .123, p = .045$ ). The quality and content of family sexual communication were not significantly associated with participants' safe sex practices. When I conducted my regression analyses, the equations were not significant and there were no significant coefficients.

### **STI contraction, infidelity and unplanned pregnancy.**

The final set of sexual behaviors included in this study consists of the following outcomes: contracting STIs, being unfaithful to one's partner, and dealing with an unplanned pregnancy. To examine how family sexual communication impacts this set of sexual behaviors, I first looked at the correlations. Interestingly, each facet of family sexual communication was associated with different behaviors. For a correlation matrix please see Table 52.

Table 52

*Correlating Family Sexual Communication with Other Sexual Behavior Variables*

| Subscales and Factors | STI    | E. Infidelity | P. Infidelity | Preg.  |
|-----------------------|--------|---------------|---------------|--------|
| Frequency             |        |               |               |        |
| Risk                  | ---    | ---           | ---           | .153** |
| Values                | ---    | ---           | ---           | .139*  |
| Pleasure              | ---    | ---           | .155**        | .218** |
| Sensitive Topics      | ---    | ---           | ---           | ---    |
| Quality               |        |               |               |        |
| Risk                  | -.129* | ---           | ---           | ---    |
| Values                | ---    | ---           | ---           | ---    |
| Pleasure              | ---    | ---           | ---           | ---    |
| Sensitive Topics      | .130*  | ---           | ---           | ---    |
| Content               |        |               |               |        |
| Restrictive           | ---    | ---           | ---           | ---    |
| Permissive            | ---    | .119*         | .183**        | ---    |

Note: STI indicates if participant has ever contracted an STI (y/n); E. Infidelity = emotional infidelity; P. Infidelity = physical infidelity; Preg. = has participant experienced an unplanned pregnancy (y/n). \*\* p<.01

The *frequency* of family sexual communication was significantly correlated with the percentage of the time that participants engaged in safe sex and whether or not the participants had experienced an unplanned pregnancy. Specifically, engaging in more frequent discussions of *sexual risk* and *sexual values* with one's parents was associated with a *higher* likelihood of engaging in safe sex. Engaging in more frequent discussions

of *sexual risk*, *sexual values* and *sexual pleasure* with one's parents was associated with a *higher* likelihood of having dealt with an unplanned pregnancy. Also, there was a positive correlation between frequency of sexual pleasure and physical infidelity; engaging in more frequent discussions of *sexual pleasure* with one's parents was associated with a *higher* likelihood of having been physical unfaithful to a partner.

The *quality* of family sexual communication was significantly correlated with whether or not participants had ever contracted an STI. Specifically, engaging in higher quality discussions of *sexual risk* with one's parents was associated with a *lower* likelihood of ever having contracted an STI whereas engaging in higher quality discussions of *sensitive sexual topics* with one's parents was associated with a *higher* likelihood of ever having contracted an STI.

The *content* of family sexual communication was significantly correlated with whether or not participants had ever been emotionally or physically unfaithful to a partner. Specifically, receiving more permissive sexual messages from one's parents was associated with a higher likelihood of ever being emotionally or physically unfaithful to a partner.

To further investigate the impact family sexual communication has on sexual behavior, I utilized a logistic regression to see if family sexual communication could predict whether or not participants had contracted an STI, been unfaithful to a partner and/or dealt with an unplanned pregnancy. I ran separate analyses for the Frequency,

Quality and Content subscales of the FSCS and then combined all ten factors of the FSCS in a final regression.

The combined regressions equation predicting whether or not participants had ever contracted an STI and whether or not participants had dealt with an unplanned pregnancy were significant, demonstrating support for the notion that family sexual communication impacts these two sexual outcomes. Though the combined regression equations predicting whether or not participants had been emotionally or physical unfaithful to a partner were not significant, two of the subscale regression equations predicting whether or not participants had been physically unfaithful to a partner were significant demonstrating support for the notion that family sexual communication also impacts this sexual outcome. For model summaries please see Table 53.

Table 53

*Model Summaries for Family Sexual Communication and Sexual Activity Status Stepwise Regressions*

| Dependent variable          | <i>Log likelihood</i> | <i>Nagelkerke R<sup>2</sup></i> | $\chi^2(df)$ |
|-----------------------------|-----------------------|---------------------------------|--------------|
| Contracted STI (Y/N)        |                       |                                 |              |
| Quality regression          | 81.92*                | .229*                           | 18.03(2)     |
| Combined regression         | 81.92***              | .229***                         | 18.03(2)     |
| Physically unfaithful (Y/N) |                       |                                 |              |
| Frequency regression        | 394.65**              | .032**                          | 7.45(1)      |
| Content regression          | 366.39**              | .044**                          | 9.65(1)      |
| Unplanned pregnancy (Y/N)   |                       |                                 |              |
| Frequency regression        | 125.82***             | .108***                         | 12.29(1)     |
| Combined regression         | 74.97**               | .154**                          | 10.58(1)     |

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

To see the logistic coefficients, Wald  $\chi^2$ , odds ratios and p values please see Table 54.

Table 54

*Significant Logistic Coefficients, Wald  $\chi^2$ , Odds Ratios and p Values for Family Sexual Communication and STI, Infidelity and Pregnancy Behaviors Logistic Regressions*

| Predictors                  | <i>B</i> | <i>Wald <math>\chi^2</math></i> | <i>Exp(B)</i> | <i>p</i> < |
|-----------------------------|----------|---------------------------------|---------------|------------|
| Contracted STI (Y/N)        |          |                                 |               |            |
| Individual regressions      |          |                                 |               |            |
| Quality: Risk               | -.973    | 12.14                           | .38           | .001       |
| Quality: Sensitive topics   | .997     | 10.08                           | 2.71          | .002       |
| Combined regression         |          |                                 |               |            |
| Quality: Risk               | -.973    | 12.14                           | .38           | .001       |
| Quality: Sensitive topics   | .997     | 10.08                           | 2.71          | .002       |
| Physically unfaithful (Y/N) |          |                                 |               |            |
| Individual regressions      |          |                                 |               |            |
| Frequency: Pleasure         | .356     | 7.48                            | 1.43          | .007       |
| Content: Permissive         | .289     | 9.41                            | 1.34          | .003       |
| Unplanned pregnancy (Y/N)   |          |                                 |               |            |
| Individual regressions      |          |                                 |               |            |
| Frequency: Pleasure         | .822     | 12.67                           | 2.28          | .001       |
| Combined regression         |          |                                 |               |            |
| Frequency: Pleasure         | 1.073    | 9.25                            | 2.92          | .003       |

When analyzed separately, the Quality subscale was significantly associated with whether or not participants had ever contracted an STI. Independent of the shared variance accounted for, the quality of sexual risk conversations and the quality of

sensitive sexual topics conversations accounted for unique variance in whether or not participants had ever contracted an STI in the subscale regressions. Specifically, engaging in higher quality discussions about sexual risk with parents was *negatively* associated with contracting an STI whereas engaging in higher quality discussions about sensitive sexual topics with parents was *positively* associated with contracting an STI.

When all three subscales were combined in the same regression, both of these associations remained significant indicating that they are the driving force behind the relationship between family sexual communication and whether or not participants had contracted an STI. The Frequency and Content subscales were not significantly associated with this sexual outcome.

When analyzed separately, the Frequency subscale was significantly associated with whether or not participants had ever dealt with an unplanned pregnancy. Independent of the shared variance accounted for, engaging in more frequent discussions of sexual pleasure accounted for unique variance in this outcome variable in the subscale regressions. Specifically, engaging in more frequent discussions about sexual pleasure with parents was positively associated having dealt with an unplanned pregnancy.

When all three subscales were combined in the same regression, the association between frequency of sexual pleasure communication and unplanned pregnancy remained significant indicating that it is the driving force behind the relationship between family sexual communication and whether or not participants had dealt with an

unplanned pregnancy. The Quality and Content subscales were not significantly associated with this sexual outcome.

When analyzed separately, the Frequency and Content subscales were significantly associated with whether or not participants had ever been physically unfaithful to a partner. Independent of the shared variance accounted for, engaging in more frequent discussions of sexual pleasure and receiving permissive sexual messages accounted for unique variance in this sexual outcome variable in the subscale regressions. Specifically, engaging in more frequent discussions of sexual pleasure and receiving more permissive sexual messages from parents was positively associated with having been physically unfaithful to a partner.

When all three subscales were combined in the same regression, these associations became non-significant; however, this could be partially due to the loss in power that resulted from the two methodological issues described earlier in this section.

None of the regression equations were significant when examining if family sexual communication predicts whether or not participants had ever been emotionally unfaithful to a partner.

### **Summary of family sexual communication and sexual behavior.**

These results demonstrate support for the notion that family sexual communication impacts whether or not adolescents and emerging adults have engaged in oral sex and sexual intercourse, the number of oral sex and sexual intercourse partners emerging adults report having, the extent to which they participate in unconventional

sexual behavior including anal sex, group sex, hook ups and friends-with-benefits situations, and whether or not they contract an STI, deal with an unplanned pregnancy and are physically unfaithful to a partner.

Even if certain components of family sexual communication did not have significant beta values in some of the regression equations, it is difficult to say that these components do not impact the sexual outcomes measured in these equations because the subscales and factors of the FSCS are moderately correlated with each other. Because of this multicollinearity, there will be some shared variance that will not be attributed to a specific component of family sexual communication but that will still be explained by the subscales and factors as a set.

It is safe to say, however, that the content of family sexual communication was a strong and consistent predictor of participants' sexual behavior. The hypothesis that more permissive messages in family sexual communication will be associated with more permissive sexual behavior and more restrictive messages will be associated with more restrictive sexual behavior was strongly supported ( $H_{4c}$ ). Receiving more permissive sexual messages from parents was associated with having more oral sex partners, having been physically unfaithful to a partner, and a higher likelihood of engaging in anal sex, group sex, hook ups and friends-with-benefits situations. Receiving more restrictive sexual messages from parents was associated with being a virgin, receiving oral sex at a later age, having fewer oral sex and sexual intercourse partners, and a lower likelihood of engaging in anal sex, hook ups and friends-with-benefits situations.

The quality of family sexual communication was uniquely predictive of whether or not participants had ever contracted an STI; however, whether or not this finding supports or negates H<sub>4b</sub> cannot be determined. H<sub>4b</sub> predicted that higher quality of family sexual communication would serve a protective function against sexual risk-taking. The results indicate that higher quality communication with parents about sexual risk was associated with never having contracted an STI which supports this hypothesis, but also that higher quality communication with parents about sensitive sexual topics was associated with having contracted an STI which negates this hypothesis. I will attempt to interpret this result in the following chapter, but one significant outcome of this result is support for the use of multi-factor measures when operationalizing family sexual communication as opposed to creating a one-factor variable that is the average or summation of all items in the operationalization. Two factors of quality had opposite effects on whether or not participants had contracted an STI. This will also be discussed further in Chapter 7.

The frequency of family sexual communication was not very predictive of participants' sexual behavior. Though there were a few significant associations, they were not consistent and most were counter to my hypothesis stating that more frequent family sexual communication would serve a protective function against sexual risk-taking. Having more conversations with parents about sexual pleasure was associated with having been physically unfaithful to a partner and having experienced an unplanned pregnancy. Having more conversations with parents about sexual risk was associated with a higher likelihood of participating in a friends-with-benefits relationship and with

having engaged in sexual intercourse. The only finding that was consistent with my prediction was that having more discussions with parents about sensitive sexual topics was associated with being a virgin.  $H_{4a}$  was not supported and in fact, the significant findings were mostly counter to this hypothesis.

### **Summary of Family Sexual Communication and Sexual Outcomes**

The overall regression equations were significant for partner sexual communication, sexual beliefs, sexual self-efficacy and almost all of the sexual behaviors measured which indicates that family sexual communication does impact these sexual outcomes; the extent of this impact and the driving force behind this impact varies. The relationship between family sexual communication and partner sexual communication was driven by the frequency and quality of such communication. The relationship between family sexual communication and sexual self-efficacy was driven by the quality and content of such communication.

The strongest and clearest relationships were between family sexual communication and participants' sexual beliefs and sexual behaviors. These relationships were driven largely by the content of family sexual communication. More permissive sexual messages from parents are associated with more permissive sexual beliefs and more permissive sexual behavior on the part of the participant. More restrictive sexual messages from parents were associated with more restrictive sexual beliefs and more restrictive sexual behavior on the part of the participant. These results speak directly to

the need to reoperationalize the construct of family sexual communication and this will be commented upon further in Chapter 7.

### **Family Communication Patterns and Adolescents' and Emerging Adults' Sexual Outcomes**

To test my hypotheses regarding how family communication patterns affect adolescents' and emerging adults' sexual outcomes I ran correlational analyses as well as linear and binary logistic regression analyses. I used logarithmic transformations on variables that were severely skewed (e.g. number of sexual partners and safe sex behavior) to create more normally-distributed variables. I also used collinearity diagnostics to check for multicollinearity, the Durbin-Watson test statistic to check the assumption of independent error and casewise diagnostics to check for influential cases and outliers. I used scatter plots to check for homoscedasticity and linearity.

### **Results**

In this section I will mirror the organization of the previous section by discussing the results regarding partner sexual communication, sexual beliefs, sexual self-efficacy and sexual behavior in that order. After this, I will discuss the results in relation to the family types laid out in FCPT because this was how I organized my hypotheses.

#### **Family communication patterns and partner sexual communication.**

To examine the relationship between family communication patterns and partner sexual communication, I first checked the correlations between conversation and

conformity orientation and partner sexual communication. Conversation orientation was positively correlated with partner sexual communication ( $r = .196, p < .001$ ) but the correlation for conformity orientation was not significant. It is difficult to interpret the zero-order correlations for conversation and conformity orientation without looking at the interaction so I then utilized a simultaneous regression analysis. I chose this method instead of stepwise because I wanted to keep all of my independent variables in the regression equation. My independent variables were mean-centered conversation orientation, mean-centered conformity orientation, and the interaction between these two variables. The regression equation was significant ( $R^2 = .065, \text{adjusted } R^2 = .056, F(1, 308) = 7.93, p = .005$ ) demonstrating support for the notion that family communication patterns impacts partner sexual communication. To see the results of the regression analysis please see Table 55.

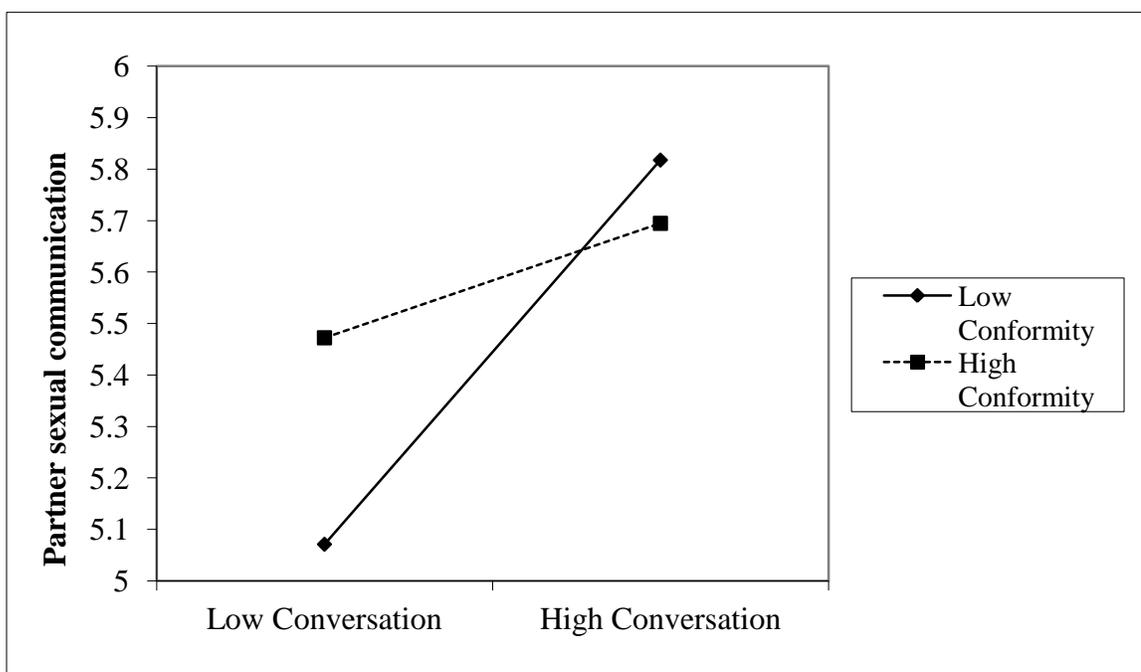
Table 55

*Standardized Betas, t Values and p Values for Family Communication Patterns and Partner Sexual Communication Regression*

| Predictors   | $\beta$ | $t(df)$    | $p$  |
|--------------|---------|------------|------|
| Conversation | .242    | 3.97(309)  | .001 |
| Conformity   | .072    | 1.18(309)  | .237 |
| Interaction  | -.156   | -2.82(308) | .005 |

Independent of the shared variance accounted for, conversation orientation and the interaction between conversation and conformity orientation accounted for unique

variance in partner sexual communication. Higher conversation orientation was positively associated with engaging in more discussions regarding sex with one's partner. The interaction term was negatively associated with this outcome variable. For a visual representation of the interaction please see Figure 4.



*Figure 4:* Interaction effect of conversation and conformity orientation on partner sexual communication.

Coming from a family high in conversation orientation increased the amount of partner sexual communication in which participants engaged, regardless of the level of conformity orientation that exists within their families; however, this effect was much stronger for families with low conformity orientation. Participants who came from families with low conformity but high conversation engaged in substantially more partner

sexual communication than participants who came from families with low conformity and also low conversation.

### **Family communication patterns and sexual beliefs.**

To examine the relationship between family communication patterns and sexual beliefs I first examined the correlations between conversation and conformity orientation and all the individual sexual beliefs. Conversation orientation was significantly associated with 3 of the 21 sexual beliefs in this study and conformity orientation was significantly associated with 6 of them. For a correlation matrix please see Table 56.

Table 56

#### *Correlating Family Communication with Sexual Beliefs*

|   | Conversation | Conformity |
|---|--------------|------------|
| If monogamous, no need for birth control    | -.120*       | .135*      |
| If committed, no need for birth control     | -.181**      | .116*      |
| Pregnancy early in life leads to joy        | .152**       | -.173**    |
| Sex only in missionary position             | ---          | .115*      |
| If committed, sometimes okay to cheat       | ---          | .180*      |
| Okay to have number of partners in lifetime | ---          | -.114*     |

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

Coming from a family with higher conversation orientation was associated with *endorsing* the belief that becoming pregnant early in life can lead to joy and *disagreeing* with the beliefs that as long as one is in a monogamous relationship, or a committed

relationship, one does not need to use birth control. Coming from a family with higher conformity orientation was associated with *endorsing* the beliefs that as long as one is in a monogamous relationship, or a committed relationship, one does not need to use birth control, that one should only have sex in the missionary position and that even if one is in a committed relationship, there are circumstance in which it is okay to have sex with someone else. Coming from a family with higher conformity orientation was associated with *disagreeing* with the belief that becoming pregnant early in life can lead to joy and that it is okay to have a number of sexual partners in one's lifetime.

I then ran regressions using each factor from the sexual beliefs scale (permissive, sex positive, protection and pregnancy) as a dependent variable. The regression equations were significant for sex positive beliefs, protection beliefs and pregnancy beliefs demonstrating support for the notion that family communication patterns impact sexual beliefs. For model summaries please see Table 57.

Table 57

*Model Summaries for Family Communication Patterns and Sexual Beliefs Regressions*

| Dependent variable   | $R^2$ | Adj. $R^2$ | $F(df1,df2)$ |
|----------------------|-------|------------|--------------|
| Permissive beliefs   | .008  | -.002      | .02(1,317)   |
| Sex positive beliefs | .026* | .017*      | 6.45(1,317)  |
| Protection beliefs   | .023* | .016*      | 3.66(2,318)  |
| Pregnancy beliefs    | .025* | .019*      | 4.02(2,318)  |

Note: \*p<.05. \*\* p<.01

To see the beta, t and p values for these regression analyses please see Table 58.

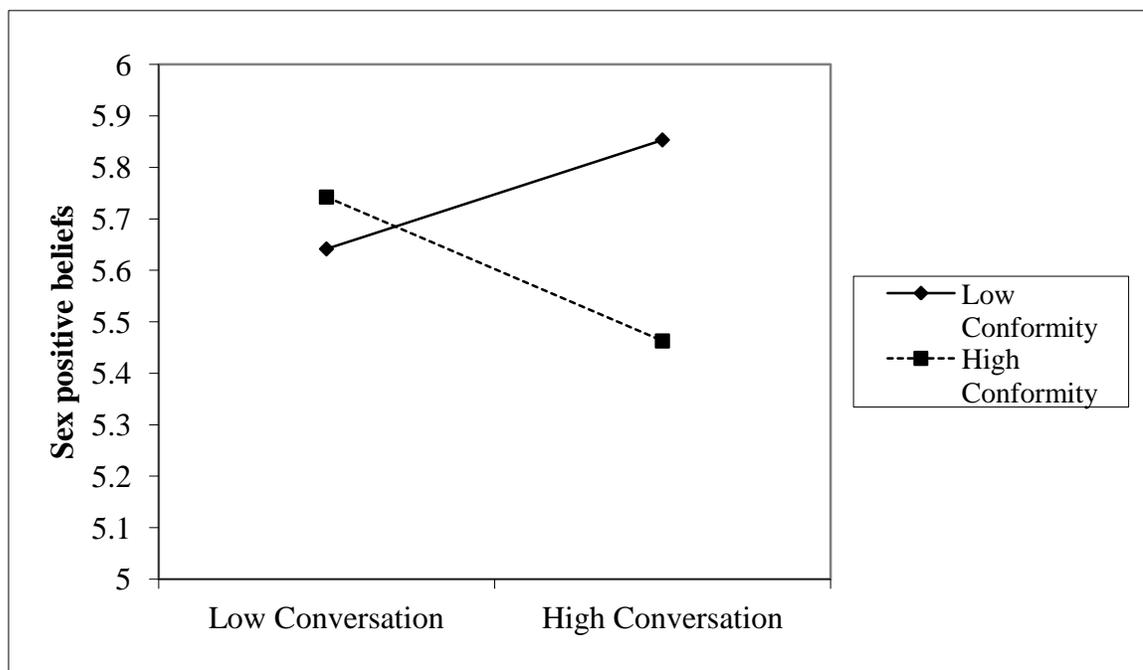
Table 58

*Standardized Betas, t Values and p Values for Family Communication Patterns and Sexual Beliefs Regressions*

| Predictors           | $\beta$ | $t(df)$    | $p$   |
|----------------------|---------|------------|-------|
| Permissive beliefs   |         |            |       |
| Conversation         | -.092   | -1.48(318) | .140  |
| Conformity           | -.012   | -.20(318)  | .844  |
| Interaction          | .008    | .15(317)   | .881  |
| Sex positive beliefs |         |            |       |
| Conversation         | .016    | -.26(318)  | .795  |
| Conformity           | -.073   | -1.19(318) | .234  |
| Interaction          | -.142   | -2.54(317) | .012* |
| Protection beliefs   |         |            |       |
| Conversation         | -.137   | -2.24(318) | .026* |
| Conformity           | .037    | .61(318)   | .545  |
| Interaction          | .078    | 1.39(317)  | .164  |
| Pregnancy beliefs    |         |            |       |
| Conversation         | -.032   | -.53(318)  | .597  |
| Conformity           | .141    | 2.31(318)  | .022* |
| Interaction          | -.025   | -.45(317)  | .655  |

Note: \* $p < .05$

Each of the independent variables accounted for unique variance in a different set of sexual beliefs. Conversation orientation accounted for unique variance in protection beliefs, conformity orientation accounted for unique variance in pregnancy beliefs, and the interaction term accounted for unique variance in sex positive beliefs. Having higher levels of conversation orientation was negatively associated with endorsing the belief that birth control was optional if one is in a romantic relationship, and having higher levels of conformity orientation was positively associated with endorsing the belief that becoming pregnant early in life can negatively impact one's life. The interaction between conversation and conformity was negatively associated with endorsing beliefs that sex is positive and an important part of romantic relationships. For a visual representation of the interaction please see Figure 5.



