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THE EFFECTS OF AN ACTIVE LEARNING INTERVENTION ON INCREASING
PARENTAL EFFICACY REGARDING SEXUAL COMMUNICATION WITH
TODDLERS AND YOUNG CHILDREN

by

Melissa M. Ferguson

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Human Development and Family Studies

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2021

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ABSTRACT

The Effects of an Active Learning Intervention on Parent Efficacy Regarding Sexual
Communication With Toddlers and Young Children

by

Melissa Ferguson, Master of Science

Utah State University, 2021

Major Professor: Dr. Aryn Dotterer
Department: Human Development and Family Studies

In the United States, it is estimated that about 20% of children will experience sexual abuse before the age of 18. To reduce child sexual abuse more effectively and to increase positive sex attitudes and behaviors, a change is needed in how individuals and society view and discuss sexual health and sex education. Parents are in a powerful position to teach sexual topics to their children in a positive way but may be lacking sexual knowledge and confidence in their ability to address such topics. Informed by Albert Bandura's Social Learning Theory, which posits that when people have high self-efficacy, they are more likely to adopt observational learning behaviors, this study 1) observed the relationships of personal and contextual factors as they relate to sexual communication efficacy and 2) tested the effects of an active learning intervention to increase parental efficacy regarding sexual communication with young children aged one- to five-years-old.

Participants were recruited mainly from social media, local non-profit agencies, and connections with USU Extension. Parents who participated were randomly assigned

into either a control group ($n = 55$), two-page factsheet only group ($n = 58$), or active learning group ($n = 56$) which received an hour long interactive online presentation. Participants who completed pre- and post-test assessments were compared between assigned groups to examine increases in parental self-efficacy regarding sexual communication, parental knowledge of child sexual development, and frequency of sexual communication.

Results from the pretest analytic sample ($n = 279$) showed that parents' experience of sexual trauma was related to greater reports of sexual communication self-efficacy. Additionally, both general sexual knowledge and child sexual development knowledge were positively correlated with parental self-efficacy regarding sexual communication. Post-test results of mixed design analyses of variance ($n = 117$) showed the intervention was not effective at increasing parental sexual communication efficacy, however both the factsheet and active learning intervention groups showed significant gains in knowledge of child sexual development. This study was largely exploratory and should be built upon in order to attain the goals of promoting lifelong sexual health and healthy positive attitudes.

PUBLIC ABSTRACT

The Effects of an Active Learning Intervention on Parent Efficacy Regarding Sexual
Communication with Their Toddlers and Young Children

Melissa Ferguson

In the United States, it is estimated that 1 in 5 children will experience sexual abuse before the age of 18. To reduce child sexual abuse more effectively and to increase positive sex attitudes and behaviors, a change is needed in how individuals and society view and discuss sexual health and sex education. Parents are in a powerful and readily available role to teach sexual topics in a positive way, but many are lacking sexual knowledge and confidence in their ability to address sexual topics with their children. This study looked at how personal and contextual factors relate to confidence in parental sexual communication and tested the effects of an active learning intervention to increase parental confidence regarding sexual communication with young children aged one- to five-years-old.

Parents in the study were recruited mainly from social media, local non-profit agencies, and connections with USU Extension. Parents who took the pretest assessment were assigned into one of three groups: a control group (55 participants who received no additional information), a factsheet only group (58 participants who received a two-page factsheet of information on child sexual development), or an active learning group (56 participants who received a one-hour long interactive online presentation with information on child sexual development). Those who completed the pre- and post-test assessments were compared between assigned groups to examine increases in parental

confidence regarding sexual communication, parental knowledge of child sexual development, and frequency of sexual communication with their children.

Results from the pretest ($n = 279$) showed that parents' experience of sexual trauma was related to greater sexual communication confidence. Pretest results also showed that parents who reported more general sexual knowledge and more child sexual development knowledge also reported greater parental confidence in sexual communication. Post-test mixed-design analysis of variance ($n = 117$) showed the information provided to the fact sheet and active learning group was not effective at increasing parental sexual communication confidence, however both groups showed gains in knowledge of child sexual development. This study was largely exploratory and should be built upon to attain the goals of promoting lifelong sexual health and healthy positive attitudes.

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Melissa Ferguson

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CHAPTER I

INTRODUCTION

Sexual Health Risks and Concerns

According to the World Health Organization (WHO), sexual health concerns related to body integrity and sexual safety can be addressed through education about sexuality and society-wide actions that promote sexual health (WHO, 2006). As a result, many countries and governments around the globe have created and implemented educational programs to help promote good sexual health (e.g., Fentahun, Assefa, Alemseged & Ambaw, 2012; Kenny, 2010; Kesterton & Coleman, 2010; Mitchell, Nakamanya, Kamali & Whitworth, 2001; Morawska, Walsh, Grabski & Fletcher, 2015; Nambambi & Mufune, 2011; Rabbitte & Enriquez, 2019; Wamoyi, Fenwick, Urassa, Zaba & Stones, 2010). Sexual health is defined by the World Health Organization as follows:

A state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled. (WHO, 2006)

One of the key concepts of sexual health is that the sexual rights of all people, even young people and children, must be respected and protected. Children are often unaware of their sexual rights and are thus at risk for sexual abuse in childhood, and consequently, also in later relationships (Allbaugh, Wright, & Seltmann, 2014; Elliott, Browne, & Kilcoyne, 1995; Finkelhor, Turner, Shattuck, & Hamby, 2013; Talmon, & Ginzburg, 2018). As guardians of children, those in parental roles have a responsibility to protect children from child abuse and shoulder the weight of being a child's first sex educator (Cappello, 2000/2001; Halim, Walsh, Tamis-LeMonda, Zosuls & Ruble, 2018; Miltenberger & Hanratty, 2013; Wurtele & Kenny, 2011). Parents are frequently uncomfortable with subjects of sexuality when it comes to their young children (Byers, Sears, & Weaver, 2008; El-Shaieb & Wurtele, 2009; Geasler, Dannison, & Edlund, 1995; Stone, Ingham, & Gibbins, 2013; Walsh, Brandon, & Chirio, 2012), and although these topics are best taught individually in a home setting (Kakavoulis, 2001; Linton & Rueda, 2015; Wurtele & Kenny, 2011), parents most often leave the sex education teaching to the public school system (Breuner, Mattson, *Adolescence & Health*, 2016; Flores & Barroso, 2017). By bolstering parental efficacy, difficult conversations, such as those around topics of sexuality, may be more effective and occur more often (Cappello, 2000/2001; Christensen, Wright & Dunn, 2017; DiIorio, Dudley, Wang, Wasserman, Eichler, Belcher, & West-Edwards, 2001; Farrington, Holgate, McIntyre, & Bulsara, 2014).

Sex Education in the United States

As several other countries have done, the United States (U.S.) has created and implemented policies to promote and require sex education in order to support sexual health. There are several issues with the U.S.'s approach to sex education, as each state has differing laws and requirements for sex education, so there is not a uniform understanding of sex and sexuality across the country (Rabbitte & Enriquez, 2019; SIECUS, 2004). Most states promote the least effective form of sex education, abstinence only sex education, and often only provide programs to adolescents in public middle schools and high schools (Lindberg, Maddow-Zimet & Boonstra, 2016; Mellanby, Newcombe, Rees & Tripp, 2001; Powell & Selwyn, 2007). Research has primarily focused on school-based sex education because it is easier to observe, regulate, and is more widely accepted. However, there are many children, such as children who are not yet formal schooling age, who are not reached by school-based sex education, and the education that is given is generalized and lacking important individual information (Cappello, 2000/2001, Pop & Rusu, 2015; Rabbitte & Enriquez, 2019). Parents, teachers, and especially adolescents who participate in these programs often express dissatisfaction and discomfort with what is taught in a formal secondary school sex education setting. Middle school and high school students have stated that the provided information is “too little, too late” (Bourton, 2006) and is more likely to be well accepted by someone outside of a school setting, such as the internet or a friend (Chandra-Mouli, Lane, & Wong, 2015; Fentahun et al., 2012; Haberland, & Rogow, 2015; Lindberg et al., 2016; Mellanby et al., 2001; Pound, Langford, & Campbell, 2016).

Based on this research, it is clear that some education related to sex and sexuality is needed before the adolescent years. Young children are naturally curious about their bodies as well as other people's bodies, making toddlerhood and early childhood an opportune time to address developmentally appropriate sex and sexuality education (Wurtele & Kenny, 2011). However, many parents have concerns about certain topics, such as masturbation, being taught to their young children, therefore, sexuality education for younger children has been difficult to implement (Christensen et al., 2017; Geasler et al., 1995; Kakavoulis, 2001; Stone et al., 2013). To rectify this, a few states have passed legislation to provide child abuse prevention education in a public school setting for younger children.

Child Sexual Abuse Prevention

Utah's policy (Child Abuse Prevention Act, 2014) requires some form of sexual abuse prevention education in elementary schools. These programs are based on abstinence and age-appropriate information about body integrity and consent (Byers et al., 2008; Miltenberger & Hanratty, 2013; Wurtele & Kenny, 2011). It is important that child abuse prevention education happen in school settings because it is estimated that about 20% of children will experience some form of sexual abuse before the age of 18 (Cappello, 2000/2001; Finkelhor et al., 2013; Miltenberger & Hanratty, 2013). Although it is a good start, limiting abuse prevention education to children in school neglects a large population of preschool-aged children who are targeted for childhood sexual abuse (i.e., Cappello, 2000/2001; Elliott et al., 1995; Rabbitte & Enriquez, 2019). According to Elliott and colleagues (1995), convicted perpetrators of child sexual abuse targeted

children as young as three-years-old, and specifically those with questions and curiosity about their own and others' bodies. As mentioned before, it is developmentally normative for infants, toddlers, and young children to be curious and exploratory about their own and others' bodies, and are therefore in need of help to understand what is and is not socially appropriate (Wurtele & Kenny, 2011). There is some concern that children in the specified age range are too young to understand the topics and that education would therefore be ineffective. However, in a study done by Shaffer and colleagues (2019), it was shown that a developmentally appropriate parenting program focused on emotional communication was effective within the same age range, children aged one- to five-years old. As emotional communication and sexual communication have several similar challenges and barriers, it is logical that an educational program based on parental sexual communication would also be effective (Shaffer et al., 2019)

Promote Positive Sex Attitudes and Behaviors

Generally, when matters of sex or sexuality are discussed with young people, especially from an abstinence only perspective, the topics are often approached with negativity or in a threatening way (Wamoyi et al., 2010). This approach is not supported by the recommendations of the World Health Organization to promote sexual health, which requires a positive approach to sex education (WHO, 2006). Children are particularly susceptible to these negative attitudes and learn at a young age that sex and certain body parts are something to be feared and not discussed (Allbaugh et al., 2014; Elliott et al., 1995; Finkelhor et al., 2013; Talmon, & Ginzburg, 2018; Tishelman & Fontes, 2017). Sexual development is a normal part of child development, and when

children are taught to fear and be ashamed of their bodies, other areas of development, such as self-esteem and identity, can also be negatively impacted (Kakavoulis, 2001; Wurtele & Kenny, 2011).

Toddlers and young children are naturally highly curious about their own and others' bodies and are aware of societal differences and preferences with regard to gender by 18 months old (Halim et al., 2018; Wurtele & Kenny, 2011). Even at such a young age, many children have sexual questions and look for answers (Elliott et al., 1995). Parents have unique opportunities and responsibility to teach their child about their bodies in a positive light, to set the stage for lifelong sexual health (Finkelhor et al., 2013; Kakavoulis, 2001; Wurtele & Kenny, 2011). For example, having a positive self-image can lead to more confidence and ability to better negotiate boundaries and sexual expectations within a relationship. Likewise, children who are taught that sex is a fulfilling and purposeful ritual rather than a punishment or a requirement may have a more positive experience when they do become sexually active. Having a parent-led, home-based sex education program could lead to earlier intervention, and therefore more effective prevention of child sexual abuse and more effective promotion of positive sexual attitudes (Wurtele & Kenny, 2011). By targeting a younger and more vulnerable population, healthy sexual practices may be able to start at a younger age. Topics such as, healthy body image, less prejudice for sexual orientation, firm body integrity and safety boundaries, and more insight to healthy relationships can all be addressed by parents to their young children and may be helpful throughout their lives (Cappello, 2000/2001). All of these potential benefits may not only help alleviate issues related to sexual health, but also promote more compassionate citizens and stronger families.

Statement of the Problem

Parental self-efficacy

Although parents are in a powerful position to promote lifelong sexual health, many parents of young children are unaware that their child needs this information (Wurtele & Kenny, 2011). When it comes to sexual matters, many parents are uncomfortable talking about specifics for fear of giving too much information (Cappello, 2000/2001; Geasler et al., 1995). Several parents assume that children will ask questions when they are ready to learn about sexual topics, which is not always the case (Christensen et al., 2017; Kakavoulis, 2001; Morawska et al., 2015; Stone et al., 2013). These parents also are usually unsatisfied with their own sex education when they were growing up and lack the correct information to provide their children. Although many parents plan to “do better” than their own parents did in regard to providing sex education, several fall into the same pattern that they were taught, and the pattern continues (Christensen et al., 2017; Morawska et al., 2015; Stone et al., 2013).

Parents are often uncomfortable talking about sex in general, and that discomfort may be enhanced when talking to a young child who is perceived to be too innocent for such conversations. Very young children generally do not perceive these conversations as sexual, and only feel uncomfortable with the content if the parent or instructor feels uncomfortable about the topic (Christensen et al., 2017; Stone et al., 2013; Wurtele & Kenny, 2011). However, many of these conversations around sexual topics with young children are uncomfortable and the child learns to be uncomfortable with sexual matters from their parents’ approach to the subject (Christensen et al., 2017; Finkelhor et al., 2013; Stone et al., 2013).

Because of this, countless parents are in need of a program that not only provides the information about sex and sexuality that they are missing but will also promote confidence in discussing developmentally appropriate sexual topics with their young children (Cappello, 2000/2001; Kakavoulis, 2001; Morawska et al., 2015; Stone et al., 2013; Wurtele & Kenny, 2011). Many parents need help to become more comfortable with uncomfortable conversations. This help includes developing a plan so parents are not caught off guard when questions do arise. Based on the literature reviewed here, there is currently no program focused specifically on teaching parents how to confidently handle conversations with their young children about sexual topics in a positive way (SIECUS, 2004; Morawska et al., 2015; Wamoyi et al., 2010).

Lack of information and programs for preschool children

There are several community, school, and parenting programs that do address parent confidence in sexual communication for adolescents, and even middle school children (Flores & Barroso, 2017; Mendelson & Letourneau, 2015; SIECUS, 2004; Walsh et al., 2012). At this age, however, there is usually an already established pattern of parent-child communication about sexual matters, and that pattern is difficult to change as time goes on. Programs that address sexual abuse prevention are generally targeted at younger elementary school children (with moderate success), and only a few have parent-child sexual communication as a focus (Flores & Barroso, 2017; Mendelson & Letourneau, 2015; Walsh et al., 2012). To the best of our knowledge, there is not currently programming regarding sexual communication for parents with children who are not yet in a school setting. Because children are curious about sexual matters at such an early age, it is essential that their questions are addressed and answered in a confident,

accurate, and positive way. Parents are in a readily available and empowering position to be the providers of such an approach if they were taught how and when to do so.

CHAPTER II

REVIEW OF LITERATURE

In the United States, one in four girls and one in five boys will experience abuse before they turn 18, many of these will experience sexual abuse (Finkelhor et al., 2013, Miltenberger & Hanratty, 2013). This statistic has caught the attention of many, and several programs have been developed to help prevent childhood sexual abuse (Elliott et al., 1995; Flores & Barroso, 2017; Mendelson & Letourneau, 2015; Miltenberger & Hanratty, 2013). Although most of these programs are well intentioned and have been shown to be somewhat effective, nearly 25% of children in the U.S. are still experiencing abuse (Finkelhor et al., 2013; Miltenberger & Hanratty, 2013). Because of this, sexual abuse prevention educators need to take a different and earlier approach to stopping abuse. In addition to preventing abuse, there is also a need to address the positive and normative aspects of sexual development (Wurtele & Kenny, 2011). A change is needed in how individuals and society view and discuss sexual health and sex education. In order to do this, educators should start with the basic unit of society—the family. This study focused on the family by concentrating on parents of children aged one- to five-years-old to increase parental efficacy regarding sexual communication to promote lifelong sexual health. This was assessed and observed through a randomized controlled trial with two different intervention groups and a control group.

Theoretical Background

This study is informed by Bandura's social learning theory by calling on individuals and society as a whole to improve the current approaches to sex education through the mechanism of self-efficacy. A key assumption with social learning theory is that learning happens in social interactions, thereby targeting change in a specified social interaction (parent-child sexual communication) will change learning. The generative capability of self-efficacy is the mechanism of change that allows the adoption of a new perspective and integration of different social interactions by promoting discussions about sexual topics with young children. By changing the interactions for the better, others will learn through observation of this behavior, which in turn may more effectively prevent childhood sexual abuse and may help society better accept a positive and lifelong perspective of sex and sexuality.

