Talk Dirty to Me: An Examination of the Effects of Communication During Sexual Activity on Relational Outcomes for Young Adults Beginning Romantic Relationships

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Abstract

The present study aims to extend both affection exchange theory (Floyd, 2002) and sexual scripts theory (Simon & Gagnon, 1986) to the context of communication during sexual activity. With sexual communication being a more recent area of research, the current study aims to develop a new measurement of communication during sexual activity in order to test some previously established relationships as well as some new relationships. Study I analyzes the new measurement of sexual communication by conducting a factor analysis. The model also suggests that sexual assertiveness, sexual self-esteem, and trait affection as predictors of sexual communication as well as analyzing the relationships between communication during sexual activity and relational outcomes such as sexual closeness, sexual satisfaction, sexual arousal, and relationship satisfaction. Study II uses an intervention based experiment in which individuals who are sexually active and in newly developing relationships for less than three months were instructed to increase their communication during sexual activity. The results are discussed for both studies and further elaborated on in terms of future research and extension of both of the theories that were used as a framework.
Talk Dirty to Me: An Examination of the Effects of Communication During Sexual Activity on Relational Outcomes for Young Adults Beginning Romantic Relationships

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B.A., Truman State University, 2013

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TALK DIRTY TO ME: AN EXAMINATION OF THE EFFECTS OF COMMUNICATION DURING SEXUAL ACTIVITY ON RELATIONAL OUTCOMES FOR YOUNG ADULTS BEGINNING ROMANTIC RELATIONSHIPS

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Chapter 1: Introduction

Romantic relationships are often considered one of the most influential interpersonal relationships (Erikson, 1968). In the context of romantic relationships, sexual activity is a topic of interest because it is what tends to set romantic relationships apart from other types of interpersonal relationships (Haavio-Mannila & Kontula, 1997). Sexual activity has been associated with many different outcomes such as overall improved mental health (Brody & Costa, 2009), trust, love, passion, intimacy (Costa & Brody, 2007), and better expression of emotion (Brody, 2003). Furthermore, sexual activity has been correlated with sexual satisfaction (Costa & Brody, 2007; Santtila et al., 2007), or the evaluation of how satisfied an individual feels with their sexual life or sexual experiences. Sexual satisfaction is associated with many positive relational outcomes such as love (Sprecher & Regan, 1998), commitment (Waite & Joyner, 2001), and relational satisfaction (see del Mar Sánchez-Fuentes, Santos-Iglesias, & Sierra, 2013, for review). Although the presence or frequency of sexual activity is a vital and unique aspect of romantic relationships, it is also important to analyze elements of sexual episodes that may influence one’s satisfaction with the behavior as well as their overall relationship satisfaction.

Within romantic and sexual relationships, self-disclosure is highlighted as being an integral part of overall satisfaction (Meeks, Hendrick, & Hendrick,1998). Self-disclosure is defined as “an interaction between at least two individuals where one intends to deliberately divulge something personal to another” (Greene, Derlega, & Mathews, 2006, p. 411). Many models have analyzed the importance of self-disclosure in building relationships, noting that it is vital to being in a relationship high in intimacy or closeness (e.g., Stewart, Cooper, Stewart, & Friedley, 2003). Although self-disclosure is an umbrella term that can and does encompass a number of different topics, sexual self-disclosure is an area that is particularly salient when
discussing romantic relationships or relationships that involve sexual activity. One way to promote sexual satisfaction is to verbally share sexual likes and dislikes, or to sexually self-disclose; however, individuals are sometimes hesitant to do this and are more likely to self-disclose non-sexual information than sexual information (Byers & Demmons, 1999). As previously discussed, sexual satisfaction is important as it relates to not only one’s assessments of the sexual activity, but also to the romantic relationship as a whole. Metts and Cupach (1989) suggest that sexual self-disclosure, specifically, can improve romantic relationships by allowing couples to feel closer with one another and by developing a mutual understanding of each person’s sexual preferences, which should increase the sexual experience and overall sexual satisfaction for the couple.

Although several studies have explored sexual self-disclosure, sexual communication as a whole has not been as thoroughly examined. Sexual self-disclosure and sexual communication are related concepts but are not necessarily the same. Sexual communication can include a variety of different aspects that self-disclosure would not include such as nonverbal expressions, instructive commands, or dirty talk. When looking at sexual communication, most researchers focus on what happens either before a sexual encounter, such as safe sex practices (Noar, Carlyle, & Cole, 2006) or giving consent (Jozkowski & Peterson, 2013), or on the aftermath of sexual encounters, such as pillow talk (Denes, 2012). More recently, though, scholars have turned their attention to communication during sexual activity (i.e., Jonason, Betteridge, & Kneebone, 2015), or expressing one’s self during either oral, vaginal, or anal sexual intercourse. Communication during sexual activity has been linked to increased likelihood of orgasm (Denes, Crowley, & Bennett, under review) and sexual satisfaction (Babin, 2013); however, there are still many uninvestigated relationships that have yet to be examined in the current body of literature.
To extend this emerging line of work, there are four major aims of the current study. The first aim is to test a new measure of communication during sexual activity, as there is currently no agreed upon way to measure this construct. Although there have been previous scales used, there is not a measurement that focuses on both verbal and nonverbal communication, or how communication during sexual activity relates to sexual arousal. The second aim is to better understand whether communication during sexual activity is associated with personality traits, as well as whether sexual communication is associated with sexual arousal and sexual closeness. The third aim is to provide additional support for several of the newly established associations between sexual communication and sexual and relational satisfaction by using the new questionnaire and by introducing additional variables to be considered in relation to these previously tested relationships. The final aim is to provide an extension of affection exchange theory (AET; Floyd, 2001) and sexual scripts theory (Simon & Gagnon, 1986) to the context of communication during sexual activity. Taken together, the present study will expand understandings of communication during sexual activity and its associations with important sexual and relational outcomes.
Chapter 2: Literature Review

Affection Exchange Theory

Affection exchange theory (AET; Floyd, 2002) takes an evolutionary and biological perspective to understanding why individuals are motivated to communicate affection and what types of consequences communicating affection has for individuals and their relational partners. Affection is defined as “an internal psychological state of positive, often intimate regard for another” (Floyd & Morman, 1998, p. 145). Floyd (2015) defines affectionate communication as “the symbolic behaviors through which people convey messages of love, fondness, and positive regard to each other” (p. 24). Affection can be expressed through nonverbal communication, such as a kiss or hug, or verbal communication, such as “I love you” or “thank you,” as well as through supportive acts like making dinner for someone who is overwhelmed (Floyd & Morman, 1998).

Similar to Darwinism, AET examines traits, specifically trait affection, as a selected characteristic that provides reproductive advantages and therefore is desirable. AET also assumes that individuals only have a certain amount of free will, as both biological features as well as social influences play a role in affecting how individuals behave and communicate with one another (Floyd, 2015). Combining both the biological and social aspects, humans have evolved in order to adapt to their surroundings and to pass on traits that are viewed as the most advantageous or desirable. AET suggests that being more affectionate or communicating more affection incurs greater benefits than being less affectionate or communicating less affection because it promotes pair bonding, which is essential for sharing resources (Floyd, 2001). Communicating affection also signals that an individual is a viable candidate for parenthood, in that it demonstrates that a person is able to express affection to a mate as well as offspring. This
communication of affection ideally then promotes one’s offspring to reproduce and pass along these ideal traits and genes (Floyd, 2001). The theory also puts forth five propositions that further explain how affection and affection communication function in the context of relationships (Floyd, 2015).

**Key Propositions**

The first proposition of AET states that desire and ability for affection is fundamental to humans, is innate, and is not acquired by observing or socialization. To simplify, individuals do not need to learn how or why to be affectionate with others. The second proposition suggests that although affectionate behavior and affectionate feelings often go together, they are distinctly different and sometimes do not occur in conjunction with one another. This is an important distinction to make, especially in a related line of research emerging from AET that examines deceptive affectionate messages, which focus on a discrepancy between expressions and feelings of affection (Horan & Booth-Butterfield, 2010). The crux of AET lies within the third proposition, which posits that expressing affection contributes to survival and reproductive success. The theory is grounded in this proposition and offers sub-propositions that explain how survival and reproductive success can be accomplished through affectionate messages. As previously mentioned, pair bonding is essential to human survival and procreation, and thus exchanging affectionate messages allows individuals to share physical and emotional resources. Additionally, being affectionate is viewed as a positive trait and signifies that someone is capable and willing to express affection. High trait affection is thus seen as a trait that individuals would like in their future mates, as it facilitates further passing along of successful genes and traits. The facilitation of passing along genetic material is also due to the fact that expressing affection is associated with more affectionate behavior in children, which ultimately allows one’s children to
attract more desirable mates (Floyd, 2001). Exchanging affection is also physically pleasurable, similar to consuming food or sleeping, because affection is tied to physiological elements of the body and brain (Floyd & Mormon, 2003). Thus, the fourth proposition states that all individuals have differing levels of desire to express and receive affection, with some individuals desiring more or less than others. Although affection is typically a positive experience, the fifth proposition puts forth that if an individual does not desire to express or receive affection, it can become extremely uncomfortable and even physically repulsive (Floyd, 2015).

**Variables Examined with AET**

Individuals communicate affection due to biological goals to survive and procreate (Floyd, 2002). This ultimate goal subconsciously may result in parents giving more affection to their children who they believe are most likely to reproduce. For example, Floyd (2001) found that fathers are more affectionate with their heterosexual biological sons than with their homosexual or bisexual sons, which supported the theory’s ideology that parents will share more resources with their children that they perceive will be the most likely to reproduce. In addition, AET predicts that other factors would contribute to parent-child patterns of affection as well, such as attractiveness, sterility, and if a child is biologically related to their parents or adopted (Floyd, 2006).

The propositions of AET have been supported by multiple research studies that have found positive associations between affectionate communication and positive aspects of social and relational health. Research has found that receiving affection is linked to increased commitment, partner satisfaction, and relational satisfaction (Gulledge, Gulledge, & Stahmann, 2003; Horan & Booth-Butterfield, 2010). Denes (2012) also found an association between post-sex affection, trust, closeness, and relational satisfaction. When examining relational repair,
Horan (2012) found that individuals perceived transgression as less severe when they felt that affection levels were adequate in their relationship. Additionally, Afifi and colleagues (2016) suggest that affection may contribute to building emotional capital to assist in relational repair or maintenance. Similar associations have been found between giving affection and increased levels of happiness, self-esteem, and relationship satisfaction (Floyd, 2002). Pauley and colleagues (2014) found that giving affection not only had a positive influence on individuals’ own affectionate behaviors, but also on the behaviors of their significant others. Giving affection has also been positively linked to attachment security, with securely attached individuals communicating more affection than individuals with one of the three insecure styles (Hesse & Trask, 2014).