*Figure 5: Interaction effect of conversation and conformity orientation on sex positive beliefs.*

For families with low conformity orientation, increasing the amount of conversation orientation also increased the degree to which they endorsed sex positive beliefs. For families with high conformity orientation, increasing the amount of conversation orientation decreased the degree to which they endorsed sex positive beliefs.

Due to the variability of beliefs encapsulated in the “sex positive” factor, I felt it important to look at the individual beliefs and the relationships they had with family communication patterns so I ran a regression for each of the seven beliefs in this factor. Higher levels of conformity orientation were positive associated with endorsing the belief that sex is only appropriate in marriage and higher levels of conversation orientation were positively associated with endorsing the belief that sex is an important part of romantic relationships. The interaction term was associated with endorsing the belief that one should only have sex in the missionary position and disagreeing with the belief that sex is an important part of romantic relationships. For visual representations of these interactions please see Figure 6 and Figure 7.

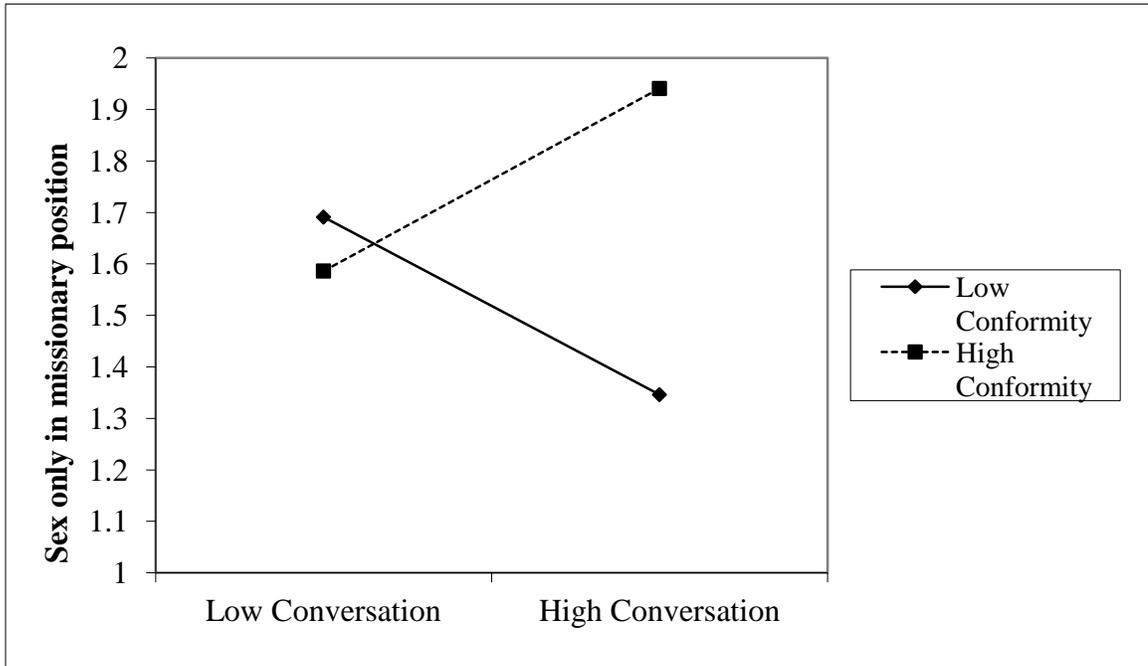
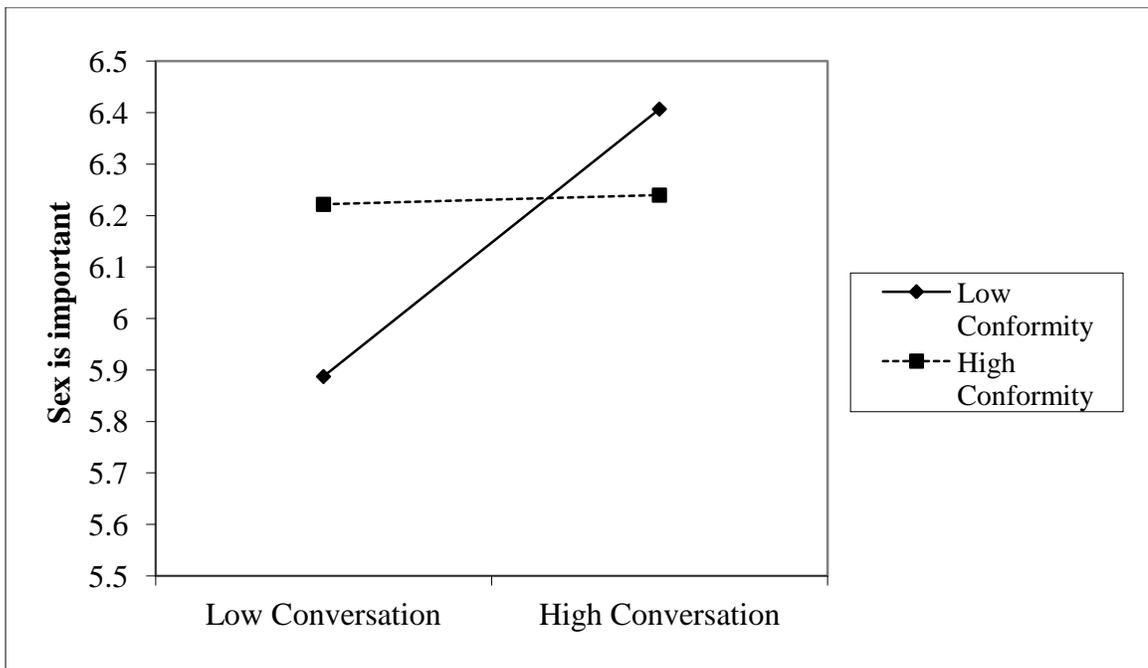


Figure 6: Interaction effect of conversation and conformity orientation on the belief that one should only have sex in the missionary position.



*Figure 7: Interaction effect of conversation and conformity orientation on the belief that sex is an important part of a romantic relationship.*

For families with low conformity orientation, increasing the amount of conversation orientation decreased the degree to which they endorsed the belief that one should only have sex in the missionary position and increased the degree to which they endorsed the belief that sex is an important part of romantic relationships. For families with high conformity orientation, increasing the amount of conversation orientation also increased the degree to which they endorsed the belief that one should only have sex in the missionary position; the change in conversation orientation did not impact the degree to which these participants endorsed the belief that sex is an important part of romantic relationships.

Family communication patterns were not associated with the other four beliefs in the “sex positive” factor.

#### **Family communication patterns and sexual self-efficacy.**

To examine the relationship between family communication patterns and sexual self-efficacy I first checked the correlations between conversation and conformity orientation and sexual self-efficacy. Conversation orientation was positively correlated with this variable ( $r = .178, p = .002$ ) whereas conformity orientation was negatively correlated with this variables ( $r = -.128, p = .024$ ). I then utilized a simultaneous regression analysis to include the interaction term. The regression equation was significant ( $R^2 = .066, \text{adjusted } R^2 = .057, F(1, 305) = 10.18, p = .002$ ) demonstrating

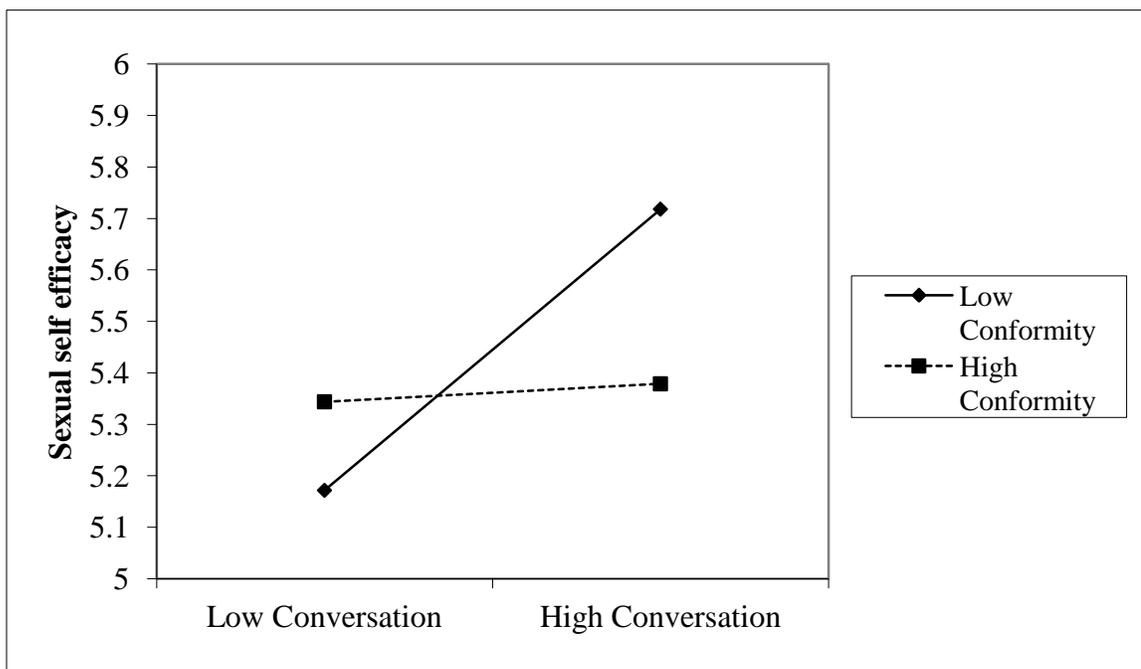
support for the notion that family communication patterns impact sexual self-efficacy. To see the results of the regression analysis please see Table 59.

Table 59

*Standardized Betas, t Values and p Values for Family Communication Patterns and Sexual Self-efficacy Regressions*

| Predictors   | $\beta$ | $t(df)$    | $p$  |
|--------------|---------|------------|------|
| Conversation | .175    | 2.86(306)  | .005 |
| Conformity   | -.050   | -.83(306)  | .410 |
| Interaction  | -.178   | -3.19(305) | .002 |

Independent of the shared variance accounted for, conversation orientation and the interaction between conversation and conformity orientation accounted for unique variance in this outcome. Higher conversation orientation was positively associated with higher sexual self-efficacy. The interaction term was negatively associated with this outcome variable. For a visual representation of the interaction please see Figure 8.



*Figure 8:* Interaction effect of conversation and conformity orientation on sexual self-efficacy.

For participants from families with low conformity orientation, increasing the amount of conversation orientation increased their sexual self-efficacy substantially. For participants from families with high conformity orientation, increasing the amount of conversation orientation did not substantially alter their sexual self-efficacy.

### **Family communication patterns and sexual behavior.**

To examine the associations between family communication patterns and adolescent sexual behavior I ran several sets of analyses.

*Sexual activity status.*

To see if family communication patterns could predict whether or not participants had engaged in oral sex and/or sexual intercourse I utilized logistic regression. None of the regression equations or logistic coefficients were significant indicating that family communication patterns do not impact whether or not participants had engaged in oral sex and/or sexual intercourse.

*Age of sexual initiation and number of sexual partners.*

I ran linear regression analyses to see if family communication patterns could predict age of sexual initiation and the number of sexual partners participants had. The regression equation that used family communication patterns to predict the number of partners from whom participants received oral sex was significant indicating partial support for the notion that such communication impacts the number of sexual partners participants have. For model summaries please see Table 60.

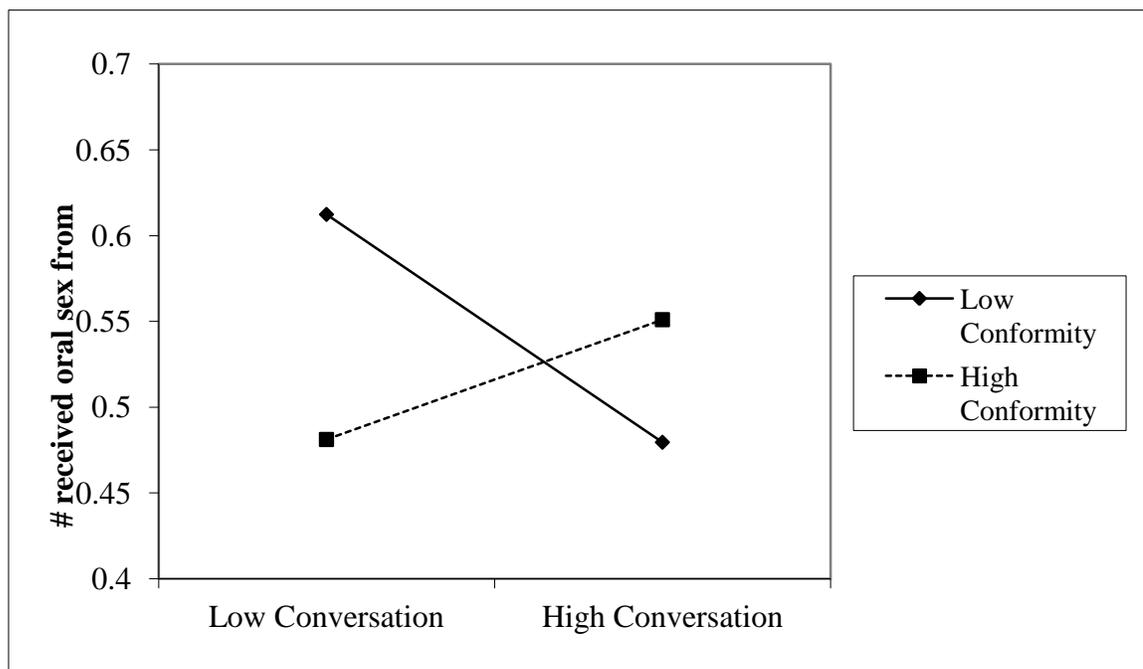
Table 60

*Model Summaries for Family Communication Patterns and Age of Sexual Initiation and Number of Sexual Partners Regressions*

| Dependent variable             | $R^2$ | Adj. $R^2$ | $F(df1,df2)$ |
|--------------------------------|-------|------------|--------------|
| Age received oral              | .005  | -.002      | .72(2,273)   |
| Age gave oral                  | .009  | .002       | 1.30(2,273)  |
| Age sex intercourse            | .016  | .009       | 2.18(2,261)  |
| # oral sex partners (received) | .021* | .010*      | 5.56(1,260)  |
| # oral partners (gave) †       | .014  | .002       | 3.18(1,253)  |
| # sex partners†                | .011  | -.001      | 1.46(1,248)  |

Note: † = reporting model with interaction term though interaction term was not significant. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Independent of the shared variance accounted for, the interaction between conversation and conformity orientation accounted for unique variance in the number of partners from whom participants reported receiving oral sex ( $\beta = .146$ ,  $t(260) = 2.36$ ,  $p = .019$ ). For a visual representation of this interaction please see Figure 9.



*Figure 9:* Interaction effect of conversation and conformity orientation on the number of sexual partners from whom participants received oral sex. A log linear transformation was performed on the dependent variable.

For participants from families with low conformity orientation, increasing the amount of conversation orientation decreased the number of sexual partners from whom they received oral sex. For participants from families with high conformity orientation, increasing the amount of conversation orientation also increased the number of sexual partners from whom they received oral sex.

### *Unconventional sexual behavior.*

I then ran regression analyses to see if family sexual communication could predict the frequency with which participants engaged in unconventional sexual behavior (i.e.

anal sex, group sex, hook ups/one night stands and friends-with-benefits situations). Two of the four regression equations for the dependent variables measuring unconventional sexual behavior were significant with the third equation approaching significance. This demonstrates support for the notion that family communication patterns impacts these sexual outcomes. For model summaries please see Table 61.

Table 61

*Model Summaries for Family Communication Patterns and Unconventional Sexual Behavior Regressions*

| Dependent variable | $R^2$  | Adj. $R^2$ | $F(df1,df2)$ |
|--------------------|--------|------------|--------------|
| Anal sex†          | .000   | -.006      | 1.52(1,312)  |
| Group sex          | .033** | .024**     | 9.91(1,312)  |
| Hook ups           | .021*  | .011*      | 5.64(1,313)  |
| FWB                | .013   | .004       | 3.41(1,312)  |

Note: † = reporting model with interaction term though interaction term was not significant. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

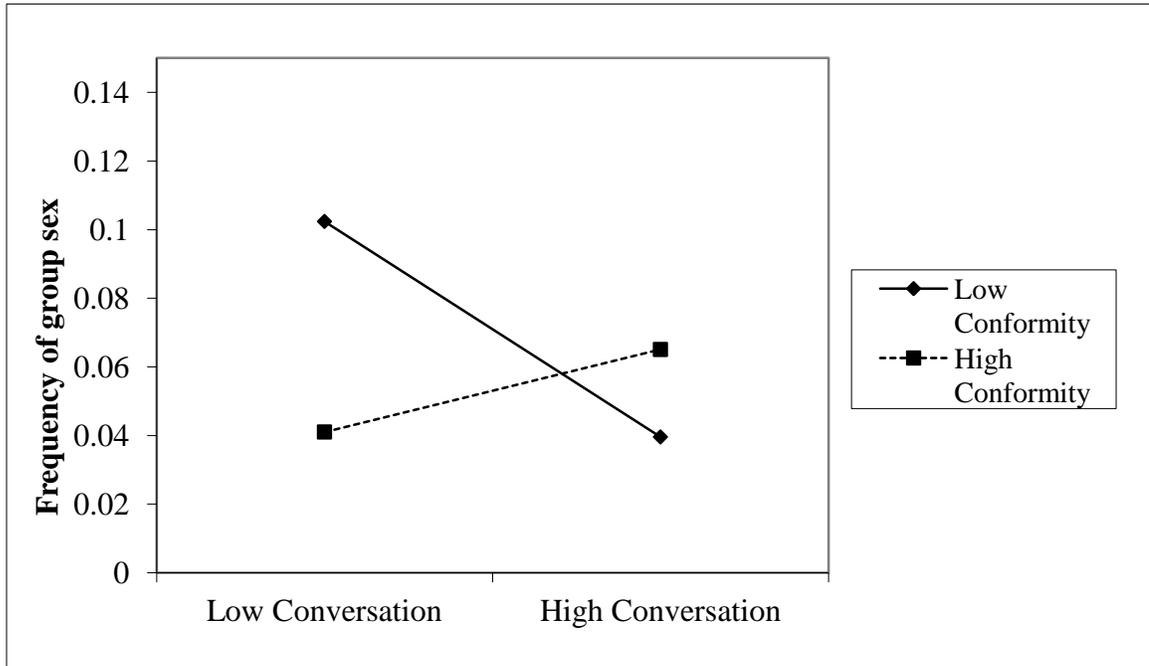
To see the beta, t, and p values please see Tables 62. I only included coefficients if a) the overall regression equation was significant and b) the individual coefficient was also significant.

Table 62

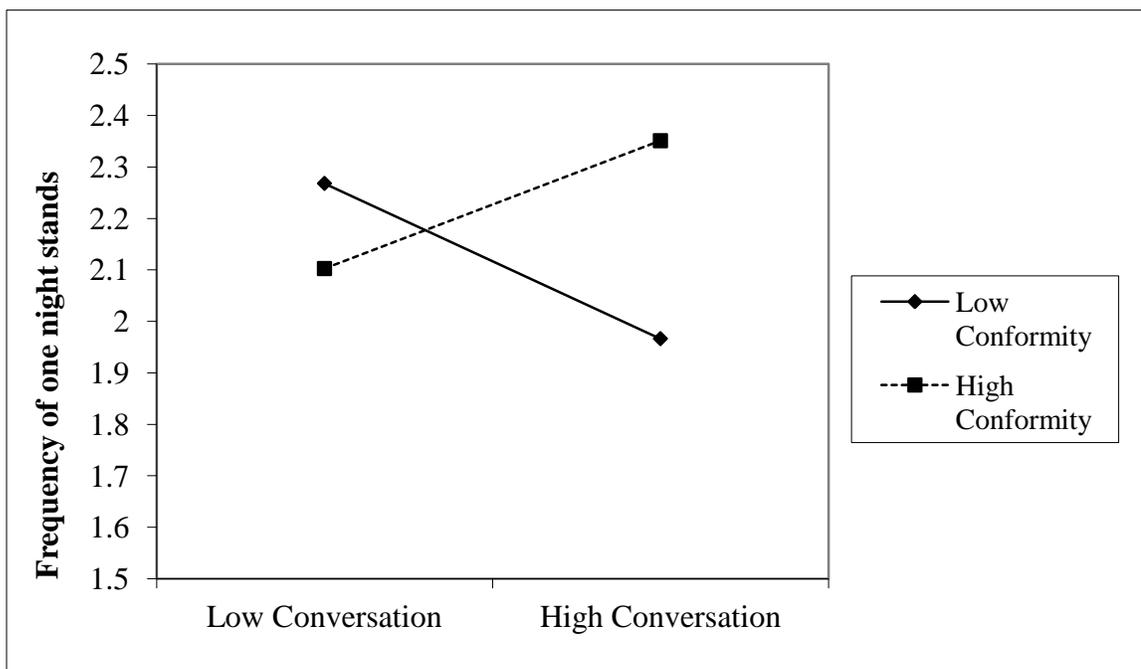
*Significant Standardized Betas, t Values and p Values for Family Communication  
Patterns and Unconventional Sexual Behavior Regressions*

| Predictors              | $\beta$ | $t(df)$                         | $p$  |
|-------------------------|---------|---------------------------------|------|
|                         |         | Frequency group sex             |      |
| Interaction (ConvXConf) | .177    | 3.15(312)                       | .002 |
|                         |         | Frequency hook ups              |      |
| Interaction (ConvXConf) | .134    | 2.38(313)                       | .018 |
|                         |         | Frequency friends-with-benefits |      |
| Interaction (ConvXConf) | .105    | 1.85(312)                       | .066 |

Independent of the shared variance accounted for, the interaction between conversation and conformity orientation accounted for unique variance in the frequency with which participants engage in group sex and hook ups/one night stands. The interaction term also approached significance regarding the frequency with which participants engaged in friends-with-benefits situations. For visual representations of the two significant interactions please see Figure 10 and Figure 11.



*Figure 10:* Interaction effect of conversation and conformity orientation on the frequency with which participants engaged in group sex. A log linear transformation was performed on the dependent variable.



*Figure 11:* Interaction effect of conversation and conformity orientation on the frequency with which participants engaged in hook ups/one night stands. Dependent variable was measured using a four-point scale.

For participants from families with low conformity orientation, increasing the amount of conversation orientation decreased the frequency with which they participated in group sex and hook ups/one night stands. For families with high conformity orientation, increasing the amount of conversation orientation also increased the frequency with which they participated in these unconventional sexual behaviors.