Bandura's social learning theory

Social learning theory, also known as social cognitive theory, was developed by Albert Bandura starting in the early 1960's, as a response to Skinnerian ideas of human development (Crain, 2011). In contrast to Skinner, Bandura asserts that humans do not develop alone, but in social contexts, based on interactions with others (Bandura, 2006-b; Crain, 2011). Individuals are an active agent in their own development by taking part in their social interactions. Bandura explained this phenomenon through triadic reciprocal determinism, which has three main determinants, or factors, which contribute to the equation of causation. These include the individual's *behavior*, *internal personal factors*, and the *external environment*, with the factors influencing each other bidirectionally (Bandura, 1997; Crain, 2011). This means that each of the main determinants may play a

role in development simultaneously by how they influence each other. For example, sexual communication is a type of *behavior*. A person might have a generally shy disposition, an *internal personal factor*, which may account for some reluctance for sexual communication. If this person is in a gynecology office or alone with a spouse, which would be an *external environment*, they will likely see these settings as a more appropriate place to engage in sexual communication than if they were with their child at the grocery store. In this example, the person played an active role in the behavior, and followed some cognitive process to fulfill the behavior, which is a central tenant of Bandura's theory (Bandura, 1997; Crain, 2011).

According to Bandura, individuals develop through social interaction, learning by doing and also by observing the actions of others. There are four components of learning through modeling, or in other words, learning through observing someone else. In order to learn through modeling, an individual must first pay attention. It is usually someone or something with prevalence, salience, arousal, or accessibility that catches an observer's attention. Second, the observed interaction must be retained. The retention process is a cognitive process in which the observer categorizes and rehearses the observed interaction, giving the interaction some symbolic meaning. Third, the observer must be able to reproduce the behavior. This component refers to being able to physically reproduce the observed behavior. The fourth and final component is motivational processes. When the observer is able to reproduce the observed behavior, the motivational processes help determine if the observer will acquire or perform the behavior. If the observer has deemed the observed behavior as inappropriate or likely to be punished, the behavior will be acquired, but reproducing the behavior is unlikely.

However, if the observer categorized the observed behavior as desirable or likely to be rewarded, it is probable that the observer will perform, or reenact, the observed behavior. Performance and acquisition are both parts of motivational processes (Bandura, 1997; Bandura, 2006-b; Crain, 2011).

In this study, the active learning approach intervention modeled the kinds of sexual conversations to have with young children, a topic that is usually attention grabbing. The retention process was engaged when participating parents were asked to choose the best answer as they categorized and rehearsed the conversation. Providing information through the intervention groups helped participating parents be more likely to physically reproduce the conversations, and whether the parents actually engaged in the conversations with their children is a show of acquisition or performance.

Self-efficacy component of social learning theory

As behaviors are performed, desirable or effective behaviors are reinforced, even if only vicariously. Reinforced behaviors are likely to reoccur, and after many repetitions, a person becomes efficient at the reoccurring behavior. Bandura defined perceived self-efficacy as being “concerned with people’s beliefs in their capabilities to produce given attainments” (Bandura, 1997, p 11; Bandura, 2006-a). As people are agents in their own development, a person’s perception of capability is a considerable portion of Bandura’s social learning theory. Bandura describes efficacious people as confident in their abilities to produce a desired outcome, thereby engaging in triadic reciprocal determinism. The term ‘confident’ in the self-efficacy component of social learning theory is not a measure of self-esteem, but a way to express that a person no longer has to cognitively engage to be efficient, much like driving a car (Bandura, 1997; Bandura, 2006-a).

The more a person perceives that they are efficient at a task, the more likely they are to engage in behaviors related to that task. For example, according to this theory, a parent who knows the anatomical names for genitalia is more likely to believe they are capable of teaching their child about their body. If that parent hears their child use the word ‘penis’ or ‘vulva’ to refer to their genitalia, that parent is more likely to believe that they are effective at sexual communication with their child, and in turn, the parent is more likely to engage in sexual communication with their child (Bandura, 1997). If this second conversation produces another positive response, the cycle is likely to continue. Bandura called this a generative capability of self-efficacy (Bandura, 1997). In simpler terms, the idea is that ‘practice makes perfect’, but it is the individual’s perceived efficacy that promotes the practice in the first place. Because individuals have differing levels of efficacy in many tasks and no one is perfect at every task, it is especially important to be specific with self-efficacy measures (Bandura, 2006-a; Pfitzner-Eden, 2016). Because of the self-efficacy component in social learning theory, the three intervention groups in this study were decided based on the levels of learning nested inside the theory.

Levels of learning

Self-efficacy is a way that people regulate their own behaviors, and this happens through four sources of self-efficacy appraisals. These appraisals make it possible to understand what motivates a person when presented with a setback, as well as what mode of learning is the most effective (Bandura, 1997; Bandura, 2006-a; Crain, 2011; Pfitzner-Eden, 2016). The four sources of self-efficacy appraisals are actual performance, vicarious experiences, verbal persuasion, and physiological cues.

Actual performance. This source of appraisal is, just as it sounds, when a person performs the desired task in a ‘real life’ setting. This is seen as a ‘hands-on’ approach and is the most effective source of self-efficacy appraisal because there is literal practice involved (Bandura, 1997; Crain, 2011). For the purposes of this study, the intervention did not include an actual performance approach to parental self-efficacy regarding sexual communication. One of the reasons for this is that actual performance when teaching parents how to communicate with their toddlers and young children about sex and sexuality has some ethical concerns with putting a vulnerable population in a potentially uncomfortable situation. Another reason for not using this approach is that the situations are not culturally compatible with societal expectations of behavior. A third reason for not utilizing the actual performance approach is that it may not promote the generative capability of self-efficacy as well as the other three sources of self-efficacy given the situations.

Vicarious experiences. When actual performance is not acceptable or possible, vicarious experiences are the next most effective source of self-efficacy appraisal. This approach uses modeling to show specific behaviors and outcomes (Bandura, 1997; Crain, 2011). In this study, an active learning approach (a form of vicarious experience) was utilized in one of the intervention groups. This consisted of a one-time interactive presentation where parents were given hypothetical situations concerning parent-child sexual communication. The parent then chose from one of four possible responses to the situation and received immediate praise or correction for the choice. Each choice had an explanation of what was beneficial and what was not helpful about the information provided in the possible answer.

Verbal persuasion. The third approach to self-efficacy appraisal is verbal persuasion, which is less effective than vicarious experiences. This is when one person convinces another that they are capable of accomplishing something, in other words, a pep talk (Bandura, 1997; Crain, 2011). Verbal persuasion was utilized by the other intervention group in this research study. The verbal persuasion group received a fact sheet about what and when to talk about sex and sexuality with their young children and included many positive affirmations, such as ‘you can do this!’ and ‘now that you know this information, you can teach it to your child!’. It is hypothesized that the verbal persuasion condition will be less effective at promoting parent self-efficacy regarding sexual communication than the vicarious experience condition.

Physiological cues. Of the four sources of self-efficacy appraisal, physiological cues are the least effective and the source that is usually relied on when it comes to sexual communication. Physiological cues are the signals that a body produces when a task is being attempted (Crain, 2011). The third condition in this study utilized the self-efficacy appraisal of physiological cues. This condition did not provide any additional information or presentations regarding sexual communication and is the control group. However, the researchers are aware that simply by participating in this study, the participants may choose to change what they do in the area of sexual communication with their young children. Because of this, it is anticipated that there will be some increase in parental self-efficacy regarding sexual communication in the physiological cues group, but the increase in parental self-efficacy regarding sexual communication will not be as large as the increase for the verbal persuasion or vicarious experience intervention groups.

Sex Education in Public Schools

In current practice and policy, public schools and parents share responsibility for educating children about sex. One study indicated that parents themselves have stated that “parents are ‘the best sex educators’ for their children,” and others should only step in if a parent is unable to fulfill that role (Linton & Rueda, 2015 p. 79). Wurtele, Moreno, and Kenny (2008) found that out of over 150 participants, 79% said that children should learn about sex both at home and at school and 21% said that children should learn about sex only in the home. Despite the majority saying that sex education should occur at home and by parents (El-Shaieb, & Wurtele, 2009; Farrington et al., 2014; Geasler et al., 1995; Mendelson, & Letourneau, 2015; Walsh et al., 2012), most studies indicate that parents overwhelmingly do not discuss sex with their children and choose to let the public school system use generalized sex education programs to accomplish giving their children factual information (Bourton, 2006; Byers et al., 2008; Christensen et al., 2017; Flores, & Barroso, 2017; Pop, & Rusu, 2015; Pound et al., 2016; Powell, & Selwyn, 2007; Stone et al., 2013; Tutty, 1993). Several parents have repeatedly expressed dissatisfaction with the information and the approach used by school sex educators and consequently opt to remove their child from the class or lecture when it is given at school (Fentahun et al, 2012; Geasler et al., 1995;).

The children who do participate in a public school sex education program usually receive abstinence only sex education and miss out on a majority of essential information (Pop & Rusu, 2015; Rabbitte & Enriquez, 2019). Even when a program claims to be comprehensive, it is rare for the program to cover all areas of truly comprehensive sex education. It is also highly uncommon for such a program to cover all areas of

comprehensive sex education adequately and in a positive manner (SIECUS, 2004; Wamoyi et al., 2010).

Public school sex education programs are limited in many ways, including programs being largely atheoretical. Legislation and regulations dictate what can and cannot be included in the programs, and these vary from state to state and even district to district (Pop & Rusu, 2015; Rabbitte & Enriquez, 2019). School sex education programs are also limited by time and personnel. In many states, sex education is not considered essential for grade level testing and is therefore not prioritized or well-funded. Parents have repeatedly expressed concern that giving information can be viewed as giving permission and many are dissatisfied with the schools not being able to address issues of sexual morality (Fentahun et al., 2012; Geasler et al., 1995; Kakavoulis, 2001; Walker, 2004). With all of these limitations, perhaps the most restricting limitation to public school sex education is that the information is often generalized and given in a short amount of time. Even with these limitations, comprehensive sex education has been shown to increase the age at sexual debut and increase safe sex practices, indicating that some sex education has been effective (Breuner et al., 2016; Chandra-Mouli et al., 2015; Haberland & Rogow, 2015).

Along with parents, several students have also expressed dissatisfaction with the sex education they receive through the public education system. Many children are dissatisfied with the lack of information given or lack of flexibility to address individual concerns (Mellanby et al., 2001; Pound et al., 2016; Powell, & Selwyn, 2007). Many parents are also concerned with the content, but in the opposite direction of their children. While some teenagers say that the sex education taught in the public school setting is

“too little, too late”, parents sometimes think that the information covered is too much, too soon (Bourton, 2006; Fentahun et al., 2012; Geasler et al., 1995).

This sentiment from several parents is often reflected in behavior regarding sexual communication. Although several parents do plan to discuss sexual topics with their children, those plans are seldom acted upon. In 2009, about a quarter of the parents in the study by El-Shaieb and Wurtele stated that there are a few sexual topics that they planned on never discussing in the first place. Even when parents do follow through with their plans to discuss sexual topics, the timing is, on average, delayed by three to five years from their original plan (El-Shaieb & Wurtele, 2009). This may be problematic especially for the students who are pulled out of the public school system’s sex education classes as they are likely to receive no information about sex until years later than their peers.

The Need for a Parent Sexual Communication Intervention

For the most part, the consensus is that parents carry the responsibility to teach their children about sex, even though this is rarely carried out. Several studies show that children would prefer to learn about sexual topics from their parents or friends, and would be more likely to ask questions if their parents were more comfortable with the topics (Bourton, 2006; Christensen et al., 2017; Fentahun et al., 2012; Mellanby et al., 2001). Parents have also been shown to be concerned that their children are not receiving enough information about sexual morality, which can be highly personal and influenced by family history and dynamics (Kakavoulis, 2001). For these reasons, empowering parents with increased sexual knowledge and confidence in their ability to address sexual topics with their children may be beneficial to society as a whole.

Wurtele, Moreno, and Kenny (2008) tested the effectiveness of a short information session about childhood sexual abuse prevention given to over 150 parents and found that even a brief time (one three-hour session) can effectively improve parental knowledge on the subject. This study builds on this and used a brief informative intervention in a randomized controlled trial to increase parental self-efficacy regarding sexual communication. This was done through providing information on anatomy and reproduction, childhood sexual development, and how to confidently address questions from their children about sexual topics.

Individual and Contextual Factors Related to Parents' Sexual Communication

Parental self-efficacy

Confidence leads to more communication. Self-efficacy has generative capability, meaning the more a person practices, the more likely they are to become proficient, and the more proficient a person becomes the more likely they are to continue practicing (Bandura, 1997). This cycle of generating parental self-efficacy regarding sexual communication has been observed and reported in parents of teenagers and older school-aged children (DiIorio et al., 2001). However, generating parental self-efficacy regarding sexual communication with toddlers and young children has not received scholarly attention. A few programs have promoted parental self-efficacy concerning emotional communication with toddlers and young children and have demonstrated this generative capability of self-efficacy by increasing the frequency of emotional words in parent-child communications (Shaffer, Fitzgerald, Shipman, & Torres, 2019). As emotional communication can be difficult at times and requires an understanding of

certain vocabulary, there are some parallels between these parent-child communication programs and this research study. Based on the findings of Shaffer and colleagues (2019), the intervention of this study is likely to promote the generative capability of parental self-efficacy regarding sexual communication, and in turn, increase the frequency of discussion of appropriate sexual topics with toddlers and young children.

Sexual knowledge. As one generation follows the pattern of the previous generations, sexual knowledge is not advanced, but remains stagnant. One study found that over the course of almost 30 years, even though sexual attitudes and policies had changed, only one area of parent-child sexual communication had increased (El-Shaieb & Wurtele, 2009). As this cycle continues, parents are more likely to have outdated and inaccurate information because the public school sex education programs are adapting to meet policy demands (Kakavoulis, 2001; Rabbitte & Enriquez, 2019). Therefore, the sex education that parents received in their schooling is less likely to have been adequate, not only for their own sexual needs, but in order to provide enough factual information to pass on to the following generation. This lack of knowledge contributes to a feeling of discomfort and lack of confidence when discussing sexual topics with children.

In a study by Wurtele, Moreno, and Kenny (2008), about 70% of the participants said that they did not know how to approach sexual topics with their children because of lack of knowledge about the topic. These concerns are echoed in many other studies and parents have stated their surprise at how much their children already know when they have talked about sexual topics (Flores & Barroso, 2017; Kesterton & Coleman, 2010; Stone et al., 2013). In a few studies, adolescents expressed that they knew more about sex than their parents did, so they were less likely to go to their parents with sexual questions

and more likely to ask friends or the Internet (Christensen et al., 2017; Fentahun et al., 2012; Mellanby et al., 2001).

Child development knowledge. Another reason that parents gave for not discussing matters of sex or sexuality with their children was that they were afraid of giving too much information too soon (Christensen et al., 2017; Morawska et al., 2015; Stone et al., 2013). While it is understandable that parents of such young children wish to ‘preserve their innocence’ as long as possible, it is actually recommended by family life educators that parents begin sexual communication with their children as young as two years old by using anatomically correct terms (Cappella, 2000/2001; Stone et al., 2013). It is developmentally normative for 18-month old toddlers to have an idea of gender and gender expectations, which come through experience and could be more easily navigated with parent-child sexual communication (Halim et al., 2018; Wurtele & Kenny, 2011). Toddlers are also expected to be toilet trained before entering formal schooling, which takes consistent parent-child communication. Ineffective use of parent-child sexual communication in this setting would help an already difficult task become harder, but if a parent is more aware of what is appropriate for a child to know about their own sexual development, the parent-child sexual communication around the task of toilet training may become more effective.

When parents and caregivers are more aware of what is normative sexual development for their toddlers and young children, they may be more prepared to discuss sexual topics as well as be aware of what may be indicators of experienced abuse (Wurtele & Kenny, 2011). For example, parents may view their child as hypersexual or wonder about the event of abuse if the child is masturbating. In reality, it is normal for

toddlers and young children to engage in self-touching as a comfort tool, not necessarily for sexual pleasure. However, it is not developmentally normative for toddlers and young children to masturbate with objects or make groaning or moaning noises while engaging in self-touch, and these may be signs of abuse or exposure to pornography (Wurtele & Kenny, 2011). When caregivers are able to make distinctions between what is expected and what would be considered advanced sexual knowledge, they are more prepared to address issues effectively and believe in their own ability to do so.

Contextual factors

Maternal education. Mothers are more likely to be considered the primary sex educator in the home, therefore, the mother's sexual knowledge is the most influential during parent-child communication about sexual topics. Mothers who have attended more schooling are more likely to be confident in their ability to discuss information, although they may not have more accurate sexual information than mothers who received less formal schooling (Farrington et al., 2014). Maternal education has also been used as an accurate indicator of the socio-economic status during the early years of a child's life, which is a potential influencer of the type and amount of sex education young children may receive. (Erola, Jalonen & Lehti, 2016).