Affectionate communication has also been associated with physical and mental health outcomes, based on the idea that exchanging affectionate messages helps mitigate the chemicals released that are associated with stress (Floyd, 2015). Highly affectionate individuals report higher self-esteem and mental health as well as less stress and depression (Floyd, 2002). In addition, individuals with higher levels of trait affection report lower blood glucose and blood pressure as well as higher variation in levels of cortisol, also known as the stress hormone (Floyd, 2015). When testing causal pathways, studies found that the association between lower stress and greater expressing of affection held true. Floyd and colleagues (2007) found that individuals were able to mitigate a stress induction task more effective if they expressed affection verbally compared to individuals who did nothing or only thought about someone they loved. Floyd, Pauley, and Hesse (2010) elaborated upon this further when they found that individuals who are highly affectionate experienced elevated levels of oxytocin, which helped individuals to reduce their stress levels quicker than those who were less affectionate.
Additionally, research has shown that individuals who express their affection verbally or nonverbally tend to have lower blood lipid levels (Floyd, 2015). Other research has shown affection to be linked to better cardiovascular health (Floyd, Hesse, & Haynes, 2007) and better mental health (Floyd, Hess, Miczo, Halone, Mikkelsen, & Tusing, 2005). Affectionate communication has been examined in many different interpersonal contexts, yet it has only recently been applied to understand sexual communication and its outcomes. With this emerging line of scholarship, researchers have been able to apply AET as a foundation when examining sexual communication as a form of affectionate communication.

**AET in Sexual Contexts**

Although AET was not proposed to specifically address sexual contexts, many scholars have demonstrated that sexual communication can be understood as a form of affectionate communication, and thus AET provides a valuable framework for investigating the causes and consequences of sexual communication. Denes (2012) was one of the first scholars to use AET as a basis to examine sexual communication, specifically looking at pillow talk or post-sex communication as form of affectionate communication. The study found that pillow talk is associated with many positive outcomes such as trust, closeness, and relational satisfaction. Additionally, a line of work explores deceptive affectionate messages (DAMs; Horan & Booth-Butterfield, 2011), or messages that seem affectionate in nature but do not align with the individual’s true feelings, in sexual contexts. Bennett and Denes (2019) used AET as a framework for investigating deceptive affectionate messages that are expressed when communicating during sexual activity, with DAMs being correlated to less post-sex communication, lower levels of sexual satisfaction, and lower levels of relational satisfaction.
AET’s propositions can be naturally extended to sexual contexts, as the theory’s key propositions discuss procreation, which is facilitated through sexual activity. In terms of communication during sexual activity, the focus is on expressing affection through both verbal and nonverbal communication. This expression of verbal and nonverbal affection is linked to AET’s proposition that an optimal level of affection can promote reproductive prosperity (Floyd, 2001), which would be the biological drive for communicating affection during sexual activity.

**Sexual Scripts Theory**

As previously discussed, AET is a theory that focuses on affectionate communication and how affectionate messages relate to relationships and reproductive successes. AET has only recently been applied in sexual contexts, but still does not provide much detail on how society or social interactions may influence how individuals think about and develop ideologies regarding sexual behavior. In order to help explain such processes, AET would benefit from being used as a framework alongside another theory focused solely on sexuality. Sexual scripts theory (Simon & Gagnon, 1986) is one of the most commonly used and examined theories in sexual research and social psychology. The primary concept that drives the theory is the notion that all behavior, even surrounding sexual activity, is scripted by our social experiences, which includes our own experiences as well as the ways that society tells us what or how to experience an event (Gagnon & Simon, 1973). The theory stems from the concept of scripts, which originally examined language development (Lacan, 1977).

Scripts are categorized into three components, which include cultural scenarios, interpersonal scripts, and intrapsychic scripts. Cultural scenarios are collective guidelines and provide instructions for how roles are played out within relationships and daily interactions. Cultural scripts are often a way to help individual reduce anxiety about future sexual
interactions, in this context, as well as provide permission for individuals to engage in novel sexual situations and sexual interactions without concern for possible societal repercussions, specifically in American culture (Wiederman, 2005). Bourdieu (1977) stated that cultural scripts do not typically predict behavior and must be vague enough to apply to a variety of circumstances. Therefore, there must be some adaptation of these cultural scenarios to make them more perfectly fit to individual-level cases or interactions. The possible, and rather likely, discrepancies that may exist between these scenarios and interactions are solved through creating interpersonal scripts. For example, if an individual observes the cultural scenario of two heterosexual individuals kissing on a first date in a restaurant in a film as a child, then when the individual embarks on a first date, they may apply the kissing standards or slightly adapt it to a more sexually advanced behavior. These scripts encourage the individual to not just adhere to the role, but to be able to make the cultural scenarios more specific to the context. Simon and Gagnon (1986) explain that “…interpersonal scripts represent the mechanism through which appropriate identities are made congruent with desired expectations” (p. 99). In order to organize cultural scenarios and interpersonal scripts, individuals must be able to draw conclusions and associations in their minds. Intrapsychic scripts are how an individual processes scripting through internal dialogue. This is the process where people put their own lens on interpretations of reality and where their own desires shape how an interaction may go. In this sense, internal desire is what an individual wants or expects to happen.

Sexual scripts specifically seek to describe how individuals interpret sexual behavior (Simon & Gagnon, 1986). The researchers note that sexual behavior is not inherently important, but rather becomes important to an individual if perceived as such at a societal level or if the individual has an experience that signifies its importance. Foucault (1978) also suggests that
sexual importance is not based on how often sexual behavior occurs, but on how much and how intently it is paid attention to by an individual and society. As such, intrapsychic scripts allow an individual to become sexually aroused and reach orgasm by organizing information of what an individual thinks is or can be considered as sexual and “sexy.” It should be acknowledged that in society, women and men have different roles involving sexual activity and scripts allow individuals to experience sexual desire in different ways (Frith, 2009). Sexual scripts seek to address limitations of such cultural scenarios by allowing individuals permission to engage in desired sexual activity and to organize sexual experiences as they see fit.

Sexual script development is a complex process that begins at a very young age and is not open to much change; therefore, one could assume that sexual scripts have a degree of stability across the lifespan, as the sexual scripts developed early in life can predict sexual successes (Simon & Gagnon, 1986). These sexual scripts become embedded in one’s sense of self (Simon & Gagnon, 1984), so any significant change to these scripts can produce stress because it can challenge one’s sense of self or core identity. For example, if an individual has developed a sexual script that involves only opposite-sex sexual activity and this individual later seeks same-sex sexual activity, this could cause distress to the individual while they are trying to restructure their sexual identity. Although individuals do have degrees of differing sexual scripts, it is a social process, so many people develop similar sexual scripts within the same society or culture.

The theory also acknowledges that there may be expectations that differ as a person grows up or gets older (Simon & Gagnon, 1984), which may in turn influence sexual scripts for individuals of certain ages. For example, very young and very old people are not seen as sexual beings and it is often deemed inappropriate for them to be. However, these cultural scenarios are becoming increasingly challenged to incorporate a more inclusive understanding of sexuality.
across the lifespan. Since individualism is valued in the dominant culture of the United States (Triandis, 1989), there is often an emphasis on personal ideals that stem from interpersonal or intrapsychic scripts, as opposed to the collective or social ideals. This may lead to a negotiation at all levels of script theory to find the ideal for a specific context or situation.

**Affection Exchange Theory and Sexual Scripts Theory Application**

Affection exchange theory and sexual scripts theory are not often used together as the framework for a study. There is one known study that focuses on both of these theories but with a somewhat different approach. Bennett, LoPresti, McGloin, and Denes (2019) conducted a study examining the relationship between trait affection, sexual desire, pornography consumption and guilt, and relationship satisfaction. These two theories were used to describe how interpersonal communication between couples may be influenced by pornography, such that individuals gather their sexual scripts from pornography exposure and apply these scripts to their current sexual relationships. The study found support for these theories in the sexual context, however, the theories did not explain why guilt about consuming pornography was more of a contributing factor to relationship satisfaction than the actual consumption of the material. Therefore, there is still work to be conducted examining both AET and sexual scripts theory in the context of sexual communication. Although the previously discussed study did provide some evidence of the utility of drawing upon both of these theories, it does not provide a causal test of the theories or truly aim to extend and challenge both theories as the current study does.

In sum, the present study seeks to extend AET and sexual scripts theory to predict individuals’ communication during sexual activity and its attendant consequences. Although AET has been infrequently used in sexual contexts, scholars have argued that communication during sexual activity can be viewed as a form of affectionate communication (e.g., Bennett &
Denes, 2019). Sexual scripts theory analyzes how scripts are developed, but does less in terms of predicting how or why certain scripts are applied in certain sexual situations. Thus, drawing upon the tenets of both AET and sexual scripts theory together provides an opportunity to better understand the outcomes related to communication during sexual activity.

**Different Types of Sexual Communication**

Communication during sexual activity can be expressed both verbally and nonverbally. Researchers have aimed to examine the different effects that each of these types of messages has on sexual and relational outcomes; however, there are still gaps in understanding the role of sexual communication in relational functioning. Levin (2006) explains that there are a variety of human vocalizations that accompany sexual activity and not all of them are true verbal utterances (e.g., “oh!, ah!, my god!, I’m going to come”; p. 101). Regardless of the content of the vocalization or utterances, they are typically expressed to signal sexual pleasure or orgasm to one’s sexual partner. One study found that both men and women interpreted sexual sounds as a positive expression of satisfaction and wanted their partners to use them during sexual activity (Herz & Cahill, 1997).

Both verbal and nonverbal communication have been analyzed in the context of sexual communication. Babin (2013) also examined both verbal and nonverbal communication during sexual activity and found that these forms of communication were significantly correlated with one another. However, the study did not examine which type of messages were expressed more often, only that nonverbal communication was related to more of the outcomes, such as sexual self-esteem and sexual satisfaction. Babin (2013) recommends that further research examine verbal and nonverbal communication by continuing to ask about both forms of communication
during sexual activity. Thus, the present study analyzes both forms of communication through the development of a new measurement of sexual communication.