### *Safe sex practices.*

I ran a regression analysis to see if family sexual communication could predict the percentage of the time participants engaged in safe sex. The regression equation for safe

sex practices was significant demonstrating support for the notion that family communication impacts this sexual outcome ( $R^2 = .058$ , adjusted  $R^2 = .051$ ,  $F(2,263) = 8.16$ ,  $p < .001$ ). Independent of the shared variance accounted for, conversation orientation accounted for unique variance in the safe sex practices of the participants ( $\beta = .217$ ,  $t(263) = 3.31$ ,  $p < .001$ ). Participants who reported higher levels of conversation orientation in their families also reported having protected sex a higher percentage of the time.

***STI contraction, infidelity and unplanned pregnancy.***

Finally to see if family communication patterns could predict whether or not participants had been unfaithful to a partner, contracted an STI and/or dealt with an unplanned pregnancy I utilized logistic regression. None of the regression equations or logistic coefficients were significant indicating that family communication patterns do not impact these sexual behavioral outcomes.

***Summary of family communication patterns and sexual behavior.***

Family communication patterns were predictive of the number of partners from whom participants received oral sex and the extent to which participants participated in unconventional sexual behaviors including group sex, hook ups/one night stands, and friends-with-benefits situations. All of these associations were driven by the interaction between conversation and conformity.

Family communication patterns were also predictive of the extent to which participants practiced safe sex and conversation orientation was the driving force behind

this association. Family communication patterns were not predictive of whether or not participants had engaged in oral sex and/or sexual intercourse, the age at which participants began engaging in these behaviors, or whether or not participants had ever contracted an STI, been unfaithful (emotionally or physically) or dealt with an unplanned pregnancy.

### **Testing My Predictions**

#### **Hypotheses.**

I created four hypotheses regarding the effect family communication patterns would have on participants' sexual outcomes. I posed one hypothesis for each family type, detailing my predictions for the partner sexual communication, sexual self-efficacy, sexual beliefs and sexual behavior of the participants from that family type. The findings relevant to these predictions are discussed in the following sections.

#### ***Pluralistic families.***

I predicted that participants from pluralistic families would have high levels of communication with their partners and have high sexual self-efficacy; these predictions were supported. Participants from pluralistic families had the highest level of partner sexual communication and sexual self-efficacy among the family types.

I predicted that the associations between parental and participants' sexual beliefs would not be significant; this prediction was not supported. I correlated participants' permissive, sex positive, protection and pregnancy sexual beliefs with their perception of

their parents' sexual beliefs, and all correlations were significant. In fact, the correlations between parental and participants' sexual beliefs for pluralistic families had the largest coefficients of all the family types ( $r = .637$ ;  $r = .613$ ;  $r = .704$ ,  $r = .604$  respectively).and all p values were less than .001.

For those participants who were sexually active, I predicted that participants from pluralistic families would be in the low-risk sexual behavior group; this prediction was supported. Participants from pluralistic families reported much more consistent safe sex practices than participants from protective and laissez-faire families. They reported fewer oral sex partners than participants from laissez-faire and consensual families, and had the lowest frequency of hook ups/one nights stands. Family type was not predictive of whether or not participants' had ever contracted an STI, been unfaithful to a partner or dealt with an unplanned pregnancy.

Overall  $H_5$  was supported. Participants from pluralistic families reported discussing sex with their partners and having high sexual self-efficacy. Contrary to prediction, these participants also held similar beliefs as their parents and these beliefs were less permissive than beliefs held by participants from other family types. Participants from pluralistic families practiced safe sex and reported engaging in less anal sex and hook ups/one night stands than participants from other family types.

#### *Consensual families.*

I predicted that participants from consensual families would have high levels of communication with their partners. This prediction was supported. Participants from

consensual families had the second highest level of partner sexual communication behind participants from pluralistic families. I also predicted that “offspring from consensual families may have slightly lower sexual self-efficacy than offspring from pluralistic families, but that they would still have higher sexual self-efficacy than offspring from protective and laissez-faire families” (p. 187). This prediction was mostly supported. Participants from consensual families did have the second highest sexual self-efficacy, but it was more than slightly lower than that of participants from pluralistic families. Also, it was not much higher than that of participants from protective families.

I predicted that the associations between parental and participants’ sexual beliefs would be significant and this prediction was supported. I correlated participants’ permissive, sex positive, protection and pregnancy sexual beliefs with their perception of their parents’ sexual beliefs, and all correlations were significant ( $r = .406^{**}$ ;  $r = .337^{*}$ ;  $r = .480^{***}$ ,  $r = .516^{***}$  respectively).

I predicted that consensual families would have the highest proportion of virgins. I created the four family types via a median split and computed the percentage of each group that reported never engaging in sexual intercourse. The consensual family group did have the largest portion of virgins with 20% of participants being virgins. It should be noted, however, that family type was not predictive of whether or not participants were virgins in the regression analyses so this percentage is most likely not significantly different from the percentages in the other family types (laissez-faire = 10%; pluralistic = 17%; protective = 19%).

For those participants who were sexually active, I predicted that participants from consensual families would become sexually active at a later age, but there was no significant difference between the family types in terms of age of sexual initiation. I also predicted that participants from consensual families would be in the low-risk sexual behavior group; whether or not this prediction was supported is a bit unclear. Participants from consensual families reported much more consistent safe sex practices than participants from protective and laissez-faire families; however, these participants also reported receiving oral sex from more partners than participants from protective and pluralistic families and had the highest rates of hook ups/one night stands. Family type was not predictive of whether or not participants' had ever contracted an STI, been unfaithful to a partner or dealt with an unplanned pregnancy.

Overall H<sub>6</sub> was supported. Participants from consensual families report discussing sex with their partners and having high sexual self-efficacy. These participants also hold similar beliefs as their parents and these beliefs are less permissive than beliefs held by participants from other family types. Though these participants report engaging in more oral sex and hook ups/one night stands, they also report practicing safer sex.

***Protective families.***

I predicted that participants from protective families would have lower levels of communication with their partners; this prediction was supported. Participants from protective families had the second lowest level of partner sexual communication. I also predicted that participants from protective families would have low sexual self-efficacy. This prediction was supported in that these participants had the second lowest level of

sexual self-efficacy; however these participants did not report much lower partner sexual communication than participants in the next highest group (consensual families).

I predicted that for adolescents from moderately protective families, the associations between parental and participants' sexual beliefs would be significant and for adolescents from highly protective families, this association would not be significant; this prediction was supported. I created two groups for participants from protective families utilizing a median split based on conformity orientation - high protective and low protective. For participants in the high protective group, none of the correlations between participants' sexual beliefs and parental sexual beliefs were significant. For participants in the low protective group, three of the four correlations were significant (permissive:  $r = .343^{**}$ ; sex positive:  $r = .533^{***}$ ; protection:  $r = .416^{***}$ ).

I predicted that participants from moderately protective families would be in the low-risk sexual behavior group whereas participants from highly protective families would be in the high-risk sexual behavior group. To test this prediction, I ran t-tests to see if there were any significant differences in sexual behavior between my high protective and low protective groups. None of the results were significant indicating that there is not a significant difference in sexual behavior between these groups. When comparing all participants from protective families to participants from other family types, it is difficult to say whether these participants should be categorized as high or low risk. Participants from protective families had received oral sex from fewer partners and had fewer hook ups/one night stands than participants from laissez-faire and consensual families; however, these participants did not practice safe sex as consistently as participants from

consensual and pluralistic families. Family type was not predictive of whether or not participants' had ever contracted an STI, been unfaithful to a partner or dealt with an unplanned pregnancy.

Overall H<sub>7</sub> was supported. Participants from protective families reported fewer discussions about sex with their partner and lower sexual self-efficacy. Participants from moderately protective families held similar beliefs as their parents whereas participants from highly protective families did not. Though these participants reported engaging in less oral sex and hook ups/one night stands, they also reported practicing less safe sex.

*Laissez-faire families.*

I predicted that participants from laissez-faire families would have low levels of partner sexual communication and sexual self-efficacy; these predictions were supported. Participants from laissez-faire families had the lowest levels of partner sexual communication and sexual self-efficacy among the family types.

I predicted that the associations between parental and participants' sexual beliefs would not be significant but that the associations between peer and participants' sexual beliefs would be; this prediction was not supported. All correlations between participants' sexual beliefs and parental sexual beliefs were significant (permissive:  $r = .379^{**}$ ; sex positive:  $r = .583^{***}$ ; protection:  $r = .451^{***}$ ; pregnancy:  $r = .409^{**}$ ) whereas no correlations between participants' sexual beliefs and their perceptions of their peers' sexual beliefs were significant. It is also interesting to note that for consensual families, no correlations between participants' and peers' sexual beliefs were significant but half

the correlations were significant in pluralistic families and three-quarters of the correlations were significant in protective families. I will comment on this in Chapter 7.

For those participants who were sexually active, I predicted that participants from laissez-faire families would be in the high-risk sexual behavior group; this prediction was supported. Participants from laissez-faire families reported less consistent safe sex than participants from pluralistic and consensual families. They received oral sex from more partners and participated in substantially more group sex than participants from the other three family types. They also had the second highest rate of hook ups/one night stands. Family type was not predictive of whether or not participants' had ever contracted an STI, been unfaithful to a partner or dealt with an unplanned pregnancy.

Overall H<sub>8</sub> was supported. Participants from laissez-faire families reported the lowest levels of partner sexual communication and sexual self-efficacy and engaged in the most risky sexual behaviors. Contrary to prediction, these participants hold similar beliefs as their parents but not as their peers.

### **Research questions.**

The first research question I posed was whether or not there was a correlation between pluralistic family communication patterns and the age of sexual initiation and/or abstinence. The answer, for this data set at least, is no. Family communication patterns were not significantly associated with age of sexual initiation or whether or not participants had engaged in oral sex or sexual intercourse.

The second research question I posed was: in what ways do virgins and non-virgins differ significantly? To test this I ran t-tests to see if there were differences between these groups regarding their partner sexual communication, sexual self-efficacy, and sexual beliefs. For this analysis I defined virgins as those who had not engaged in sexual intercourse, so I also tested to see if there was a difference in oral sex behavior between these two groups. Finally, I tested for differences in their parents' sexual beliefs, their peers' sexual beliefs, or differences in the demographic variables I measured (e.g. age, gender, living situation, and religion). To see the results of the t-tests please see Table 63.

Table 63

*T-Test Results: Differences Between Virgins and Non-Virgins*

| Outcome                           | <i>t(df)</i>   | <i>p</i> < |
|-----------------------------------|----------------|------------|
| Sex positive beliefs              | -6.897(63.70)  | .001       |
| Permissive beliefs                | -4.820(75.45)  | .001       |
| Ever received oral sex (Y/N)      | -7.263(57.82)  | .001       |
| Ever given oral sex (Y/N)         | -7.469(57.62)  | .001       |
| Age received oral sex             | 3.903(29.18)   | .002       |
| Age gave oral sex                 | 4.737(29.56)   | .001       |
| # partners received oral sex from | -5.670(27.39)  | .001       |
| # partners gave oral sex to       | -5.431(23.71)  | .001       |
| Parents' sex positive beliefs     | -4.758(81.47)  | .001       |
| Parents' protection beliefs       | 3.748(71.17)   | .001       |
| Age                               | -4.610(108.91) | .001       |
| Religiosity                       | 4.956(74.32)   | .001       |

Virgins held less sex positive and permissive beliefs than non-virgins. Virgins were less likely to have received or given oral sex to a partner than non-virgins, began engaging in oral sex at a later age and had fewer partners than non-virgins. Virgins perceived their parents to have less sex positive beliefs than non-virgins, but also perceived their parents to believe that protection is optional in romantic relationships to a greater extent than non-virgins. Virgins were younger and more religious than non-virgins.

### **Exploring the Interaction Between Family Sex Comm and Family Comm Patterns**

Both family sexual communication and family communication patterns have been shown to be predictive of adolescents' and emerging adults' sexual outcomes. I wanted to briefly explore whether or not these two types of communication interacted with each other in any meaningful ways. Because the content of family sexual communication proved to be the most consistent and strong predictor of sexual outcomes in this study, I wanted to see if the level of conversation orientation in one's family interacted with the content of the sexual messages within the family. Put another way, does having a higher level of conversation amplify the effect that sexual messages have on adolescents' and emerging adults' sexual outcomes?

#### **Interaction Results**

To investigate this post hoc research question I computed interaction terms for conversation orientation and restrictive content as well as for conversation orientation and permissive content (these variables were mean-centered). I then ran regressions on all of my sexual outcome variables utilizing these interaction terms; eleven interactions were significant. For model summaries and coefficient information for the significant interaction regressions please see Tables 64 and 65.

Table 64

*Model Summaries for Content and Conversation Interaction Regressions*

| Dependent variable               | $R^2$   | Adj. $R^2$ | $F(df1, df2)$ |
|----------------------------------|---------|------------|---------------|
| restrictiveXconversation         |         |            |               |
| Age gave oral sex                | .030*   | .019*      | 5.19(1,262)   |
| Age had sexual intercourse       | .033*   | .022*      | 6.63(1,251)   |
| # of sexual intercourse partners | .062*   | .051*      | 3.94(1,240)   |
| Sex positive beliefs             | .119*   | .110*      | 5.68(1,305)   |
| permissiveXconversation          |         |            |               |
| Age received oral sex            | .045**  | .034**     | 7.18(1,259)   |
| # partners gave oral sex to      | .050*   | .038*      | 3.90(1,237)   |
| Group sex                        | .066*   | .056*      | 4.25(1,293)   |
| Hook ups                         | .090**  | .081**     | 9.47(1,294)   |
| FWB                              | .100**  | .091**     | 6.89(1,293)   |
| Permissive sexual beliefs        | .132*   | .123*      | 5.22(1,297)   |
| Emotionally unfaithful†          | 399.51* | .044*      | 9.96(3)       |

Note: † = logistic regression therefore first statistic is log likelihood, second is Nagelkerke  $R^2$  and third is  $\chi^2$ . \* $p < .05$ . \*\*  $p < .01$ . \*\*\* $p < .001$ .

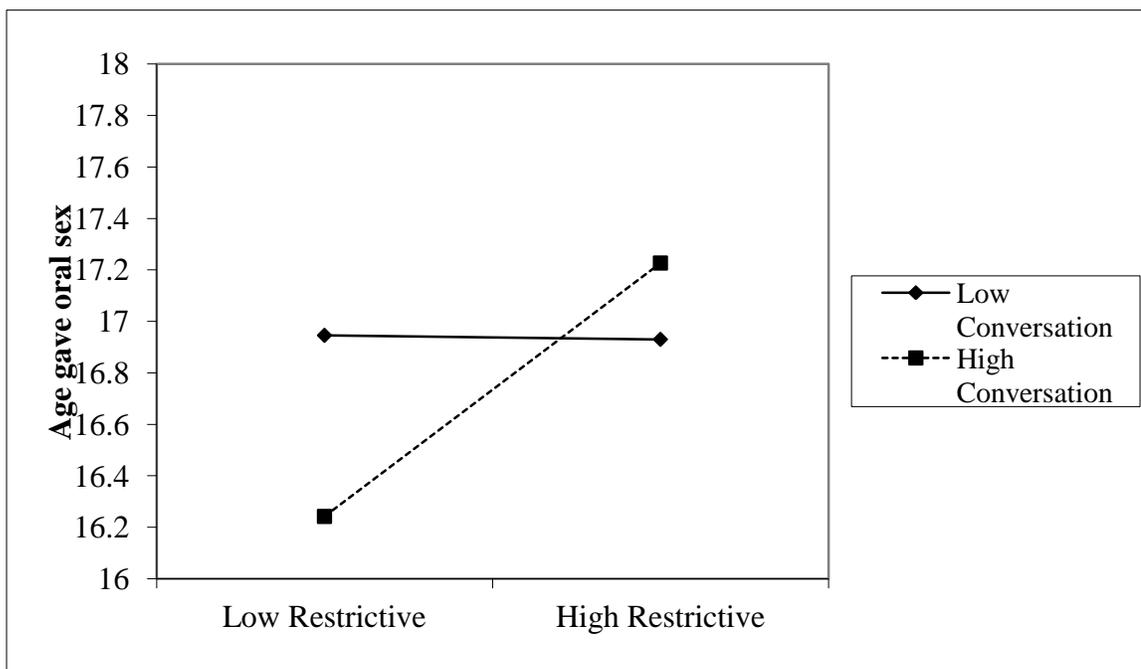
Table 65

*Significant Standardized Betas, t Values and p Values for the Interaction Between Content and Conversation Regressions*

| Outcome                       | $\beta$ | $t(df)$                  | $p$  |
|-------------------------------|---------|--------------------------|------|
|                               |         | restrictiveXconversation |      |
| Age gave oral sex             | .141    | 2.28(262)                | .024 |
| Age had sexual intercourse    | .163    | 2.56(251)                | .011 |
| # sexual intercourse partners | -.126   | -1.99(240)               | .048 |
| Sex positive beliefs          | -.130   | -2.38(305)               | .018 |
|                               |         | PermissiveXconversation  |      |
| Age received oral sex         | -.163   | -2.68(259)               | .008 |
| # partners gave oral sex to   | .126    | 1.98(237)                | .049 |
| Group sex                     | .117    | 2.06(293)                | .040 |
| Hook ups                      | .172    | 3.08(294)                | .002 |
| FWB                           | .146    | 2.63(293)                | .009 |
| Permissive sex beliefs        | .124    | 2.29(297)                | .023 |
| Emotionally unfaithful†       | .187    | 5.46(1)                  | .019 |

Note: † = logistic regression thus the first statistic is  $B$ , the next is  $Wald \chi^2(df)$  and the final is the  $p$  value.

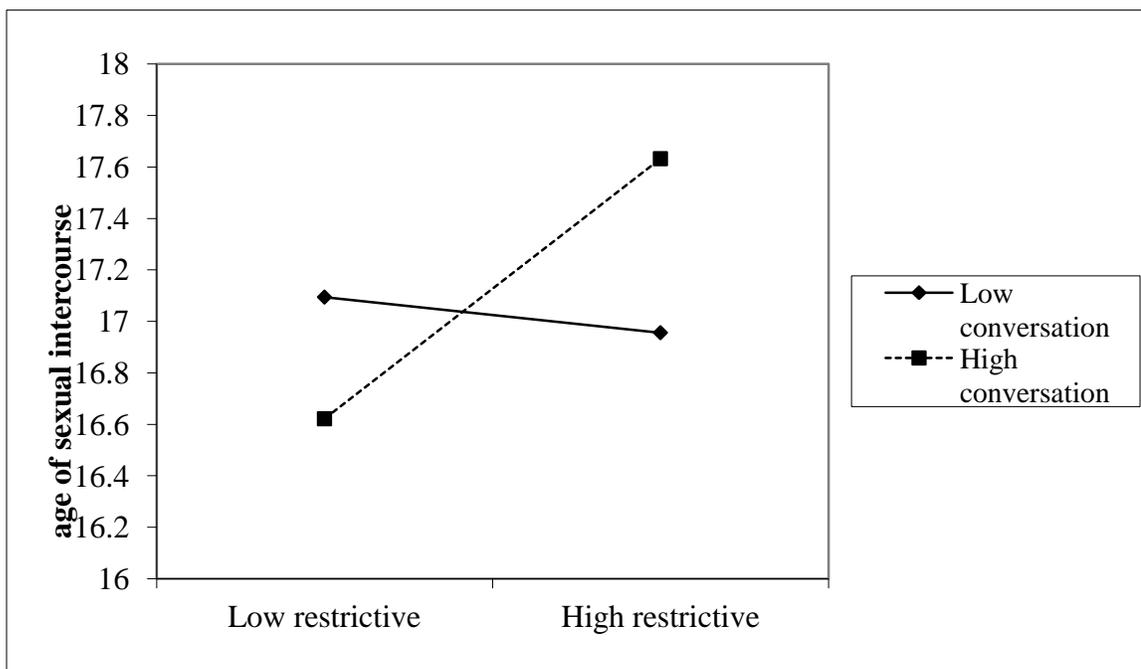
The interaction between *restrictive* sexual messages and conversation orientation was *positively* associated with the age at which participants began giving oral sex. For a visual representation of this interaction please see Figure 12.



*Figure 12:* Interaction effect of conversation orientation and restrictive messages on the age at which participants began giving oral sex.

For participants from families with low conversation orientation, the degree to which parental messages about sex were restrictive did not alter the age at which they began giving oral sex to their partners; however, for participants from families with high conversation orientation, the more restrictive parental messages about sex were, the later in life they began giving oral sex to their partners.

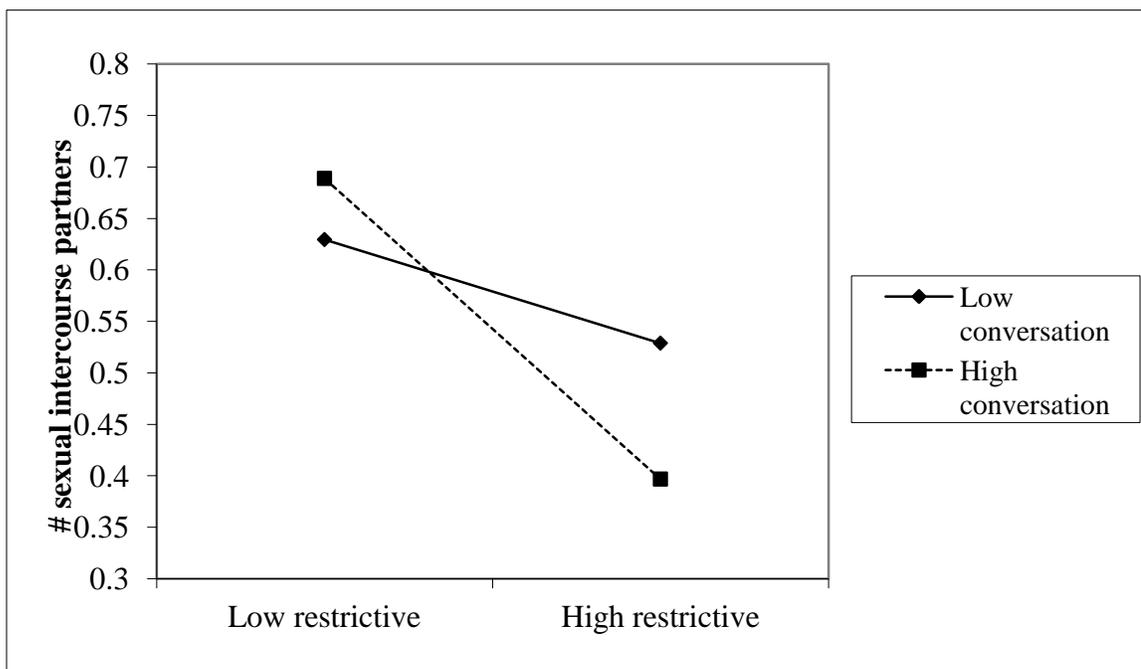
The interaction between *restrictive* sexual messages and conversation orientation was *positively* associated with the age at which participants began having sexual intercourse. For a visual representation of this interaction please see Figure 13.



*Figure 13:* Interaction effect of conversation orientation and restrictive messages on the age at which participants began having sexual intercourse.

For participants from families with high conversation orientation, the more restrictive parental messages about sex were, the later in life they began having sexual intercourse. For participants from families with low conversation orientation, more restrictive sexual messages from parents were actually associated with a slight decrease in the age at which participants began having sexual intercourse.