Gender of parent and child(ren). The majority of previous literature on parental sexual communication include mothers and largely neglect paternal involvement. Several studies have examined mother-daughter and mother-son communication about sexual topics. These studies have found that mothers give daughters information about sex earlier and more often than they do their sons (Christensen et al., 2017; Farrington et al., 2014; Kuhle et al., 2015; Martin & Luke, 2010; Walker, 2001). One study showed that

fathers were expected to teach sons about puberty and a few other sex topics, but usually did not directly address the issue, opting to joke about or ignore the topic (Walker, 2001). Another study showed that regardless of levels of accurate sexual knowledge, mothers rated themselves as more effective at teaching young children about sexual topics than fathers had rated themselves (El-Shaieb & Wurtele, 2009).

As a majority of studies have focused on mother-child sexual communication, there is a need to learn more about paternal efficacy with regard to discussing sexual topics, particularly with sons. Parents need to be aware that, although not usually intentionally, sons often do not receive sex information in a timely manner. Parents should also know that discussing who is expected to teach which sexual topics and when should be a conversation to have early and directly (Christensen et al., 2017; Walker, 2001).

Past trauma. Some studies have focused on the experiences of parents who have experienced childhood sexual abuse themselves. As supported throughout the literature, these parents have experienced lasting effects from their trauma (Allbaugh et al., 2014; Finkelhor et al., 2013; Talmon & Ginzburg, 2018). Some of these effects, such as lack of energy, depression, post-traumatic stress disorder, and anxiety over the sexual safety of their children, have been barriers to parent-child communication about sexual matters. In 2014, a study by Allbaugh, Wright, and Seltsman assessed these barriers and maternal effectiveness as well as perceived effectiveness. A similar study by Talmon and Ginzburg in 2018 found that both men and women survivors of childhood sexual abuse have difficulty describing and maintaining a healthy body image and self-identity related to their physical body. These large and lasting barriers to sexual communication may impact

parental self-efficacy in regard to sexual communication with young children and need to be measured. This measure is especially useful in the current study because the sample is self-selected and many measures are self-reported.

Age. As sexual attitudes and policies change, public schools' sex education programs have included more topics and more accurate information (Rabbitte & Enriquez, 2019). Although these programs are still working to become truly comprehensive, younger parents may have had more accurate sex education themselves than other parents. Increased sexual knowledge can lead to increased confidence when discussing sexual topics, therefore parental age has been considered in this study (Kakavoulis, 2001; Stone et al., 2013).

Religiosity. Parents who have expressed dissatisfaction with public school sex education programs often state that they want their child to have more information about sexual morality, which cannot be taught in the school setting (Fentahun et al, 2012; Geasler et al., 1995; Kakavoulis, 2001). This sexual morality is something that is most likely to be taught by parents' examples and expressed expectations. However, one study found that 6% of parents thought that sex education should be provided by religious institutions only (Wurtele, Moreno, & Kenny, 2008). This is an indication that religion and religiosity can be an influencer on parental efficacy regarding sexual communication with their young children.

Less religious parents have been found to teach sex education topics to their children three years earlier on average than more religious parents (El-Shaieb & Wurtele, 2009). Parents who reported high levels of religiosity have shown more discomfort with topics such as masturbation, abortion, sexual-orientation, and contraception (Farrington

et al., 2014). As young children often engage in self-touching and witness a variety of romantic partnerships, being able to confidently address matters of masturbation and sexual orientation are key to conveying parental sexual morals to their children.

Several of the studies that have taken religion and religiosity into consideration of teaching sexual topics have only asked for religious affiliation or measured current religiosity. According to Farrington, Holgate, McIntyre, and Bulsara (2014), the religion itself does not have a significant impact on what sex information is given but does influence how the information is used. In the same study, the researchers found that, in general, it was more likely for highly religious parents to choose not to teach about certain sexual topics, and to assume that the religious institution had taught their children sexual morality accurately (Farrington et al., 2014). This is often not the case as is shown in the study by Tishelman and Fontes (2017).

Churches often rely on volunteers to complete assignments and trust that these volunteers will do their best, and in good faith. Many of the volunteers come in frequent contact with children, and with increased access to children, it has become an enticing role for child molesters (Tishelman & Fontes, 2017). Some religions try to treat and punish these actions 'in house', without the involvement of proper authorities and professionals (Tishelman & Fontes, 2017). The children involved can be made to feel that they have transgressed as well and must be punished to be able to remain fully in the religion (Farrington et al., 2014, Tishelman & Fontes, 2017).

On the other hand, Tishelman and Fontes (2017) also found that religious institutions can be a welcoming and healing place for those who have experienced child sexual abuse. Many clergy are considered trusted adults and may receive disclosures of

abuse from children and are then able to get proper authorities involved. Religious institutions are also a gathering place that promote community, which can in turn boost parental efficacy (Tishelman & Fontes, 2017). Regardless of the hurt or healing that is done in or by individuals from religious institutions, those who are charged with teaching sexual morality within a religious setting are generally volunteers. These volunteers likely do not have professional training or accurate sexual knowledge, much like parents of young children, and therefore, the information provided may not be as useful as is necessary.

Because religious affiliation and religiosity do affect the approach to sex education and the transference of sexual morals, it is an important factor to examine. As mentioned, many studies have included information on current religiosity, which is a great start. It has been shown that parents' own attitudes and sexual knowledge have a large effect on what they teach their children (Christensen et al., 2017; Kakavoulis, 2001; Morawska et al., 2015; Wamoyi et al., 2010). Because these attitudes are shaped by their own family of origin, it is important to also consider the religiosity of the family of origin when sex education was given to the parent in addition to current religiosity.

Region of residence. The sample for this study was largely from the Cache Valley area of Utah in the U.S., with another large portion of participants coming from other areas of Utah. These were categorized as regions of "Northern Utah and Idaho" and "Central and Southern Utah". Residence in the Ogden area and North were assigned to the "Northern Utah and Idaho" region. Any residence in Utah south of Ogden was assigned to the "Central and Southern Utah" region. As Utah is considered a highly religious state, religiosity may also be a confounding factor in the study and has been

analyzed with these considerations in mind. No other one state had a significant portion of participants, and thus, all other reported residences outside of Utah were assigned to “Other Region”.

Current Study

This study has analyzed the effectiveness of an intervention targeted at parents of children between the ages of one- and five-years old. The intervention provided information to these parents on what is developmentally normative for their child to know and understand about sexuality. Parental communication self-efficacy was compared to parental efficacy regarding sexual communication for parent participants in the study. The personal and contextual factors described above were examined to discover any existing patterns between each factor and parental efficacy regarding sexual communication. In this study, the active learning condition group received a one-hour online presentation with four hypothetical situations to show how to discuss the developmentally appropriate topics with their children. The fact sheet only condition group received a two-page fact sheet including information on how and when to discuss developmentally appropriate topics by age. The control condition received no further instruction. As each of the components of the study center on self-efficacy, it is logical that this intervention is grounded in Bandura’s social learning theory and the intervention is expected to promote greater efficacy and frequency of parental sexual communication.

Research questions

1. Is general parental communication self-efficacy positively correlated with parental efficacy regarding sexual communication?

2. What personal and contextual factors are associated with higher parental efficacy regarding sexual communication?

2a. Is the region of residence associated with higher parental efficacy regarding sexual communication?

2b. Is current religiosity negatively correlated with parental efficacy regarding sexual communication? Is there a difference in the correlation of current religiosity and religiosity of the family of origin when it comes to parental efficacy regarding sexual communication?

2c. Is the age of the parent negatively correlated with parental efficacy regarding sexual communication? Is the age of the child positively correlated with parental efficacy regarding sexual communication?

2d. Does having more than one child influence parental efficacy regarding sexual communication?

2e. Does the experience of past trauma influence parental efficacy regarding sexual communication?

2f. Do mothers have higher parental efficacy regarding sexual communication than fathers? Are parents more efficacious in sexual communication with daughters or sons?

2g. Is maternal education positively correlated with parental efficacy regarding sexual communication?

2h. Is parental general sexual knowledge positively correlated with parental efficacy regarding sexual communication? Is parental child sexual development knowledge positively correlated with parental efficacy regarding sexual communication?

3. Does parental efficacy regarding sexual communication and frequency of sexual communication increase following a parent sexual efficacy intervention?

3a. Is an active learning approach to provide sexual information to parents more effective at promoting parental efficacy regarding sexual communication than a fact sheet alone, when compared to a control group which receives no information?

Hypotheses

1. Higher parental communication self-efficacy will be positively correlated with higher parental efficacy regarding sexual communication.

2. Certain personal and contextual factors will be associated with higher parental efficacy regarding sexual communication.

2a. Residence in more densely populated areas will be associated with higher parental efficacy regarding sexual communication.

2b. Current religiosity will be negatively correlated with parental efficacy regarding sexual communication. Religiosity in family of origin will be negatively correlated with parental efficacy regarding sexual communication.

2c. Parental age will be negatively correlated with parental efficacy regarding sexual communication. Child age will be positively correlated with parental efficacy regarding sexual communication.

2d. Having more than one child between the ages of one and five years old will be associated with higher parental efficacy regarding sexual communication.

2e. The experience of past trauma will influence parental efficacy regarding sexual communication.

2f. Mothers will have higher parental efficacy regarding sexual communication when compared to fathers. Parents will have higher self-efficacy regarding sexual communication with daughters compared to sons.

2g. Maternal education will be positively correlated with parental efficacy regarding sexual communication.

2h. Parental general sexual knowledge will be positively correlated with parental efficacy regarding sexual communication. Parental child sexual development knowledge will also be positively correlated with parental efficacy regarding sexual communication.

3. The frequency of parent-child sexual communication will be highest in the active learning approach intervention group, followed by the fact sheet intervention group, with the control group having the lowest frequency of parent-child sexual communication.

CHAPTER III

METHODS

Recruitment

Parents of toddlers and young children were the target population for this study. Recruitment primarily took place in areas where parents of young children were likely to be, such as daycares and parenting classes. However, with the sensitive nature of the subject under study, a few targeted recruitment sites, such as Bear River Head Start and the Cache Women Infant and Children center, chose not to allow recruitment to occur at their facilities. Additionally, the event of COVID-19 had a sizable impact on in person recruitment activities, such as parenting classes and childcare facilities. The pandemic also impacted recruitment intended to come from distributing flyers with a QR code, such as parks and playgrounds, churches, and pediatric clinics. Even with the setbacks, online recruitment was able to continue by means of social media throughout the pandemic. Additionally, several participants were recruited through in person contact and flyers before the pandemic. For instance, connections with USU extension and local non-profit agencies (such as The Family Place) were utilized to distribute the information and physical flyers with a QR code.

Sample

Participants were self-selected and accessed the online survey at their convenience. In total, 279 parents with children aged one- to five-years-old completed the parental self-efficacy regarding sexual communication pretest survey. The sample

described in this section is based only on the participants who completed the pretest survey, regardless of the completion or incompleteness of the post-test survey. Most of the respondents (87%) were biological mothers of the child(ren) aged one- to five-years old, followed by biological fathers of the child(ren), which was only 9% of the sample. The majority of participants (57%) had only one child between the ages of one- and five-years-old. The average number of children per participant was 1.48 with a range of one to three children in the age range of one- to five-years-old. The average age of participant was 32.2 years old, with a range available from 18 years old to 41 years and older ($SD = 9.5$). Children of participating parents ranged in age from one- to five-years-old with an average of 2.75 years of age ($SD = 1.1$) and just over half (51%) were female.

Participants reported living in states all across the U.S. as well as outside of the continental United States with the largest portion of participants reporting a residence in the region of Northern Utah or Idaho (33%). A majority of respondents (65%) identified as belonging to the Church of Jesus Christ of Latter-Day Saints, with 23% of the participants identifying as non-religious. Participants reported that, on average, the child(ren)'s mother had 16.1 years of education and education level ranged from high school graduate (12 years of education) to doctoral degree (21 years or more of education; $SD = 2.87$). Over one-third of respondents (37%) identified as having experienced some form of sexual abuse, defined as any unwanted sexual approaches or touches that were forced or coerced.

Design

This study was a randomized controlled trial of an intervention to promote higher frequency and more efficacy of parent-child communication about sexual topics. Participants who met the inclusion criteria, completed the pre-test survey, and indicated that they were interested in participating in the intervention and follow-up survey were randomly assigned to one of three intervention groups. Six weeks after random assignment and the intervention materials were provided, a link to the post-test survey was sent to the participants. The pre- and post-test design of the randomized control trial made it possible to measure differences in efficacy and frequency of parent-child sexual communication following the intervention.

Procedure

This research study was approved by the Utah State University Institutional Review Board (IRB). Approved flyers were physically and electronically distributed, as well as in person recruitment. Participants were recruited from libraries, nonprofit agencies, indoor recreation centers, and childcare centers before the global pandemic, however most recruitment happened on social media such as Facebook, Twitter, and Reddit. The flyers contained a QR code that directed participants to the pre-test survey on RedCap, a survey software with excellent confidentiality protections. The first item on the survey was an attachment and a textbox containing the informed consent and provided space for a digital signature. Once informed consent was obtained, the participants were able to continue with and complete the survey. Those who completed the pre-test survey and indicated that they were interested in participating in the

intervention provided a unique alpha numeric identifier (first two letters of their first name, first two letters of their last name, and the day of the month they were born) and were randomly assigned into one of three intervention groups.

Each intervention group was allowed six weeks to review and implement the information they were given. After this time, each participant was emailed a link to the corresponding post-test survey, with reminder emails sent out every three days afterwards. Participant compensation according to the time invested in the study was administered only after successful completion of the post-test survey. The control group was compensated with the fact sheet and online presentation as they invested the least time. The fact sheet only group was compensated with the online presentation and a \$10 Amazon.com gift card if requested. The active learning group was compensated with the fact sheet and an option to choose a \$10 Amazon.com gift card or an Usborne book titled “Where Do Babies Come From?”. The book was mailed to participants who chose to give more identifying information, so there were few who chose the book option.

Intervention

Upon completion of the pre-test survey, participants who wished to continue with the intervention ($n = 169$) were randomly assigned to one of three groups. The control group was not given any additional information between pre-test and post-test surveys. The second group was emailed a two-page factsheet containing information about what is appropriate for children to know about sex and sexuality, such as anatomical names for genitalia and information about masturbation. Information on the factsheet was organized by age and what is normative and what is nonnormative sexual behavior for that age.

Statements of encouragement were placed throughout the factsheet in order to promote parental self-efficacy regarding sexual communication, according to Bandura's social learning theory. The third intervention group was emailed a link to a one-time one hour interactive presentation which contained the same information as the factsheet in the second intervention group and also contained a few hypothetical situations about sexual topic conversations, such as toilet-training and pregnancy, in order to practice implementing the information.

The hypothetical situations included four possible responses to the situation for the participant to choose from. The participant received immediate feedback for the selected response and could select again if desired. After participants were assigned to the intervention groups and given the corresponding materials, they had six weeks to review and implement the information they were given. At the conclusion of the six-week period, all participants who did not receive the active learning presentation were emailed a link to the interactive presentation to use the resource as they please.

Measures

Parental communication self-efficacy

The twelve items for this scale were chosen and adapted from existing measures, such as the *Parent-Child Communication* (McMahon, Kim & Jones, 1997) measure. The items measuring parental self-efficacy such as "Do you feel very satisfied with how you and your child talk together?" were assessed using a five-point Likert scale and parents rated themselves on their perceived ability ranging from 1 = *Almost Never* to 5 = *Almost Always*. Two of the items in this measure were reverse coded ("Are there things you

avoid discussing with your child?” and “Are there certain topics which you do not allow your child to discuss with you”?). A total score for this scale was created by computing the mean of all items, with higher scores indicating greater parental communication self-efficacy. Cronbach’s alpha for this scale was .79 and indicated good internal reliability with the sample for this study at a 95% confidence level (CI = .75; .82).

Within the parental communication self-efficacy scale, two of the eleven items were added to specifically measure the frequency of parent-child communication. These items were “How often do you talk to your child about their thoughts or beliefs?” and “How often do you talk to your child about daily experiences? (i.e. playtime, naps, friends, schedule).” and were assessed using a five-point Likert scale ranging from 1 = *Almost Never* to 5 = *Almost Always*. These two items were included in the calculations for the parental communication self-efficacy scale as well as computed separately to indicate specifically the frequency of parent-child communication. Cronbach’s alpha for this communication frequency scale was .45, indicating moderately low internal reliability with the sample for this study at a 95% confidence level (CI = .34; .56).