Both verbal and nonverbal communication are relevant in the context of sexual communication. However, only one study has extensively examined communication during sexual activity, and focused solely on verbal sexual communication. Verbal sexual communication can be divided into individualistic erotic talk, which is self-focused, and mutualistic erotic talk, which is partner-focused, and both types are associated with increased sexual arousal (Jonason, Betteridge, & Kneebone, 2015). Jonason and colleagues (2015) additionally asked individuals to write erotic statements. There were overarching commonalities such as the use of slang for references to genitals and for sexual activity, specifically penile-vaginal intercourse, and the researchers found that many euphemisms were used, which was expected based on previous research studies (e.g., Wells, 1990). The statements could also be separated into eight thematic categories including “(1) sexual dominance (e.g., “Take it!,” “Who’s my fucktoy?,” “Are you a slaveboy?”); (2) sexual submission (e.g., “Fuck me good,” “Let me be your dirty slut,” “Do with it as you please”); (3) instructive statements (e.g., “Go faster/harder,” “Bend over,” “Put your cock in me”); (4) positive feedback/reinforcement (e.g., “You are so good at that,” “I love it when you slow down,” “You taste so good”); (5) intimacy/emotional bonding (e.g., “I love you,” “Darling,” “You’re beautiful”); (6) sexual ownership (e.g., “Whose pussy is this?,” “You’re mine now,” “Are you my girl?”); (7) speaking fantasies (e.g., “I’m imagining people are watching us fuck,” “Tell me what you would do with that guy”); and (8) reflexive calls (e.g., “Yes/yeah!,” “Fuck!,” “Oh God!”) (Jonason et al., 2015, p. 23). These categories were developed by using two independent coders to analyze responses to an open-ended question about the content of participants’ erotic talk. These categories were
then tested to see how often individuals used each during sexual activity. Intimacy or emotional bonding was used more frequently by women than men, and women were more likely to use sexually submissive statements whereas men were more excited to hear sexually submissive statements. However, both men and women preferred mutualistic erotic talk over individualistic erotic talk.

Personality traits were also examined and informed the nature of erotic talk, with individualistic talk being positively related to socio-sexuality, or a personality characteristic that relates to an individual’s attitudes, behaviors, and desires associated with sexual activity without the context of a relationship (Simpson & Gangestad, 1991), and mutualistic talk being positively related to agreeableness and relationship satisfaction. Both types of talk were positively correlated with extraversion and sexual satisfaction; however, upon further analysis, mutualistic talk had a stronger association with sexual satisfaction than did individualistic talk. The frequency of erotic talk and enjoying saying erotic statements was also positively associated with sexual satisfaction, agreeableness, and extraversion, with gender having no effect on these associations. The researchers concluded with the recommendation that future research examine such associations further and examine other types of personality or individual differences that may play a role in sexual communication. As such, the present study explores additional personality characteristics that may influence sexual communication.

In the context of sexual communication, personality characteristics play a key role in how comfortable or how often one may communicate during sexual activity, as many people find it more difficult to communicate about sexual topics than to actually engage in sexual activity (Pliskin, 1997). Although there are a multitude of personality factors that could contribute to
communication tendencies during sexual activity, there are three key personality characteristics that seem particularly relevant: trait affection, sexual self-esteem, and sexual assertiveness.

**Sexual Communication and Trait Affection**

Affection exchange theory (AET) explains that affection is different than affectionate behavior, in which individuals can be feeling affection and not express it or individuals can express affection without feeling it (Floyd, 2015). Although feeling of affection and affectionate behaviors typically go together, it is not always the case. It is also important to distinguish between trait and state affection. Trait affection is a combination of given and received affection in more broad terms of what typically happens or how an individual feels about their affection as a whole (Floyd, 2002). State affection is rarely examined, but has been measured through participants’ responses to a nine-item scale about their given and received affection on a daily basis for seven days, specifically asking about the affectionate behaviors on those days (e.g., Floyd, Pauley, & Hesse, 2010). Trait affection is a more stable way to examine how affectionate an individual is overall or in general (Pauley, Hesse, & Mikkelson, 2014).

Individuals who report higher levels of trait affection tend to experience positive outcomes and possess other beneficial traits. High trait affection individuals are more likely to express great amounts of affection to their partners, are more comfortable receiving affection, receive more affection, are more likely to be in a romantic relationship, are more likely to be satisfied in a romantic relationship, are less fearful of intimacy, are more comfortable with closeness, are more likely to have a secure attachment style, and report greater levels of happiness, less stress, higher self-esteem, and overall better mental health than individuals who are lower in trait affection (Floyd, 2002). Although some studies have considered expressions of nonverbal affection in sexual contexts, such as cuddling, kissing, or spooning (Muise, Giang, &
Impett, 2014), as well as verbal forms of affection such as pillow talk (Denes, 2012), these studies did not specifically examine trait affection as a variable of interest. Thus, the present study seeks to examine trait affection in relation to communication during sexual activity.

**Sexual Communication and Self-Esteem**

In addition to trait affection, it may be important to explore how comfortable individuals feel in the context of sexual activity, or their sexual self-esteem. General, or non-context specific, self-esteem has been positively associated with many different aspects of romantic relationships such as greater relationship satisfaction (Cramer, 2003) and less sexual risk-taking behaviors (Ethier et al., 2006). Additionally, sexual self-esteem has also been positively linked to sexual health (i.e., sexual adjustment or high risk sex behaviors) and sexual satisfaction (Van Bruggen, Runtz, & Kadlec, 2006). This characteristic is likely important when investigating sexual communication because an individual’s sexual self-esteem is how an individual thinks of him or herself in the context of sexual activity and their sexual identity (Calogero & Thompson, 2009). Although sexual self-esteem is often examined with those who have experienced sexual trauma (e.g., Mayers, Heller, & Heller, 2003; Van Bruggen, Runtz, & Kadlec, 2006), more studies have been using the concept of sexual self-esteem to understand predictors and outcome of consensual sexual activity, such as in the context of committed romantic relationships.

Sexual self-esteem has also been linked to body insecurity during sexual activity (Wiederman, 2000), with cognitive distraction being the main reason for this, as individuals who feel less secure about their body are then overly concerned with their appearance and performance during the sexual activity (Dove & Wiederman, 2000). These findings also bring up a biological sex difference because this shows that the variable affects women more than men, likely due to the fact that women have greater societal pressures on their appearance.
(Wiederman, 2000). In the context of communication during sexual activity, Babin (2013) found that sexual self-esteem was positively correlated with communication during sexual activity. Oattes and Offman (2007) also found that sexual self-esteem was positively associated with individuals’ abilities to communicate about their sexual needs. Additionally, they found that sexual self-esteem was more predictive of sexual communication than general self-esteem.

Taken together, the present study examines sexual self-esteem as it relates to the newly developed measure of communication during sexual activity as a means of replicating previous associations between sexual self-esteem and sexual communication with the new measure.

**Sexual Communication and Sexual Assertiveness**

With sexual self-esteem being considered as a key correlate of communication during sexual activity, another related concept to examine is sexual assertiveness, or how confident individuals feel in expressing themselves in a sexual context (Morokoff et al., 1997). Morokoff and colleagues (1997) suggest that sexual assertiveness has three different components, which involve initiating sexual activity, refusing sexual activity that is not desired, and the ability to discuss contraceptive and protective methods to prevent sexually transmitted infections. However, Santos-Iglesias and Sierra (2010) also state that sexual assertiveness includes communication on a variety of sexual issues, which relates to the current study because some individuals may be better able to express their sexual likes and dislikes, which may improve the overall sexual experience. Additionally, the trait of sexual assertiveness is directly related to age, with younger women being less sexually assertive (Rickert, Sanghvi, & Wiemann, 2002) and younger men being more sexually assertive (Haavio-Mannila & Kontula, 1997). For sexually assertive women, they experience more orgasms, have greater sexual desire, and report higher levels of satisfaction, both relationally and sexually (Huberle, 1991). These associations may be
due to the fact that women as a whole tend to be less sexually assertive than men (Morokoff et al., 1997). Sexual assertiveness has also been positively correlated with enjoying sexual activity (Haavio-Mannila & Kontula, 1997) and sexually assertive sexual talk has been positively correlated with relationship satisfaction (Greene & Faulkner, 2005).

Research on sexual assertiveness tends to focus mostly on verbal communication and individuals’ level of comfort expressing sexual wants and desires (Hurlbert, 1991). Similar to the findings from research on sexual assertiveness, Theiss (2011) found that uncertainty or lack of comfort with sexual communication was associated with a less open dialogue about sexual desires, which may in turn limit expression during sexual activity. The present study seeks to extend the findings on sexual assertiveness and sexual communication as a whole into the specific context of communication during sexual activity.

**Sexual Communication and Positive Sexual Outcomes**

In addition to exploring trait characteristics, it is important to investigate whether communication during sex is associated with outcomes such as sexual arousal, sexual satisfaction, relationship satisfaction, and sexual closeness. Communication surrounding sexual activity has been examined in relation to positive sexual and relational outcomes. Communication before sexual activity is one area that researchers focus on to help improve the sexual experience, in both sexual health and sexual performance. However, a majority of the focus is on positive sexual health outcomes, with talk before sexual activity resulting in more and consistent condom usage (Crosby, Sanders, Yarber, Graham, & Dodge, 2002) and greater use of contraceptives (Stone & Ingham, 2002). Additionally, communication research has focused on pillow talk, or communication after sexual activity (Denes, 2012). A link has been found between viewing pillow talk as a positive experience and relationship satisfaction (Denes et al.,
under review). Overall, the findings surrounding sexual communication seem to reflect positive associations with important sexual and relational outcomes.

Although the research on communicating during sexual activity is limited, there have been some studies that have specifically examined associations surrounding both verbal and nonverbal communication during sex. In the context of communication during sexual activity, sounds made during sexual activity have been associated with higher levels of sexual arousal, specifically when coming from the opposite sex when surveying heterosexual individuals (Ethofer et al., 2007; Levin, 2006). Often examined with sexual arousal is the concept of sexual satisfaction. Although orgasm is not the only way to measure sexual satisfaction, orgasm is one of the “most easily quantifiable index of sexual satisfaction” (Haavio-Mannila & Kontula, 1997, p. 401). Sexual satisfaction is also often measured by self-report, by examining how satisfying an individual perceives their own sexual relationships or sexual life to be (Lawrance, Byers, and Cohen, 1998). In terms of sexual satisfaction, there are some interesting findings related to the type of communication during sexual activity as well as sexual communication as a whole. Sexual communication has been associated with orgasm (Muehlenhard & Shippee, 2010). Jonason et al. (2015) also found a positive association between mutualistic erotic talk and sexual satisfaction, but did not find the same association for individualistic erotic talk, suggesting that talk that focuses on both individuals’ experiences may be more satisfying than focusing solely on one’s self. In addition, only nonverbal communication, and not verbal communication, was significantly positively related to sexual satisfaction (Babin, 2013).