The interaction between *restrictive* sexual messages and conversation orientation was *negatively* associated with the number of sex partners participants reported having. For a visual representation of this interaction please see Figure 14.



*Figure 14:* Interaction effect of conversation orientation and restrictive messages on the number of partners with whom participants had engaged in sexual intercourse. A log linear transformation was performed on the dependent variable.

For participants from families with high conversation orientation, the more restrictive parental messages about sex were, the fewer sexual intercourse partners these participants reported having. Restrictive messages had the same effect on number of sexual partners for participants from families with low conversation orientation but the effect was substantially smaller.

The interaction between *restrictive* sexual messages and conversation orientation was *negatively* associated with the sex positive beliefs of the participants. For a visual representation of this interaction please see Figure 15.

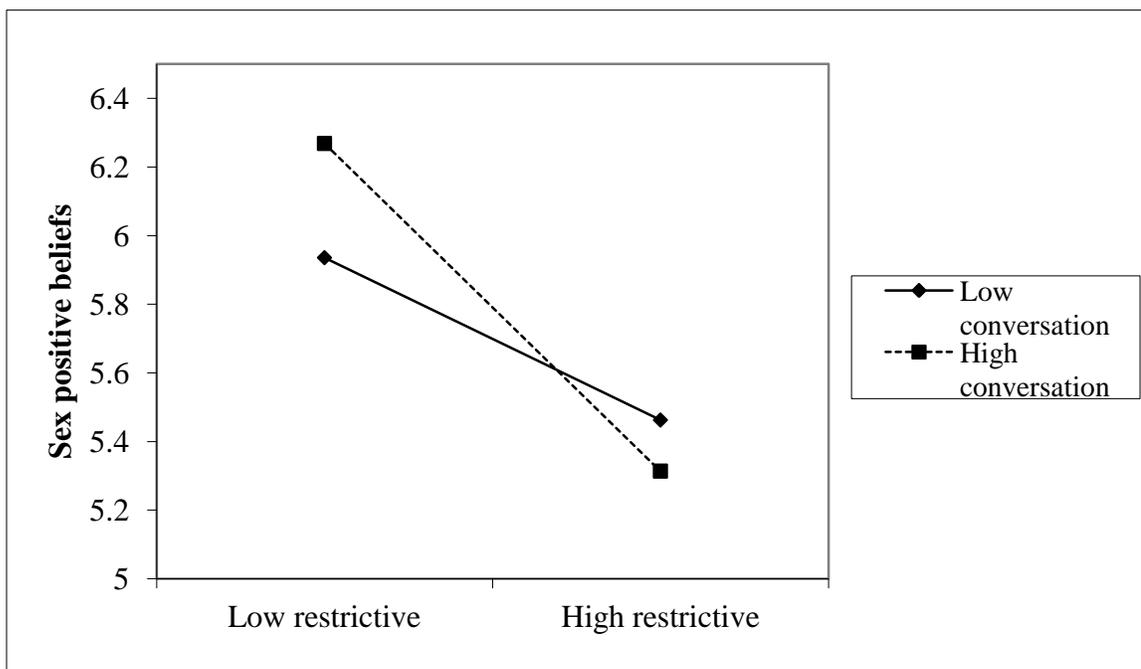


Figure 15: Interaction effect of conversation orientation and restrictive messages on sex positive beliefs.

In this interaction, again, high conversation orientation amplifies the negative effect that restrictive messages have on the sex positive beliefs of the participants.

The interaction between *permissive* sexual messages and conversation orientation was *positively* associated with the number of sexual partners to whom participants had given oral sex. For a visual representation of this interaction please see Figure 16.

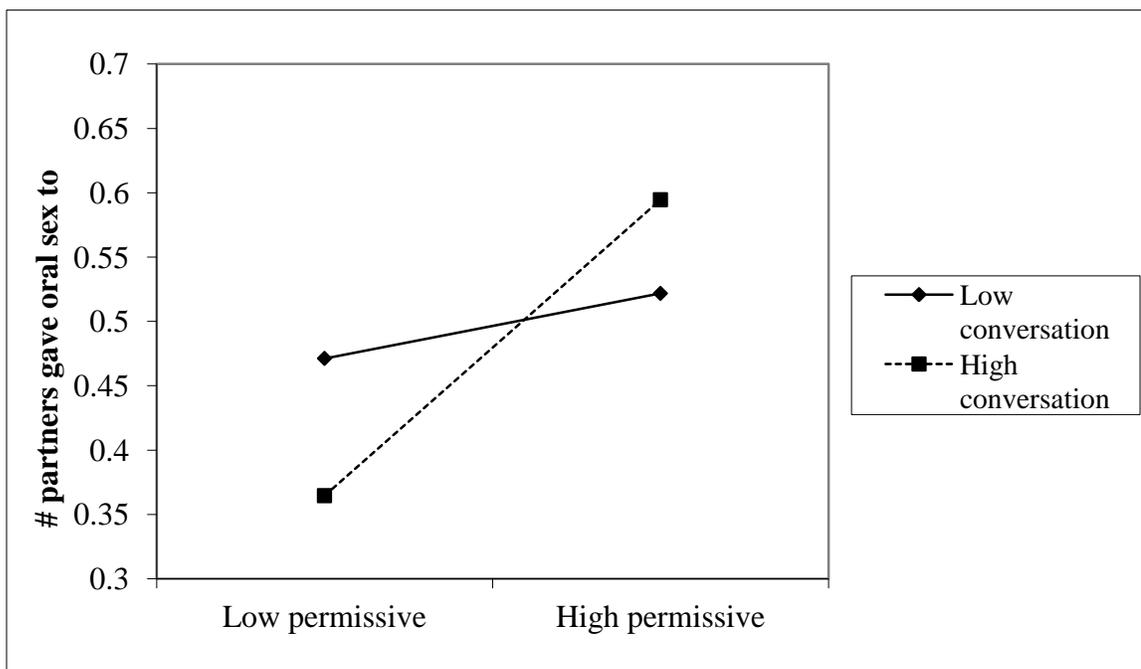
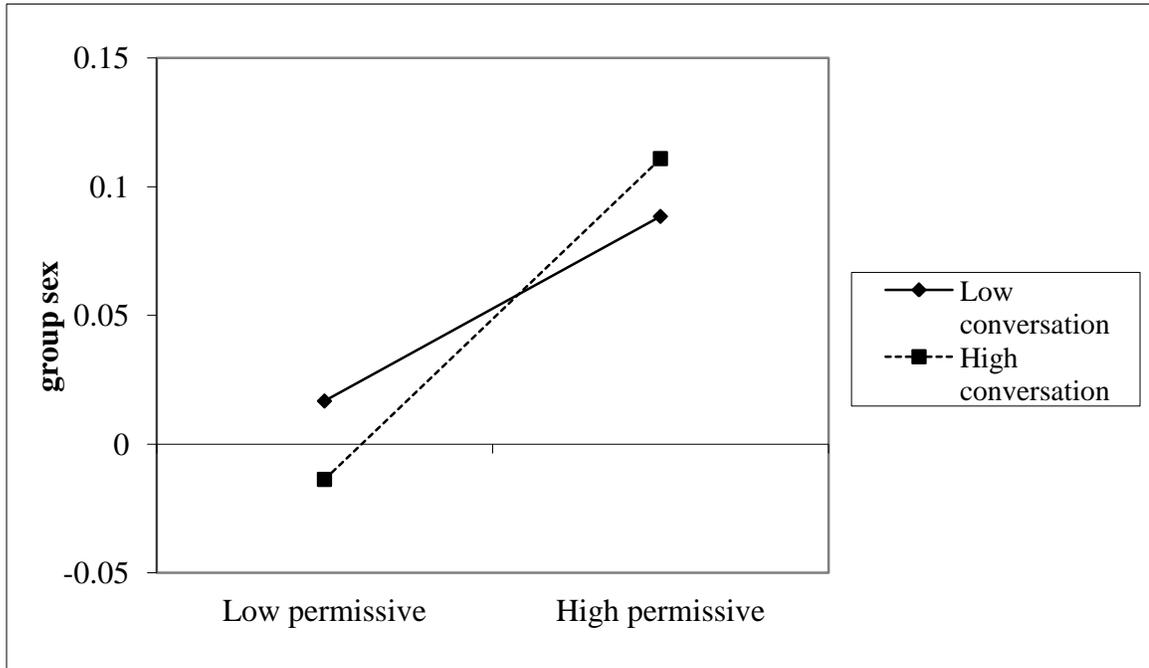


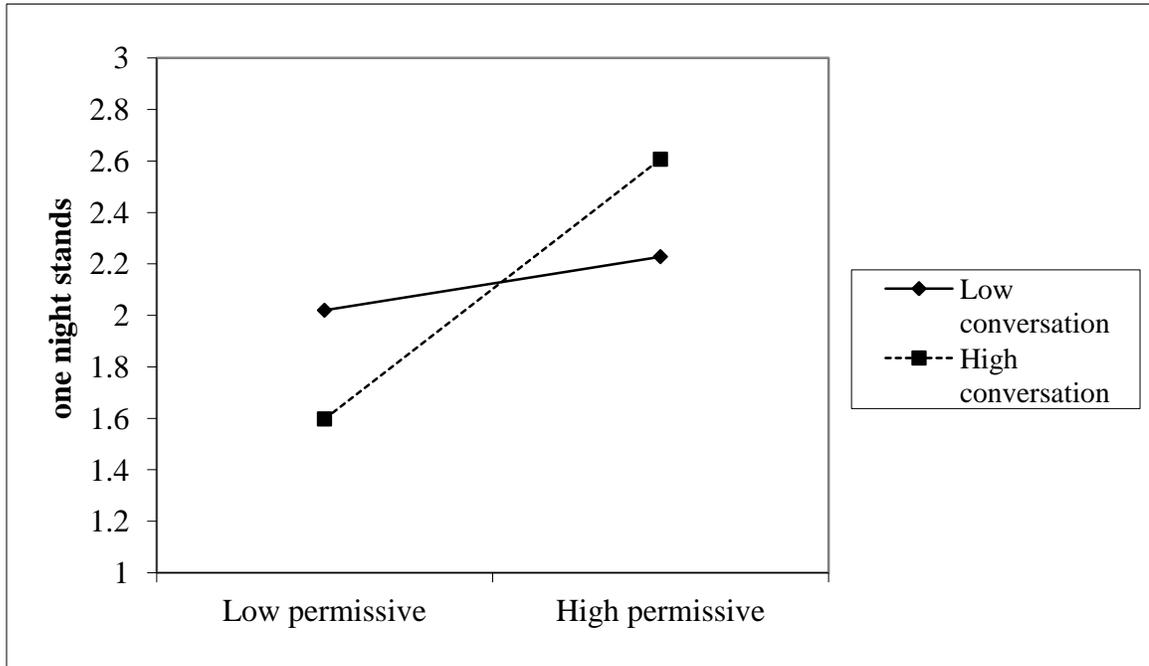
Figure 16: Interaction effect of conversation orientation and permissive messages on the number of partners to whom participants had given oral sex.

This interaction demonstrates that high conversation orientation amplifies the effect that permissive messages have on the number of partners participants' to whom participants had given oral sex. More permissive messages were associated with giving oral sex to more partners, and the effect was much stronger for participants whose families had high conversation orientation.

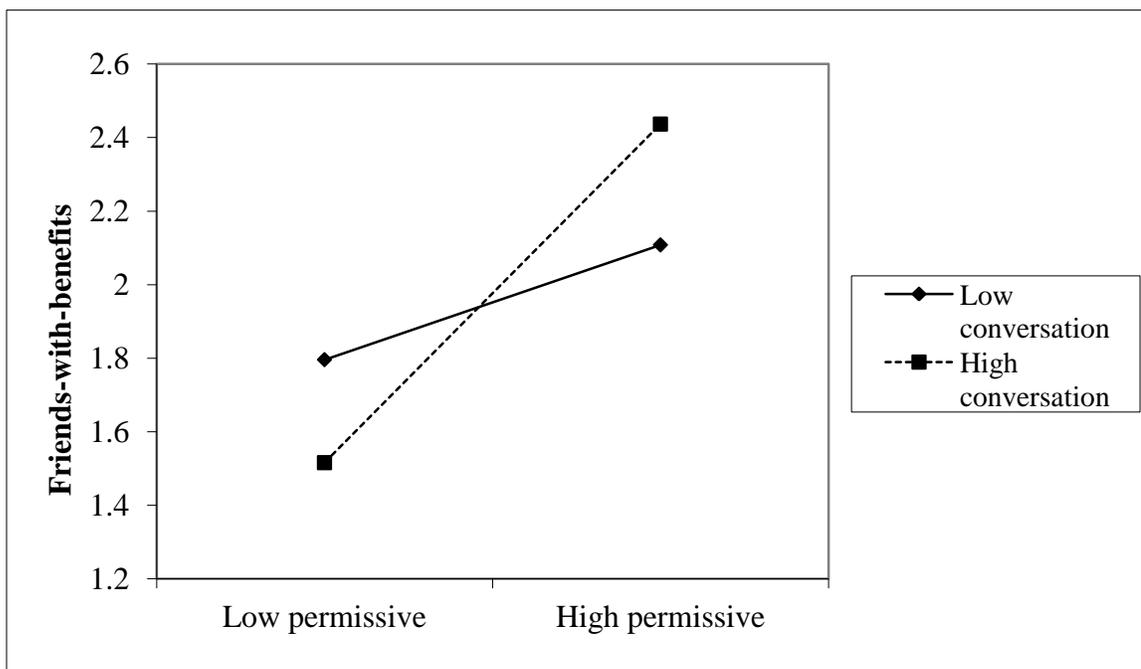
The interaction between *permissive* sexual messages and conversation orientation was *positively* associated the frequency with which participants engaged in group sex, hook ups/one night stands and friends-with-benefits situations. To see visual representations of these interactions please see Figures 17 through 19.



*Figure 17:* Interaction effect of conversation orientation and permissive messages on the extent to which participants engaged in group sex. A log linear transformation was performed on the dependent variable.



*Figure 18:* Interaction effect of conversation orientation and permissive messages on the extent to which participants engaged in hook ups/one night stands. Frequency of one night stands was measured on a four-point scale.



*Figure 19:* Interaction effect of conversation orientation and permissive messages on the extent to which participants engaged in friends-with-benefits situations. Frequency of friends-with-benefits situations was measured on a four-point scale.

These three interactions demonstrate that high conversation orientation amplifies the effect that permissive messages have on the unconventional sexual behavior of the participants. In all three cases more permissive messages were associated with more instances of unconventional sexual behavior but the effect was much stronger for participants whose families had high conversation orientation.

The interaction between *permissive* sexual messages and conversation orientation was *positively* associated with whether or not participants had been emotionally unfaithful to a partner. For a visual representation of this interaction please see Figure 20.

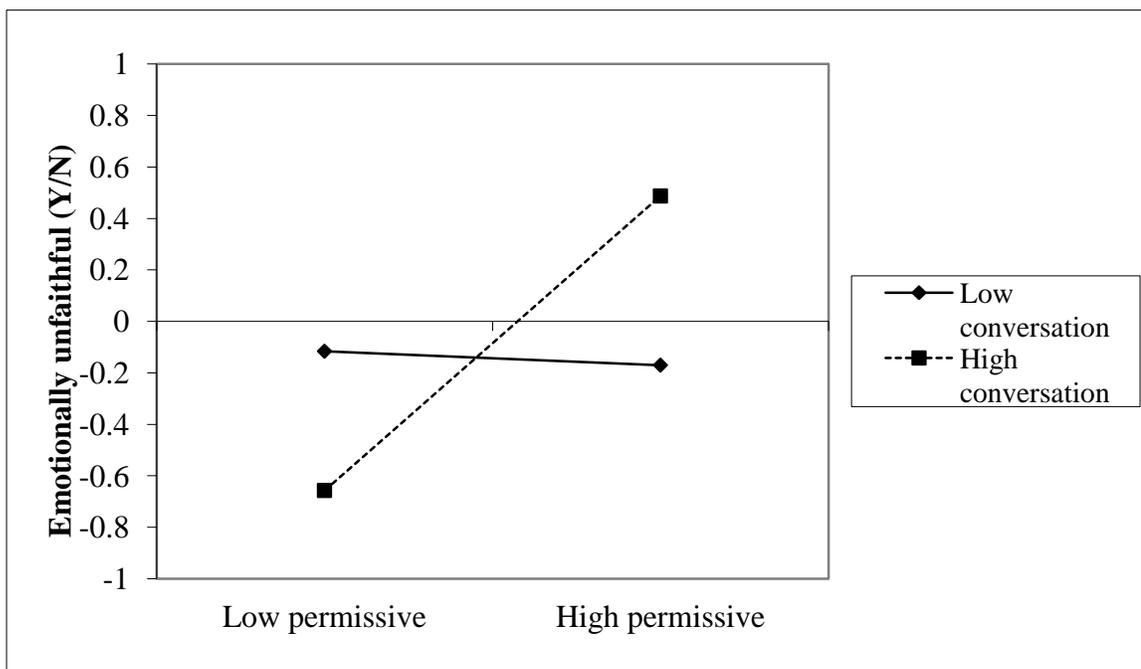


Figure 20: Interaction effect of conversation orientation and permissive messages on the likelihood that participants had been emotionally unfaithful to a partner. Dependent variable is a dichotomy: yes/no.

For participants from families with high conversation orientation, receiving more permissive sexual messages from parents was associated with being more likely to have been emotionally unfaithful to a partner. The level of permissiveness in parental messages did not affect the likelihood of being emotionally unfaithful for participants from low conversation families.

The interaction between *permissive* sexual messages and conversation orientation was *positively* associated with participants' permissive sexual beliefs. For a visual representation of this interaction please see Figure 21.

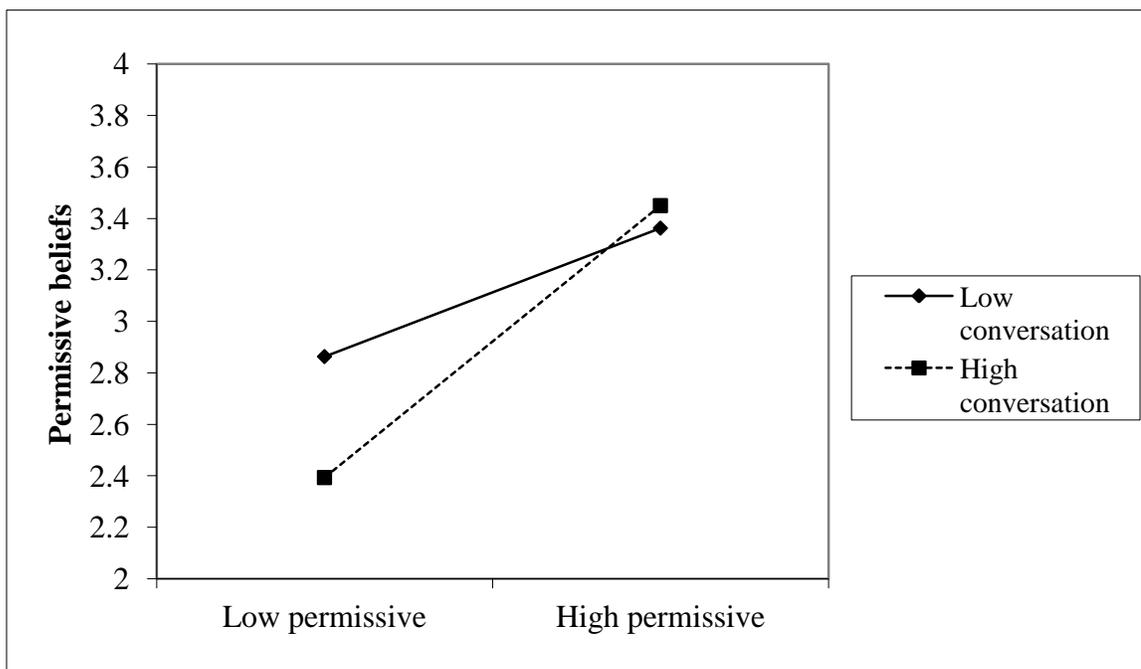
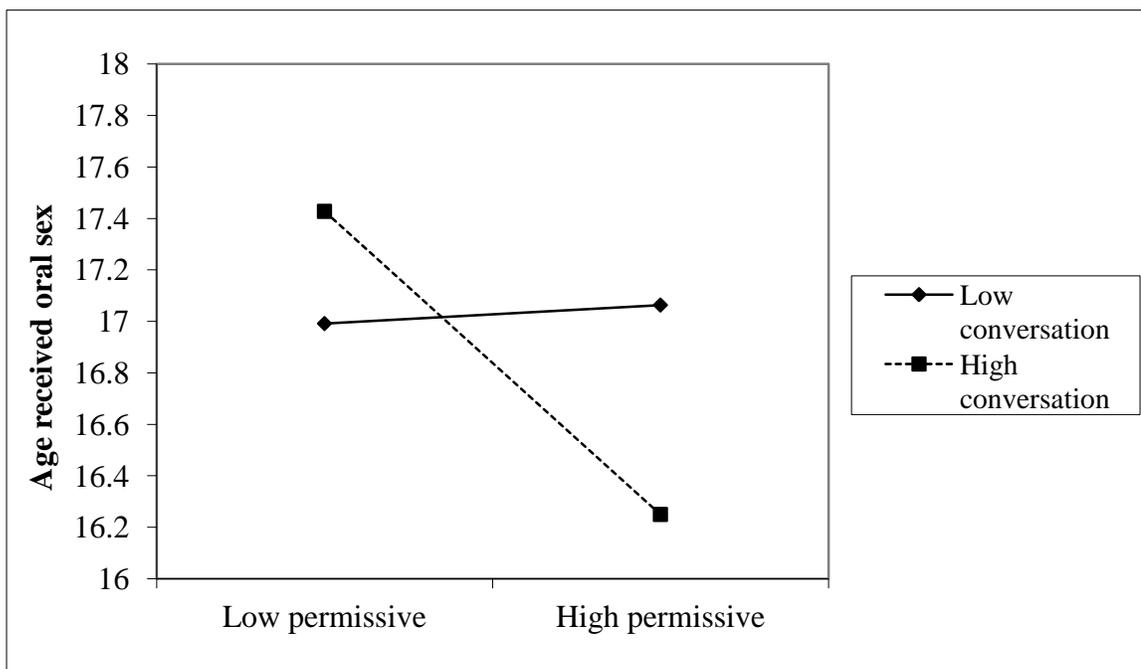


Figure 21: Interaction effect of conversation orientation and permissive messages on permissive beliefs.

This interaction demonstrates that high conversation orientation amplifies the effect that permissive messages have on permissive sexual beliefs of the participants. More permissive messages were associated with more permissive beliefs and the effect was much stronger for participants whose families had high conversation orientation.

Finally, the interaction between *permissive* sexual messages and conversation orientation was *negatively* associated with the age at which participants first received oral sex. For a visual representation of this interaction please see Figure 22.



*Figure 22:* Interaction effect of conversation orientation and permissive messages on the age at which participants began receiving oral sex.

For participants from families with high conversation orientation, more permissive messages were associated with receiving oral sex at a younger age. The degree of permissiveness in parental sexual messages did not impact the age of receiving oral sex for participants from low conversation families.