Parental self-efficacy regarding sexual communication

The eleven items used to assess parental self-efficacy regarding sexual communication were developed specifically for this study. The questions were adapted from several existing measures including the *Communication About Sex Self-Efficacy Scale* developed by DiLorio and colleagues (2001), the *Personal Safety Questionnaire* that was utilized by Wurtele and colleagues (1991), and several examples of self-efficacy scales written by Albert Bandura (2006-a). The wording of the items was reviewed with the guidelines established by Bandura in production of self-efficacy scales (2006-a). The

items measuring parental self-efficacy regarding sexual communication such as “Do you feel very satisfied with how you and your child talk together regarding sex?” were assessed using a five-point Likert scale and parents rated their perceived ability ranging from 1 = *Almost Never* to 5 = *Almost Always*. Two of the items in this measure were reverse coded (“Are there things you avoid discussing with your child about their sexuality?” and “Are there certain sexual topics which you do not allow your child to discuss with you?”). A total score for this scale was created by computing the mean of all items and higher scores indicate greater parental communication self-efficacy. Cronbach’s alpha for this scale was .86 and indicated strong internal reliability with the sample for this study at a 95% confidence level (CI = .84; .86).

Two of the eleven items were added to specifically measure the frequency of parent-child communication around sexual topics. These items were “How often do you talk to your child about their thoughts or beliefs about sexuality?” and “How often do you talk to your child about daily sexual experiences (i.e. bath time, toileting, gendered appearance)?” and were assessed using a five-point Likert scale ranging from 1 = *Almost Never* to 5 = *Almost Always*. These two items were included in the calculations for the parental self-efficacy regarding sexual communication measure as well as computed separately to indicate specifically the frequency of parent-child sexual communication. Cronbach’s alpha for the sexual communication frequency scale was .61 and indicated acceptable internal reliability with the sample for this study at a 95% confidence level (CI = .53; .70).

Parental sexual knowledge

Parental sexual knowledge was measured with two additional scales developed for this study. One scale assessed parental knowledge of normative sexual development for children aged zero to six, with items such as “I can identify what is normal for my child to understand about gender at his/her age.” based on the chapter by Wurtele and Kenny (2011). Parents were asked to rate their knowledge of each item on a five-point Likert scale ranging from 1 = *Not Sure at All* to 5 = *Very Sure*. A total score for this scale was created by computing the mean of all nine items and higher scores indicate greater child sexual development knowledge. Cronbach’s alpha for this scale was .91 and indicated strong internal reliability with the sample for this study at a 95% confidence level (CI = .90; .94).

The second scale assessed parents’ knowledge about a few topics in each of the key concepts specified in the “Guidelines for Comprehensive Sexuality Education” (Sexuality Information and Education Council of the United States; SIECUS, 2004). A few example questions are “I can explain the process of fertilization” and “I can identify the indicators of male puberty”. Parents rated their knowledge on a five-point Likert scale ranging from 1 = *Not Sure at All* to 5 = *Very Sure*. All 17 items were averaged to create a total score for this scale and higher scores indicate more general sex knowledge. Cronbach’s alpha for this scale was .91 and indicated strong internal reliability with the sample for this study at a 95% confidence level (CI = .90; .93).

Maternal education

To quantify maternal education, the survey included an item asking about the highest level of education attained by the child’s mother (“What is the highest level of

schooling that the child's mother has completed?”, responses ranged from ‘Some high school’ or < than 12 years to ‘Doctoral degree’ or 21+ years of education). Previous research has shown that higher maternal education is strongly correlated with higher socioeconomic status (Erola et al., 2016), so this measure also provided insight to some social and economic factors.

Past trauma

One item on the survey asked participants to identify if they have experienced any previous sexual abuse or sexual harassment themselves (“Have you experienced any form of sexual abuse in the past? Sexual abuse is defined as any unwanted sexual approaches or touches that were forced or coerced.”). It was anticipated that having experienced past trauma would influence the outcomes of the study, however the literature is unclear as to whether it is expected to increase or decrease the frequency and self-efficacy of parent-child sexual communication.

Religiosity

The McCree Religiosity Scale (McCree, Wingood, DiClemente, Davies, & Harrington, 2003) assessed participants’ current religiosity. Participants reported on the frequency of religious behaviors such as prayer/meditation and attendance at religious services using a four-point Likert type scale that ranged from 1 = *Never* to 4 = *Very often*. The five items on this scale were calculated into a mean score, such that higher scores indicate higher levels of current religiosity. Cronbach’s alpha for The McCree Religiosity Scale was .93 and indicated strong internal reliability with the sample for this study at a 95% confidence level (CI = .91; .94).

The McCree Religiosity Scale (McCree et al., 2003) was also adapted to assess the religiosity of the family of origin. Participants reported how often it was expected of them to participate in religious behaviors such as prayer/meditation and attendance at religious services during their childhood using a four-point Likert type scale that ranged from 1 = *Never* to 4 = *Very often*. The five items on this scale were calculated into a mean score, with higher scores representing higher levels of religiosity in the family of origin. Cronbach's alpha for family of origin's religiosity was .92 and indicated strong internal reliability with the sample for this study at a 95% confidence level (CI = .91; .94).

An item asked about religious affiliation with an option to identify affiliation outside of listed organizations ("What is your religious affiliation? and If you selected other, please state your religious affiliation here.").

Data Analysis Preparation

Initially, there were 383 responses to the pretest survey. However, 61 of these responses were found to not meet the inclusion criteria of being a parent or legal guardian of a child between the ages of one- to five-years old and were thus not eligible to participate in the study. An additional 35 pretest survey responses were determined to be fraudulent and were thus not included in the analytic pretest sample that was used to answer Research Questions 1 and 2.

The fraudulent responses were detected at the time of the post test survey response, where 37 email addresses that had been assigned to all three conditions were requesting the highest level of compensation. With the design of the study, the link to

request this compensation was only sent to those who had been assigned to the active learning condition, and therefore, it was obvious that those email addresses that had not been assigned to the active learning condition were fraudulent. Furthermore, the email addresses that were assigned to the active learning condition completed the responses within three to five minutes of each other and/or the fraudulent responses. After consultation with IRB, an email was sent requesting that those in question verify the validity of their responses. There were no responses to the email, and therefore all 37 compensation requests were denied because they were determined to be fraudulent responses.

To ensure that fraudulent data was not included in the analytic sample, the timestamp of the compensation request was compared to the timestamp of the post-test response. Repeating patterns in responses, nonsensical responses, unique identifiers, reported residence, and responses to reverse coded items were also examined in order to detect the 37 likely fraudulent post-test responses. The most telling indicator of fraudulent responses were the timestamps, as most responses to the post-test survey were also completed within three to five minutes of each other, which is not an adequate amount of time to provide a meaningful response to 87 items as well as provide contact information.

To complete the tracking of fraudulent data, the unique alphanumeric identifiers (first two letters of the participant's first name, the first two letters of the participant's last name, and the day of the month that the participant was born) from the post-test responses were compared to the unique identifiers in the pretest survey responses. Of the 37 fraudulent post test unique identifiers, 35 were matched to a pretest survey. All

responses in both the pretest and post-test surveys were discarded and therefore not included in the analytical sample. This resulted in 287 pretest responses and 160 post-test responses.

Additionally, when post-test survey responses were completed, duplicate responses for both pre- (8) and post-test (14) surveys were discarded, opting to keep the most complete and/or most recent response from the participant as determined by the alphanumeric unique identifier. Finally, with the removal of the duplicates, the final analytic sample numbers were ($N = 279$) for the pretest responses and ($N = 146$) for post-test responses.

Of the 279 valid responses to the pretest survey, most of the participants (76%) indicated that they were interested to learn more about how and when to discuss sex and sexuality with their young children. Furthermore, the majority (88%) of the respondents who were interested in learning more also agreed to provide contact information in order to participate in the random assignment and post-test survey. Once agreeing to provide contact information, the 185 participants who opted to be contacted were redirected to a separate survey to better maintain confidentiality. However, of the 185 participants who were redirected, only 170 provided an email address and one of those email addresses was not a valid email address. This resulted in 169 parents of children aged one- to five-years-old being eligible to participate in the full study. All 169 respondents were randomly assigned to either the control group, fact sheet only, or online intervention group.

After random assignment, all conditions were compared to ensure that random assignment was effective. There were no significant differences in the demographic

factors for any of the assigned groups; control group ($n = 55$), fact sheet only group ($n = 58$), and the active learning group ($n = 56$). This indicates that the observed effects are likely due to the information provided rather than other confounding factors (See Table 1.0 and 1.1).

In order to observe effects of the intervention over time, each pretest and post-test needed to be paired, so it was reaffirmed that there were no duplicate responses. Once there was only one pretest and one post-test response per respondent, the alphanumeric unique identifier that was provided by the participant (first two letters of their first name, the first two letters of their last name, and the day of the month they were born) was linked to the corresponding pretest response with the same alphanumeric unique identifier.

Of the 146 post-test survey responses, only 47 were identical, when all letters were converted to lower case in order to not miss a match due to capitalization. Many times, unique identifiers differed by inverting letters or numbers, inclusion or exclusion of spaces, dashes, and additional numbers between pretest and post-test surveys. These cases were categorized as obvious, though not identical, matches and resulted in 53 more matches. Additional matches were determined by comparing location, number of children, child age, parent age, and religious affiliation as well as unique identifiers. Cases where matches were found based on these data were categorized as likely matches and added another 17 matches to the analytic sample.

Table 1.0*Variables of Interest by Group Following Random Assignment*

Variable	Total		Active Learning		Control		Factsheet		Range	Cronbach's Alpha	<i>p</i>
	<i>n</i> = 279		<i>n</i> = 51		<i>n</i> = 52		<i>n</i> = 49				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
General Communication Self-efficacy	4.3	0.4	4.4	0.4	4.3	0.4	4.3	0.4	1 to 5	.79	0.30
Current Religiosity	2.7	1.0	2.8	1.0	2.7	1.0	2.7	1.0	1 to 4	.93	0.75
Sexual Communication Self-efficacy	3.9	0.7	3.9	0.7	3.8	0.8	3.8	0.8	1 to 5	.86	0.64
Family of Origin Religiosity	3.1	0.8	3.1	0.8	3.0	0.9	3.0	0.9	1 to 4	.92	0.47
Child Sexual Development knowledge	3.9	0.8	3.9	0.8	3.8	0.9	3.8	0.9	1 to 5	.91	0.85
General Sex Knowledge	4.6	0.5	4.6	0.5	4.6	0.4	4.6	0.4	1 to 5	.91	0.54
Average Age of Child	2.7	1.1	2.7	1.1	2.9	1.1	2.9	1.1	1 to 5	N/A	0.99

+ *p* < .1. * *p* < .05. ** *p* < .01. *** *p* < .001

Table 1.0.1*Demographic Variables by Group Following Random Assignment*

Variable	Total		Active Learning		Control		Fact Sheet		<i>p</i>
	<i>n</i> = 279		<i>n</i> = 51		<i>n</i> = 52		<i>n</i> = 49		
	<i>n</i> ^a	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Mother's Educational Attainment									0.42
Some high school	0	0%	0	0%	0	0%	0	0%	
High school diploma	11	4%	2	4%	2	4%	1	2%	
Some college	28	10%	4	8%	4	8%	8	16%	
2-year-degree	17	6%	4	8%	2	4%	1	2%	
Trade school/Professional certification	11	4%	3	6%	1	2%	1	2%	
4-year degree	146	52%	27	53%	29	56%	18	37%	
Master's degree	50	18%	8	16%	12	23%	15	31%	
Doctoral degree	16	6%	3	6%	2	4%	5	10%	
Region of Residence									0.99
Central and Southern Utah	55	20%	12	24%	12	23%	12	25%	
Northern Utah and Idaho	93	33%	15	29%	18	35%	14	29%	
Other Region	92	33%	16	31%	18	35%	17	35%	
N/A	39	14%	8	16%	4	8%	6	12%	
Religious Affiliation									0.88
LDS	55	20%	35	69%	39	75%	32	65%	
Non-religious	65	23%	12	24%	10	19%	13	27%	
Other Religion	32	12%	4	8%	3	6%	4	8%	
Experienced Trauma									0.49
No	174	62%	31	61%	37	71%	34	69%	
Yes	103	37%	20	39%	15	29%	15	31%	
Parental Age									0.41

18 to 20	2	1%	0	0%	0	0%	0	0%
21 to 25	30	11%	6	12%	7	14%	6	12%
26 to 30	103	37%	15	29%	21	40%	13	27%
31 to 40	119	43%	26	51%	20	39%	20	41%
41 and older	25	9%	4	8%	4	8%	9	18%

^a *n* represents the number of participants who selected that specific option for the variable. % represents the percentage of the group who selected that specific option for the variable.

+ $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$

However, there were 29 unique identifiers provided in the post-test survey that could not be linked to a pretest survey unique identifier, and therefore were not able to be included in the mixed design ANOVA in order to observe effects of the intervention in this study. This resulted in a total of ($N = 117$) paired pretest and post-test responses, which were analyzed to determine the main effects over time. As anticipated, the number of final participants per each condition was not exactly equal, but relatively the same; control group ($n = 36$), fact sheet only group ($n = 41$), and the active learning group ($n = 40$). Variables of interest were compared between those who only completed the pretest survey ($N = 162$) and those who completed the full study ($N = 117$) to observe any significant differences between pretest demographics and descriptive statistics and post-test demographics and descriptive statistics (See Table 2).

Table 0.2

Variables of Interest Between Participants Who Completed Only the Pretest Survey and Participants Who Completed the Full Study

Variable	Total		Only Pre-Test		Completed Post-Test		Range	Cronbach's Alpha	<i>p</i>
	<i>n</i> = 279		<i>n</i> = 162		<i>n</i> = 117				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
General Communication Self-efficacy	4.34	0.44	4.41	0.37	4.25	0.49	1 to 5	.79	0.004**
Sexual Communication Self-efficacy	3.84	0.73	3.92	0.66	3.73	0.81	1 to 5	.86	0.05**
Current Religiosity	2.73	0.97	2.73	0.98	2.72	0.97	1 to 4	.93	0.98
Family of Origin Religiosity	2.95	0.91	2.91	0.94	3.01	0.86	1 to 4	.92	0.4
Child Sexual Development knowledge	3.84	0.85	4.07	0.74	3.53	0.90	1 to 5	.91	<.001***
General Sex Knowledge	4.57	0.45	4.63	0.37	4.48	0.53	1 to 5	.91	0.008**
General Communication Frequency	4.29	0.65	4.35	0.64	4.21	0.66	1 to 5	.45	0.07+
Sexual Communication Frequency	3.16	0.95	3.17	0.96	3.16	0.94	1 to 5	.61	0.96

+ *p* < .1. * *p* < .05. ** *p* < .01. *** *p* < .001

CHAPTER IV

RESULTS

Research question 1

Is general parental communication self-efficacy positively correlated with parental efficacy regarding sexual communication?

A Pearson's correlation test showed that among the pretest responses there was a moderately strong positive correlation between parental communication self-efficacy and parental efficacy regarding sexual communication, $r(276) = .66, p < .001$.

Research question 2

What personal and contextual factors are associated with higher parental efficacy regarding sexual communication?

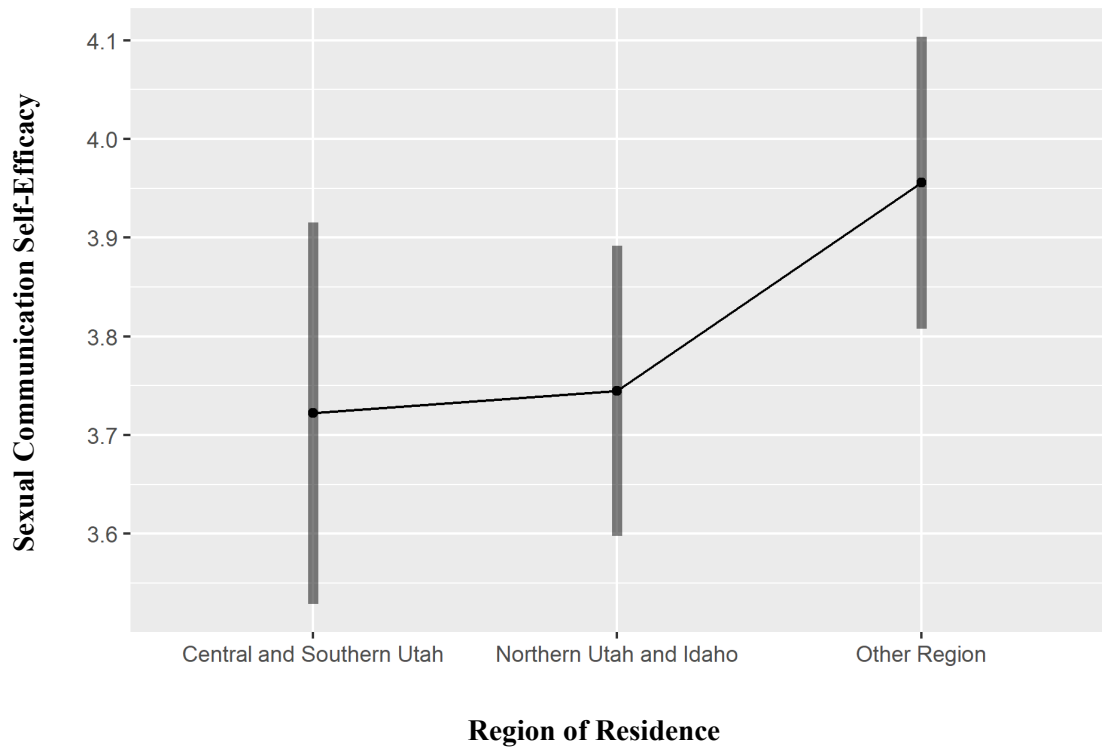
2a. Is the region of residence associated with higher parental efficacy regarding sexual communication?