It is often difficult to analyze sexual satisfaction without examining relationship satisfaction, as the link between sexual satisfaction and relationship satisfaction is very well established (see del Mar Sánchez-Fuentes, Santos-Iglesias, & Sierra, 2013, for review). The link
between both types of satisfaction makes it is essential to further explore which variables are associated with these indicators of sexual and relational well-being. The amount of sexual self-disclosure is related to both relational and sexual satisfaction (Byers & Demmons, 1999; Cupach & Comstock, 1990). In addition, communication during sexual activity has been associated with both sexual and relationship satisfaction in previous research (Brogan, Fiore, & Wrench, 2009; Byers, 2001; Crawford, Kippax, & Waldby, 1994; Sanchez, Phelan, Moss-Racusin, & Good, 2012). Although previous studies have not focused specifically on communication during sexual activity, previous work has linked dyadic sexual communication with relationship satisfaction (Greene & Faulkner, 2005).

A less often tested relational outcome is sexual closeness, or “the degree to which people imagine the interconnectedness between themselves and their sexual partners” (Frost, McClelland, & Dettmann, 2017, p. 2355). Frost and colleagues (2017) found that individuals who had a greater sexual closeness discrepancy (i.e., how close they wished to be with an ideal partner minus how close they reported to be with their current partner) were less likely to be sexual satisfied and experience orgasm. Although the association between sexual closeness and communication during sexual activity has not been directly examined, it is likely that sexual communication is an antecedent to how close an individual feels to their sexual partner. In other words, communication during sexual activity likely predicts greater feelings of sexual closeness, as partners are able to express their affection during a pivotal and vulnerable point in their relationship.

Chapter Summary

As stated throughout the chapter, the present study seeks to extend the current body of literature on sexual communication, specifically communication during sexual activity. Previous
research suggests links between personality characteristics such as trait affection, sexual self-esteem, and sexual assertiveness and communication during sexual activity. Additionally, such work suggests that communication during sexual activity is related to sexual outcomes that could have an impact on the overall relationship, such as on the association between sexual and relationship satisfaction (del Mar Sánchez-Fuentes, Santos-Iglesias, & Sierra, 2013, for review).
Chapter 3: Present Study

Proposed Study & Hypotheses

Previous research has explored sexual communication in the context of communicating before sexual activity as well as following sexual activity; however, only a few studies have been conducted examining communication during sexual activity (Babin, 2013; Jonason et al., 2015). The present study first seeks to expand the research on communication during sexual activity by testing a new measure, or questionnaire. The questionnaire examines motivations to communicate during sexual activity and how individuals perceive the influence of their own, as well as their partner’s, communication during sexual activity on their sexual arousal. This is the first study to present and examine this new questionnaire, with analyses including scale development. The present study also will be the first to put AET into conversation with sexual scripts theory by seeking to extend and challenge propositions of both theories.

The current study aims to contribute to research on AET and sexual scripts theory in two primary ways. First, this study examines individuals in newly developing relationships. Research informed by AET often focuses on individuals or couples who have been in relationships for at least several months (Denes et al., under review; Floyd et al., 2009); however, there has been a lack of research conducted examining sexual communication in newer romantic relationships. The current research examines individuals who have been in relationships for less than three months at the onset of the study, and therefore are not as advanced in their relational development. The findings will help provide an essential extension for AET by demonstrating that the propositions of the theory hold true at a potentially more vulnerable point of a romantic relationship. Solomon and Knobloch (2001; 2004) found that the transition from a more casual relationship to a more serious committed romantic relationship brings high relational uncertainty.
and can affect how individuals behave, think, and communicate about their relationships. Solomon and Knobloch (2001) suggest that future research examine individuals who are in newly dating relationships to determine if the scripts individuals have for relationships may be less established early in courtship. The line of research on relational transitions might also suggest that affectionate behaviors are especially influential in early phases of a relationship as well as in the transitional phase of casual to more committed relationships, as affectionate behavior may be one way that individuals manage uncertainty through the transitional phase (Emmers & Canary, 1996). Babin (2013) also found that participants in committed dating relationships had less sexual communication apprehension than those in non-committed dating relationships, which could contribute to how comfortable an individual feels communicating during sexual activity. In sum, newer relationships need to be examined more closely in order to understand how previously studied associations may or may not apply to this specific stage of a romantic relationship.

The second way that the present study contributes to AET and sexual scripts theory is by testing whether three of the propositions from AET can be extended into a sexual context. More specifically, the second proposition of AET (which notes the distinction between affectionate feelings and affectionate behaviors), the third proposition (which suggests that affection contributes to reproductive success), and the fourth proposition (which states that individuals have differing levels of affection) are tested in the context of communication during sexual activity. Although the other propositions are important, the second, third, and fourth propositions are more applicable to the present context and provide the strongest framework for the initial test of the new sexual communication measure. The first proposition merely states that all humans are capable of affection and since this study does not include non-human participants and does
not test individuals who may not be capable of affection, such as those who experience sociopathy or psychopathy, it does not need to be directly examined. The fifth proposition states that individuals can become uncomfortable if affectionate behavior occurs and they do not desire this behavior. Although this proposition may be potentially applicable in the future of sexual communication research, the current study will not focus on this proposition because it does not directly relate to the variables proposed in the hypotheses. The hypotheses of the study build from the second, third, and fourth propositions and thus provide a unique test of AET in the context of newly developed sexual relationships.

Additionally, the inclusion of sexual scripts theory as a framework for understanding sexual behavior offers a new viewpoint linking AET to sexual scripts, which have yet to be examined together. Sexual scripts theory may provide insights regarding cultural influences and schema development, including how individuals form opinions and views on behaviors of a sexual nature, which are currently absent from AET. These sexual behaviors might involve how an individual communicates an affectionate message during sexual activity or what one interprets an affectionate message to be during sexual activity. The present study also focuses on early adulthood, which has been identified as a time period in which individuals are developing and refining their sexual scripts (Wiederman, 2015). As such, this study contributes to research on sexual scripts theory by extending it beyond the sexual episode to understand the larger influence of sexual outcomes on romantic relationships, which has been done for romantic relationships (Sternberg, 1996), but not for sexual situations specifically. This is the first study that seeks to expand AET and sexual scripts theory by hypothesizing that communication during sexual activity can be seen as a form of affectionate communication that predicts larger relational outcomes beyond the immediate sexual episode.
Proposed Hypotheses

As previous research suggests (Byers, 2011), individuals may be more likely to express noises such as moans or groans because it is easier to express pleasure through these types of expressions than through full sentences while engaging in sexual activity. Research on affectionate communication also suggests that individuals tend to express affection more often through nonverbal than verbal communication (Floyd & Morman, 1998). It is important to confirm these findings, not only in an effort to understand communication in sexual contexts, but also to reinforce the application of AET as a valuable framework for the current study.

Communication during sexual activity could also be seen as a way to express affection to one’s partner. Often individuals express certain sentiments during sexual activity that are ultimately geared toward increasing the pleasurable aspect of sexual activity, which has been termed as mutualistic talk (Jonason et al., 2015). Mutualistic erotic talk may be one way that individuals communicate affectionate because it seeks to build intimacy, and intimacy has been conceptualized as including affectionate communication (e.g., Guerrero & Wiedmaier, 2013). When considering trait affection, it is possible that individuals who are higher in trait affection are more likely to engage in affectionate forms of communication during sexual activity.

Taken together with the literature detailed in the sexual communication research chapter, those who are higher in trait affection are more likely to express affection and more comfortable expressing affection in non-sexual contexts (Floyd, 2002), so individuals who are higher in trait affection may also be more likely to express affection during sexual episodes by communicating with their partner during the sexual activity, specifically stemming off of the previous research on mutualistic talk (Jonason et al., 2015). Similarly, sexual self-esteem and sexual assertiveness are both personality traits that may be associated with sexual communication. These personality
traits are associated with how confident and able individuals feel to express themselves during sexual activity. As such, individuals with higher levels of these traits will likely feel more comfortable communicating more during sexual activity. Therefore, the following set of hypotheses are put forth:

H1: Trait affectionate communication will be positively associated with communication during sexual activity.

H2: Sexual self-esteem will be positively associated with communication during sexual activity.

H3: Sexual assertiveness will be positively associated with communication during sexual activity.

Communication surrounding sexual activity has previously been correlated with various sexual outcomes such as sexual arousal, sexual satisfaction, and relationship satisfaction. Though such sexual outcomes might be assessed within one episode, sexual outcomes may also be assessed through one’s perceived physiological experiences (e.g., sexual arousal) as well as one’s subjective evaluation of the episode or of one’s sexual life as a whole (e.g., sexual satisfaction). Although these two constructs may appear to be similar, they are evaluating two unique aspects of sexuality (i.e., perceptions of physiological experiences versus overall evaluation of sexual relationship) and should be assessed separately. Both sexual arousal and sexual satisfaction may be predicted by communication during sexual activity. A robust literature has examined the relationship between sexual satisfaction and relationship satisfaction, with sexual satisfaction preceding relationship satisfaction (e.g., see del Mar Sánchez-Fuentes, Santos-Iglesias, & Sierra, 2013, for review). In addition to predicting relationship satisfaction, sexual satisfaction should also predict individuals’ evaluation of how close they are to their
sexual partner, termed sexual closeness. Sexual closeness is associated with sexual satisfaction in a way that if an individual desires to be closer to their sexual partner than they currently are, they report less sexual satisfaction (Frost et al., 2017). Therefore, the following hypotheses are put forth:

H4: Communication during sexual activity will be positively associated with (a) sexual arousal and (b) sexual satisfaction.

H5: Communication during sexual activity will be positively associated with relationship satisfaction through sexual satisfaction, such that the more individuals report engaging in communication during sexual activity, the higher their reported sexual satisfaction, and subsequently the higher their reported relationship satisfaction.

H6: Communication during sexual activity will be positively associated with sexual closeness through (a) sexual satisfaction, such that the more individuals report engaging in communication during sexual activity, the higher their reported sexual satisfaction, and subsequently the higher their reported sexual closeness, and (b) sexual arousal, such that the more individuals report engaging in communication during sexual activity, the higher their reported sexual arousal, and subsequently the higher their reported sexual closeness.

Figure 1 displays the model for these proposed relationships.