### **Interaction Summary**

Most of the interactions demonstrated support for the notion that the higher the conversation orientation within a family, the stronger the effect that parental sexual messages have on adolescents' and emerging adults' sexual beliefs and behavior. Having higher conversation orientation amplified the negative association between restrictive messages and participants' sex positive beliefs and the number of sexual partners participants had. Having higher conversation orientation also amplified the positive

association between permissive messages and the number of partners to whom participants had given oral sex, participants' permissive sexual beliefs and the frequency with which participants engaged in group sex, hook ups/one night stands and friend-with-benefits situation.

In some cases the interaction demonstrated that while there was no association between the content of family sexual communication and sexual behavior for participants from families with low conversation orientation, there was a significant association between content and sexual behavior if the participants were from families with high conversation orientation. This was the case for the positive association between restrictive messages and the age at which participants first gave oral sex to a partner, the negative association between permissive messages and the age at which participants first received oral sex from a partner, and the positive association between permissive messages and the likelihood that participants had been emotionally unfaithful to a partner.

There was one case where the interaction created opposite effects for high and low conversation orientation. In terms of the age at which participants began having sexual intercourse, participants from families with high conversation orientation who received restrictive messages began engaging in sexual intercourse later whereas participants from families with low conversation orientation who received restrictive messages began engaging in sexual intercourse at a slightly younger age.

## Chapter 7

### Discussion

As has been stated throughout this paper, the literature regarding how general family communication and family sexual communication impact adolescents' and emerging adults' sexual outcomes is fraught with inconsistent, and sometimes contradictory, results. My hope was that the results of my study would help determine whether poor conceptualization and operationalization of family sexual communication and/or a lack of theoretical framework play a role in these inconsistent findings. The answer seems to be yes.

In this chapter I will examine the most important insights that can be gleaned from this project. I conclude with recommendations for parents regarding how they can tailor their family communication patterns and family sexual communication to increase the likelihood that such communication serves a protective function against sexual risk-taking and helps their adolescents and emerging adult children develop their sexual self-efficacy, partner sexual communication skills, and sexual beliefs.

### **The Need for a New Definition of Family Sexual Communication**

#### **Clarity of Conceptualizations**

As has been shown, different aspects of family sexual communication can impact different sexual outcomes or can impact the same sexual outcome in different ways. Having a clear conceptual definition of what exactly "family sexual communication" means in the context of a specific study will help us make sure we are making accurate

claims about this construct. Explicitly laying out what we mean gives the reader the information needed to critique how well the operationalization of this construct matches the conceptualization and allows the reader to make more accurate comparisons across different studies that look at the same construct.

If I make it clear that I am conceptualizing family sexual communication in terms of messages about sexual risk, then the reader will know that the results of this study will not be an apples-to-apples comparison to a study that conceptualizes family sexual communication in terms of the frequency with which parents discuss an array of sexual topics such as development, dating/relationship, and behavior with their offspring. As has been shown in this study, those two types of family sexual communication do not impact sexual outcomes in the same way, so being up front about our conceptualizations will help readers organize and systematically process the literature in this field and should help minimize some of the confusion about how family sexual communication relates to adolescents' and emerging adults' sexual outcomes.

### **Shift in Operationalizations**

#### **From frequency to content.**

It is very important to note that had I only measured frequency, as the vast majority of researchers in the field do, I would have made some grave misinterpretations of how family sexual communication impacts sexual outcomes. Most of the significant associations between the frequency of family sexual communication and participants' sexual behavior seemed to point to an adverse effect of such communication on sexual

behavior. Having more conversations with parents about sexual pleasure was associated with having been physically unfaithful to a partner and having experienced an unplanned pregnancy. Having more conversations with parents about sexual risk was associated with a higher likelihood of participating in a friends-with-benefits relationship and with having engaged in sexual intercourse.

Had I only measured frequency of family sexual communication, I could conclude that parents should not talk with their offspring about sex because it can lead to sexual activity and sexual risk-taking; however, *the clearest result from this study is that restrictive sexual messages serve a protective function against sexual activity and sexual risk-taking*. Not talking to one's offspring about sex is not the answer. The answer is for parents to be clear about the sexual messages they send and for researchers to reoperationalize the construct of family sexual communication to focus on these specific messages as opposed to the extent or frequency of such communication.

This reconceptualization is one of the most important insights from this study. Wright (2009) hypothesized that “It is possible that inquiries that assess specifically the messages [parents] send might yield more consistent results than measures that assess more globally the extent of [family sexual communication] across topics” (p. 244). This study fully supports this hypothesis. As this study has shown, message content was strongly and consistently associated with participants' sexual outcomes whereas frequency and quality were not as predictive; the exact results will be summarized the “FSCS” section of this chapter.

The findings regarding the frequency and quality of family sexual communication were not as consistent as the findings regarding message content, nor were many of the findings as easy to interpret. For example, engaging in more frequent discussions about sensitive sexual topics with parents was positively associated with being a virgin, but engaging in more frequent discussions about sexual risk with parents was negatively associated with being a virgin. This means that discussing topics such as abortion, rape, sexual development and sexual orientation was associated with being a virgin but discussing topics that included STDs, HIV/AIDS, condom use and unplanned pregnancy was associated with not being a virgin. I could make an argument for why discussing sexual pleasure topics would have a different impact than sensitive sexual topics would on sexual activity status, but a clear argument for the distinction between risk and sensitive topics is not as readily available.

Also, in the individual regression analyses regarding friends-with-benefits situations, the frequency of sexual risk discussions was positively associated with the extent to which participants engaged in this behavior which seems counterintuitive. Then looking at the quality of family sexual communication, engaging in higher quality discussions about sexual risk with parents was negatively associated with contracting an STI whereas engaging in higher quality discussions about sensitive sexual topics with parents was positively associated with contracting an STI. These are a few examples that demonstrate how using the frequency and/or quality of family sexual communication as the sole operationalization of family sexual communication can create confusion and mixed results and interpretations within the field.

The fact that message content is a more specific construct than frequency contributes to the consistency, and interpretability, of results for multiple reasons. I have already discussed how specificity allows for more homogenous groups to be created within the data. Another way this specificity may help create consistent results is because it may be easier for participants to report on specific messages as opposed to more ambiguous and global topics. Most of the time, the parental reports about family sexual communication are not congruent with the offspring's' reports of the same phenomenon. This could be an issue involving several cognitive processes including focusing and attention (hearing but not really listening to the conversation), storage (not remembering the conversation) and/or retrieval (not being properly primed to recall the conversation). As a researcher there is not much we can do to enhance the focusing and attention or storage of family sexual communication, but we can enhance the retrieval of these conversations.

It may be enough for parents to look at a list of sexual topics and retrieve, and thus report on, the conversations they have had with their offspring about each topic; but perhaps it is not enough to trigger retrieval of these conversations for the offspring. If adolescents and emerging adults are asked how much information their parents have given them about condoms, it may not trigger retrieval of as many conversations because it is so broad. However, if they are asked to what degree their parents told them to always use protection, it may trigger the retrieval of a larger percentage of the conversations that involved this specific message and therefore improve not only the congruence between

parental and participant reports of family sexual communication but also the accuracy of the reports and the consistency of the findings based on these reports.

**From one-factor measures to multi-factor measures.**

The results of this study speak to the pitfalls that exist when researchers create one-factor scales of family sexual communication that are based on the summation or average of a multi-item measure of this construct. Rosenthal and Feldman (1999), Lefkowitz (2002), Lefkowitz et al (2007) and Wright (2009) warned that this methodological technique for data reduction can be problematic, and my results confirm this.

Though the Cronbach's alphas for my Frequency and Quality subscales of the FSCS were .92 and .94 respectively, I felt the items that comprised these subscales were too diverse to be combined into one overall measure of frequency and quality; therefore, I used factor analysis and derived the factors of sexual risk, sexual values, sexual pleasure and sensitive sexual topics (this also speaks to the need to examine empirical *and* theoretical evidence when deciding how to utilize one's data). Had I utilized the average of each subscale instead of the four factors of each subscale, my results would not have been the same; in fact, they would probably have been inaccurate.

One of the strongest examples of this can be seen when examining how the quality of family communication impacted whether or not participants had ever contracted an STI. In my regression, having higher quality discussions about sexual risk was predictive of participants never having contracted an STI; however, having higher

quality discussions about sensitive sexual topics was predictive of participants having contracted an STI. In other words, the quality of sexual communication can have opposite effects on sexual outcomes, depending on what topics are being discussed. Had I used a one-factor scale based on the average of all of my quality items, I would not have found this distinction and would have come to an overarching and inaccurate conclusion about the relationship between these variables.

Another important reason for using multi-factor measures as opposed to one-factor summations or averages is because it allows us to be more specific about the relationships we are investigating. Had I only used the average of all the items in each of my three subscales, I would not have known if any items were the driving force behind my results. I would have been able to say, for example, that the frequency of family sexual communication is predictive of the extent to which participants engage in friends-with-benefits situations, but I would not be able to specify if discussing certain topics was more or less predictive than discussing other topics. Because I used multiple factors, I can say that it is the frequency of discussing sexual risk topics that drives the relationship between frequency of family sexual communication and the extent to which participants engage in friends-with-benefits situations. This allows me to be more accurate in reporting my findings and allows anyone utilizing this research to be more precise in how they use it (e.g. creating curricula that teach parents how to talk to their offspring about sex).

At a more macro level, the use of subscales also allowed me to be more accurate and precise in my interpretation of my findings. Had I only used a one-factor measure of

family sexual communication, I would only be able to say that such communication impacts sexual outcomes; however, because I measured three different facets of this construct, I can say, for example, that although the frequency of discussing sexual risk topics is predictive of the extent to which participants engage in friends-with-benefits situations, this association is overshadowed by the impact that specific message content has on this sexual outcome. I can say this because I ran the individual subscale regressions as well as the combined regressions that pitted the three subscales (and all factors) against each other.

Overall the methodological technique of factor analysis allowed me to reduce my data into manageable pieces while not overcompensating and losing the richness, complexity and accuracy of my results.

#### **From dichotomous variables to continuous variables.**

Dichotomous variables can not only oversimplify constructs, but they can make it difficult to find significant and accurate results. Most of my results that utilized likert-type or continuous variables were significant (e.g. predicting partner sexual communication, sexual self-efficacy, four sets of sexual beliefs, the extent to which participants engaged in four different unconventional sexual behaviors, and participants' safe sex behaviors) but many of the results that utilized dichotomous variables were not (e.g. family communication patterns did not predict any of my dichotomous variables). This may be because there simply are not significant relationships between these variables, but it is also probable that methodology influenced these results.

Dichotomous variables can create groups that are too heterogeneous. This makes prediction and interpretation difficult. For example, I utilized a dichotomous variable to measure emotional infidelity and examined whether or not family sexual communication impacted this behavior. Nearly fifty percent of both females and males in this sample had been emotionally unfaithful so the null result I obtained is not due to a lack of participants in either the “yes” or “no” group. The “no” group, by definition, will be homogenous in their emotional infidelity; however the “yes” group could be significantly heterogeneous in their emotional infidelity. In my data set, a participant who experienced slight emotional infidelity one time is classified the same way as a participant who had been emotionally cheating on a partner for several years. To be able to predict these two diverse sets of behavior with the same level of the independent variable(s) is difficult. If it is not possible, then the results will not be significant for the analysis. If it is possible, the results may be significant, but interpreting them will still be difficult and potentially inaccurate.

Another reason why it may be difficult to find significant results with dichotomous variables is missing data. When I had continuous variables and utilized linear regression, I chose to exclude data “pairwise” to help me from having a large amount of missing data. I did not have this option with logistic regression so my N was much smaller for some of my logistic regressions which translates to a loss of power.

For many of my linear regressions my N was over 300, but this was cut in half for some of my logistic regressions. For example, my logistic regression that tried to predict physical infidelity from the frequency of family sexual communication had an N of 320,

and the association between frequency of communication about sexual pleasure and participants' physical infidelity was significant with a p value of .006. But my regression that tried to predict physical infidelity from the quality of family communication had an N of 162. So when I combined all three subscales into one regression, my N dropped to 162 and the association between frequency of sexual pleasure communication and physical infidelity was not significant. Though it may not be the only factor, cutting the N by fifty percent certainly affected this result.

### **The FSCS**

When operationalizing a construct, it is certainly important that the operationalization demonstrates strong reliability and validity; however, it is also important that it be useful. For an operationalization of family sexual communication to be useful, it should demonstrate the ability to predict important outcomes. The FSCS fulfills both of these requirements. It has strong psychometric properties and high utility by being able to predict important outcomes such as partner sexual communication, sexual self-efficacy, sexual beliefs and sexual behaviors. In the following sections, I briefly review the reliability and validity of the FSCS and summarize my findings regarding how family sexual communication impacts partner sexual communication, sexual self-efficacy, sexual beliefs and sexual behaviors.

#### **The psychometric properties.**

The FSCS demonstrated strong internal consistency. All reliability coefficients for my factors were far above the standard .70 in the field, and the subscales and factors that

were utilized are theoretically and methodologically sound. The FSCS also demonstrated strong validity. An extensive literature review, consultation with an expert, and pretesting were used to establish face validity. Concurrent validity was also established.

The FSCS established stronger validity and as strong – if not stronger – reliability than the vast majority of measures that have been used to measure family sexual communication. It is one of the few measures that have been tested for reliability *and* validity and these tests demonstrated that it is reliable and valid. The FSCS demonstrated congruence with the conceptual definition of family sexual communication I utilized and the conceptual and operational definitions were broader, clearer and stronger than others utilized in the field. In addition to these strong psychometric properties, the FSCS demonstrated utility as can be seen in how well it predicted the important outcomes of partner sexual communication, sexual beliefs, sexual self-efficacy and sexual behavior.

### **Predicting sexual outcomes using the FSCS.**

Though there was some overlap, the general finding was that partner sexual communication was predicted by the frequency and quality of family sexual communication whereas sexual self-efficacy was predicted by the quality and content of family sexual communication. Sexual beliefs and sexual behaviors were primarily predicted by content of family sexual communication with quality being uniquely predictive of whether or not participants had ever contracted an STI and frequency being uniquely predictive of whether or not participants had dealt with an unplanned pregnancy. This demonstrates that the FSCS is not only a reliable and valid measure of

family sexual communication, as described in the previous section, but a highly useful measure as well.

To be able to attain significant results for almost all combined regressions shows the potential for this measure to have high predictive validity. In this paper I have utilized a narrow definition of this term which mandates the use of longitudinal data; however, some researchers claim predictive validity if the relationships they hypothesized to exist are demonstrated to exist by using a certain measure. By this less stringent definition, the FSCS would demonstrate predictive validity, but I maintain my definition and thus hope to demonstrate predictive validity in the future.

### **The Need for a Theoretical Framework**

As I stated in the introduction to this paper, the majority of research on family sexual communication is not based in theory. The common justification for predictions in this field is either a) because another researcher found similar results or b) because the predictions made are extensions of previous empirical results. These are not adequate justifications, especially in a field with as varied and convoluted results as the field of family sexual communication. Predictions should be derived from clearly-articulated theories that provide a foundation for predictions as well as a way to interpret the findings. In the following sections I will discuss how utilizing theory allowed me to make accurate predictions about how family communication patterns impact adolescents' and emerging adults' sexual outcomes, how it allowed for interpretability and an

understanding of my results, and how utilizing theory can help us expand the field of family sexual communication.

### **Theory Increases Accuracy of Predictions**

The current study is a great example of how theory can help researchers formulate predictions that are more likely to be accurate, and thus, more likely to be supported empirically. All four of my predictions regarding how family communication patterns impacts sexual outcomes were empirically supported.

My predictions that participants from pluralistic families would have high levels of partner sexual communication, high levels sexual self-efficacy and that they would be in the low-risk sexual behavior group were supported. My predictions that participants from consensual families would have high levels of partner sexual communication, high levels of sexual self-efficacy, will be in the low-risk sexual behavior group and that the association between parental and participant sexual beliefs would be significant were supported. My predictions that participants from protective families would have low partner sexual communication and low sexual self-efficacy, and that the association between parental and participant sexual beliefs would be significant for participants from moderately protective families but not for participants from highly protective families were supported. Finally, my predictions that participants from laissez-faire families would have low partner sexual communication, low sexual self-efficacy and would be in the high-risk sexual behavior group were supported.

One of the most important contributions that FCPT made to this study is that it dictated that I investigate the interaction between conformity orientation and conversation orientation. Had I not done this, my results would have been different and, in many cases, highly inaccurate in two ways. First, if conversation orientation and/or conformity orientation had a main effect on a certain variable but the interaction was also significant, I could have made inaccurate claims about how conversation orientation and/or conformity orientation impacted that variable. Second, if neither conversation orientation nor conformity orientation had a main effect but there was an interaction effect I could have missed significant results if I did not look at the interaction. This would have led me to wrongfully conclude that no relationship existed between family communication patterns and the outcome variable. Both of these scenarios played out in the current study.

Had I not investigated the interaction between conversation and conformity orientation, I would have come to conclusions about how they impact partner sexual communication and sexual self-efficacy that are not entirely correct. In both of these cases, conversation orientation had a main effect whereas conformity orientation did not. From this I could conclude that the level of conformity orientation within a family does not affect these two variables, but this is not true because the interaction was significant. Although coming from a family with low conversation orientation is associated with engaging in less partner sexual communication and having lower sexual self-efficacy than is coming from a family with high conversation orientation, this is significantly more true if the family is also low in conformity as opposed to being low in conversation

but high in conformity. Thus, conformity orientation does impact these two variables even though it does not have a main effect.

Had I not investigated the interaction between conformity and conversation orientation I would also have wrongfully concluded that family communication patterns as a whole do not impact certain sexual outcomes. For example, when I looked at the main effects that conversation and conformity orientation had on all of my sexual behavior variables, only one regression showed main effects. Conversation orientation was positively associated with safe sex practices whereas conformity orientation was negatively associated with this variable. When I added the interaction term to the regressions, I discovered significant interaction effects for three sexual behavior variables for which neither conversation nor conformity orientation displayed main effects. These variables were: the number of partners from whom participants reported receiving oral sex, the extent to which participants engaged in group sex and the extent to which participants engaged in hook ups/one night stands. Had I not investigated the interaction term, I would have concluded that family communication patterns have no affect on these three outcome variables when, in fact, they do.

### **Theory Enhances Interpretability and Understanding**

Theory helps us understand the mechanisms through which independent variables affect dependent variables. Even if we are able to accurately predict what impact an independent variable will have on a dependent variable, it does not mean we understand how or why the impact occurs. This situation is referred to as Dubin's Precision Paradox.

It may be that researchers in the field of family sexual communication know, for example, that higher quality general family communication tends to serve a protective function against adolescents' and emerging adults' sexual risk-taking but that does not mean that they know why, or through what mechanisms, it has this effect. When this happens, it makes interpreting results difficult.

Luckily, I am able to use FCPT to explain why, for example, participants from consensual families had slightly lower levels of sexual self-efficacy than participants from pluralistic families. Offspring from consensual families may not have firsthand experience practicing certain communication skills that can impact sexual self-efficacy such as asserting one's self, questioning authority and negotiating due to the high conformity within their families. However, due to the high conversation within their families, they will have exposure to listening, justifying and reasoning that could positively impact their sexual self-efficacy. Offspring from pluralistic families have had much practice in articulating their opinions and beliefs, in handling disagreements where no absolute authority is present, and in making decisions based on the merit of arguments presented. This practice should translate into higher sexual self-efficacy because they will have faith in their ability to stand up for themselves, to behave in the way they want to behave rather than the way their partner wants them to behave, and to discuss sensitive topics with their partners.

It is easy to understand and interpret the results when my hypotheses are supported because I based these hypotheses on the theory. Interpreting the results that supported my hypotheses would just be repeating the justifications I utilized in Chapter 4

for these hypotheses. What is always more difficult is trying to understand and interpret the results that run contradictory to predictions. There were a few such instances in this study.

I predicted that the association between participant sexual beliefs and parental sexual beliefs would not be significant for participants from pluralistic families. I based this prediction on the fact that pluralistic families do not mandate homogeneity of beliefs within the family due to their low conformity orientation. The results showed that this association was not only significant, but it was the strongest association between parental and participant sexual beliefs for all other family types. A possible explanation for this could be that in consensual and protective families, homogeneity of beliefs is more synonymous with everyone agreeing with the parents' beliefs because they are the authorities in the family. Because they have high conformity orientation, offspring are expected to align themselves with their parents' ideology which may cause offspring to act in accordance with these beliefs but not hold them intrinsically. In pluralistic families, arguments are won based on merit and so it could be that parents and participants had similar beliefs but that in some cases, these beliefs began as the participants' beliefs and through discussion, parents aligned their own beliefs with those of their children. In this case the association between parents and participants' beliefs would be strong but conformity would still be low.

Another result that was contrary to prediction was that the association between parental and participant sexual beliefs was significant for participants in laissez-faire and the association between peer and participant sexual beliefs was not significant for this

group. I had argued that because parental attitudes and beliefs are probably not discussed due to low conversation orientation, they should not impact participants' beliefs and beliefs because the participants would not have a clear idea of what the parental attitudes and beliefs were; they could only make assumptions or inferences that should not be as predictive as they would be if these attitudes and beliefs had been explicitly (or at least implicitly) discussed. I also argued that because these participants would not have strong familial solidarity that they would be more affected by another socializing agent that is influential in adolescents' and emerging adults' lives – peers. One way this influence would manifest itself was through a significant association between participant and peer sexual beliefs. Neither of these predictions was supported.

Part of this could be due to methodology. I created the family types based on a median split which probably forced some participants into family types in which, had my sample been more diverse, they otherwise would not be included. This is especially true for the *laissez-faire* category. Perhaps the association between parental and participant sexual beliefs is because, in reality, most of these families are not actually *laissez-faire* but simply less protective, pluralistic or consensual than others in this particular sample and therefore act more like the other family types than like a *laissez-faire* family.

The lack of association between participant and peer sexual beliefs could be because participants from *laissez-faire* families are not exposed to familial relationships and communication that foster well-being and social development. It could then be difficult for these participants to create and maintain friendships so they may be more likely to be (or at least feel like) social outcasts. In this case, when asked about friends,

the reference group these participants describe may not be people they strongly affiliate with and thus they may have different beliefs and either not know it, or not care.

A final result that was contrary to prediction was that participants from consensual families engaged in the most hook ups/one night stands. I struggle to find an explanation for this finding, but perhaps through replication it will become apparent.

Through the application of FCPT, I was able to better understand and interpret the relationships between family communication patterns and adolescents' and emerging adults' sexual outcomes.

### **Theory Enables the Expansion of a Field of Study**

Having predictions based on established theories allows researchers to make claims about the relationships between variables that have yet to be examined. If I only use previous empirical findings as my justification for my predictions, it is difficult to make predictions about unexamined variables without treading on thin ice; however, if I can back up my justifications with an established theory, it makes my predictions much more convincing. For example, had there been no empirical examination of the link between family communication patterns and adolescents'/emerging adults' sexual outcomes before this study, I would still be able to draw conclusions about these relationships based on Family Communication Patterns Theory. The invocation of this theory brings with it the credibility the theory has established and allows me to put forth predictions I may otherwise have nothing but hunches to support.

## **The Need to Examine Communication Patterns Along with Family Sexual Communication**

### **Different Aspects of Communication Impact Different Sexual Outcomes**

The results of this study demonstrate the importance of measuring broader, more general family communication along with the more specific construct, family sexual communication. Each independent communication variable (i.e. conversation, conformity, the interaction between conversation and conformity, frequency, quality and content) significantly impacted the participants' sexual outcomes, and most were uniquely predictive of at least one sexual outcome (e.g. quality of family sexual communication was uniquely predictive of whether or not participants' had ever contracted an STI and conversation orientation was uniquely predictive of the degree to which participants practiced safe sex).