A one-way ANOVA showed that parental self-efficacy regarding sexual communication did not differ by region of residence (Northern Utah and Idaho, Central and Southern Utah, and Other region), $F(2, 236) = 2.63, p = .08$. Because of the trend toward significance, a pairwise comparison test, adjusted with Tukey's method of comparison, was conducted to better conceptualize the differences in the means between the three regions. There were no significant differences in the mean scores of parental self-efficacy regarding sexual communication by region of residence. However, there was

a slight trend towards significance between the ‘Northern Utah and Idaho’ and ‘Other region’ groups, $t(236) = -1.99, p = .12$, such that participants in the ‘Other region’ group reported greater parental self-efficacy regarding sexual communication than the participants in the ‘Northern Utah and Idaho’ group (See Figure 1).

Figure 1

Sexual Communication Self-efficacy by Region of Residence



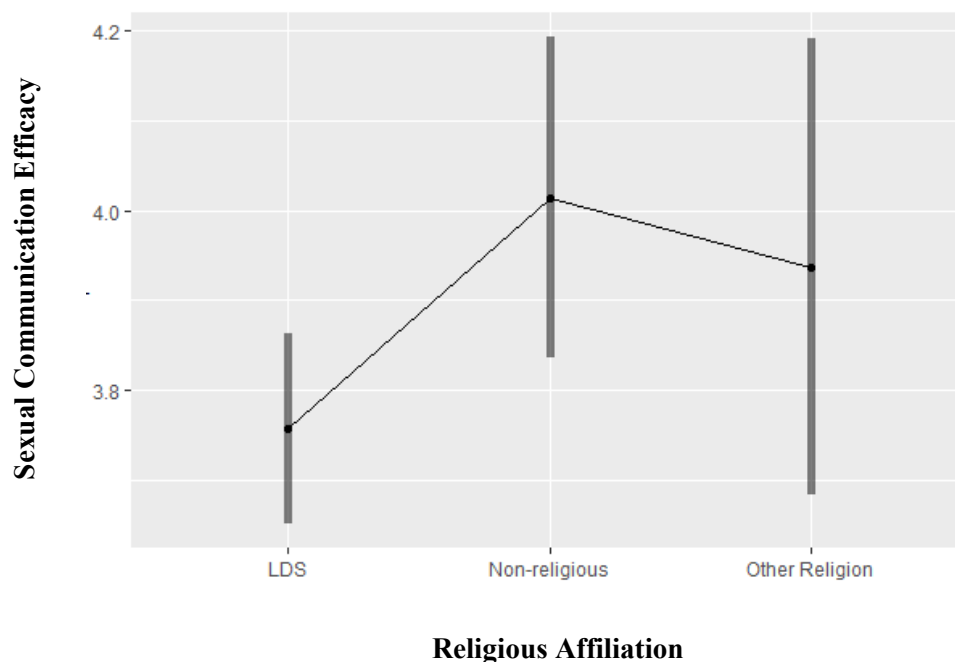
2b. Is current religiosity negatively correlated with parental efficacy regarding sexual communication? Is there a difference in the correlation of current religiosity and

religiosity of the family of origin when it comes to parental efficacy regarding sexual communication?

Correlation analyses showed that current religiosity was negatively correlated with parental self-efficacy regarding sexual communication, although this association was at the trend level, $r(276) = -.10, p = .10$. A one-way ANOVA comparing the mean levels in sexual communication self-efficacy by religious affiliation showed those who identified as ‘Non-religious’ had significantly greater self-efficacy regarding sexual communication than those who identified as ‘Latter-Day Saints (LDS)’, $F(2, 275) = 2.43, p = .04$. However, parental self-efficacy regarding sexual communication did not differ between ‘Other Religion’ and those whose affiliation was ‘LDS’ or ‘Non-religious’ (See Figure 2).

Figure 2

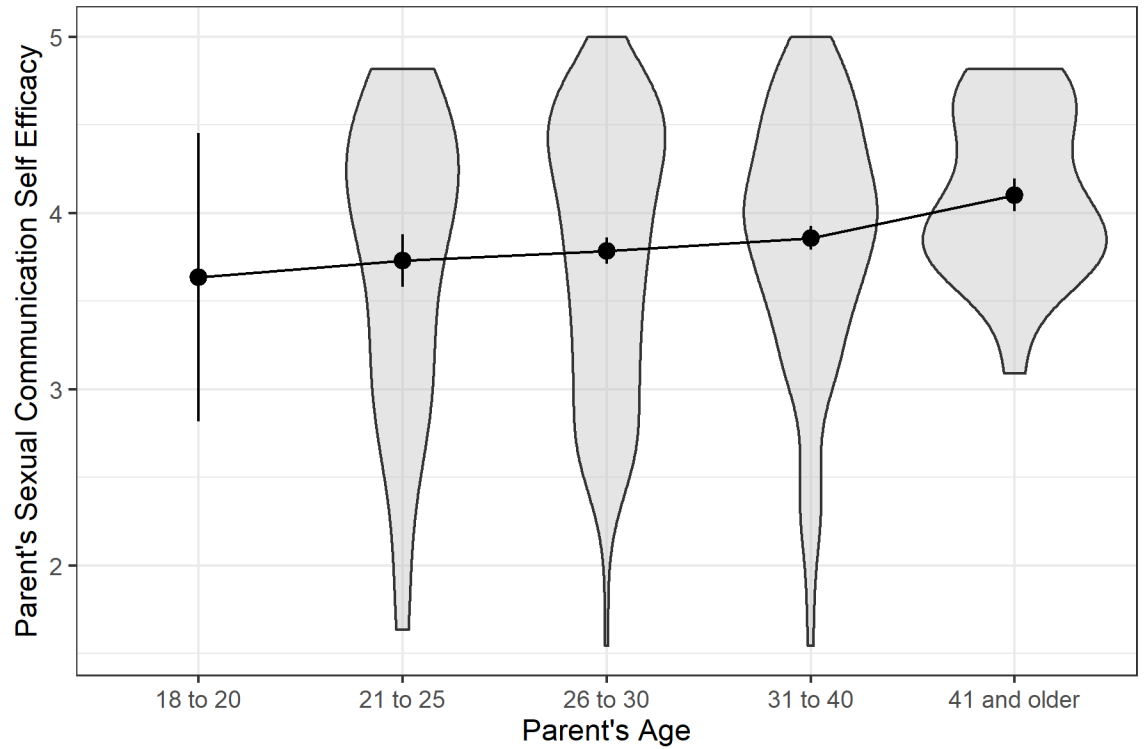
Sexual Communication Self-efficacy by Religious Affiliation



The correlation between the family of origin's religiosity and parental self-efficacy regarding sexual communication was also examined but were not related to one another. Further, there were no differences in the mean scores of sexual communication efficacy between mean scores of the family of origin's religiosity.

2c. Is parental age negatively correlated with parental efficacy regarding sexual communication? Is child age positively correlated with parental efficacy regarding sexual communication?

Correlation analyses examined whether parental age or child age were related to parental self-efficacy regarding sexual communication. Results showed a small positive correlation between parental age and sexual communication efficacy, $r(276) = .12, p = .05$ such that older parents tended to have greater sexual communication efficacy (See Figure 3). Child age was not associated with parental self-efficacy regarding sexual communication.

Figure 3*Sexual Communication Self-efficacy by Parental Age*

2d. Is having more than one child associated with higher parental efficacy regarding sexual communication?

Results from a one-way ANOVA showed no differences in mean levels of sexual communication efficacy based on the number of children a parent reported having, $F(2, 275) = 0.19, p = .83$.

2e. Is the experience of past trauma associated with parental efficacy regarding sexual communication?

Experiencing trauma, defined in this study as any unwanted sexual approaches or touches that were forced or coerced, was significantly associated with greater parental self-efficacy regarding sexual communication in the pretest analyses. A two-tailed t -test compared mean scores of parental sexual communication self-efficacy against the self-reported experience of trauma in the pretest analytical sample and showed that those who had experienced some form of sexual trauma also reported greater self-efficacy regarding sexual communication, $t(274) = -2.56, p = .01$.

2f. Do mothers have higher parental efficacy regarding sexual communication than fathers? Are parents more efficacious in sexual communication with daughters or sons?

A two-tailed t -test showed no significant difference between mothers and fathers when comparing mean scores of parental self-efficacy regarding sexual communication. A one-way ANOVA was conducted to observe any relationships between parents' gender, child(ren)'s gender, and parental self-efficacy regarding sexual communication and showed no significant interaction between gender of parent or gender of child when it comes to parental self-efficacy regarding sexual communication. However, parents of both genders reported greater self-efficacy regarding sexual communication with sons at the trend level, $F(1, 272) = 2.82, p = .09$ (See Figure 4). An additional one-way ANOVA yielded another trend toward significance, such that parents of a different gender than their child reported greater self-efficacy regarding sexual communication, $F(1, 274) = 3.04, p = .08$ (See Figure 5).

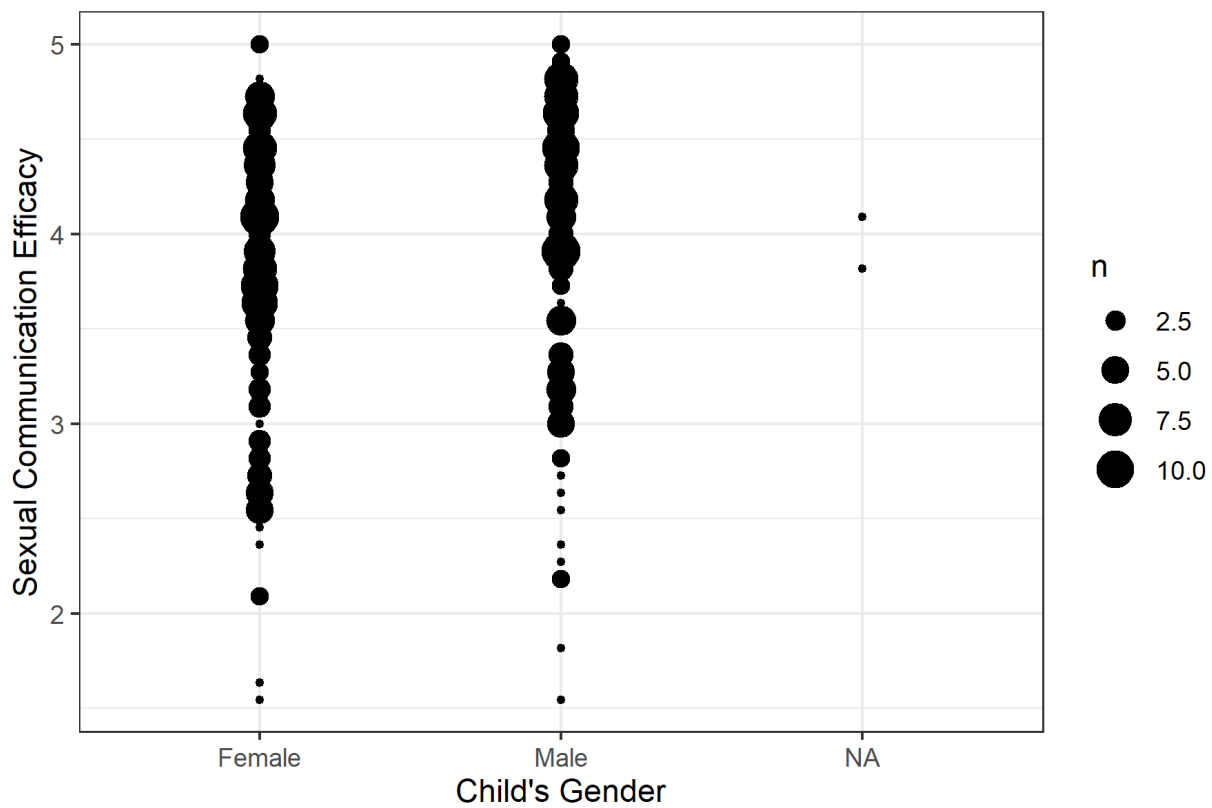
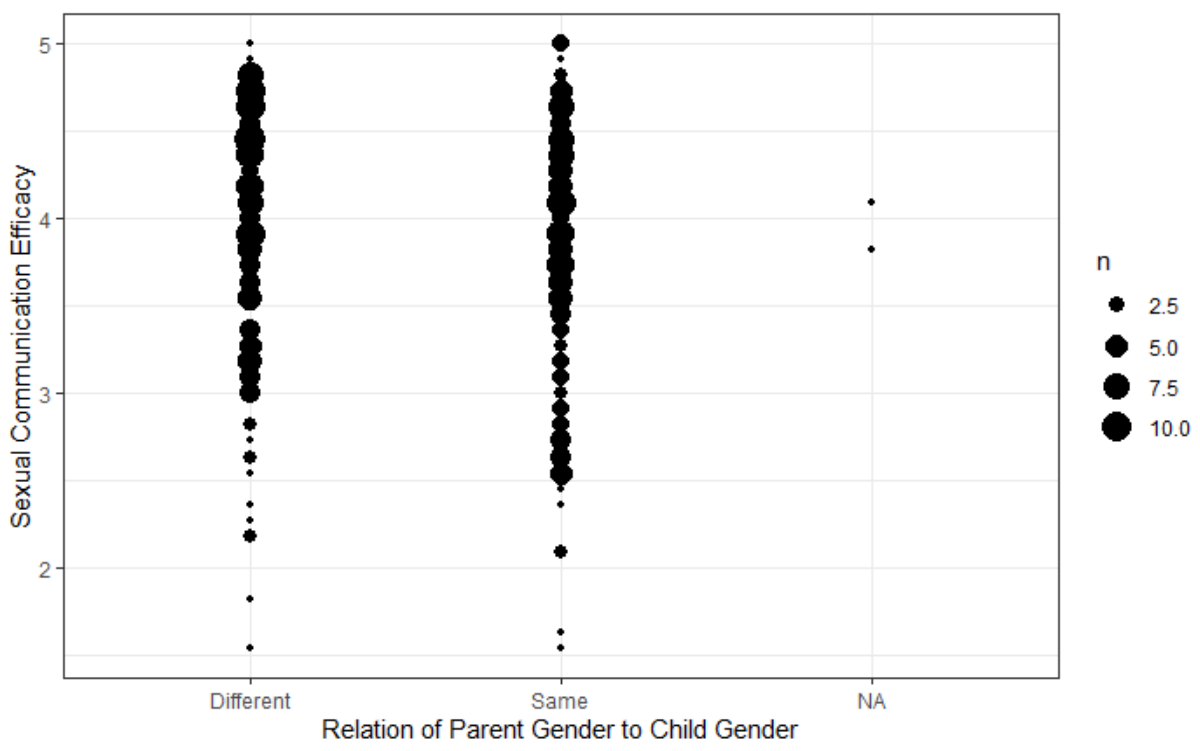
Figure 4*Parental Sexual Communication Efficacy by Child's Gender*

Figure 5

Parental Sexual Communication Efficacy by Relation of Parent Gender to Child Gender



2g. Is maternal education positively correlated with parental efficacy regarding sexual communication?

As the information gathered to answer this question was ordinal and not continuous, it was determined that a correlation test was not appropriate to effectively answer this question. Instead, a one-way ANOVA was conducted to observe all levels of maternal education and the relationship with reported mean scores of parental self-efficacy regarding sexual communication. The pretest analytic sample showed no

significant difference in parental self-efficacy regarding sexual communication between any levels of maternal education, $F(6, 271) = 0.85, p = .53$.

Although parental self-efficacy regarding sexual communication did not differ by maternal education, it should be noted that there was a significant difference in maternal education and experienced trauma. The level of maternal education was significantly higher for those who had not experienced sexual trauma in the pretest analytic sample, $t(275) = 2.31, p = .02$.

2h. Is parental general sexual knowledge positively correlated with parental efficacy regarding sexual communication? Is parental child sexual development knowledge positively correlated with parental efficacy regarding sexual communication?