**Study II Hypotheses**

Following the predicted results of the first study, the second study tests the causal pathways using an experimental design to test the impact of communication during sexual activity on sexual arousal, sexual satisfaction, relationship satisfaction, and sexual closeness. A majority of research about sexual communication, specifically about communication during sexual activity, has been correlational in nature, so further work is needed in order to establish
causal pathways. In previous studies, researchers have tested the effects of affectionate communication behaviors on various outcomes by comparing a control group that does not change their behavior to an experimental group that is instructed to increase their affectionate behavior. For example, Floyd and colleagues (2009) conducted a study testing whether instructing participants to increase their kissing behavior over six weeks impacts health and relational well-being. Couples that increased their kissing behavior reported increased levels of relational satisfaction and significant decreases in stress and cholesterol levels. Denes and colleagues (under review) examined post-sex communication, specifically pillow talk, in relation to heterosexual couples’ stress and relationship satisfaction. The researchers instructed couples in the experimental condition to double their pillow talk over the course of three weeks and found that this increase lead to increased satisfaction, but only for men.

Though previous studies reinforce the relational benefits of increasing affectionate communication broadly, and post-sex communication specifically, researchers have yet to investigate the effects of an affectionate communication intervention aimed at increasing communication during sexual activity. Despite this gap in the sexual communication literature, there have been interventions to improve sexual functioning for individuals who experience sexual dysfunction from illness or surgery. For example, one study examined women who had undergone preventative surgery for breast cancer, where researchers conducted a half-day intervention focusing on vaginal health, mind-body connectedness, and improving mindfulness (Bober, Recklitis, Bakan, Garber, & Patenaude, 2015). The intervention was linked to improvement in sexual functioning, which included sexual arousal and sexual satisfaction, and also increased their sexual self-efficacy and lowered their anxiety about sexual activity. Another study examined the effects of a sexual counselling and an education-based intervention on
individuals with cardiovascular disease, which tends to impact one’s sexual functioning and health (Murphy et al., 2016). In the qualitative findings of this study reported thus far, the intervention seems to be helping individuals feel better about their sexual functioning and improve sexual self-efficacy.

Such research suggests that interventions aimed at improving sexual communication incur sexual and relational benefits. Thus, the present study builds upon this line of research and the rationale detailed in Study 1 to test the effects of an intervention aimed at increasing communication during sexual activity. Although previous work has not directly assessed whether an increase in communication during sexual activity leads to the positive outcomes detailed in Study 1 (i.e., increased sexual arousal, sexual satisfaction, relationship satisfaction, and sexual closeness), one could infer that an increase in communication during sexual activity would incur similar benefits to those found in other work on affectionate behavior, such as kissing and pillow talk as discussed in Study I. In congruence with previous research, the second study will test the following hypothesis:

H1: Individuals who increase their communication during sexual activity will report more (a) sexual arousal and (b) sexual satisfaction compared to individuals who do not increase their communication during sexual activity.

H2: Individuals who increase their communication during sexual activity will report more relationship satisfaction through sexual satisfaction compared to individuals who do not increase their communication during sexual activity.

H3: Individuals who increase their communication during sexual activity will report more sexual closeness through (a) sexual satisfaction and (b) sexual arousal as compared to individuals who do not increase their communication during sexual activity.
Figure 2 displays the model for these proposed relationships.
Chapter 4: Methodology

Study I Method

Participants

Participants were recruited from a large, Northeastern United States university introductory Communication course. Due to the nature of the hypotheses and rationale, participants had to self-identify as being currently in a heterosexual sexual relationship. Given the exploratory nature of this study (e.g., the study is testing initial scale development and other newly examined relationships), the hypotheses were tested in a specific population. More specifically, the present study focused only on heterosexual individuals to avoid other confounding factors related to differences in different-sex versus same-sex sexual relationships (e.g., differences in sexual activity frequency and mate selection processes; Jepsen & Jepsen, 2002, Solomon, Rothblum, & Balsam, 2005). There were 165 total participants who qualified and participated in Study I. The sample consisted of slightly more women (60%) and all participants’ biological sex and gender were congruent, which was assessed by asking participants about both their biological sex and gender identity. The majority of the participants identified as white or Caucasian (71.5%), with the next largest category as Asian (11.5%) followed by Hispanic/Latinnx (7.6%), Black/African American (6.7%), and bi-racial or multi-racial (2.4%). Individuals ranged in age from 18-42 years ($M= 19.32$, $SD = 2.09$). All of the participants reported that they were currently in or had previously been in a heterosexual romantic relationship with most reporting their sexual orientation as heterosexual (93.3%) but some reporting as bisexual or homosexual (3.6% and 2.4% respectively) and one person as asexual (.6%).
Procedure

The study used a cross-sectional survey provided to participants through Qualtrics. Participants were offered research course credit in exchange for participation in the study. A link to the Qualtrics survey was provided to interested participants, as well as an alternative assignment if individuals did not feel comfortable participating in the study. Participants were asked to fill out the survey up to two hours after sexual activity and to reflect on their most recent sexual activity, as has been done in previous work (e.g., Denes, Dhillon, & Speer, 2017). Upon clicking on the survey link, participants were presented with an IRB-approved information sheet. They clicked “next” to indicate consent and proceeded to the survey items. Participants were then asked to complete the measures detailed below, thanked for their participation, and awarded their research credit through a separate survey that was not linked to their responses to the study measures. All participants completed the survey online from their own computers.

Measures

Communication During Sexual Activity. There were several different measures used in order to help develop and further validate the scales that are currently used to assess communication during sexual activity. The measure that is in development was tested first with this sample. The 18 items developed for this scale represents ideas depicted in popular media (such as pornography or sexual media; in line with sexual scripts theory; Simon & Gagnon, 1986) and from the previous work investigating sexual communication. The overall communication during sexual activity measure consisted of three different sets of assessment questions. The first set consisted of 4 items anchored with “never” to “always” on a 7-point semantic differential scale, which asked participants to respond to items such as “I make noises during sexual activity (e.g., moans, groans, screams, etc.)” and “I say words during sex (e.g., Oh
God!, Yes!, Right there!, Pussy, Cock)”. If participants responded with an answer other than “1” or never to these questions, an opened ended question asking them to specify what they expressed was asked. The next set of questions on the scale included six items that asked participants to indicate their level of agreement on a 7 point Likert scale from (1) strongly disagree to (7) strongly agree. Example statements include, “There are certain noises (e.g., moans, groans, screams, etc.) that I make during sexual activity that make me more sexually aroused” and “There are certain words that my partner says during sexual activity that make me more sexually aroused”. The final set of questions included 8 Likert-type items asking participants to indicate how aroused they are when communicating during sex in the ways listed in the measure (from not aroused at all (1) to extremely aroused (7)). Example items are “How sexually aroused does you making noises during sexual activity make you?” and “How sexually aroused does your partner making noises during sexual activity make you?”. The scale development is further discussed in the analyses ($M = 4.95$, $SD = 1.17$).

Previous scales that have been used when investigating communication in sexual contexts include the sexual communication style scale, the sexual self-disclosure scale, and the dyadic sexual communication scale. The Sexual Communication Style Scale (Brogan, Fiore, & Wrench, 2009) was used to measure the typical type of communication during sexual activity with one’s partner. The 18-item measure included a Likert measure of (1) strongly disagree to (5) strongly agree. Example items include, “My partner nonverbally communicates that he or she is sexually satisfied” and “My partner verbally communicates during sex” ($\alpha = .89$, $M = 5.68$, $SD = .98$).

In order to test for convergent validity, several sub-scales of the sexual self-disclosure scale were used (Snell, 1998), which included items that assess sexual behaviors, sexual sensations, sexual dishonesty, sexual satisfaction, and sexual anxiety. The scale consisted of 15
items evaluated on a 1 to 5 scale (e.g., “I have not discussed this topic with my partner” to “I have fully discussed this topic with my partner”; $\alpha = .93$, $M = 4.82$, $SD = 1.56$). The Dyadic Sexual Communication Scale (Catania, 1998) was also used to evaluate sexual communication, which includes 13 items evaluated on a Likert scale of (1) strongly disagree to (7) strongly agree. Example items include, “My partner and I have never had a heart-to-heart talk about our sex life together” and “Some sexual matters are too upsetting to discuss with my sexual partner” ($\alpha = .76$, $M = 5.60$, $SD = .94$).

**Sexual Arousal.** A reduced version of the Sexual Arousal and Desire Inventory was used to measure sexual arousal (Toledano & Pfaus, 2006). The reduced inventory consisted of 25 Likert-type items ranging from (1) “does not describe me at all” to (7) “describes me perfectly” to answer the prompt of “Think of your last sexual experience when answering the following items”. Example items are “tingly all over”, “hard”, and “horny” ($\alpha = .92$, $M = 5.47$, $SD = 1.06$). Participants were asked to consider their most recent sexual episode when answering this inventory. This scale was reduced from the original 55-items to ensure limited fatigue among participants.

**Sexual Assertiveness.** To measure sexual assertiveness, a reduced version of the Hurlbert Index of Sexual Assertiveness (Hurlbert, 1991) was used. The reduced scale consisted of 8 Likert-type items ranging from (1) “all the time” to (5) “never”. Example items include, “I communicate my sexual desires to my partner” and “I think I am open with my partner about my sexual needs” ($\alpha = .79$, $M = 4.08$, $SD = .78$).

**Trait Affection (Given).** The 10-item Trait Affection Given Scale (Floyd, 2002) was used to measure trait affection and was evaluated on a Likert scale ranging from (1) strongly disagree to (7) strongly agree. Example items include “I love giving people hugs or putting my
arms around them” and “I am always telling my loved ones how much I care about them” ($\alpha = .92, M = 4.83, SD = 1.23$).

**Sexual Satisfaction.** Sexual satisfaction was measured using Lawrance, Byers, and Cohen’s (1998) sexual satisfaction questionnaire. Participants were asked, “How would you describe your sexual relationship with your partner?” The questionnaire includes five 7-point semantic differential items ranging from “very good” to “very bad”, “very pleasant” to “very unpleasant”, “very positive” to “very negative”, “very valuable” to “worthless”, and “very satisfying” to “very unsatisfying” ($\alpha = .95, M = 6.08, SD = .89$).

**Relationship Satisfaction.** Relationship satisfaction was measured using a modified version of Hendrick’s (1988) relationship assessment scale. The scale has 7 items assessed on 7-point semantic differential scale with anchors to match the nature of the questions, which include “How good is your relationship compared to most?” and “How many problems are there in your relationship?” ($\alpha = .87, M = 5.78, SD = 1.08$).

**Sexual Closeness.** Frost et al.’s (2017) one-item measure of sexual closeness was employed. The items asks: “Please select the set of circles that best represents your current sexual relationship with your relationship partner” and depicts six pictures of circles with various overlap (1) beginning with the circles completely next to one another with no overlap to (6) ending with the circles almost entirely overlapped ($M = 4.75, SD = 1.35$).