Though there was overlap, family sexual communication was predictive of certain sexual outcomes that family communication patterns did not predict and vice versa. Both family sexual communication and family communication patterns predicted partner sexual communication and sexual self-efficacy, but in terms of sexual beliefs, family sexual communication was uniquely predictive of permissive beliefs and family communication patterns was uniquely predictive of protection and pregnancy beliefs; both types of family communication were predictive of sex positive beliefs.

In terms of sexual behavior, both family sexual communication and family communication patterns predicted the extent to which participants participated in group

sex and hook ups/one night stands, and the number of partners from whom participants had received oral sex; however, family communication patterns was uniquely predictive of the extent to which participants engaged in safe sex whereas family sexual communication was uniquely predictive of whether or not participants had ever received oral sex, ever had sexual intercourse, the age at which participants first gave oral sex to a partner, the number of partners to whom participants had given oral sex, the number of partners with whom participants had sexual intercourse, the extent to which participants engaged in anal sex and friends-with-benefits situations, and whether or not participants had ever contracted an STI, been physically unfaithful to a partner or dealt with an unplanned pregnancy.

This demonstrates the importance of investigating both family sexual communication and family communication patterns. Had I only investigated one form of communication or the other, I would have missed many significant relationships and only had a partial picture of how family communication impacts adolescents' and emerging adults' sexual outcomes.

### **Family Communication Patterns and Family Sexual Communication Interact**

Another important reason to investigate both family sexual communication and family communication patterns together is because these two types of communication interact with one another. Eleven interactions between conversation orientation and sexual communication content were significant when examining how these types of communication impact sexual outcomes; two of these interactions were uniquely

predictive. The interaction between conversation orientation and restrictive messages was the only communication variable that predicted the age at which participants began having sexual intercourse, and the interaction between conversation orientation and permissive messages was the only communication variable that predicted the age at which participants began receiving oral sex from partners. Had I not investigated both family sexual communication and family communication patterns I could have concluded that family communication had no impact on these two outcome variables when, in fact, it did.

The interactions between conversation orientation and sexual message content also allowed me to make claims about how the level of conversation orientation within a family can amplify, and sometimes even change, the impact that sexual messages have on adolescents' and emerging adults' sexual outcomes. I can now say that if parents want their messages to influence their offspring's sexual beliefs and attitudes, it would be beneficial to establish a climate of open communication within the family.

Having *higher conversation* orientation coupled with *more restrictive* messages was associated with participants having fewer sexual partners, being older the first time they gave oral sex to a partner, and endorsing sex positive beliefs to a lesser extent than participants whose family had low conversation orientation and whose families transmitted less restrictive beliefs. Having *higher conversation* orientation coupled with *less permissive* messages was associated with participants giving oral sex to fewer sexual partners, participating less in group sex, hook ups/one night stands, and friends-with-benefits situations, being less likely to have been emotionally unfaithful to a partner and

endorsing less permissive sexual beliefs than participants whose families had low conversation orientation and whose families transmitted more permissive beliefs.

If we are speaking in terms of which communication situations serve the most protective function against sexual risk-taking, it would be families who have high conversation orientation and more restrictive messages, and families who have high conversation orientation and fewer permissive messages. The communication climates that are associated with the riskiest sexual behaviors are families who have high conversation orientation and more permissive messages, and families who have high conversation and less restrictive messages.

Measuring both family sexual communication and family communication patterns and examining how they interact provided me with a more accurate picture of how family communication impacts adolescents' and emerging adults' sexual outcomes.

### **The Need to Address Our Biases as Researchers**

#### **Assuming Parents Only Send Restrictive Sexual Messages**

As researchers, many times we assume that parents only send messages that advocate low –risk, conventional sexual behavior or abstinence, but what this study shows is that some parents either supplement or substitute these restrictive messages with more permissive messages. This assumption that parents only send restrictive messages influences the development of our measures of family sexual communication as well as our interpretation of the results of our studies.

For example, this bias manifests itself when we assume that by measuring the extent to which, or frequency with which, families discuss broad sexual topics, we know what the content of these discussions are. The majority of measures of family sexual communication ask participants to indicate on a likert-type scale the extent/frequency that their parents have talked to them about subjects such as STDs/AIDS, condom use and unplanned pregnancy. Knowing the amount of information adolescents and emerging adults have been given about broad topics only tells us just that – how much information has been transmitted (and retained). We cannot assume that all information about unplanned pregnancy contains cautionary tales. Nor can we assume that all information about condom use advocates for such use.

Many people experience unplanned pregnancy, so if one or both parents fell into this category, it may be that discussing unplanned pregnancy included messages of parental disclosure or positive messages about unplanned pregnancy – especially if the result of such a pregnancy is the one asking the questions. It could also be that parents convey permissive messages about condom use either intentionally or unintentionally. Saying something like “If I catch you with a condom in your wallet I’ll disown you” is probably meant to advocate abstinence, but it also indirectly tells the listener that condom use is not appropriate which could lead the listener to engage in unprotected sex. Messages as diverse as “It is against our religion to use birth control” and “Condoms aren’t that effective anyway” directly tell the listener that condom use is not appropriate/necessary. All of these examples demonstrate that parents can send positive

messages about unplanned pregnancy and permissive messages about condom use. We cannot assume that frequency is a proxy for message content.

Another consequence of assuming that the content of parental sexual messages is restrictive is that we then interpret our findings through a skewed lens. This biased belief that parents only send restrictive sexual messages to their offspring also manifests itself when we neglect to measure permissive sexual messages. The vast majority of researchers do not measure specific messages, and very few of the researchers who have measured specific messages include some form of permissive messages in their measure. Martino et al (2008) included an item that asked participants whether or not their parents had discussed what it feels like to have sex; however, explaining what it feels like to have sex is not synonymous with permissiveness. The only measure I found that explicitly measures permissive sexual messages was the “sexual freedom” factor in Epstein and Ward’s (2008) measure of family sexual communication. This factor measured messages that “[promote] premarital and non-relational sex as natural, fun, and appropriate (with protection)” p. 117.

If we only use broad sexual topics to measure family sexual communication, then we cannot make conclusions about how the content of family sexual communication impacts adolescents’ and emerging adults’ sexual outcomes. Also, permissive messages have been shown to be a strong predictor of sexual outcomes. For both of these reasons, it is important that we shed the assumption that more family sexual communication equals more transmission of restrictive sexual messages and we start incorporating permissive messages into our operationalizations of family sexual communication.

### **Assuming Family Type Equates with Message Content**

It may seem logical to assume that if we know the level of conformity and conversation orientation within a family we can assume the type of messages that are being conveyed within that family. For example, we may think we can say that families high in conformity will send more restrictive sexual messages and families low in conformity will send more permissive sexual messages; however, knowing a family's style of communication does not mean we know the types of messages that are being conveyed.

High conformity simply means that the parents want homogeneity of beliefs. FCPT does not lay out what these beliefs are and, as we have seen, some families do utilize permissive messages. So, for the sake of argument, there could be families that strive for homogeneity and feel it is important that their offspring explore the dating world and not settle into a long-term relationship too early in life. So to say protective families and consensual families will be restrictive whereas pluralistic families and laissez-faire families will be permissive may be overextending this theory.

As evidence of the above argument, I looked at the correlations between family communication patterns and the content of family sexual communication. I also ran regressions using the family types to try to predict the content of family sexual communication. The correlation between conversation orientation and restrictive messages was significant and positive as was the correlation between conformity orientation and restrictive messages. Neither orientation was significantly associated with

permissive messages. The regression analyses confirmed the main effects for conversation and conformity orientation on restrictive messages. The interaction was not significant in this regression and nothing was significant in the regression that attempted to predict permissive messages.

What this shows is that a) we cannot use the family types as a proxy for the content of family sexual communication, b) knowing a family's level of conversation and conformity orientation does not give us significant insight as to the extent to which permissive messages are being transmitted within the family and c) although higher conformity was associated with more restrictive messages (which would imply that protective and consensual families were more restrictive than pluralistic and laissez-faire families), higher conversation was also associated with more restrictive messages (implying that pluralistic and consensual families were more restrictive than protective and laissez-faire families). Therefore, it is important that we look at both family type and message content when examining how family communication impacts adolescents' and emerging adults' sexual outcomes.

### **The Bottom Line: Recommendations for Parents**

In this last section, I provide some key recommendations for parents to use when communicating with their offspring. I will qualify these recommendations by saying that they are geared towards parents who want their communication to serve a protective function against sexual risk-taking while also fostering sexual self-efficacy, partner

sexual communication, and beliefs about sex that are less permissive. I realize this may not be the goal for all parents.

### **Be Clear in the Messages You Send**

Many parents have a difficult time discussing sex with their offspring. Even families that are high in conversation orientation may experience more restrained communication about this topic. But the results of this study show that giving offspring clear messages can impact several important sexual outcomes in their lives.

Parents should make sure they know the information, values and expectations they want to convey before discussing sexual topics with their offspring. If parents have not put thought into their own sexual education, they may be caught off guard when it is time to discuss sex with their offspring. If parents are misinformed, they can lose credibility with their offspring and/or perpetuate myths about sex that can lead to risky sexual behavior. If parents have not thought about their own sexual values, ideologies and sexual expectations for their offspring, it could be easy for them to send mixed messages as they try to figure things out as they go. Anticipating questions and formulating responses is a great way for parents to increase the clarity of the sexual messages they send to their offspring.

Another way to increase clarity of family sexual communication is for parents not to rely on euphemisms. Talking about the “birds and bees” or using devices such as metaphors and other abstract language can leave offspring confused, and they may be too hesitant to ask for clarification. If the message is too removed from the actual topic,

offspring may not even process it as sexual communication (some people may think I was into equestrian sports if I told them I was going to see a man about a horse). Of course it is important to provide age-appropriate responses in terms of level of specificity or absolute correctness - I would not suggest that a parent explain the mechanics of having sexual intercourse to a two year old who asks where her baby sister is coming from - but it is also important that the information provides insight and is not open to misinterpretation.

It can be difficult for both parents and offspring to discuss sexual topics within the family context but I would argue that it is a parent's responsibility to work through any discomfort or embarrassment they feel regarding talking to their offspring about sex. Role-playing with a co-parent or other adult would be beneficial. Becoming accustomed to using correct anatomical terms or phrases that make parents uncomfortable may also help. Discomfort conveyed by parents will be observed by offspring and this can lead to the offspring also feeling discomfort during the conversation or can even make offspring feel that sex and all related topics are sources of discomfort, embarrassment and taboo.

### **Use Restrictive Messages in an Open Communication Climate**

Restrictive messages in this study included messages that encouraged abstinence until marriage, having as few sexual partners as possible, waiting to engage in sexual activities until an older age and never cheating on a partner. Also included in this category were messages that deemed certain sexual acts appropriate and others inappropriate (e.g. group sex and one night stands). Such messages were predictive of

participants having less permissive sexual beliefs, fewer oral sex and sexual intercourse partners, and engaging in anal sex, hook ups/one night stands and friends-with-benefits situations less frequently. Participants who received more restrictive messages were also more likely to be virgins and began receiving oral sex at a later age.

These results demonstrate the strong effect restrictive messages have on sexual risk-taking; however, my recommendation is not for parents to take these findings and use them to justify putting their offspring on sexual lock down. There are two important things to remember about these findings. The first is that these findings cannot be generalized to all sexual messages that restrict offspring. These results do not make claims, for example, about parental messages that restrict adolescents or emerging adults from dating, masturbating or being openly gay. These results only speak to messages that promote fidelity, abstinence until marriage, few sexual partners, later sexual initiation and that distinguish between “appropriate” and “inappropriate” sexual behaviors.

The second important thing to remember is that when these restrictive messages were coupled with high conversation orientation, the protective impact was even stronger; thus, if parents want to augment the effect that their sexual messages have on their offspring’s sexual outcomes, they should transmit their messages in a climate of open communication. Having higher conversation orientation does not mean that the family necessarily has to talk more about sex. It simply means that all family members are free to discuss an array of topics spontaneously and openly. A communicative environment in which the parents send restrictive sexual messages to their offspring but also in which all members of the family are able to talk about topics such what they did

that day, their friends, their hobbies, their dreams and their jobs is going to be ideal in terms of preventing sexual risk-taking.

### **Do Not Transmit Permissive Sexual Messages**

One reason parents give for not discussing sex with their offspring is that they are afraid discussing sex will imply that they condone their offspring to participate in sexual activities. As this research shows, it is not the case that all discussions of sex are linked to offspring being sexually active and participating in risky sexual behavior, it is the transmission of permissive messages that can lead to such outcomes. If it is important to parents that their communication serves a protective function against sexual risk-taking, they should make sure that they are not directly or indirectly sending permissive sexual messages to their offspring.

Permissive sexual messages in this study included messages that directly or indirectly encouraged participants to play the field, explore sexual urges at a young age, explore sexual urges regarding anal sex, group sex and one night stands, and encouraged participants to have sex for the pleasure and joy of it. Also included in this category were messages that directly or indirectly indicated that it was okay to have unprotected sex and that infidelity was normative. Such messages were predictive of participants having more permissive sexual beliefs, lower sexual self-efficacy, more oral sex partners, more anal sex, group sex, hook ups/one night stands, and friends-with-benefits situations, and with participants being more likely to be physically unfaithful to a partner. If parents do not want to contribute to the likelihood that their offspring experience these outcomes, they

can, and should, still discuss sexual topics with their offspring. They should just avoid messages like the ones listed at the beginning of this paragraph.

### **Do Not Be Laissez-faire**

The group of participants with the lowest partner sexual communication and lowest sexual self-efficacy were from laissez-faire families. This group also engaged in substantially more group sex than participants from any other family type and had received oral sex from the highest number of partners. They participated in more hook ups/one night stands and more unprotected sex than the majority of the sample.

If parents want to be a shielding force against sexual risk-taking and negative sexual outcomes, one of the best things they can do is to try and not fall into the category of a “laissez-faire” family. It seems that pluralistic and consensual families are the most shielding, so striving to increase the depth and breadth of communication that occurs within the family is certainly an ideal goal; however, even if communication is not the parents’ strong suit, conveying boundaries and trying to increase family solidarity even once in a while to increase conformity orientation would be better than having neither an open line of communication nor clear expectations and rules.

Remember, this communication and these expectations and rules do not need to be about sex specifically. Increasing one’s conversation orientation may mean asking offspring how their day was every afternoon when they get home, or discussing whatever is on TV that night, or asking what the adolescent/emerging adult thinks about the upcoming election. It could be asking offspring how their friends are doing, what they

want to do for the weekend, or engaging in self disclosure about favorite vacation spots, favorite ice cream flavors or biggest pet peeves. Increasing conformity orientation may mean not allowing offspring to use profanity in the house or mandating that they do charity work or teaching them how the family feels about cohabitation and trying to align the offspring's beliefs with those of the family.

By opening the everyday line of communication and/or emphasizing the importance of a family to have a similar set of ideals and beliefs, parents in laissez-faire families can improve the effect that their communication style has on their offspring's sexual outcomes.

### **Concluding Remarks**

In Chapter 1 I wrote, "It is my hope that this study is replicated and that FCPT and the FSCS (my Family Sexual Communication Scale) be utilized in similar studies so that we are able to more effectively examine results across studies. The past 40 years of research on family communication and adolescent sexual outcomes has been enlightening, but not cohesive. Interdisciplinary research is extremely beneficial, but there needs to be a common denominator so that we can build a body of literature that can be reviewed and analyzed as a whole" (p. 9). I believe that the FSCS and the insights gleaned from this study can be the beginning of the establishment of this denominator.

## Chapter 8

### Conclusions

My primary goals for this project were to initiate a dialogue that advocated for the reconceptualization and reoperationalization of family sexual communication, to propose a new measure of this construct that exemplified this shift, and to demonstrate that such a shift would help clarify the relationship between family sexual communication and adolescents'/emerging adults' sexual outcomes. I feel these three goals were fulfilled. I also set out to provide a theoretical framework through which to investigate the relationship between family communication patterns and sexual outcomes. Family Communication Patterns Theory proved to be a useful framework to use in this context.

In this, the final chapter of my dissertation, I reflect on my current project. I first discuss the limitations of the project – both those that are unique to this particular study and those that apply to much of the research being conducted in the field of family sexual communication. I then propose studies that I wish to conduct in the future in this same area of research.

### **Limitations**

The limitations of this study are primarily methodological and can be broken down into sampling issues and measurement issues. The two largest sampling issues of this study were utilizing a sample of convenience and relying solely on emerging adults to report on family sexual communication as opposed to also questioning the parents. The

two largest measurement issues of this study dealt with not having direct measures of certain constructs and losing power.

### **Sampling Issues**

#### **Sample of convenience.**

What is, to me, one of the largest limitations of this study is the sampling method that was utilized. Though this limitation is by no means unique to this project, the fact that the majority of the sample is comprised of college students restricts the generalizability of my findings. Young adults who attend college are different than their peers who do not attend higher education institutions in ways that are significant in the context of my study.

For example Bailey, Fleming, Henson, Catalano and Haggerty (2008) examined the differences in risk behavior between young adults who were enrolled in college and those who were not. They found that those who were not enrolled in college reported more risky sexual behavior than those who were enrolled. Similarly Lyons, Manning, Giordano and Longmore (2010) from the Center for Family and Demographic Research examined sexual behavior within a sample of young adults with “diverse educational trajectories” and found that participants who were enrolled in four-year institutions were less likely to have casual sex and had fewer partners than their peers who did not enroll in a four-year institution. Lyons et al goes on to say, “much of the current research on young adult casual sex is omitting those who are facing some of the highest levels of risky sexual behavior. Future work on casual sex should be expanded to consider diverse

samples of young adults;” (p. 2) I fully agree with this statement and hope to conduct research with more diverse populations in the future.

Another reason why a sample of convenience is an important limitation is because many of my variables did not have the variance that they could have if I had sampled the general population. For example, there were only a few significant findings regarding safe sex practices, but part of this could be due to the fact that the majority of my sample practiced safe sex almost 100%, if not 100%, of the time. If I had a sample from the general population, my educated guess would be that this variable would not have been nearly as skewed and I could have detected more significant relationships. I would hypothesize the same for variables such as whether or not the participants had experienced an unplanned pregnancy, the number of sexual partners participants had, and the level of sexual self-efficacy the participant reported.

My particular sample also impacted the results of the median split used to create the four family types laid out in Family Communication Patterns Theory. My hypothesis is that the medians for this sample on the dimensions of conformity and conversation are different than what the median would be in the general population (I have been unable to find a study that reported the median for the general population regarding these orientations so this is only a hypothesis). If this is the case, then individuals who may be classified as coming from, for example, a consensual family within a general population sample may be forced into a different family type if more than half of my college student sample reported higher levels of conformity and conversation orientation. Without

appropriate variance on the conformity and conversation scales, it is hard to find significant differences between the family types that are created via a median split.

Overall, using a sample of convenience was a limitation because it limited the variance on some variables and limited the generalizability of my findings.

### **Only emerging adults' reports.**

For this study, I relied solely on reports from the offspring as opposed to also obtaining reports from the parents. This was largely due to logistical restraints such as limited time and funds and difficulty accessing parents. The research shows incongruence between parental and offspring's reports of family sexual communication so having both reports would have been beneficial. It also would have been interesting to see if using the FSCS increased the congruence between these reports. There has not, to my knowledge, been an investigation regarding the level of congruence between parental and offspring's reports of family communication patterns so that would have been insightful as well.

### **Measurement Issues**

#### **No direct measurement of certain constructs.**

It is not uncommon for researchers to wish they had measured certain variables differently or to wish they had measured variables that they neglected to measure; I am no exception.

One construct I would like to have measured differently for this study is partner sexual communication. Though I believe the Partner Sexual Communication Scale is a

strong measure, it did not allow me to speak directly to my first hypothesis. I hypothesized that a higher frequency of family sexual communication would be associated with a higher frequency of partner sexual communication ( $H_{1a}$ ), that a higher quality of family sexual communication would be associated with a higher quality of partner sexual communication ( $H_{1b}$ ) and that the types of messages that are communicated during family sexual communication will be similar to the types of messages that are communicated during partner sexual communication ( $H_{1c}$ ). The Partner Sexual Communication Scale is similar to a frequency scale, but I had no measure of the quality of partner sexual communication and the content of partner sexual communication I measured did not map onto the content of family sexual communication. The implication for this is that I was not able to directly speak to  $H_{1b}$  or  $H_{1c}$ .

### **Loss of power and missing data.**

As I mentioned in Chapter 7, I experienced a loss of power due to the dichotomous nature of some of my dependent variable and this may have caused some of my nonsignificant results. I gave the example regarding the nonsignificant relationship between family sexual communication and physical infidelity, and a similar event occurred when investigating the relationship between family sexual communication and sexual activity status. The logistic regression that used only frequency of family sexual communication to predict whether or not participants were virgins had an N of 322 and was significant; the sexual risk and sensitive sexual information coefficients were significant. However, the logistic regression that used frequency, quality and content of

family sexual communication to predict whether or not participants were virgins had an N of 163 and was not significant; no coefficients were significant either. This loss of power via fewer degrees of freedom made it more difficult for me to find significant results with my dichotomous variables.

### **Future Research**

My current project is rich with data and insights; however, there are still several studies I wish to conduct in this same vein of research. Some of these studies can be conducted with my current data set. Others may require the collection of new data. In this final section, I lay out a few of the studies I wish to conduct in the future.

#### **Continued testing of the FSCS**

The psychometric properties of the FSCS are strong and through replication, I hope to solidify my claims about its reliability and validity. I would like to try adding more items to the Content subscale to see if such additions would allow me to account for more variance in my sexual outcome variables. I focused on value-laden messages as opposed to information-laden messages so I would like to experiment with expanding this operationalization. With the infinite number of messages that can be conveyed, I know that developing the scale that will account for the most variance in sexual outcomes and most accurately encompass the messages parents convey will take time and collaboration, but taking a step in that direction is exciting to me.

Also, I would like to try altering the conceptualization of the quality of family sexual communication. I made a case for why I purposefully used the ambiguous terms

“good” and “bad” communication, but perhaps this ambiguity is partially to blame for the lack of significant findings for this construct. In the future, I will try to be more specific and lay out exactly what I mean by higher quality and lower quality family sexual communication.

### **Relationships amongst Sexual Outcome Variables**

I am interested in the relationships that exist among my four sexual outcome variables (i.e. sexual beliefs, sexual self-efficacy, partner sexual communication and sexual behavior). I used them all as dependent variables, but it is not 100% clear how these four outcomes relate to each other. Theoretically and empirically they have been utilized in different ways. For example, according to the Theory of Reasoned Action sexual attitudes are an antecedent of sexual behavior and should thus be placed before behavior in the model. According to Social Cognitive Theory, sexual self-efficacy is an antecedent of sexual behavior and should thus be placed before behavior in the model. Still yet it could be argued that one’s communication, attitudes/beliefs and efficacy can be impacted by behavior. For example, using Cognitive Dissonance Theory, one could posit that if adolescents/emerging adults’ had engaged in sexual behaviors that were inconsistent with their sexual attitudes/beliefs, one way to resolve this dissonance would be to change their sexual attitudes/beliefs thereby bringing the them in line with the behaviors. Using this line or reasoning, I would place behavior before attitudes/beliefs, communication and self-efficacy in the model.