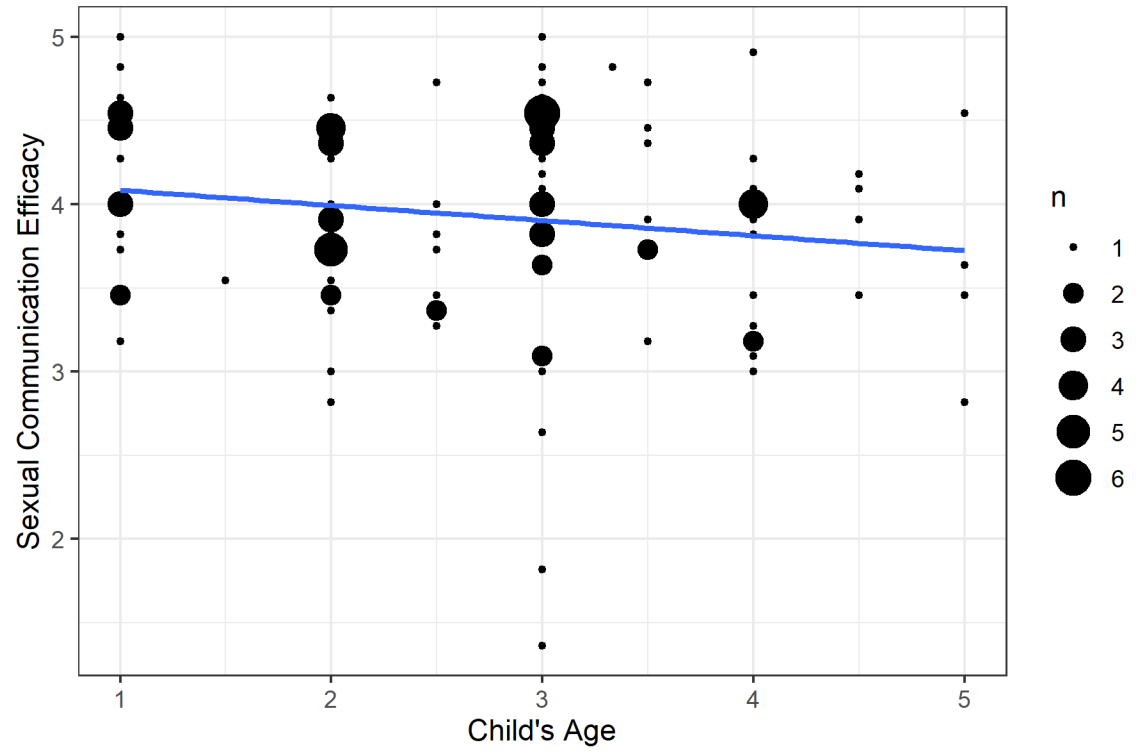
Pearson's correlation tests yielded a moderate positive correlation between parental general sexual knowledge and parental self-efficacy regarding sexual communication, $r(276) = .42, p < .001$. Similarly, a moderate positive correlation between parental child sexual development knowledge and parental self-efficacy regarding sexual communication was observed, $r(276) = .52, p < .001$.

Post-test demographic differences

Correlation analyses conducted with the post-test analytical sample showed that child age was negatively correlated with parental self-efficacy regarding sexual communication at the trend level, $r(115) = -.16, p = .10$. This association indicated that parents reported greater sexual communication efficacy with younger children (See Figure 6). Parental age was not associated with parental self-efficacy regarding sexual communication in the post-test sample. These results are both different from the results of correlation analyses conducted in the pretest analytic sample.

Figure 6

Post-test Sexual Communication Efficacy by Child's Age



It is important to note that between the participants who only completed the pretest survey and the participants who went on to complete the full study one of the few significant differences was the amount of both general sexual knowledge and child development sexual knowledge (See Table 2). Those who scored higher on general sexual knowledge in the pretest survey were significantly less likely to continue with the full study, $t(195) = 2.70, p < .01$. Similarly, those who scored higher on child sexual development knowledge were also significantly less likely to complete the post-test survey, $t(219) = 5.30, p < .001$.

Research question 3

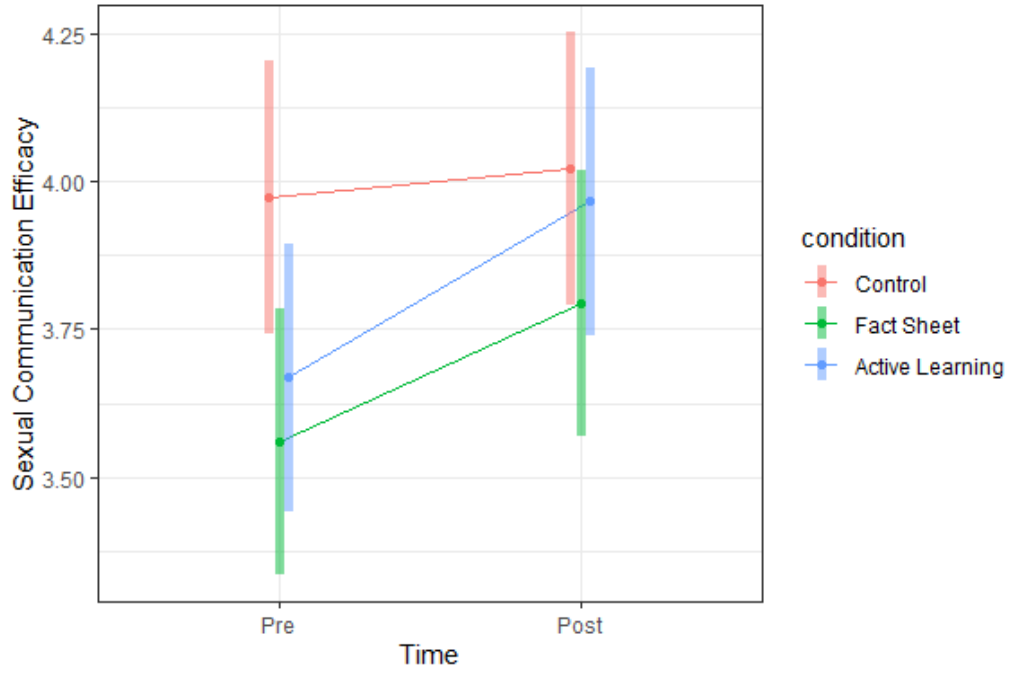
Does parental efficacy regarding sexual communication and frequency of sexual communication increase following a parent sexual efficacy intervention?

3a. Is an active learning approach to provide sexual information to parents more effective at promoting parental efficacy regarding sexual communication than a fact sheet alone, when compared to a control group which receives no information?

A mixed-design ANOVA analyzed the paired post-test analytic sample and showed no significant interaction of randomly assigned conditions by mean scores of parental self-efficacy regarding sexual communication between pretest and post-test surveys, $F(2, 114) = 1.55, p = .22$ (See Figure 7).

Figure 7

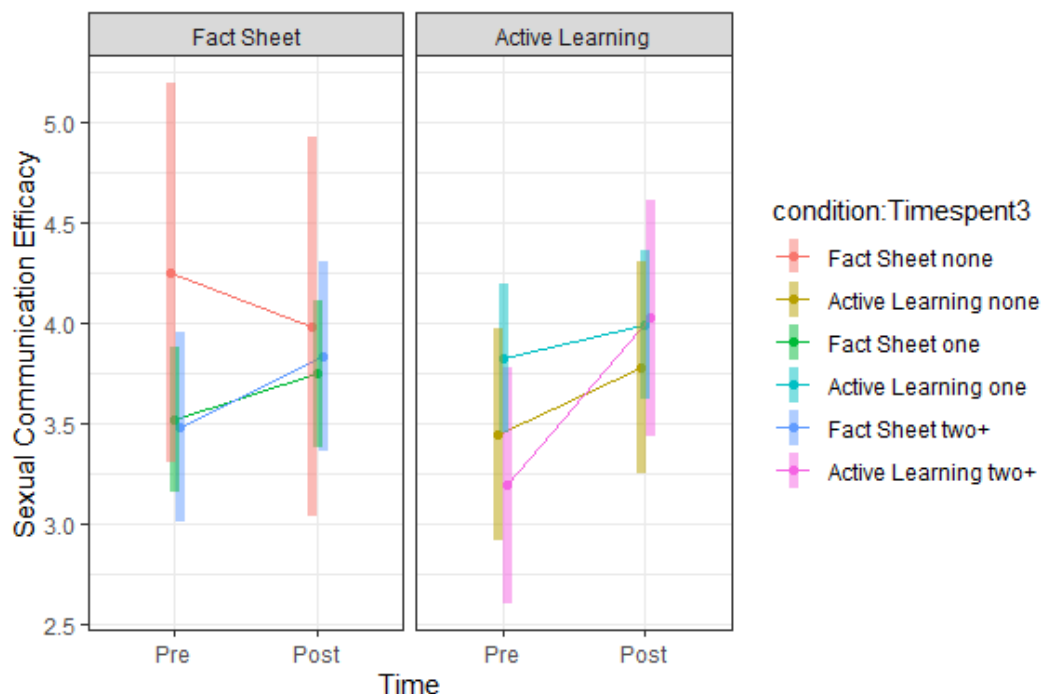
Parental Sexual Communication Following the Intervention



For further analysis, an additional mixed-design ANOVA was conducted to compare the amount of time spent on the intervention materials provided and the reported mean scores of parental self-efficacy regarding sexual communication. This analysis revealed a significant interaction of time by all condition groups, $F(1, 75) = 6.52, p = .01$. Further, an interaction of time spent on the intervention materials by the fact sheet only group and active learning group revealed a relationship at the trend level, such that more time spent on the materials was related to greater reported sexual communication efficacy, $F(2, 75) = 2.68, p = .07$ (See Figure 8).

Figure 8

Sexual Communication Following the Intervention by Time Spent in Intervention Materials

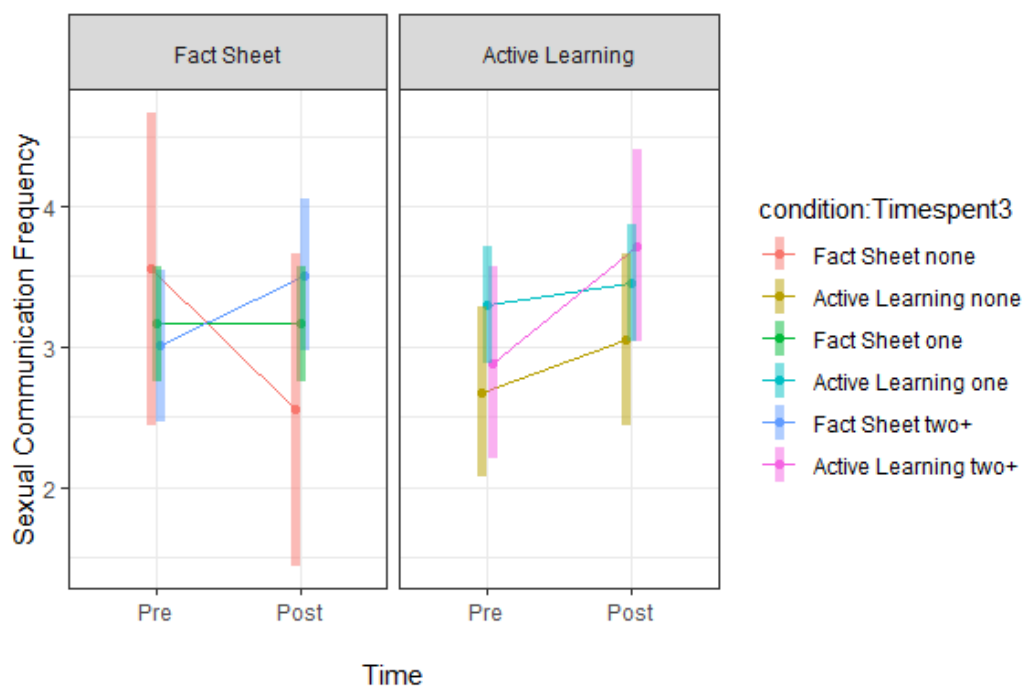


Note: The time spent in the intervention materials was based on the amount of time it would take to complete one full exposure, such as 10 minutes for one thorough read through of the factsheet or one hour to participate in the full active-learning presentation.

Another mixed-design ANOVA was conducted to observe any significant interactions in randomly assigned condition by frequency of sexual communication and showed no significant interaction between the levels of intervention and frequency of sexual communication, $F(2, 114) = 0.62, p = .54$. For deeper investigation, one more ANOVA tested the effect of time spent in the intervention materials with the frequency of sexual communication reported at the post-test survey and showed a significant interaction between more time spent in the intervention materials and more frequent sexual communication, $F(2, 75) = 3.26, p = .04$ (See Figure 9).

Figure 9

Sexual Communication Frequency Following the Intervention by Time Spent in Intervention Materials

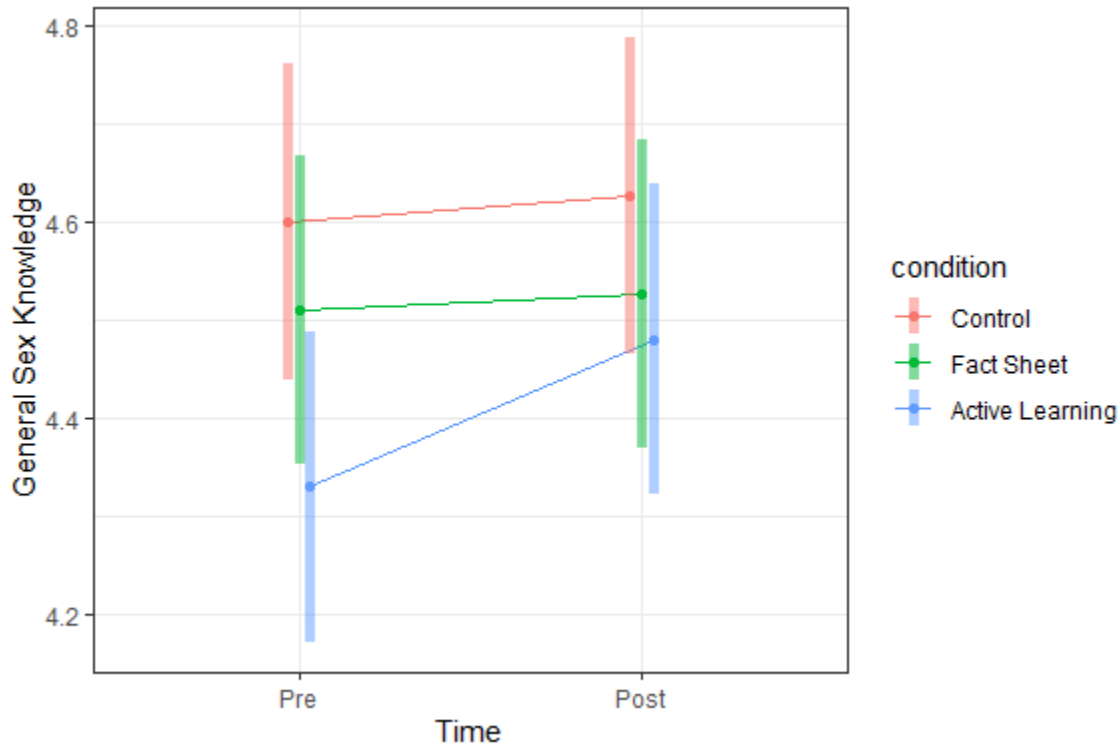


Note: The time spent in the intervention materials was based on the amount of time it would take to complete one full exposure, such as 10 minutes for one thorough read through of the factsheet or one hour to participate in the full active-learning presentation.

Although the main purpose of this study was to test whether parental efficacy regarding sexual communication increased following a brief intervention, the study also assessed parents' reports of sexual knowledge to test whether knowledge increased following the intervention. In order to observe changes in sexual knowledge, a mixed design ANOVA analyzed the parents' general sexual knowledge between randomly assigned groups by pretest and post-test survey time points. Results showed no interactions between intervention conditions and sexual knowledge over time, $F(2, 114) = 1.78, p = .17$ (See Figure 10).

Figure 10

Parents' General Sex Knowledge Following the Intervention



Next, changes in child sexual development knowledge by intervention group was tested. Results from a mixed design ANOVA revealed a significant increase in child development knowledge for all intervention groups from the pretest to the posttest surveys, showing a main effect of time on knowledge gain, $F(2, 114) = 8.19, p < .001$ (See Figure 11). A list of all research questions accompanied by the statistical test which was performed and the subsequent p-value can be seen in Table 3.