**Sexual Self-Esteem.** Sexual self-esteem was measured with a shortened sub-scale of the Sexuality Scale (Snell & Papini, 1989), which included 5 items evaluated on a Likert scale with (1) strongly disagree to (7) strongly agree. Example items include “I am a good sexual partner” and “I would rate my sexual skill quite highly” ($\alpha = .85, M = 5.41, SD = 1.22$).
Length of Current Relationship. Participants were asked about their current relationship status as well as how long (in weeks) they have been in their current relationship ($M = 78.20$, $SD = 80.16$), with the mean reflecting that individuals had been in a relationship for close to a year and a half (range = 1 - 520). Although the initial intention was to only include individuals who were in relationships for less than 3 months, given the sample size, all participants, regardless of relationship length, were retained.

Demographics. Participants were asked about their general demographics including their age, race, biological sex, and sexual orientation.

Study II Method

Participants

The participants for study II were drawn from the participants who already participated in study I. Participants’ responses from study I were treated as a baseline measure for the data collected in Study II. Additionally, for study II, participants were also required to have only been in their current relationship for 0 to 3 months, which is considered a newly developing relationship (Aune, Buller, & Aune, 1996). This time frame was chosen to allow for individuals to more easily adapt their sexual communication behavior, as relational and communicative norms are less likely to have been established compared to more developed relationships. The relational development model (Knapp & Vangelisti, 1992) suggests that individuals establish communication patterns as they escalate toward increased intimacy. Hinde (1979) also states that as relational norms are developed, deviations from these norms regarding affective behavior are more unexpected and must be discussed. In addition, and as explained in Chapter 2, early work examining the relational turbulence model (Solomon & Knobloch, 2001; 2004) suggests that relationships in the midst of transitioning from casual to more serious are crucial to examine.
Thus, focusing on newly developing relationships may be more effective for implementing behavior change than in more established relationships. Although participants could be in any type of relationship (e.g., consensually open or non-open), they must have engaged in any sexual activity (i.e., “below the belt” activity; Denes et al., under review) in the past week to participate in the study. The questionnaire was answered with the same partner in mind as indicated in Time 1. Participants had to be engaging in at least weekly sexual activity with their current partner or the participants would have not been able to accurately answer the follow up questionnaire and would not able to participate in the experimental manipulation. There were 28 participants recruited for study II with 14 participants completing study II. The participants who did not participate failed to respond to the reminder emails that included the survey link. The participants for study II consisted of 9 females and 5 males ranging in age from 18-22 years.

**Procedure**

Emails were collected during study I for individuals who were interested in participating in study II. Participants were sent an email asking if they wished to participate in study II and to confirm that they fit the criteria for the study. Simple unrestricted randomization was used, with each individual having an equal chance of being assigned to the experimental or control condition to reduce selection bias (see Kahan, Rehal, & Cro, 2015). Interested participants were then sent an email on the first Friday after study I closed. The email, if they were selected to be in the experimental group, included the following the language used in Floyd et al.’s (2009) study and adapted to the context of communicating during sexual activity:

> Over the next 4 weeks, we would like you and partner to communicate more frequently during sexual activity than you normally do. Over time, you will probably find that it becomes a more routine part of how you interact. The point is for the two of you to
communicate with one another during sexual activity more often and for longer periods of time than you typically do right now. We hope you will enjoy this part of the study. It’s fine to tell your partner what you have been instructed to do. We hope you will both make increased communication during sexual activity a priority over the next 4 weeks.

The control group was sent an email asking them to confirm their interest in participation of study II and indicated that they were going to be asked to take another follow up questionnaire at two weeks and at four weeks. The participants in the both groups were sent weekly reminders and then following two weeks and four weeks of the behavior change, they were sent the follow up surveys.

Measures

Since participants had already taken the full survey in study 1, they received a shortened version for study II’s initial survey as well as the two different follow up time points, with one reminder and an email after two weeks of the intervention to a link to the survey. The participants received a shortened version of the questionnaire used in study I, with the measures included being identical to Study I, but the overall survey being shorter (i.e., only the new measure of communication during sexual activity was used, rather than the other measures used to establish the validity of the new scale). The means and standard deviations for Study II are reported below under each of the variables that were measured for a second time.

Communication During Sexual Activity. The newly developed scale tested in Study I was used to measure communication during sexual activity in study II. The scale development is further discussed in the analyses ($M = 5.11$, $SD = .95$).

Sexual Arousal. A reduced version of the Sexual Arousal and Desire Inventory was again used to measure sexual arousal (Toledano & Pfaus, 2006). The reduced inventory
consisted of 25 Likert-type items ranging from does not describe me at all (1) to describes me perfectly (7). Example items are “Tingly all over”, “hard”, and “horny” ($\alpha = .88$, $M = 5.18$, $SD = .96$).

**Sexual Satisfaction.** Sexual satisfaction was again measured using Lawrance, Byers, and Cohen’s (1998) sexual satisfaction questionnaire ($\alpha = .79$, $M = 5.94$, $SD = .95$).

**Relationship Satisfaction.** Relationship satisfaction was again measured using a modified version of Hendrick’s (1988) relationship assessment scale ($\alpha = .86$, $M = 5.51$, $SD = 1.01$).

**Sexual Closeness.** Frost et al.’s (2017) item was again used to measure sexual closeness ($M = 4.43$, $SD = 1.40$).

**Status of Current Relationship.** Participants were again asked about their current relationship status as well as how long (in weeks) they have been in their current relationship ($M = 10.65$, $SD = 5.22$). The range was from 3 weeks to 16 weeks, with most of the participants reporting being in a relationship for a little over 2 months.

**Demographics.** Participants were asked again about their general demographics including their age, their race, their biological sex, and their sexual orientation.
Chapter 5: Results

Preliminary Analyses

A correlation matrix was generated with the demographic variables and the key study variables (Table 1). Due to previous research finding sex differences in trait affection (e.g., Floyd, 1997; Sprecher & Sedikides, 1993), biological sex was included as a covariate in the model. The assumptions of normality for structural equation modeling must also be evaluated. First, there must be a test for normality on the residuals of the dependent variables. It is not necessary for the independent variables to pass these tests due to the fact that there are not residuals produced. The standard test of normality was performed, which consisted of the Shapiro-Wilk test as well as the test for skewness and kurtosis. The Shapiro-Wilk test was used due to the smaller sample size. The Shapiro-Wilk test was significant for all of the key variables in the study, which indicates that that the data is not normally distributed. Upon further investigation, relationship satisfaction and sexual arousal demonstrated non-normal distributions. Relationship satisfaction was non-normally distributed, with skewness of -1.03 (SE = 0.20) and kurtosis of 0.38 (SE = 0.40). Sexual arousal was also non-normally distributed, with skewness of -1.16 (SE = 0.20) and kurtosis of 2.06 (SE = 0.40). Although these values are not in the ideal range (+/- 1), the values do fall into the acceptable range, which is typically considered (+/-2) (George & Mallery, 2010). Because the values fall within an acceptable range, the choice to transform these variables or not comes down to whether or not it makes theoretical sense for them to follow a normal distribution curve in the first place (Bentler & Chou, 1987). The outcome variables, which are the variables that should follow a normal distribution curve, were both negatively skewed. This type of skewness indicates that individuals are reporting higher
scores on these measures, with there being significantly more high scores than low scores. The result of this negative skew may be due to the fact that individuals who are in relationships tend to experience higher levels of satisfaction and arousal, for example. Transforming variables also does not allow for the common interpretations of beta weights. Therefore, the choice was made not transform these variables due to the fact that transforming these variables may fundamentally alter them in a non-natural way (Kline, 2015). Tests were also run to examine multicollinearity, which would be seen with an $R^2 > .90$ (Kline, 2015). This was not seen with any of the key variables so all variables were retained for the final analyses.

**Communication During Sexual Activity Scale Development**

The communication during sexual activity scale has not been previously used and was developed for the present study. As discussed in the methodology, there were 18 items developed for the communication during sexual activity scale. The items were analyzed using an exploratory factor analysis in SPSS. An exploratory factor analysis was used due to the need to have factors that would be measureable in order to define the latent construct of communication during sexual activity in the proposed model. The extraction method used for these data was principal axis factoring, which is one of the preferred methods for a more parsimonious analysis. Since the items were anticipated to be correlated, an oblique rotation was used as opposed to an orthogonal rotation, which would not assume correlation between the items (Field, 2013).

In interpreting the pattern matrix, items with factor loadings of .60 or higher and cross-loadings less than .30 were retained. The items that had multiple loadings or had loadings under .60 were considered “bad items” and were removed from the scale (DeVellis, 2017; Tabachnick & Fidell, 2012). The items and their loadings are displayed in Table 2. Items 5, 7, 9, 11, 12, 15, and 16 were deleted due to multiple factor loadings. Items 2 and 10 were deleted due to low
factors loadings. Item 1 was the only item to load onto the first factor so it was eliminated from the scale. The EFA was run again with the remaining 8 items. The retained items and factor loadings are displayed in Table 3. The communalities were then examined, as lower communalities indicate that a larger sample size is needed; however, the communalities were all above .60, which indicates that the sample size was adequate for the EFA (MacCallum, Widaman, Zhang, & Hong, 1999). The Bartlett’s test of sphericity confirmed homoscedasticity ($\chi^2 (28) = 816.14, p < .001$) and the Kaiser, Meyer, Olkin (KMO) index revealed a moderate association (.67), which is an acceptable value and further confirms the communalities that are all above .60 (Kaiser, 1974). The EFA yielded a three-factor solution that accounts for 83.78% of the variance. The three factors were named based on the items that loaded onto each individual factor.

The first factor, talk during sexual activity, is represented by two items, which include “I talk with my partner during sexual activity (e.g., about what you like, about your day, about what you want to do next)” and “My partner talks to me during sexual activity (e.g., about what you like, about your day, about what you want to do next).” These two items encompass the idea of talking throughout sexual activity and tap into both one’s own communication as well as perceptions of a partner’s communication. The second factor, self-focused communication arousal, is represented by four items, which include “There are certain noises that my partner makes during sexual activity that make me more sexually aroused”, “There are certain words that my partner says during sexual activity that make me more sexually aroused”, “How sexually aroused does your partner making noises during sexual activity make you?”, and “How sexually aroused does your partner saying words during sexual activity make you?”. These four items encompass the idea that the partner’s communication during sexual activity or one’s
interpretation of the partner’s communication during sexual activity can impact one’s own sexual arousal. The third and final factor, partner-focused communication arousal, is represented by two items: “How sexually aroused does your partner saying words during sexual activity make them?” and “How sexually aroused does your partner making noises during sexual activity make them?” These two items encompass the idea that a partner’s communication during sexual activity or one’s interpretation of the partner’s communication during sexual activity can impact the partner’s sexual arousal.