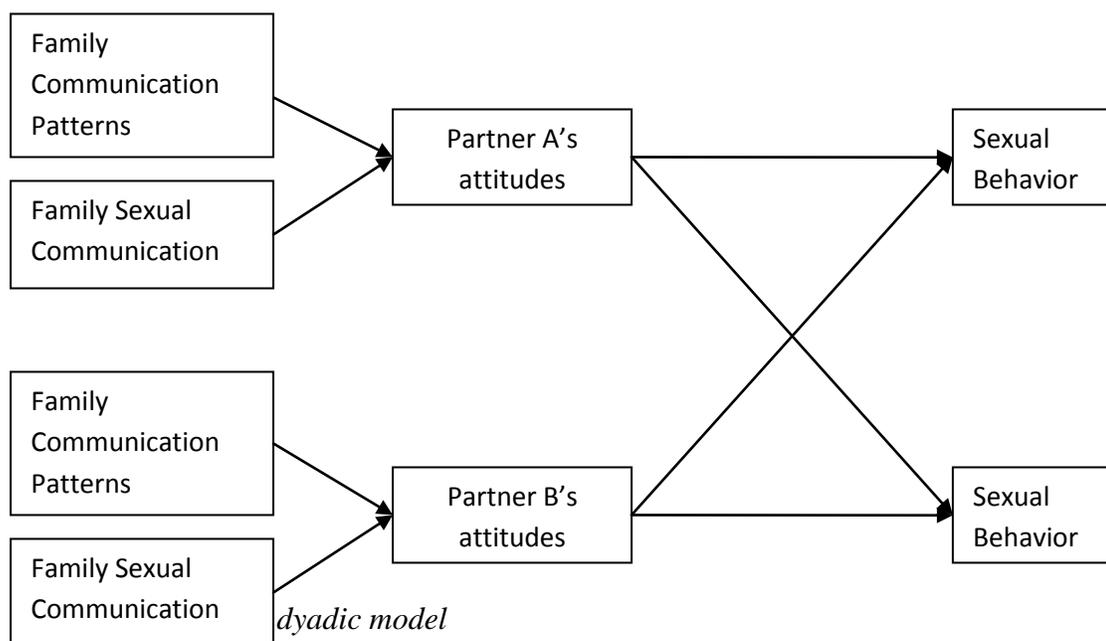
Empirically these four variables have also been shown to have various relationships. In one study sexual self-efficacy was shown to impact partner sexual communication (Cleary, Barhman, MacCormack & Herold, 2002), in another sexual attitudes mediated this relationship (Givaudan, Van De Vuver, & Poortinga, 2005), and in another study both partner sexual communication and attitudes were shown to impact sexual self-efficacy (Farmer & Meston, 2006). Both Green and Faulkner (2005) and Quina, Harlow, Morokoff, Burkholder and Deiter (2000) found that sexual attitudes impacted partner sexual communication, but the latter also found that sexual history impacted this type of communication as well thus showing behavior can impact communication. Several studies have placed partner sexual communication as an antecedent to sexual behavior (Crowell, 2004; Noar, Morokoff & Harlow, 2004; Noar, Carlyle & Cole, 2006; Zukoski, Harvey & Branch, 2009; Beres, 2010; Deardorff, Tschann, Flores & Ozer, 2010; Faulkner & Lannutti, 2010) and sexual attitudes and sexual self-efficacy have been placed as antecedents to sexual behavior as well (e.g. Crowell, 2004; Deardorff et al., 2010).

The relationships amongst these four variables are not clear, and I believe it would be beneficial for me to examine them in my future research.

### **Utilizing Dyadic Data**

Another future research project focuses on the dyadic nature of my data. With the recent developments in statistics, researchers are now able to analyze data dyadically, meaning they can account for the influence that members of a dyad have on each other.

Using these statistical procedures, I could examine the effect that one's family has on one's sexual self-efficacy, partner sexual communication, sexual beliefs and sexual behavior while at the same time accounting for the effect that one's sexual partner has on these same variables. I would hypothesize that one's family communication patterns and family sexual communication would influence one's sexual beliefs which would then influence one's sexual behavior (this is assuming my first study shows that sexual beliefs are an antecedent to sexual behavior). These predictions are depicted in the model below.



### **Justification for a dyadic data project.**

This project would be an important contribution to our field from a methodological, theoretical and practical standpoint. Researchers have studied how family communication influences sexual behavior for many years, but results have been inconsistent (Fisher, 1993). Though I have tried to illuminate reasons for this in my current study, another reason for such discrepancies might be that researchers have been

ignoring the immense role that the sexual partner plays in an individual's sexual decision-making. We could glean great insight by using the sexual couple as the unit of analysis instead of trying to measure a dyadic phenomenon with individual level data. We could account for the dyadic nature of sex by including the influence of the partner. If I can do this in my next project, I could make a significant methodological contribution. While it is important to know how parents influence their adolescents' and emerging adults' sexual behavior, it may be that this influence is more distal than the more proximal influence of the sexual partner. Therefore, some of the inconsistent results from family communication research may be explained by examining how the sexual partner reinforces or negates the parental influence.

Another justification for this project is that it may help determine if one partner has more influence over sexual behavior than the other. Different theories would predict different outcomes for this, so by gathering data from both partners, I should be able to pit different theoretical frameworks against each other thereby helping validate certain frameworks over others. To clarify, let me provide a few brief examples of different predictions that may be put forth by different theoretical frameworks.

Social Exchange Theory suggests that people view relationships in economic sense, considering the costs and benefits of their relationships, and that relationships are ongoing exchanges of social resources. That being said, from a Social Exchange Theory perspective, one might predict that the person with the most resources would get to dictate the sexual behavior that occurs in the relationship because the other partner would

not have as much to offer in the relationship and thus may feel compelled to acquiesce to the more resourceful partner's sexual requests.

Similarly Thibaut and Kelley's (1959) Interdependence Theory looks at relationship satisfaction and stability by comparing partners' comparison level (what they feel they should be getting out of the relationship), outcome level (what they are actually getting out of the relationship) and comparison level of alternatives (what they could be getting in a different relationship). This theory posits that if one's outcome is less than one's comparison level of alternatives, then that person would not be stable in her/his current relationship. Therefore, from an Interdependence Theory perspective one might predict that the person with the most available alternative partners would get to dictate the sexual behavior that occurs in the relationship because the other partner would want to acquiesce from fear of losing the more eligible partner.

A different perspective is provided by Evolutionary Theory would argue that women are the gatekeepers to sexual behavior. From this perspective, the woman has much higher parental investment than the man and so it is she who holds the power in mate selection. She has this power because she wants the mate that will give her the offspring who have the highest chance of survival and a mate that will best provide for these offspring. Therefore, from an Evolutionary perspective one might predict that it is the female who dictates the sexual behavior that occurs in the relationship because she holds the power to allow or deny sexual advances from her male counterparts.

Research on sexual self-efficacy, however, shows that many times women do not feel this sense of power and some Feminist theorists would argue that it is the man who typically has the power in relationships. From the Feminist perspective, we live in a patriarchal society where historically men have been the ones in power and women have been the ones expected to submit. Therefore, from a Feminist perspective one might predict that it is the male who dictates the sexual behavior that occurs in the relationship because society has privileged him and he has been conditioned to believe that he holds legitimate power to make such decisions.

Each of these four theories hold predictions about who has more influence in sexual decision-making and some of these predictions are at odds with each other. By measuring all the dimensions of relationships discussed in these theories and by analyzing the sexual behavior of the couple dyadically, I may be able to make certain discoveries that favor certain theories over others in the context of adolescents' and emerging adults' sexual behavior.

The results will not only provide support for certain theories, but they have potential for practical application. If we know which partner has more influence over sexual behavior, we can tailor our messages in our public health campaigns and sexual education programs. For example, if I find that it really is the woman who holds the sexual decision-making power, our messages could be tailored to promote concepts such as female self-efficacy and nonconformity. If I find that it really is the man who holds the power, our messages could be tailored to promote concepts such as male responsibility and respect. This leads me to the final justification for this project.

The final justification for this project is practical in nature and relates to educational policy. Many who investigate the effects of sexual education curriculum are interested in how such curriculum impacts students' sexual attitudes as well as their behaviors. For example, the federally funded evaluation of Title V programs (sex education programs that strictly promote abstinence only) throughout the nation includes a measure of "attitudes endorsing abstinence" along with its measure of sexual behavior (Barlow, 2009). Also, Case Western Reserve University School of Medicine was given a \$100,000 grant from Pfizer Pharmaceuticals, Inc to enhance its undergraduate sex education curriculum and two of the three primary objectives were to target attitude change and behavior change (Kingsberg, Malemud, Novak, Cole-Kelly, Wile, Spanos & Nosek, 2003). Many other sexual education programs target students' sexual attitudes, but if I find that sexual behavior is driven by one's partner and her/his sexual attitudes, sexual education programs could take this into account to increase their effectiveness.

### **Peripheral variables.**

The model pictured previously would be my core model but there are also peripheral variables that I want to examine which may impact the accuracy and strength of this model. The peripheral variables of interest are self-efficacy, perceptions of parental beliefs, and perceptions of peer beliefs.

Self-efficacy can be defined as "people's beliefs that they can exert control over their motivation and behavior and over their social environment" (Bandura, 1990). Two widely-used theories that deal with the impact that self-efficacy has on behavior are

Bandura's Social Cognitive Theory and Fishbein's Integrative Model for Behavioral Prediction (IM) (an elaboration of Ajzen's Theory of Planned Behavior). The essence of Bandura's Social Cognitive Theory is that humans can learn behaviors via observation and that this learning is most likely to occur when there is high identification between the observer and the model and when the observer has a high level of self-efficacy. The essence of Fishbein's IM is that attitudes, norms and self-efficacy are all antecedents to behavioral intention and that the relationship between behavioral intention and actual behavior is moderated by an individual's skills and the environmental constraints on the behavior. Researchers have used these and other theories to explore the impact self-efficacy has on sexual behavior (i.e. Bandura, 1990; Cohen & Fromme, 2002; Kang, Deren, Andia, Colon & Robles, 2004; Mao, Van de Ven & McCormick, 2004; Fishbein, Hennessy, Yzer & Douglas, 2003).

Given the strong influence self-efficacy has on sexual behavior I would predict that if participants have high self-efficacy, then their behavior will be driven primarily by their own beliefs and if participants have low self-efficacy, then their behavior will be driven primarily by their partner's beliefs.

A second peripheral variable of interest is perceptions of parental sexual beliefs. The attitudes parents have regarding sex tend to be less permissive than the attitudes adolescents hold (Fisher, 1986) and research shows that having conflicting values with parents is associated with having more sexual partners and initiating sexual intercourse earlier (Strasburger, 1997). Research has shown that parents expressing stricter values and/or enforcing stricter family rules is associated with a delay of sexual initiation in

adolescents (Leighton et al., 1993; Kirby, 2001; Calhoun & Friel, 2001). Similarly, parents expressing disapproval of adolescent sexual activity is associated with a decrease in the probability that their adolescents have initiated sexual intercourse (Collins et al., 2004). Positive feelings expressed by parents for condom use is associated with an increase in adolescent condom use, and negative feelings expressed by parents regarding teenage pregnancy is associated with a decrease in adolescent pregnancy rates (Kirby, 2001). Therefore, it is important to gauge individual's perceptions of their parents' sexual beliefs.

Another peripheral variable of interest is perceptions of peer sexual beliefs. Researchers have shown that how one's peers feel about sex can influence one's own sexual behavior. Positive attitudes toward condom use being expressed by one's peers is positively correlated to one's condom use (Kirby, 2001). Also, positive peer attitudes toward communicating about safe sex are associated with an increased likelihood that the participants will engage in safe sex communication (DiIorio et al., 1999). Not only do actual peer attitudes affect individuals' sexual behavior, the perceptions of these attitudes can also have an effect.

Perkins (1997) argues that some individuals may partake in activities because of their perceptions of others' attitudes, not necessarily because of their own attitudes. If individuals think that the norm is that all their peers are having sex, and if these individuals want to be considered "normal," they may become sexually active regardless of whether or not they really agree with teens having sex and regardless of whether this norm is just their perception or an actual peer norm. As Perkins (1997) states, "The

strongest peer influence may occur indirectly through the individual's perception of peers, regardless of the accuracy of that perception" (p. 183).

**Research question.**

In addition to my model, another point of interest that I wish to explore is whether or not one partner has more influence on the sexual behavior that occurs in the relationship. Though this question has been looked at in previous studies (i.e. Browning & Hatfield, 2000), these studies used reports from only one partner. I would like to ask the same question but use both partners' responses to try and answer said question. In my justification I discussed how several theories would approach this question so I would like to pose the research question:

RQ<sub>1</sub>: Which partner has more influence over the sexual behavior that occurs in the relationship?

To investigate the predictions I put forth using Evolutionary Theory and Feminist Theory will be straightforward. I need only do a gender comparison. To investigate the predictions put forth using Interdependence Theory I will need to measure each partner's comparison level of alternatives. Two other variables that may impact which partner has influence in the relationship are commitment and conformity. Some researchers have found commitment to be linked with accommodating behaviors in a relationship (i.e. Wieselquist, Rusbult, Foster & Agnew, 1999) as well as with willingness to sacrifice in a relationship (i.e. Van Lange, Drigotas, Rusbult, Arriaga, Witcher & Cox, 1997).

Researchers have also found a link between tendency to conform and engaging in sexual behavior (i.e. Browning & Hatfield, 2000; Cohen & Fromme, 2002).

### **Summary.**

Testing the dyadic model and answering the research question proposed in this section would provide a perspective that has yet to be articulated in the current body of research. I could also utilize the Actor-Partner Interdependence Model (APIM) to investigate actor and partner effects. For example, I could examine how participants' sexual self-efficacy impacts their own sexual behavior (actor effect) as well as how this affects their partners' sexual behavior (partner effect), how participants' sexual beliefs impact their communication with their partner (actor effect) as well as how this affects how their partner communicates with them (partner effect) or how participants' level of conformity impacts their own sexual self-efficacy (actor effect) as well as how this affects their partners' sexual self-efficacy (partner effect). The possibilities that dyadic data analysis now allow us seem endless.

### **Concluding Remarks**

This project has been a very rewarding experience. To be given the opportunity to extensively review a body of literature, identify what I perceive to be a gap in the research, attempt to fill that gap and have results that support my predictions has helped in the development of many professional and transferable skills. I conclude this project with a sense of gratitude and accomplishment and with a new understanding of commitment, perseverance and intrinsic motivation.

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## Appendix A

## Family Sexual Communication Scale (FSCS)

In the next several sections we will be asking you questions regarding your parents. If you find that your answers would be different depending on which parent you were thinking of, please think of the parent who talked with you the most regarding sex.

In this section we ask you to think about the sexual communication you have had with your parents up until this point in your life. First, please circle the number that best describes how often your parents have talked with you about each sexual subject. (0=Never discussed, 1=Discussed once, 2=Discussed a few times, 3=Discussed frequently).

|   |   |   |   |   |
|---|---|---|---|---|
| 1. STDs (other than HIV/AIDS)   | 0 | 1 | 2 | 3 |
| 2. HIV/AIDS   | 0 | 1 | 2 | 3 |
| 3. Condom Use   | 0 | 1 | 2 | 3 |
| 4. Unplanned pregnancies  | 0 | 1 | 2 | 3 |
| 5. Abortion   | 0 | 1 | 2 | 3 |
| 6. Abstinence   | 0 | 1 | 2 | 3 |
| 7. Oral sex   | 0 | 1 | 2 | 3 |
| 8. Resisting sexual pressure  | 0 | 1 | 2 | 3 |
| 9. Monogamy (having only one partner)   | 0 | 1 | 2 | 3 |
| 10. Fidelity (being faithful to a partner)  | 0 | 1 | 2 | 3 |
| 11. The enjoyment/fun/pleasure of sexual relationships                            | 0 | 1 | 2 | 3 |
| 12. Parents' attitudes about me having sex  | 0 | 1 | 2 | 3 |
| 13. Masturbation  | 0 | 1 | 2 | 3 |
| 14. Rape/molestation/sexual harassment  | 0 | 1 | 2 | 3 |
| 15. Resources available to help with family planning<br>(i.e. Planned Parenthood) | 0 | 1 | 2 | 3 |

|  |   |   |   |   |
|--|---|---|---|---|
| 16. Resources available to help deal with sexual trauma/rape | 0 | 1 | 2 | 3 |
| 17. Statistics about sexually active adolescents             | 0 | 1 | 2 | 3 |
| 18. Gender specific info (menstruation, ejaculation)         | 0 | 1 | 2 | 3 |
| 19. Non-sexual ways to show love                             | 0 | 1 | 2 | 3 |
| 20. Sexual orientation                                       | 0 | 1 | 2 | 3 |

Still thinking about the sexual communication you have had with your parents up until this point in your life, please circle the number that best describes how good or bad the communication about each subject was. If you have never discussed the subject, please circle "0." (0=Never discussed, 1=Very bad, 2=Bad, 3=Somewhat bad, 4=Okay, 5=Somewhat good, 6=Good, 7=Very good).

|  |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|
| 1. STDs (other than HIV/AIDS)                          | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. HIV/AIDS  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Condom Use  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Unplanned pregnancies                               | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Abortion  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Abstinence  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. Oral sex  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Resisting sexual pressure                           | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. Monogamy (having only one partner)                  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Fidelity (being faithful to a partner)             | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. The enjoyment/fun/pleasure of sexual relationships | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. Parents' attitudes about me having sex             | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Masturbation                                       | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. Rape/molestation/sexual harassment                 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 15. Resources available to help with family planning<br>(i.e. Planned Parenthood) | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. Resources to help deal w/ sexual trauma/rape                                  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. Statistics about sexually active adolescents                                  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. Gender specific info (menstruation, ejaculation)                              | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. Non-sexual ways to show love  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. Sexual orientation  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Thank you for your responses thus far. Again still thinking about the sexual communication you have had with your parents up until this point in your life, please circle the number that best describes how well the statement describes what your parents have communicated with you about sex. (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree, NA=Haven't discussed).

1. My parents have told me to wait to have sex until I am married 1 2 3 4 5 6 7 NA
2. My parents have encouraged me to explore my sexual urges even at a young age 1 2 3 4 5 6 7 NA
3. My parents have made it clear that one should never cheat on one's partner 1 2 3 4 5 6 7 NA
4. My parents have told me to always use protection 1 2 3 4 5 6 7 NA
5. My parents have directly or indirectly encouraged me to have as few of sexual partners as possible 1 2 3 4 5 6 7 NA
6. My parents have directly or indirectly said it was okay for not to use protection when I have sex 1 2 3 4 5 6 7 NA
7. My parents say that sex isn't necessarily only for marriage but must be saved for someone you love 1 2 3 4 5 6 7 NA
8. My parents have made it clear that we all make mistakes when it comes to being faithful to one partner 1 2 3 4 5 6 7 NA
9. My parents have directly or indirectly encouraged me to "play the field" 1 2 3 4 5 6 7 NA

- |   |                  |
|---|------------------|
| 10. My parents have directly or indirectly said it was okay for me to have sex for the pleasure and joy of it   | 1 2 3 4 5 6 7 NA |
| 11. My parents have discouraged me from engaging in sexual activities until I am married  | 1 2 3 4 5 6 7 NA |
| 12. My parents directly or indirectly encourage me to explore my sexual urges even if they are unconventional (i.e. certain sexual positions, multiple sexual partners, one night stands)                                   | 1 2 3 4 5 6 7 NA |
| 13. My parents have made it clear that sex is only appropriate in marriage  | 1 2 3 4 5 6 7 NA |
| 14. My parents have discouraged me from engaging in sexual activities until I am older  | 1 2 3 4 5 6 7 NA |
| 15. My parents have directly or indirectly made it clear that there are appropriate and inappropriate types of sexual behavior (regarding things such as sexual positions, multiple sexual partners, one night stands, etc) | 1 2 3 4 5 6 7 NA |

## Appendix B

Thank you for agreeing to participate in this study. Please complete the following questionnaire as honestly and thoroughly as possible. This questionnaire will take you approximately 20-30 minutes to complete and asks you questions primarily regarding the sexual communication and sexual beliefs of your parents and current romantic partner and regarding your own sexual beliefs and behaviors.

Many of the questions are formatted in a Likert-type style. This means you will be asked to answer questions on a scale usually ranging from 1 to 7 with 1 and 7 representing opposite extremes (i.e. strongly agree to strongly disagree). Please read the instructions before each section carefully as the meanings of these numbers does vary from section to section. There is also a fill in the blank section when discussing your sexual history. If you have any questions about this questionnaire please contact Alyssa Isaacs at [jens0604@umn.edu](mailto:jens0604@umn.edu).

Again thank you for your participation.

Please think about your beliefs regarding sex and on a scale from 1-7, please indicate how much you agree or disagree with the following statements. (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree).

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. As long as you are in a monogamous relationship, you don't need to use birth control         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. If you are in a monogamous relationship, you should never have sex with another person       | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. You should have as few sexual partners as possible in a lifetime                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. It is okay to have sex with multiple partners simultaneously                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. It is okay to have anal sex  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Becoming pregnant early in life leads to difficulties  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. It's okay to have sex before marriage so long as it is with someone you love                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. You should always use birth control – regardless of how long you have been in a relationship | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 9. As long as you are in a committed relationship you don't need to use birth control                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Sex is only appropriate in marriage   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Hooking up, one night stands, and friends-with-benefits is a part of the college experience                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. You should only have sex in the missionary position   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Even if you are in a committed relationship there are circumstances in which it is okay to have sex with someone else | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. It's okay to have sex at an early age   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Becoming pregnant early in life leads to joys   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. You should always use protection against STIs (i.e. condoms) – regardless of how long you have been in a relationship | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. It is okay to have a number of sexual partners throughout your lifetime   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. It's okay to have oral sex  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. It's okay for people to have sex in high school   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. People should be able to explore their sexual desires   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. Sex is an important part of a romantic relationship   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

In the next several sections we will be asking you questions regarding your parents. If you find that your answers would be different depending on which parent you were thinking of, please think of the parent who talked with you the most regarding sex.

In this section we ask you to think about the sexual communication you have had with your parents up until this point in your life. First, please circle the number that best describes how often your parents have talked with you about each sexual subject. (0=Never discussed, 1=Discussed once, 2=Discussed a few times, 3=Discussed frequently).