Figure 11

Parents' Child Sexual Development Knowledge Following the Intervention

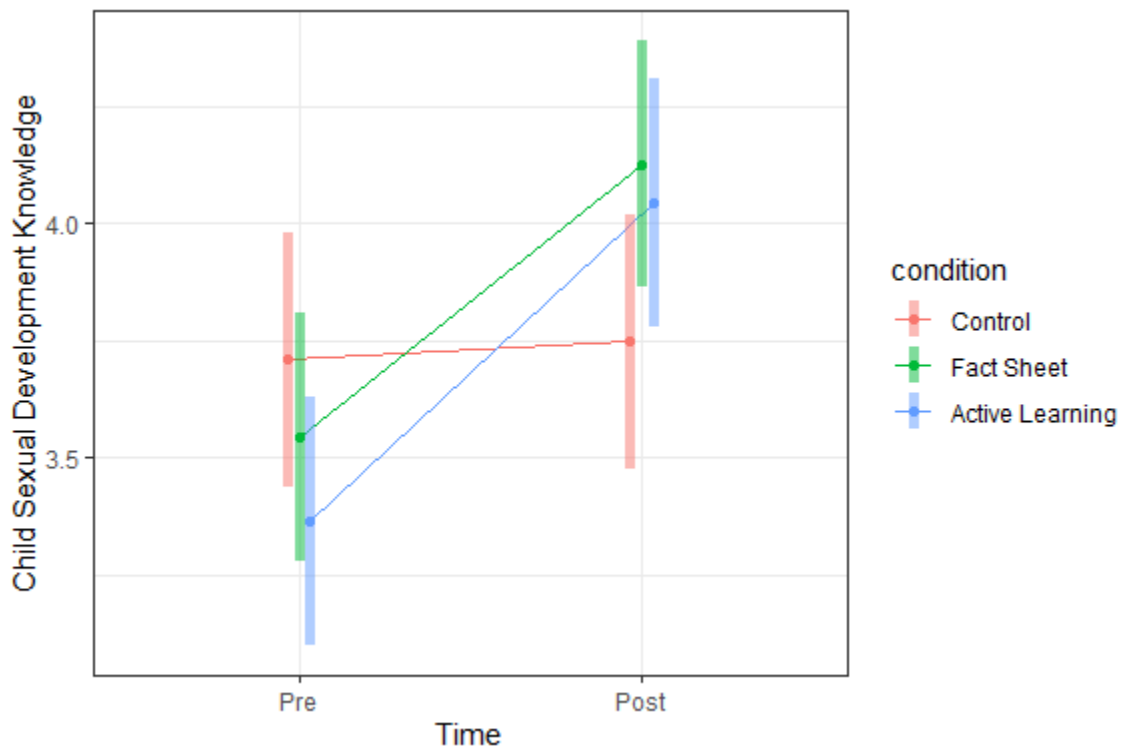


Table 3*All Research Questions and Tests with P-Values*

Research Question	Significant	Non-significant	Test
1. Is general parental communication self-efficacy positively correlated with parental efficacy regarding sexual communication?	$p < .001$		Correlation
2. What personal and contextual factors are associated with higher parental efficacy regarding sexual communication?			
2a. Is the region of residence associated with higher parental efficacy regarding sexual communication?		$p = .08$	One-way ANOVA
2b. Is current religiosity negatively correlated with parental efficacy regarding sexual communication? Is there a difference in the correlation of current religiosity and religiosity of the family of origin when it comes to parental efficacy regarding sexual communication?		$p = .10$	One-way ANOVA
2c. Is parental age negatively correlated with parental efficacy regarding sexual communication? Is child age positively correlated with parental efficacy regarding sexual communication?	$p = .05$		Correlation
2d. Is having more than one child associated with higher parental efficacy regarding sexual communication?		$p = .83$	One-way ANOVA
2e. Is the experience of past trauma associated with parental efficacy regarding sexual communication?	$p = .01$		t-test
2f1. Do mothers have higher parental efficacy regarding sexual communication than fathers?		$p = .09$	t-test
2f2. Are parents more efficacious in sexual communication with daughters or sons?		$p = .08$	One-way ANOVA

2g. Is maternal education positively correlated with parental efficacy regarding sexual communication?		$p = .53$	One-way ANOVA
2h1. Is parental general sexual knowledge positively correlated with parental efficacy regarding sexual communication?	$p < .001$		Correlation
2h2. Is parental child sexual development knowledge positively correlated with parental efficacy regarding sexual communication?	$p < .001$		Correlation
<hr/>			
3. Does parental efficacy regarding sexual communication and frequency of sexual communication increase following a parent sexual efficacy intervention?			
3a. Is an active learning approach to provide sexual information to parents more effective at promoting parental efficacy regarding sexual communication than a fact sheet alone, when compared to a control group which receives no information?		$p = .22$	Mixed-design ANOVA
3b. Does parental efficacy regarding sexual communication increase over time?	$p = .01$		Mixed-design ANOVA
3c. Is an active learning approach to provide sexual information to parents more effective at promoting parental efficacy regarding sexual communication than a fact sheet alone, with more time spent in the intervention materials?		$p = .07$	Mixed-design ANOVA
3d. Is an active learning approach to provide sexual information to parents more effective at increasing sexual communication frequency than a fact sheet alone, when compared to a control group which receives no information?		$p = .54$	Mixed-design ANOVA
3e. Is an active learning approach to provide sexual information to parents more effective at increasing sexual communication frequency than a fact sheet alone, with more time spent in the intervention materials?	$p = .04$		Mixed-design ANOVA

3f. Is an active learning approach to provide sexual information to parents more effective at increasing general sexual knowledge than a fact sheet alone, when compared to a control group which receives no information?

$p = .17$

Mixed-design
ANOVA

3g. Is an active learning approach to provide sexual information to parents more effective at increasing child sexual development knowledge than a fact sheet alone, when compared to a control group which receives no information?

$p < .001$

Mixed-design
ANOVA

CHAPTER V

DISCUSSION

The purpose of this study was to 1) examine associations between personal and contextual factors as they relate to parental self-efficacy regarding sexual communication and 2) test the effectiveness of a brief intervention to increase parental self-efficacy regarding sexual communication with toddlers and young children. By increasing parental sexual communication efficacy, discussions early in a child's life may promote lifelong sexual health, prevent childhood sexual abuse, and promote positive sex attitudes as outlined by the World Health Organization (WHO, 2006). This age group of children was selected based on the sexual development that occurs during the early years of a child's life (Wurtele & Kenny, 2011), the targeting and grooming of young children for sexual abuse (Elliot et al., 1995), as well as the lack of programming made available to children and parents of children who are not yet of formal schooling age (Byers et al., 2008; Kurtuncu et al., 2015; Miltenberger & Hanratty, 2013; Stone et al., 2013; Wurtele et al., 2008). During this stage of a child's life, parents are the primary educators, with mothers in particular being the primary sex educator of young children (Byers et al., 2008; El-Shaieb & Wurtele, 2009; Farrington et al., 2014; Martin & Luke, 2010). Thus, parents of children aged one- to five-years-old were the target population for the study as they are the first sex educators for children and in a ready position to guide and teach sexual health.

As much of a young child's sexual development is contextualized by social interactions with their parent(s) and/or other caretakers (Flores & Barroso, 2017; Halim et al., 2018; Wurtele & Kenny, 2011), this study was largely informed by Albert Bandura's social learning or social cognitive theory with an emphasis on the self-efficacy tenants of the theory (Bandura, 1997; Bandura, 2006-a; Crain, 2011). Based on the four sources of self-appraisal in Bandura's theory, this study utilized three of the four sources in a randomized controlled trial, in which parents were randomly assigned to one of three intervention groups, two of which were given age-appropriate sexual development information to promote parental self-efficacy regarding sexual communication. In this chapter, the results of the study will be discussed in depth, taking each research question in order, and the effectiveness of the intervention will be reviewed with limitations and future recommendations also being considered.

Parental Communication Efficacy and Efficacy Regarding Sexual Communication

This study first examined the extent to which parents' general communication efficacy was related to their efficacy regarding sexual communication. Parents who are more confident in their abilities to communicate with their children may also feel more confident in discussing matters that are sensitive in nature, such as sexual communication. As hypothesized, higher levels of parental communication self-efficacy was associated with greater parental efficacy regarding sexual communication. This finding is in line with Bandura's social learning theory in the generative capability of self-efficacy, which posits the more a behavior is performed, the better a person becomes at that behavior. It also stands to reason that when someone is self-efficacious in one area of communication, they would also likely perceive efficacy in other areas of

communication, which may explain the observed association between general communication efficacy and parents' efficacy regarding sexual communication.

The Role of Personal and Contextual Factors on Parental Efficacy Regarding Sexual Communication

Given that location or residence has implications for the type and amount of sex education individuals receive (Pop & Rusu, 2015; Rabbitte & Enriquez, 2019), it was hypothesized that more densely populated areas would have higher parental self-efficacy regarding sexual communication, however this was not supported in the present study. This could be because this study was underpowered and could only detect the large effect sizes, therefore smaller effects were not observed in the analyses. It is also possible this hypothesis was not supported because of lack of variability in geographic location. The majority of participants in the study were from Utah, which is only one state with large rural areas. This is important to keep in mind because, as discussed in previous literature, sex education differs between states and even from school district to school district (Pop & Rusu, 2015; Rabbitte & Enriquez, 2019). Past studies have also found that more densely populated areas tend to have more comprehensive sex education when compared to more rural areas, such as Utah (Lindberg, Maddow-Zimet & Boonstra, 2016; Mellanby, Newcombe, Rees & Tripp, 2001; Powell & Selwyn, 2007).

Interestingly, when participants residing outside of Utah were compared to those residing in Utah, a trend was observed that showed a tendency of higher levels of self-efficacy regarding sexual communication among participants in locations outside of Utah compared to those residing in Utah. There are many reasons that this could be, such as more densely populated areas outside of Utah, more comprehensive sex education outside

of Utah, or potentially proportionally fewer children in this age range outside of Utah, but this is only speculation. The trend toward significance is interesting and should be examined in future research with greater power to detect effect sizes and with a nationally representative randomized sample.

According to past research, parents are concerned with teaching their children sexual morality (Geasler et al., 1995), which is connected to religious views and values. For this reason, it was hypothesized that parents with lower levels of current religiosity would have higher levels of parental self-efficacy regarding sexual communication. There was partial support for the hypothesis that current religiosity would be negatively correlated with parental self-efficacy regarding sexual communication. Findings showed that parents with lower levels of current religiosity also reported higher self-efficacy regarding sexual communication with their children. This is consistent with findings from Farrington and associates' study (2014) which showed that parents who are more religious tended to have more discomfort about sexual communication with their teenage children. Similarly, El-Shaieb and Wurtele (2009) found that less religious parents tend to discuss sexual topics with their children earlier than more religious parents. Results from the present study extend previous research on parental sexual communication with adolescent children and show that the pattern is similar among less religious parents with much younger children. This finding should be replicated with a larger and more representative sample in the future.

Because religious views of sex and sexuality are developed early in life, this study also examined religiosity in the family of origin and hypothesized a negative correlation of levels of religiosity in the family of origin and mean scores of parental self-efficacy

regarding sexual communication. Based on the past literature cited here, family of origin religiosity is not a variable that has been examined empirically as it relates to sexual communication, though the study by Farrington and colleagues (2014) found that mothers' religious views influenced the sexual topics they were and were not willing to discuss with their children. As religious views around sexual topics are often formed during the time a young person is taught about sexual topics, it was logical to analyze the levels of religiosity in the family of origin due to the likelihood that this would influence the views of the current family. However, the findings of this study found a positive correlation in the post-test analytical sample, showing that higher levels of religiosity in the family of origin are linked with greater self-efficacy regarding sexual communication. Because this finding was only observed in the post-test analyses, it is possible that the difference could also be explained by an increase in parental self-efficacy regarding sexual communication in relation to participating in the study. This is a surprising result considering that lower current religiosity was correlated with greater sexual communication self-efficacy in the same sample. While the correlation of levels of religiosity in the family of origin and sexual communication was not significant, it is a result that could be looked at more closely in future studies.

It is entirely possible that this result may be specific to this sample population as most of the participants did indicate being religious and having high levels of religiosity in the family of origin. This may be especially influenced by the dominant and conservative religion in the state of Utah, the Church of Jesus Christ of Latter-Day Saints, and may be a confounding factor in the results of the correlation between levels of religiosity in the family of origin and parental self-efficacy regarding sexual

communication. A similar study with a more diverse and representative sample may be able to provide more conclusive evidence of a relationship regarding religiosity and sexual communication efficacy.

It was anticipated that younger parents would have more comprehensive sex education and thus be more efficacious in sexual communication with their children (Kakavoulis, 2001; Rabbitte & Enriquez, 2019; Stone et al., 2013). However, both pretest and post-test results suggest that older parents have slightly greater sexual communication efficacy, though not at a significant level. Due to being underpowered, it is possible that the relationship could be due to a variable that was not measured in this study and should be replicated in a larger sample. However, according to Bandura's theory, the generative capability of self-efficacy strengthens with practice, therefore, older parents may have had more opportunities to practice sexual communication and become more efficient than their younger counterparts. Likewise, older parents may have had more sexual learning opportunities or experiences themselves to gain more sex knowledge that would aid in developing efficacy. It should be noted that neither of these correlation results were significant (although the pretest sample was trending towards significance), but because the direction was opposite of what was anticipated, this correlation warrants further research.

Similarly, the observed correlation between the child's age and parental self-efficacy regarding sexual communication was in the opposite direction of what was hypothesized. Based on past research, it was anticipated that parental self-efficacy regarding sexual communication would be positively correlated with a child's age, suggesting that parents are more efficacious when engaging in sexual communication

with older toddlers and young children as opposed to infants as parents have been shown to think that it can be ‘too much, too soon’ and plans to discuss sexual topics are usually delayed (El-Shaieb & Wurtele, 2009; Geasler et al., 1995; Kakavoulis, 2001). However, although it was not significant, the results from this study showed a small negative correlation between child age and parental self-efficacy regarding sexual communication, such that parents with younger children reported greater self-efficacy regarding sexual communication. Again, this is likely a result of having a sample size that was too small and should be replicated in future research with a larger sample.

This is a fascinating observation and may be partially explained by children becoming more curious about sexual topics with age. When a child asks a question to which their parent does not know the answer, the parent may view themselves as less capable and efficacious. This situation would also be supported by tenants of Bandura’s social learning, as efficacy is constantly being challenged by new information and new situations require new attention and practice. However, if a child is not capable of asking a question, such as an infant or young toddler who is only beginning to learn language, there is not an external pressure from the child to challenge the parents’ efficacy regarding sexual communication. However, because the results were insignificant, this is conjecture and there may be other reasons for the outcome that were not studied in this research.

The data from the current study did not support the hypothesis that having more than one child between the ages of one- and five-years-old would be associated with greater parental self-efficacy regarding sexual communication. There was no difference between parents that had only one child and those who had two or three children in this

age range. It should be noted that this study did not inquire about any children older than the age of five-years-old, and therefore having a significantly older sibling, or a large number of older siblings, may still have an effect on parental efficacy regarding sexual communication and would be interesting to measure in future studies.

The results from this study that found parental self-efficacy regarding sexual communication does not increase with the number of children can be somewhat puzzling when guided by a social learning lens. The generative capability of self-efficacy suggests that the more practice a person has with a certain action, the more efficient and confident they become. For this reason, it was expected that a parent who had practice engaging in conversations around sexual topics with more than one child would have had more practice than a parent with only one child and therefore would report greater efficacy, but that was not observed in this study. On the other hand, it is plausible that parents who do not engage in communication around sexual topics with their children aged one- to five-years-old would not be initiating the generative capability of self-efficacy regardless of the number of children they do have. Without practice, or with highly sporadic and infrequent practice, the skill of sexual communication with young children would not be able to reach its full efficacious ability.

Previous literature has shown mixed findings with some studies reporting that experiencing sexual trauma is related to greater efficacy (Tishelman & Fontes, 2017) and others reporting that sexual trauma is related to less self-efficacy (Allbaugh et al., 2014; Talmon & Ginzberg, 2018). The evidence in this study partially supports the findings of Tishelman and Fontes (2017) that having experienced sexual abuse or trauma are related to greater efficacy regarding sexual communication. It is important to note that this is

only shown in the pretest analyses and the post-test analyses did not support a difference in parental self-efficacy regarding sexual communication for those who did or did not experience trauma. A reason for the difference in reported self-efficacy between pre and post-test could be that the intervention information was more effective for those who did not experience trauma when compared to their peers who did experience sexual trauma. It is also possible that several of those who rated themselves as having greater self-efficacy did not continue on in the study, and because those who experienced trauma reported greater self-efficacy, there may be a smaller proportion of those who did experience trauma when compared to those who did not in the post-test analytical sample.

It should also be noted that this was a self-report item, therefore it is possible that a number of participants may have chosen to not disclose a sexual trauma. There are several reasons that a participant may not disclose a trauma in a survey like the one utilized in this study. One of those reasons may be that they have not yet fully processed the trauma themselves, as discussed in previous studies (Allbaugh et al., 2014, Finkelhor et al., 2013, Talmon & Ginzberg, 2018). If this is the case, more in-depth research would be interesting to observe where in the healing process after experiencing a sexual trauma greater parental self-efficacy regarding sexual communication begins to emerge.

Gender differences in parental efficacy regarding sexual communication were examined. Contrary to previous literature and the hypotheses, results from this study showed no significant differences between mothers' and fathers' level of parental self-efficacy regarding sexual communication. Previous literature showed consistently that mothers were more efficacious in sexual conversations with their children, especially compared to fathers (El-Shaieb & Wurtele, 2009). It is likely that the present

investigation was unable to detect differences between mothers and fathers because of the low numbers of fathers who participated in the pretest ($n = 27$), and especially completed the full study ($n = 8$).