**Measurement Model Testing**

The criteria used to achieve model fit is the same for both the measurement model and the structural model. The chi-square fit index is highly dependent on sample size and can yield a significant value when the rest of the fit indices are “good fitting” (Halsey, Curran-Everett, Vowler, & Drummond, 2015; Schermelleh-Engel, Moosbrugger, & Müller, 2003; Vandenberg, 2006) so this criterion was not central in the present investigation. However, it is reported below to allow for a more holistic picture of the model. The standardized root mean square residual (SRMR) is one of the better fit indices to use if there are limited participants. Additionally, the SRMR does not penalize for model complexity, with a value of less than .08 being considered a good fit (Hu & Bentler, 1999). The root mean square error of approximation (RMSEA) is an additional fit index that is considered to be one of the most popular and used to evaluate model fit, with .08, .05, and .01 being the cutoff points for a mediocre, good, or excellent model fit, respectively (MacCallum, Browne, & Sugawara, 1996). The CFI and NFI are also essential fit indices to include. A CFI above .90 indicates satisfactory fit (Awang, 2014; Hair, Black, Babin, Andersen, & Tatham, 2010). A TLI greater than .90 also indicates satisfactory fit (Forza & Fillippini, 1998).
A two-step approach was implemented for this study, in which the structural model estimations followed a measurement model (Anderson & Gerbing, 1988). In order to ensure that all of the observed items were measuring the latent variables of interest, a measurement model was first tested. The measurement model included all of the key items that contained more than one item (e.g., sexual closeness and biological sex were not included due to the fact that they are only one item measures). The initial measurement model did not yield adequate fit: χ² = 3949.67, df = 2175, p < .001; CFI = .75; TFI = .74; RMSEA = .07, SRMR = .08. The factor loadings for each latent construct are reported in Table 4. The model also indicated several significant correlations between items (Table 5). The only modification indices that made sense for the measurement model were to eliminate items that were not loading strongly onto the latent construct; these items were subsequently dropped. Following previous research, strong loadings for the established items was considered to be .60 and above with the measure of communication during sexual activity being evaluated as strongly loading at .50 and above due to the fact that it is not an established measured and is being used for the first time in the current study (Awang, 2014). After dropping the items that did not load at these standardized cut-offs, the model yielded an adequate fit: χ² = 1299.35, df = 825, p < .001; CFI = .91; TFI = .90; RMSEA = .06, SRMR = .06. The factor loadings for the revised Measurement Model are reported in Table 6 and the correlations between latent variables are reported in Table 7.

**Structural Model Testing**

After obtaining an acceptable measurement model, the structural model was tested. The hypothesized structural model was first tested with the inclusion of biological sex (as explained in the preliminary testing), but it did not demonstrate adequate fit: χ² = 1568.44, df = 915, p < .001; CFI = .87; TFI = .86; RMSEA = .07, SRMR = .12 (Figure 3). Several modification indices
were proposed by the analysis software. Those that made theoretical sense were implemented one at a time to improve model fit. The modifications were to allow for correlated errors between sexual satisfaction and sexual arousal; self-focused communication arousal, and sexual satisfaction; sexual arousal and self-focused communication arousal; partner-focused communication arousal and sexual arousal; partner-focused communication arousal and self-focused communication arousal; sexual closeness and sexual satisfaction; and sexual assertiveness and sexual satisfaction. Because each of these pairs were highly correlated in the measurement model and because they are very similar constructs, it made sense that their errors should be allowed to freely correlate. In other words, whatever is not being measured in one of these variables is correlated with what is not being measured in the other variables. After implementing these error correlations, the model adequately fit the data: $\chi^2 = 1432.01$, $df = 921$, $p < .001$; $CFI = .90$; $TFI = .90$; $RMSEA = .06$, $SRMR = .08$. The correlated errors are reported in Table 8. The non-significant paths were left in for the hypothesis testing, given the theoretical basis for their inclusion (see Chapters 2 & 3).

H1 predicted that higher levels of trait affection would positively predict communication during sexual activity. In light of the scale development findings, this hypothesis was tested in three parts to determine if trait affection positively predicted (a) talk during sexual activity, (b) self-focused communication arousal, and (c) partner-focused communication arousal. The results revealed a significant positive association between trait affection and talk during sexual activity such that the more trait affection individuals reported, the more they reported talk during sexual activity ($\beta = .19$, $p < .05$). However, the other two pathways were not significant from trait affection to self-focused communication arousal ($\beta = .11$, $p > .05$) and to partner-focused communication arousal ($\beta = -.02$, $p > .05$). Therefore, H1 was partially supported.
H2 predicted that higher levels of sexual self-esteem would positively predict communication during sexual activity. Similar to H1, this hypothesis was tested in three parts to determine if sexual self-esteem positively predicted (a) talk during sexual activity, (b) self-focused communication arousal, and (c) partner-focused communication arousal. The results revealed a significant positive association between sexual self-esteem and self-focused communication arousal ($\beta = .38, p < .001$) and between sexual self-esteem and partner-focused communication arousal ($\beta = .33, p < .001$) such that the more sexual self-esteem that individuals reported, the more they reported self-focused communication arousal and partner-focused communication arousal. There was not a significant pathway from sexual self-esteem to talk during sexual activity ($\beta = -.13, p > .05$). Therefore, H2 was partially supported.

H3 predicted that higher levels of sexual assertiveness would positively predict communication during sexual activity. In line with H1 and H2, this hypothesis was tested in three parts to determine if sexual assertiveness positively predicted (a) talk during sexual activity, (b) self-focused communication arousal, and (c) partner-focused communication arousal. The results revealed positive but non-significant pathways between sexual assertiveness and talk during sexual activity ($\beta = .10, p > .05$), self-focused communication arousal ($\beta = .10, p > .05$), or partner-focused focused communication arousal ($\beta = .10, p > .05$). Therefore, H3 was not supported.

H4a predicted that communication during sexual activity would positively predict sexual arousal. In line with the previous hypotheses, H4a was tested in three parts to determine if (a) talk during sexual activity, (b) self-focused communication arousal, and (c) partner-focused communication arousal predicted sexual arousal. The results revealed a significant positive association between self-focused communication arousal and sexual arousal ($\beta = .54, p < .001$)
and between partner-focused communication arousal and sexual arousal ($\beta = .18, p < .05$) such that the more self-focused and/or partner-focused communication arousal that individuals reported, the greater sexual arousal they reported. The pathway from talk during sexual activity to sexual arousal was not significant ($\beta = -.01, p > .05$). Therefore, H4a was partially supported.

H4b predicted that communication during sexual activity would positively predict sexual satisfaction. This hypothesis was tested in three parts to determine if (a) talk during sexual activity, (b) self-focused communication arousal, and (c) partner-focused communication arousal predicted sexual satisfaction. The results revealed a significant positive association between self-focused communication arousal and sexual satisfaction ($\beta = .28, p < .05$) such that the more self-focused communication arousal that individuals reported, the greater sexual satisfaction they reported. There was not a significant pathway from talk during sexual activity to sexual satisfaction ($\beta = -.08, p > .05$) or from partner-focused communication arousal to sexual satisfaction ($\beta = .10, p > .05$). Therefore, H4b was partially supported.

H5 predicted that communication during sexual activity would positively predict relationship satisfaction indirectly through sexual satisfaction. This hypothesis was tested in three parts to determine if (a) talk during sexual activity, (b) self-focused communication arousal, and (c) partner-focused communication arousal predicted relationship satisfaction through sexual satisfaction. The indirect effects were tested using 5000 bootstrapped resamples. The indirect effect of talk during sexual activity on relationship satisfaction through the mediator of sexual satisfaction was not significant ($\beta = .02, p > .05$), nor was the direct effect of talk during sexual activity on relationship satisfaction ($\beta = -.05, p > .05$) Therefore, there was no evidence of mediation between talk during sexual activity and relationship satisfaction through sexual satisfaction. For self-focused communication arousal, the indirect effect was significant,
with relationship satisfaction as the outcome, self-focused communication arousal as the independent variable, and sexual satisfaction and as the mediator ($\beta = .80, p < .001$); the direct effect of self-focused communication arousal on relationship satisfaction was not significant direct effect ($\beta = -.02, p > .05$). Therefore, there is evidence of full mediation between self-focused communication arousal and relationship satisfaction through sexual satisfaction. For partner-focused communication arousal, the indirect effect was significant, with relationship satisfaction as the outcome, partner-focused communication arousal as the independent variable, and sexual satisfaction and as the mediator ($\beta = -.21, p < .05$); the direct effect of partner-focused communication arousal on relationship satisfaction was not significant ($\beta = .01, p < .05$). Therefore, there was evidence of full mediation detected between partner-focused communication arousal and relationship satisfaction through sexual satisfaction. However, counter to the hypothesis, the association was negative. Overall, H5 was partially supported.

H6a predicted that communication during sexual activity would positively predict sexual closeness indirectly through sexual satisfaction. This hypothesis was tested in three parts to determine if (a) talk during sexual activity, (b) self-focused communication arousal, and (c) partner-focused communication arousal predicted sexual closeness through sexual satisfaction. These indirect effects were tested using 5000 bootstrapped resamples. The indirect effect of talk during sexual activity on sexual closeness through the mediator of sexual satisfaction was not significant ($\beta = .02, p > .05$), nor was the direct effect of talk during sexual activity on relationship satisfaction ($\beta = -.09, p > .05$) Therefore, there no was no evidence of mediation between talk during sexual activity and sexual closeness through sexual satisfaction. For self-focused communication arousal, the indirect effect was significant, with sexual closeness as the outcome, self-focused communication arousal as the independent variable, and sexual
satisfaction and as the mediator \( (\beta = 1.44, p < .001) \); the direct effect of self-focused communication arousal on relationship satisfaction was not significant \( (\beta = .20, p > .05) \).

Therefore, there was evidence of full mediation between self-focused communication arousal and sexual closeness through sexual satisfaction. For partner-focused communication arousal, the indirect effect was significant, with sexual closeness as the outcome, partner-focused communication arousal as the independent variable, and sexual satisfaction and as the mediator \( (\beta = -.51, p < .05) \); the direct effect of partner-focused communication arousal on relationship satisfaction was not significant \( (\beta = .11, p > .05) \). Therefore, there was evidence of full mediation between partner-focused communication arousal and sexual closeness through sexual satisfaction. However, counter to the hypothesis, the association was negative. Overall, H6a was partially supported.