- |                               |   |   |   |   |
|-------------------------------|---|---|---|---|
| 1. STDs (other than HIV/AIDS) | 0 | 1 | 2 | 3 |
|-------------------------------|---|---|---|---|

|   |   |   |   |   |
|---|---|---|---|---|
| 2. HIV/AIDS   | 0 | 1 | 2 | 3 |
| 3. Condom Use   | 0 | 1 | 2 | 3 |
| 4. Unplanned pregnancies  | 0 | 1 | 2 | 3 |
| 5. Abortion   | 0 | 1 | 2 | 3 |
| 6. Abstinence   | 0 | 1 | 2 | 3 |
| 7. Oral sex   | 0 | 1 | 2 | 3 |
| 8. Resisting sexual pressure  | 0 | 1 | 2 | 3 |
| 9. Monogamy (having only one partner)   | 0 | 1 | 2 | 3 |
| 10. Fidelity (being faithful to a partner)  | 0 | 1 | 2 | 3 |
| 11. The enjoyment/fun/pleasure of sexual relationships                            | 0 | 1 | 2 | 3 |
| 12. Parents' attitudes about me having sex  | 0 | 1 | 2 | 3 |
| 13. Masturbation  | 0 | 1 | 2 | 3 |
| 14. Rape/molestation/sexual harassment  | 0 | 1 | 2 | 3 |
| 15. Resources available to help with family planning<br>(i.e. Planned Parenthood) | 0 | 1 | 2 | 3 |
| 16. Resources available to help deal with sexual trauma/rape                      | 0 | 1 | 2 | 3 |
| 17. Statistics about sexually active adolescents                                  | 0 | 1 | 2 | 3 |
| 18. Gender specific info (menstruation, ejaculation)                              | 0 | 1 | 2 | 3 |
| 19. Non-sexual ways to show love  | 0 | 1 | 2 | 3 |
| 20. Sexual orientation  | 0 | 1 | 2 | 3 |

Still thinking about the sexual communication you have had with your parents up until this point in your life, please circle the number that best describes how good or bad the communication about each subject was. If you have never discussed the subject, please circle "0." (0=Never discussed, 1=Very bad, 2=Bad, 3=Somewhat bad, 4=Okay, 5=Somewhat good, 6=Good, 7=Very good).

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 1. STDs (other than HIV/AIDS)   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. HIV/AIDS   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Condom Use   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Unplanned pregnancies  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Abortion   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Abstinence   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. Oral sex   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Resisting sexual pressure  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. Monogamy (having only one partner)   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Fidelity (being faithful to a partner)  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. The enjoyment/fun/pleasure of sexual relationships                            | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. Parents' attitudes about me having sex  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Masturbation  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. Rape/molestation/sexual harassment  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Resources available to help with family planning<br>(i.e. Planned Parenthood) | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. Resources to help deal w/ sexual trauma/rape                                  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. Statistics about sexually active adolescents                                  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. Gender specific info (menstruation, ejaculation)                              | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. Non-sexual ways to show love  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. Sexual orientation  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Thank you for your responses thus far. Again still thinking about the sexual communication you have had with your parents up until this point in your life, please circle the number that best describes how well the statement describes what your parents

have communicated with you about sex. (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree, NA=Haven't discussed).

- |   |                  |
|---|------------------|
| 1. My parents have told me to wait to have sex until I am married   | 1 2 3 4 5 6 7 NA |
| 2. My parents have encouraged me to explore my sexual urges even at a young age   | 1 2 3 4 5 6 7 NA |
| 3. My parents have made it clear that one should never cheat on one's partner   | 1 2 3 4 5 6 7 NA |
| 4. My parents have told me to always use protection   | 1 2 3 4 5 6 7 NA |
| 5. My parents have directly or indirectly encouraged me to have as few of sexual partners as possible   | 1 2 3 4 5 6 7 NA |
| 6. My parents have directly or indirectly said it was okay for not to use protection when I have sex  | 1 2 3 4 5 6 7 NA |
| 7. My parents say that sex isn't necessarily only for marriage but must be saved for someone you love   | 1 2 3 4 5 6 7 NA |
| 8. My parents have made it clear that we all make mistakes when it comes to being faithful to one partner   | 1 2 3 4 5 6 7 NA |
| 9. My parents have directly or indirectly encouraged me to "play the field"   | 1 2 3 4 5 6 7 NA |
| 10. My parents have directly or indirectly said it was okay for me to have sex for the pleasure and joy of it   | 1 2 3 4 5 6 7 NA |
| 11. My parents have discouraged me from engaging in sexual activities until I am married  | 1 2 3 4 5 6 7 NA |
| 12. My parents directly or indirectly encourage me to explore my sexual urges even if they are unconventional (i.e. certain sexual positions, multiple sexual partners, one night stands) | 1 2 3 4 5 6 7 NA |
| 13. My parents have made it clear that sex is only appropriate in marriage  | 1 2 3 4 5 6 7 NA |
| 14. My parents have discouraged me from engaging in sexual activities until I am older  | 1 2 3 4 5 6 7 NA |

15. My parents have directly or indirectly made it clear that there are appropriate and inappropriate types of sexual behavior (regarding things such as sexual positions, multiple sexual partners, one night stands, etc) 1 2 3 4 5 6 7 NA

This next section still deals with the communication you have had with your parents, but in a more general sense. Also, we ask that you now only think about the communication you had with your parents while you were in high school – not the communication you currently have with your parents – and please circle the number that best describes how well the statement describes this communication. (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree).

- |  | SD | D | N | A | SA    |
|--|----|---|---|---|-------|
| 1. My parents often asked my opinion when the family was talking about something                                   | 1  | 2 | 3 | 4 | 5 6 7 |
| 2. My parents encouraged me to challenge their ideas and beliefs.  | 1  | 2 | 3 | 4 | 5 6 7 |
| 3. My parents often said things like “You’ll know better when you grow up.”  | 1  | 2 | 3 | 4 | 5 6 7 |
| 4. My parents often said that every member of the family should have some say in the family decisions.             | 1  | 2 | 3 | 4 | 5 6 7 |
| 5. My parents sometimes became irritated with my views if they were different from theirs.                         | 1  | 2 | 3 | 4 | 5 6 7 |
| 6. If my parents didn’t approve of it, they didn’t want to know about it.  | 1  | 2 | 3 | 4 | 5 6 7 |
| 7. In our family we often talked about topics like politics and religion where some persons disagreed with others. | 1  | 2 | 3 | 4 | 5 6 7 |
| 8. I could tell my parents almost anything.  | 1  | 2 | 3 | 4 | 5 6 7 |
| 9. My parents often said things like “There are some things that just shouldn’t be talked about”                   | 1  | 2 | 3 | 4 | 5 6 7 |
| 10. In our family we often talked about our feelings and emotions.   | 1  | 2 | 3 | 4 | 5 6 7 |
| 11. My parents felt that it was important to be the boss.  | 1  | 2 | 3 | 4 | 5 6 7 |

12. My parents liked to hear my opinions even when they didn't agree with me. 1 2 3 4 5 6 7
13. My parents and I often had long, relaxed conversations about nothing in particular. 1 2 3 4 5 6 7
14. My parents often said things like "You should give in on arguments rather than risk making people mad." 1 2 3 4 5 6 7
15. I really enjoyed talking with my parents, even when we disagreed. 1 2 3 4 5 6 7
16. My parents tended to be very open about their emotions. 1 2 3 4 5 6 7
17. When anything really important was involved, my parents expected me to obey without question. 1 2 3 4 5 6 7
18. We often talked as a family about things we had done during the day. 1 2 3 4 5 6 7
19. In our family we often talked about our plans and hopes for the future. 1 2 3 4 5 6 7
20. My parents often said things like "My ideas are right and you should not question them." 1 2 3 4 5 6 7
21. I usually told my parents what I was thinking about things. 1 2 3 4 5 6 7
22. My parents often said things like "A child should not argue with adults." 1 2 3 4 5 6 7
23. In our home, my parents usually had the last word. 1 2 3 4 5 6 7
24. My parents encouraged me to express my feelings. 1 2 3 4 5 6 7
25. When I was at home, I was expected to obey my parents' rules. 1 2 3 4 5 6 7
26. My parents often said that you should look at both sides of an argument. 1 2 3 4 5 6 7

This is the final section regarding your parents. Please think about your parents' beliefs regarding sex and on a scale from 1-7, please indicate how much you think they agree or

disagree with the following statements. (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree).

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. As long as you are in a monogamous relationship, you don't need to use birth control                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. If you are in a monogamous relationship, you should never have sex with another person                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. You should have as few sexual partners as possible in a lifetime   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. It is okay to have sex with multiple partners simultaneously   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. It is okay to have anal sex  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Becoming pregnant early in life leads to difficulties  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. It's okay to have sex before marriage so long as it is with someone you love   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. You should always use birth control – regardless of how long you have been in a relationship                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. As long as you are in a committed relationship you don't need to use birth control                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Sex is only appropriate in marriage   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Hooking up, one night stands, and friends-with-benefits is a part of the college experience                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. You should only have sex in the missionary position   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Even if you are in a committed relationship there are circumstances in which it is okay to have sex with someone else | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. It's okay to have sex at an early age   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Becoming pregnant early in life leads to joys   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 16. You should always use protection against STIs (i.e. condoms) – regardless of how long you have been in a relationship | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. It is okay to have a number of sexual partners throughout your lifetime   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. It's okay to have oral sex  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. It's okay for people to have sex in high school   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. People should be able to explore their sexual desires   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. Sex is an important part of a romantic relationship   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Thank you for your participation thus far. In this next section, we would like to know about your sexual history. This will be a very personal section and we appreciate your honesty and insight.

- |   |       |    |
|---|-------|----|
| 1. Have you ever <b><u>received oral sex</u></b> from someone?  | Yes   | No |
| If no, please skip to next question.  |       |    |
| a. If yes, at what age did you first engage in this activity?   | _____ |    |
| b. How many people have you received oral sex from?   | _____ |    |
| 2. Have you ever <b><u>given oral sex</u></b> to someone?   | Yes   | No |
| If no, please skip to the next question   |       |    |
| a. If yes, at what age did you first engage in this activity?   | _____ |    |
| b. How many people have you given oral sex to?  | _____ |    |
| 3. Have you ever engaged in <b><u>sexual intercourse with penetration (anal or vaginal)</u></b> with someone? | Yes   | No |
| If no, please skip to the next question.  |       |    |
| a. If yes, at what age did you first engage in this activity?   | _____ |    |
| b. How many partners have you had?  | _____ |    |

The next set of questions is applicable only to people who have engaged in sexual activities. If any questions do not apply to you, please write "NA" in the blank.

- |  |         |
|--|---------|
| 4. What percentage of the time do you use a condom when participating in <b><u>sexual intercourse</u></b> with penetration (either anal or vaginal)? | _____ % |
|--|---------|

5. What percentage of the time do you and/or your partner use some \_\_\_\_\_%  
form of contraceptive other than condoms? (The pill, the patch,  
Depo Provera shots, spermicide)?
6. Have you ever contracted an STD/STI  
(Sexually transmitted disease or infection)? Yes No
7. Have you ever been emotionally unfaithful to a partner? Yes No
8. Have you ever been physically unfaithful to a partner? Yes No
9. Have you ever had an unplanned pregnancy with a sexual partner? Yes No
10. How often have you engaged in the following sexual behaviors?  
(1=Never, 2=once, 3=a few times, 4=numerous times, 5=too many times to count)
- a. Oral sex \_\_\_\_\_
- b. Anal sex \_\_\_\_\_
- c. Sex with multiple partners at once (i.e. threesome or orgy) \_\_\_\_\_
- d. One night stands or hook ups \_\_\_\_\_
- e. Friends-with-benefits relationships \_\_\_\_\_

In the next several sections we will be asking you questions regarding your current romantic partner. This is the person who should also be participating in this study by filling out a separate questionnaire. Please make sure that all of your responses are in reference to this specific relationship and partner.

In this section, we would like to know about your sexual activity with your partner who is also participating in this study. This will also be a very personal section and we appreciate your honesty and insight.

1. How long have you and your partner been together? \_\_\_\_\_
2. What type of relationship do you have? (Circle one)
- a. Spouse/Life partners?
- b. Fiancés?
- c. Long-term boy/girlfriends (> 6 months)?

- d. Short-term boy/girlfriends (< 6 months)?
- e. One night stands/hook up?
- f. Friends-with-benefits?
- g. Other:\_\_\_\_\_
3. Are you saving yourself for marriage Yes No  
 (meaning you will have no premarital sex)  
 OR if you are married, did you save yourself for marriage? Yes No
4. How often have you and your partner kissed? \_\_\_\_\_  
 (1=Never, 2=once, 3=a few times, 4=numerous times, 5=too many times to count)
5. How often have you engaged in sexual petting \_\_\_\_\_  
 (i.e. touching breasts, genitals, etc) with your partner?  
 (1=Never, 2 = once, 3 = a few times, 4 = numerous times, 5 = too many times to count)
6. How often do you engage in oral sex with your partner?  
 \_\_\_\_\_ times per week OR \_\_\_\_\_ times per month
7. How often do you engage in sexual intercourse with your partner?  
 \_\_\_\_\_ times per week OR \_\_\_\_\_ times per month
8. What percentage of the time do you use a condom when participating \_\_\_\_\_%  
 in **sexual intercourse** with penetration (either anal or vaginal)?
9. What percentage of the time do you and/or your partner use some \_\_\_\_\_%  
 form of contraceptive other than condoms? (The pill, the patch,  
 Depo Provera shots, spermicide)?
10. How many times have you included other sexual partners in your sexual \_\_\_\_\_  
 behaviors with your partner? (i.e. a threesome or orgy)
11. How many times have you engaged in anal sex with your partner? \_\_\_\_\_
12. Do you have an open relationship meaning that monogamy is not assumed? Yes No
13. If you are in a monogamous relationship, how many times have you been \_\_\_\_\_  
 emotionally unfaithful to your partner?
14. If you are in a monogamous relationship, how many times have you been \_\_\_\_\_

physically unfaithful to your partner?

15. Have you ever had an unplanned pregnancy with this partner? Yes No

16. How do you identify yourself sexually? (circle below)

Asexual          Bisexual          Heterosexual          Homosexual

In this section, please think about how you and your partner (who is also participating in this study) communicate about sex and on a scale from 1-7 please indicate how much you agree or disagree with the following statements. (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree).

1. I have clearly communicated my sexual desires to my partner 1 2 3 4 5 6 7
2. My partner has clearly communicated his/her sexual desires to me 1 2 3 4 5 6 7
3. I feel comfortable making specific requests regarding sexual activities that I like 1 2 3 4 5 6 7
4. My partner feels comfortable making specific requests regarding sexual activities that she/he likes 1 2 3 4 5 6 7
5. My partner and I frequently talk about sex as a couple 1 2 3 4 5 6 7
6. My partner and I talk very openly about sex as a couple 1 2 3 4 5 6 7
7. I have told my partner about sexual desires that others might find repulsive or perverted 1 2 3 4 5 6 7
8. My partner has told me about sexual desires that others might find repulsive or perverted 1 2 3 4 5 6 7
9. My partner often ignores my sexual desires or preferences 1 2 3 4 5 6 7
10. I often ignore my partner's sexual desires or preferences 1 2 3 4 5 6 7
11. I am able to tell my partner if she/he hurts me during sex 1 2 3 4 5 6 7
12. My partner is able to tell me if I hurt him/her during sex 1 2 3 4 5 6 7
13. I am able to tell my partner if I do not enjoy something she/he is doing during sex 1 2 3 4 5 6 7

14. My partner is able to tell me if he/she is not enjoying something I am doing during sex 1 2 3 4 5 6 7
15. Usually I am able to climax (have an orgasm) during sexual encounters with my partner 1 2 3 4 5 6 7
16. Usually my partner is able to climax (have an orgasm) during sexual encounters with me 1 2 3 4 5 6 7
17. I am able to discuss my sexual preferences in great detail with my partner 1 2 3 4 5 6 7
18. My partner is able to discuss her/his sexual preferences in great detail with me 1 2 3 4 5 6 7
19. I almost never talk about sex with my partner 1 2 3 4 5 6 7
20. My partner almost never talks about sex with me 1 2 3 4 5 6 7
21. I openly talk about contraception with my partner 1 2 3 4 5 6 7
22. My partner openly talks about contraception with me 1 2 3 4 5 6 7

Please think about your partner's (who is also participating in this study) beliefs about sex and on a scale from 1-7 please indicate how much you think she/he agrees or disagrees with the following statements. (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree).

1. As long as you are in a monogamous relationship, you don't need to use birth control 1 2 3 4 5 6 7
2. If you are in a monogamous relationship, you should never have sex with another person 1 2 3 4 5 6 7
3. You should have as few sexual partners as possible in a lifetime 1 2 3 4 5 6 7
4. It is okay to have sex with multiple partners simultaneously 1 2 3 4 5 6 7
5. It is okay to have anal sex 1 2 3 4 5 6 7
6. Becoming pregnant early in life leads to difficulties 1 2 3 4 5 6 7

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 7. It's okay to have sex before marriage so long as it is with someone you love   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. You should always use birth control – regardless of how long you have been in a relationship                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. As long as you are in a committed relationship you don't need to use birth control                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Sex is only appropriate in marriage   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Hooking up, one night stands, and friends-with-benefits is a part of the college experience                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. You should only have sex in the missionary position   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Even if you are in a committed relationship there are circumstances in which it is okay to have sex with someone else | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. It's okay to have sex at an early age   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Becoming pregnant early in life leads to joys   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. You should always use protection against STIs (i.e. condoms) – regardless of how long you have been in a relationship | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. It is okay to have a number of sexual partners throughout your lifetime   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. It's okay to have oral sex  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. It's okay for people to have sex in high school   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. People should be able to explore their sexual desires   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. Sex is an important part of a romantic relationship   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

For this next section please still think about the sexual relationship you described with the partner who is also participating in this study. On a scale from 1-7, please indicate how much you agree or disagree with the following statements (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree).

1. Even if my partner wants to have sex, I feel comfortable telling her/him no if I don't want to have sex 1 2 3 4 5 6 7
2. I am able to end a sexual experience at any point I want to 1 2 3 4 5 6 7
3. I find it difficult to ask my partner to have sex with me 1 2 3 4 5 6 7
4. I feel I should have sex (oral or intercourse) whenever my partner wants me to. 1 2 3 4 5 6 7
5. I feel that once we start becoming physical, I have to go all the way 1 2 3 4 5 6 7
6. I am able to initiate sex with my partner when I want to have sex 1 2 3 4 5 6 7
7. I can say no to sexual advances from people other than my partner 1 2 3 4 5 6 7
8. I am able to insist on using a condom during sex, even if my partner does not want to use a condom 1 2 3 4 5 6 7
9. I usually engage in whatever types of sex my partners wants me to -even if I don't want to 1 2 3 4 5 6 7
10. I find it difficult to refuse to have sex just because my partner will not use a condom 1 2 3 4 5 6 7
11. I am able to discuss preventing AIDS or sexually transmitted diseases with my partner 1 2 3 4 5 6 7
12. I am comfortable asking my partner to engage in sexual acts that are "unconventional" 1 2 3 4 5 6 7
13. I can discuss preventing pregnancy with my partner 1 2 3 4 5 6 7
14. If people other than my partner make sexual advances towards me it's hard for me to stop them 1 2 3 4 5 6 7
15. I can say no if my partner wants me to participate in a sexual act that I don't want to participate in 1 2 3 4 5 6 7

Thank you for your participation thus far. Still thinking about the relationship you have with the partner who is also participating in this study, please indicate on a scale from 1-9 how much you agree or disagree with the following statements (1=Do not agree at all, 9=Agree completely)

1. I want our relationship to last for a very long time 1 2 3 4 5 6 7 8 9
2. I am committed to maintaining my relationship with my partner 1 2 3 4 5 6 7 8 9
3. I would not feel very upset if our relationship were to end in the near future 1 2 3 4 5 6 7 8 9
4. It is likely that I will date someone other than my partner within the next year 1 2 3 4 5 6 7 8 9
5. I feel very attached to our relationship-very strongly linked to my partner 1 2 3 4 5 6 7 8 9
6. I want our relationship to last forever. 1 2 3 4 5 6 7 8 9
7. I am oriented toward the long-term future of my relationship (For example, I imagine being with my partner several years from now). 1 2 3 4 5 6 7 8 9

Still thinking about the relationship you have with the partner who is also participating in this study, please indicate on a scale from 1-9 how much you agree or disagree with the following statements (1=Do not agree at all, 9=Agree completely). The term “alternative relationships” can include relationships you could have with another dating partner, friend, family, etc.

1. My needs for intimacy (sharing personal thoughts, secrets, etc. could be fulfilled in an alternative relationships 1 2 3 4 5 6 7 8 9
2. My needs for companionship (doing things together, enjoying other’s company, etc) could be fulfilled in an alternative relationship 1 2 3 4 5 6 7 8 9
3. My sexual needs (holding hands, kissing, etc) could be fulfilled in an alternative relationship 1 2 3 4 5 6 7 8 9
4. My needs for security (feeling trusting, comfortable in a stable relationship, etc) could be fulfilled in an alternative relationship 1 2 3 4 5 6 7 8 9

5. My needs for emotional involvement (feeling emotionally attached feeling good when another feels good, etc) could be fulfilled in an alternative relationship. 1 2 3 4 5 6 7 8 9
6. The people other than my partner with whom I might be involved are very appealing 1 2 3 4 5 6 7 8 9
7. My alternatives to our relationship are close to ideal (dating another, spending time with friends or on my own, etc). 1 2 3 4 5 6 7 8 9
8. If I weren't dating my partner, I would do fine – I would find another appealing person to date. 1 2 3 4 5 6 7 8 9
9. My alternatives are attractive to me (dating another, time with friends or on my own, etc) 1 2 3 4 5 6 7 8 9
10. My needs for intimacy, companionship, etc. could easily be fulfilled in an alternative relationship. 1 2 3 4 5 6 7 8 9

In this next section we ask you to indicate on a scale from 1-7 how much you agree or disagree with the following statements (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree).

1. Rules are there for people to follow, not to change 1 2 3 4 5 6 7
2. People should constantly try to question why things are the way they are 1 2 3 4 5 6 7
3. The only way to stay out of trouble is to respect the established rules of society 1 2 3 4 5 6 7
4. People should be guided more by their feelings and less by the rules 1 2 3 4 5 6 7
5. People should not try to understand how society works but just accept the way it is 1 2 3 4 5 6 7
6. Society's basic rules were created by people and so can always be changed by people 1 2 3 4 5 6 7

For this final section, please think about your friends' beliefs regarding sex and on a scale from 1-7 please indicate how much you think they agree or disagree with the following

statements (1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Moderately agree, 7=Strongly agree).

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. As long as you are in a monogamous relationship, you don't need to use birth control                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. If you are in a monogamous relationship, you should never have sex with another person                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. You should have as few sexual partners as possible in a lifetime   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. It is okay to have sex with multiple partners simultaneously   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. It is okay to have anal sex  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Becoming pregnant early in life leads to difficulties  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. It's okay to have sex before marriage so long as it is with someone you love   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. You should always use birth control – regardless of how long you have been in a relationship                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. As long as you are in a committed relationship you don't need to use birth control                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Sex is only appropriate in marriage   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Hooking up, one night stands, and friends-with-benefits is a part of the college experience                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. You should only have sex in the missionary position   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Even if you are in a committed relationship there are circumstances in which it is okay to have sex with someone else | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. It's okay to have sex at an early age   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Becoming pregnant early in life leads to joys   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. You should always use protection against STIs (i.e. condoms) – regardless of how long you have been in a relationship | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 17. It is okay to have a number of sexual partners throughout your lifetime | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. It's okay to have oral sex  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. It's okay for people to have sex in high school                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. People should be able to explore their sexual desires                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. Sex is an important part of a romantic relationship                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Thank you very much for your participation in this study. Please take a moment to complete the demographic questions below and again, your participation is very much appreciated.

- |  |                       |
|--|-----------------------|
| 1. How old are you?  | _____                 |
| 2. Which race do you identify with most?   | _____                 |
| 3. What is your biological sex?  | Male    Female        |
| 4. Do you currently live with your parents?  | Yes    No             |
| 5. Do you affiliate with a particular religion?  | Yes    No             |
| a. If so, which religion?  | _____                 |
| b. On a scale of 1-5, how religious are you?<br>(1=not at all religious, 5=very religious) | 1    2    3    4    5 |