Also, in opposition to past research, this study shows a trend toward significantly higher parental efficacy regarding sexual communication when communicating with their young sons and when talking with opposite-gendered children. As the finding is only at the trend level, it is reasonable that another confounding factor may not have been observed in this study and the fact that this study is underpowered may not account for this possibility. This finding should be replicated in future research to examine if these trends persist. For this sample, it can be assumed that many of the parents who reported greater self-efficacy regarding sexual communication with a child of a different gender were mostly mothers communicating with sons, as the large majority of participants in the study were mothers. This was an especially surprising result considering the study done by Walker (2001) which found that sons often do not receive sexual information from their parents at all.

It is of note that most of the previous literature that studied parent-child sexual communication were studying adolescents and their parents (Chandra-Mouli et al., 2015; Dilorio et al., 2001; Espinoza, 2019; Farrington et al., 2014; Kakavoulis, 2001; Lindberg et al., 2016; Morawska et al., 2015; Walker, 2001; Wamoyi et al., 2010). Considering the differences in normative sexual development between adolescents and young children, this may explain why the findings in this study are different from past research (Wurtele & Kenny, 2011). As discussed in a few studies, mothers talked with daughters earlier and more often than with boys, while fathers were expected to discuss sexual topics with sons

and often did not (Martin & Luke, 2010; Walker, 2001). This makes sense in the sexual development of adolescents, as females tend to reach puberty before males. Further, female puberty has more obvious indicators of puberty, such as menarche. In contrast, male external genitalia in younger children is more obvious than female genitalia, which can be especially observed during toilet-training. The study by Nambambi and Mufune (2011) suggests that parents are more prepared for sexual discussions surrounding more apparent sexual development, such as menarche, breast development, and body hair. It may be that the more apparent sexual development areas for younger children are more noticeable in sons, while the more apparent sexual development areas for adolescents are more noticeable in young women. This is only speculation at this point and could be an interesting direction for future research.

The data from this study did not support the hypothesis that maternal education would be positively correlated with parental efficacy regarding sexual communication. Results showed parental sexual communication efficacy did not differ by mothers' level of education—there was no difference between any of the education levels attained by mothers. It is a little surprising however that parental self-efficacy regarding sexual communication would not be influenced by maternal education at all because those with greater education may have greater self-efficacy in general. It is possible that the findings in this study may be a result of a highly educated sample, as the average amount of education was the equivalent of a bachelor's degree (16 years of education). With regard to education, it would be interesting to look into more direct demographic variables such as occupation, race and ethnicity, mental health status, and annual income in future research.

A person can only teach as much as they know and the more a person knows, the more comfortable they are teaching about that subject. The same is true for sex education, thus it was hypothesized that those with more general sex knowledge and those with more knowledge of child sexual development would report greater self-efficacy regarding sexual communication. Both hypotheses were supported by the data, meaning that both parental general sexual knowledge and parental child sexual development knowledge were significantly positively correlated with parental self-efficacy regarding sexual communication. This finding was anticipated and is in agreement with the results of numerous previous studies (Capello, 2000/2001; Dilorio et al., 2001; Farrington et al., 2014; Kesterton & Coleman, 2010; Morawska et al., 2015; Wurtele et al., 2008). It stands to reason that the more a person actually knows about the subject they are discussing, the more efficacious they are at discussing the topic, and here it is shown to be the case for sexual communication with toddlers and young children.

While the results of these analyses were expected, it is interesting that participants who scored higher in both parental general sexual knowledge and parental child sexual development knowledge were less likely to continue with or complete the full study (See Table 2). Through a social learning theory lens, this may be because these participants were already engaging in the generative capability of self-efficacy as described by Bandura (Bandura, 1997). The more someone is comfortable with sexual knowledge, the more likely they are to engage in sexual conversation, and if they had a positive sexual communication experience with their child, they will be more likely to continue conversing in such a way. Though correlation does not indicate causation, the evidence here suggests that increasing sexual and child developmental knowledge will also

increase parental self-efficacy regarding sexual communication. Directionality, possible bi-directionality, and causality would be worthwhile to study in future research.

Intervention to Promote Parental Efficacy Regarding Sexual Communication

The purpose of this study was to examine the effects of a brief intervention on parental self-efficacy regarding sexual communication with toddlers and young children. This was done by randomly assigning participants to one of three intervention groups. These groups were based on Albert Bandura's social learning theory and the levels of learning within the theory. It was anticipated that the active learning group (learning through vicarious experience) would experience the greatest gains in sexual communication efficacy, followed by the fact sheet group (learning through verbal persuasion), with the control group (learning through physiological cues) experiencing the smallest gains in sexual communication efficacy.

There was no evidence from this study to support the hypothesis of greater parental self-efficacy regarding sexual communication with the active learning condition over the six-week intervention period. In fact, there was no evidence that the active learning condition was any different from the fact sheet only condition, suggesting that a one-time presentation may be just as effective as a fact sheet, which is different from what was found in the study by Wurtele and colleagues (Wurtele et al., 2008). While there was no significant difference in parental self-efficacy regarding sexual communication between the groups, there was a trend toward significant gains in sexual communication efficacy when participants reported spending more time on the intervention material (See Figure 8). It is also important to point out that the slopes of the gains per view in the active learning condition are steeper than those in the fact sheet

condition, although this difference was not significant. This suggests that a traditional multiple session course may be the best option to increase parental self-efficacy regarding sexual communication. Future research should study the perceived and observed effectiveness of an online multiple session curriculum compared to an in-person multiple session curriculum intended to increase parental self-efficacy regarding sexual communication.

While there was no evidence of significant gains in parental self-efficacy regarding sexual communication, it is possible that true gains may not be able to be detected in the short six-week period. With this in mind, frequency of parent-child sexual communication over the course of the intervention was also examined. The data from the pretest and post-test groups comparison showed no significant difference in sexual communication frequency between the conditions in the intervention. However, there was a significant increase in parent-child sexual communication frequency such that when parents reported spending more time engaged with the intervention materials, they also engaged in more frequent conversations pertaining to sex and sexuality. Although there was no significant difference between the increased sexual communication frequency in the active learning group and the fact sheet only group, it is interesting to note that any amount of time spent in the active learning intervention resulted in increases in sexual communication frequency, while only the highest level of time spent in the fact sheet showed increased frequency (See Figure 9).

These findings are a demonstration of the portion of Bandura's social learning theory that includes four components of learning through modeling. The increase of sexual communication frequency in all categories, as was hypothesized, shows that

participants (1) paid attention to the topic of sexual communication with young children, (2) engaged in cognitive retention of the behavior, (3) were physically able to reproduce observed sexual conversations, and (4) performed the task of sexual communication with their young children, thereby beginning the generative capability of self-efficacy as described by Bandura (1997). Although increases in frequency were observed across the board, the lack of significant gains between intervention and control groups indicates that a one-time intervention may not be enough to meet the needs of parents of children aged one- to five-years-old when it comes to communication about sexual topics. This idea is supported by the significant increase of frequency in parent-child sexual communication over the course of this study was evident only after multiple views of the intervention material. Perhaps a study over a longer time frame in the future would provide more insightful and more conclusive information.

Limitations and Future Directions

While this study had many strengths, such as being a randomized controlled trial with two levels of intervention, there are many ways that this study can be improved upon. For instance, this study was decidedly underpowered and nearly every portion of this research would have benefited from a larger sample size. With the fact that it was underpowered, this study did still detect some significant results and some trends towards significance that are worth studying in the future. Another limitation of this study is that a majority of participants are from Utah and identify as LDS, meaning that this study may not be able to be generalized to a population outside of Utah or a population that does not identify as LDS.

This study could have benefited from a randomized sample in addition to the random assignment into groups. Also, the inclusion of intermittent quality check questions in the surveys would have made fraudulent data easier to deter, detect, and discard. While the participant provided unique identifier was beneficial and helped to preserve confidentiality, an individualized link to the post-test survey would have ensured a more definitive match from pretest to post-test responses and could be utilized in future studies. Additionally, the measures parental communication frequency and parental sexual communication frequency were weak and only had two items each. Specifically, these items more closely measured perceived frequency as opposed to observed frequency. These scales should be better developed and more specifically measured in future research opportunities.

Several trends towards significance were detected in this study and would be great starting points for future research. Parental self-efficacy regarding sexual communication may be greater in less religious populations outside of Utah based on the results in this study but should be observed with another dataset as well. Observing parental self-efficacy regarding sexual communication with a toddler or young child who has a significantly older sibling, or a greater number of siblings would also be interesting and insightful. The findings in this study that parents of younger sons reported greater self-efficacy regarding sexual communication is surprising and would be fascinating to see replicated. As with other similar studies in the past, this study had remarkably few father participants, thus a similar intervention targeting specifically fathers would be of interest in future research. Researching other and more specific demographic factors, such as

occupation, race/ethnicity, or mental health status would also be beneficial to building the literature in the area of parental self-efficacy regarding sexual communication.

Conclusions

The results of this study add to a growing body of literature on parental self-efficacy and engaging in sexual communication and education with toddlers and young children. Importantly, this study demonstrated that general parental efficacy was positively associated with parents' sexual communication efficacy. Several personal and contextual factors were related to parents' efficacy regarding sexual communication. For example, both child sexual development knowledge and general sex knowledge were significantly and positively correlated with parental self-efficacy regarding sexual communication and participants who identified as 'Non-religious' had significantly greater sexual communication efficacy than those who identified as 'LDS'. Although not significantly different from the control group, parents' efficacy regarding sexual communication increased following a fact sheet-only intervention and active learning condition. It was not the primary aim of the study, however, the intervention was effective in increasing parental knowledge of child sexual development in both the fact sheet only and active learning intervention conditions. This study was largely exploratory and should be built upon in order to attain the goals of promoting lifelong sexual health and healthy positive attitudes.

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Appendices

Appendix A. Definitions

Abstinence only sex education: Has as its exclusive purpose, teaching the social, psychological, and health gains to be realized by abstaining from sexual activity; teaches abstinence from sexual activity outside marriage as the expected standard for all school age children; teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems; teaches that a mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity; teaches that sexual activity outside of the context of marriage is likely to have harmful psychological and physical effects; teaches that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child's parents, and society; teaches young people how to reject sexual advances and how alcohol and drug use increases vulnerability to sexual advances; and H. teaches the importance of attaining self-sufficiency before engaging in sexual activity (Ott & Santelli, 2007).

Body integrity: The inviolability of the physical body, which emphasizes the importance of personal autonomy and the self-determination of human beings over their own bodies (Tutty, 1993).

Child sexual abuse: The involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society. Child sexual abuse is evidenced by this activity between a child and an adult or another child who by age or development is in a relationship of

responsibility, trust or power, the activity being intended to gratify or satisfy the needs of the other person (WHO, 2006).

Comprehensive sex education: A [sex education](#) instruction method based on-curriculum that aims to give students the knowledge, attitudes, skills and values to make appropriate and healthy choices in their sexual lives. The intention is that this understanding will prevent students from contracting [sexually transmitted infections](#) in the future, including [HIV](#) and [HPV](#). CSE is also designed with the intention of reducing unplanned and unwanted pregnancies, as well as lowering rates of domestic and [sexual violence](#), thus contributing to a healthier society, both physically and mentally (SIECUS, 2004).

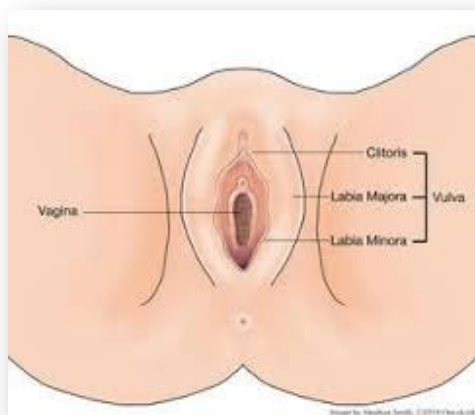
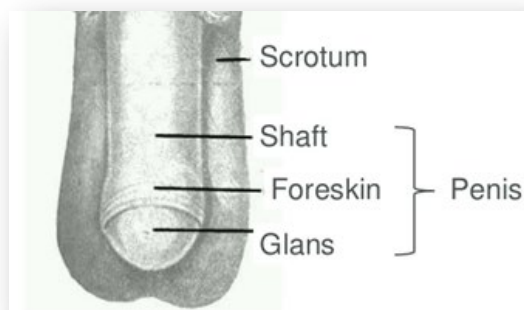
Parental efficacy: Is concerned with parents' beliefs in their capabilities to produce given attainments (Bandura, 1997, p 11; Bandura, 2006-a).

Sexual health: A state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled. (WHO, 2006)

Appendix B. Factsheet

SEX EDUCATION FACTS FOR PARENTS

Did you know that it is suggested that you start talking to your kids about sex as young as two years old? One of the main reasons for this is to prevent sexual abuse and to promote positive sexuality. Teaching your kids about sex while they are young can help them be more prepared for a happy and healthy life.



In order to best teach your kids about sex, you need to understand the basics of sex yourself. Here you can review the basics of anatomy and reproduction. If your child knows the proper terms for their external genitalia, they are not only less likely to be abused, but will be able to better disclose abuse if it does happen. Now that you know the proper names for external genitalia, you can teach them to your kids and help them stay safe!

Children often become curious about reproduction when they see pregnant women. Pregnancy is the 4th stage in reproduction, so they will naturally have lots of questions about how it happened. It will be so much easier on you as a parent if you are able to help your child understand the processes involved with reproduction in an age appropriate and honest way when they are young. Thinking through how you will approach this can help you better articulate your thoughts when the time comes.

Understanding what is normal for a child's sexual development is also a great tool for parents to have. Knowing what is normal and not normal for a child at a given age can help you know what is appropriate for the child to know. This understanding can help you confidently bring up sexual topics with your young children by knowing what challenges they are facing and what is normal for them to know. This can also help you better detect occurrences of sexual abuse.

Intercourse

Fertilization

Implantation

Pregnancy

Birth

Now that you know all the information, you can teach it to your kids. You can do it!

NORMATIVE SEXUAL BEHAVIORS

Infancy and toddlerhood (ages zero to two)

Normative	Abnormal	Suggestions
<ul style="list-style-type: none"> Enjoys nudity 	<ul style="list-style-type: none"> Irritated genitals 	<ul style="list-style-type: none"> Teach genital names
<ul style="list-style-type: none"> Enjoys touch (hugs and cuddling) 	<ul style="list-style-type: none"> Inflamed genitals 	<ul style="list-style-type: none"> Give plenty of affectionate touch
<ul style="list-style-type: none"> Self-stimulation as a form of self-soothing 	<ul style="list-style-type: none"> STI's or bruising (signs of sexual abuse) 	<ul style="list-style-type: none"> Help your child learn differences between boys and girls
<ul style="list-style-type: none"> Spontaneous sexual reflexes (erection/lubrication) 	<ul style="list-style-type: none"> Fearful of caregiver's touch 	<ul style="list-style-type: none"> Allow child to explore body
<ul style="list-style-type: none"> If toilet-training, may be interested in adult bathroom behavior 		<ul style="list-style-type: none"> Encourage androgynous activities
<ul style="list-style-type: none"> Explores body, including genitals, by touch 		

Young Childhood (ages three to six)

Normative	Abnormal	Suggestions
<ul style="list-style-type: none"> Identify gender differences 	<ul style="list-style-type: none"> Masturbates with objects 	<ul style="list-style-type: none"> Teach body safety rules
<ul style="list-style-type: none"> Exhibitionism 	<ul style="list-style-type: none"> Obsessed with sex 	<ul style="list-style-type: none"> Discuss boundaries
<ul style="list-style-type: none"> Voyeurism 	<ul style="list-style-type: none"> French kissing 	<ul style="list-style-type: none"> Teach privacy rules
<ul style="list-style-type: none"> Touching genitals in public and private 	<ul style="list-style-type: none"> Asking others to touch their genitals 	<ul style="list-style-type: none"> Teach genital names
<ul style="list-style-type: none"> Asks about genitals and reproduction 	<ul style="list-style-type: none"> Sexual play with dolls 	<ul style="list-style-type: none"> Age appropriate reproduction talk
<ul style="list-style-type: none"> Starts to want privacy 	<ul style="list-style-type: none"> Gets upset when denied privacy 	<ul style="list-style-type: none"> Teach assertiveness skills
<ul style="list-style-type: none"> Plays house and has more secure gender role ideas 	<ul style="list-style-type: none"> Masturbates in public after being told to stop 	<ul style="list-style-type: none"> Teach that clothes should be kept on while playing
<ul style="list-style-type: none"> Says they have a "boyfriend" or "girlfriend" 	<ul style="list-style-type: none"> Drawings of sexual acts 	<ul style="list-style-type: none"> Teach that skills apply to strangers, family, and friends
<ul style="list-style-type: none"> Tries to see or touch others' genitals 		<ul style="list-style-type: none"> Practice "what if" situations