H6b predicted that communication during sexual activity would positively predict sexual closeness indirectly through sexual arousal. This hypothesis was tested in three parts to determine if (a) talk during sexual activity, (b) self-focused communication arousal, and (c) partner-focused communication arousal predicted sexual closeness through sexual arousal. These indirect effects were tested using 5000 bootstrapped resamples. The indirect effect was significant, with sexual closeness as the outcome, talk during sexual activity as the independent variable, and sexual arousal and as the mediator \( (\beta = .04, p < .05) \); the direct effect of talk during sexual activity arousal on sexual closeness was not significant \( (\beta = -.04, p > .05) \). Therefore, there was evidence of full mediation between talk during sexual activity and sexual closeness through sexual arousal. For self-focused communication arousal, the indirect effect was significant, with sexual closeness as the outcome, self-focused communication arousal as the independent variable, and sexual arousal and as the mediator \( (\beta = .16, p < .001) \); the direct effect
Therefore, there was evidence of full mediation between self-focused communication arousal and sexual closeness through sexual arousal. For partner-focused communication arousal, the indirect effect was significant, with sexual closeness as the outcome, partner-focused communication arousal as the independent variable, and sexual satisfaction and as the mediator ($\beta = .10, p < .05$); the direct effect of partner-focused communication arousal on sexual closeness was not significant ($\beta = .01, p > .05$). Therefore, there was evidence of full mediation between partner-focused communication arousal and sexual closeness through sexual arousal. Taken together, H6b was supported.

**Post-Hoc Analyses**

In order to test a more simplified model, the communication during sexual activity three-factor solution was tested as a unidimensional variable. The hypotheses were also re-tested in this unidimensional context. The hypothesized structural model was first tested with the inclusion of biological sex (as explained in the preliminary testing), but it did not demonstrate adequate fit: $\chi^2 = 1305.053$, $df = 762$, $p < .001$; CFI = .88; TFI = .87; RMSEA = .07, SRMR = .13 (Figure 4). Several modification indices were proposed by the analysis software. Those that made theoretical sense were implemented one at a time to improve model fit. The modifications were to allow for correlated errors between sexual satisfaction and sexual arousal, communication during sexual activity and sexual satisfaction, sexual arousal and communication during sexual activity, and sexual assertiveness and sexual satisfaction. Similar to the model testing described above, because each of these pairs were highly correlated in the measurement model and because they are very similar constructs, it made sense that their errors should be allowed to freely correlate. In other words, whatever is not being measured in one of these
variables is correlated with what is not being measured in the other variables. After implementing these error correlations, the model adequately fit the data: $\chi^2 = 1206.31$, $df = 759$, $p < .001$; CFI = .90; TFI = .90; RMSEA = .06, SRMR = .07. The correlated errors are reported in Table 8. In line with the model testing detailed above, non-significant paths were left in for the hypothesis testing, given the theoretical basis for their inclusion.

H1 predicted that higher levels of trait affectation would positively predict communication during sexual activity. The results revealed a significant positive association between trait affection and communication during sexual activity, such that the more trait affection individuals reported, the more they reported communication during sexual activity ($\beta = .10$, $p < .05$). Therefore, H1 was supported.

H2 predicted that higher levels of sexual self-esteem would positively predict communication during sexual activity. The results revealed a significant positive association between sexual self-esteem and communication during sexual activity, such that the more sexual self-esteem individuals reported, the more they reported communication during sexual activity ($\beta = .34$, $p < .001$). Therefore, H2 was supported.

H3 predicted that higher levels of sexual assertiveness would positively predict communication during sexual activity. The results revealed a positive association between sexual assertiveness and communication during sexual activity, however, it was not a significant pathway in the model ($\beta = .10$, $p = .14$). Therefore, H3 was not supported.

H4a predicted that communication during sexual activity would positively predict sexual arousal. The results revealed a significant positive association between communication during sexual activity and sexual arousal, such that more communication during sexual activity individuals reported, the greater their reported sexual arousal ($\beta = 1.30$, $p < .001$). Therefore,
H4a was supported. H4b predicted that communication during sexual activity would positively predict sexual satisfaction. The results revealed a significant positive association between communication during sexual activity and sexual satisfaction, such that the more communication during sexual activity individuals reported, the greater their reported sexual satisfaction ($\beta = 1.17, p < .001$). Therefore, H4b was supported.

H5 predicted that communication during sexual activity would positively predict relationship satisfaction indirectly through sexual satisfaction. The indirect effect was significant, with relationship satisfaction as the outcome, communication during sexual activity as the independent variable, and sexual satisfaction as the mediator ($\beta = .10, p < .001$); the direct effect of communication during sexual activity on relationship satisfaction was not significant ($\beta = -.05, p > .05$). Therefore, there was evidence of full mediation between communication during sexual activity and relationship satisfaction through sexual satisfaction. H5 was supported.

H6a predicted that communication during sexual activity would positively predict sexual closeness indirectly through sexual satisfaction. The indirect effect was significant, with sexual closeness as the outcome, communication during sexual activity as the independent variable, and sexual satisfaction as the mediator ($\beta = .11, p < .001$); the direct effect of communication during sexual activity on sexual closeness was not significant ($\beta = .04, p > .05$). Therefore, there was evidence of full mediation between communication during sexual activity and sexual closeness through sexual satisfaction. H6a was supported.

H6b predicted that communication during sexual activity would positively predict sexual closeness indirectly through sexual arousal. The indirect effect was significant, with sexual closeness as the outcome, communication during sexual activity as the independent variable, and
sexual arousal as the mediator ($\beta = .18, p < .001$); the direct effect of communication during sexual activity on sexual closeness was not significant ($\beta = -.01, p > .05$). Therefore, there was evidence of full mediation between communication during sexual activity and sexual closeness through sexual arousal. H6b was supported.

After removing the non-significant paths, which were predicted but did not yield significant findings, the final model yielded a better fit: $\chi^2 = 1206.31, df = 759, p < .001$; CFI = .90; TFI = .90; RMSEA = .06, SRMR = .07.

**Study II Analysis**

Due to the limited participants obtained in study II, the proposed model in Chapter 3 could not be tested. The analyses for study II had to be changed to focus on the longitudinal effects rather than the specific effects of the intervention because the participants that finished the study were all part of the intervention group. Therefore, the analyses are merely exploratory. Nine participants were included in these analyses. The participants who responded to the surveys at two weeks and four weeks after the intervention were all in the group that reported increasing their sexual communication; therefore, there were no group comparisons that could be conducted.

Three different panel models were used to analyze how the participants’ communication during sexual activity at two weeks after the intervention predicted their sexual arousal, sexual satisfaction, and relationship satisfaction at four weeks after the start of the intervention. The auto-correlations for each of the variables for 2 weeks to 4 weeks are also included in the models. The first model tested had sexual arousal at 4 weeks as the outcome and overall communication during sexual activity at 2 and 4 weeks as the predictors (Figure 5). Communication during sexual activity at week 2 significantly predicted sexual arousal at week 4.
(β = .86, p < .001). However, sexual arousal at week 2 did not significantly predict communication during sexual activity at week 4 (β = .19, p > .05). The second model tested had sexual satisfaction at 4 weeks as the outcome and both 2 weeks and 4 weeks overall communication during sexual activity as the predictors (Figure 6). Communication during sexual activity at week 2 significantly predicted sexual satisfaction at week 4 (β = .79, p < .001). However, sexual satisfaction at week 2 did not significantly predict communication during sexual activity at week 4 (β = .49, p > .05). The third model tested had relationship satisfaction at 4 weeks as the outcome and both 2 weeks and 4 weeks overall communication during sexual activity as the predictors (Figure 7). Communication during sexual activity at week 2 did not significantly predicted relationship satisfaction at week 4 (β = .34, p > .05). Relationship satisfaction at week 2 also did not significantly predict communication during sexual activity at week 4 (β = .10, p > .05). In sum, it can be concluded that communication during sexual activity at week 2 is predictive of sexual arousal and sexual satisfaction, but not relationship satisfaction, at week 4.
Chapter 6: Discussion

The present study tested the relationships between the personality variables of trait affection, sexual self-esteem, and sexual assertiveness and their association with communication during sexual activity. The effect of communication during sexual activity on the outcomes of sexual arousal, sexual satisfaction, sexual closeness, and relationship satisfaction were also examined. Study I tested a newly developed scale to measure communication during sexual activity. The results revealed a reliable and valid measure for assessing three aspects of communication during sexual activity: self-focused communication arousal, partner-focused communication arousal, and talk during sexual activity. With the three-factor solution, the sub-factor of self-focused communication arousal was the strongest predictor of the outcomes of sexual arousal and sexual satisfaction. In addition, self-focused communication arousal and partner-focused communication arousal were associated with relationship satisfaction through sexual satisfaction. There was also a significant indirect relationship between both self- and partner focused communication arousal and sexual closeness through sexual satisfaction and for all three factors through sexual arousal to sexual closeness. Study II provided an exploratory longitudinal analysis; however, given the limited sample size, the results will need to be re-tested with a larger sample. Even with the small sample size, communication during sexual activity at two weeks after the intervention positively predicted sexual arousal and sexual satisfaction at four weeks after the intervention, but communication during sexual activity was not a significant predictor of relationship satisfaction.

Trait Predictors and Communication During Sexual Activity

The primary analyses focused on personality characteristics that were expected to influence an individual’s communication during sexual activity. Trait affection was positively
associated with talk during sexual activity, but not with the other two aspects of communication during sexual activity (i.e., self-focused communication arousal and partner-focused communication arousal). Trait affection is one of the primary variables examined in studies that employ an AET framework. The findings reveal that higher levels of trait affection are related to an aspect of communication during sexual activity that focuses on the instrumental aspect of sexual activity, such as what activity an individual wishes to engage in during sex. Related to AET’s third proposition, talk during sexual activity may help to facilitate survival and reproductive success because there is direction being given by an individual that will ideally lead to a climax, which for men is needed for reproduction. For women, orgasm may aid in the reproductive process, as it induces cervicouterine contractions (Shafik, El-Sibai, Shafik, & Shafik, 2005), which may contribute to transporting sperm more quickly (Baker & Bellis, 1995).

However, trait affection did not predict self-focused communication arousal or partner-focused communication arousal, which could be due in part to the measurement of trait affection. The trait affection scale assesses more general affectionate behavior, rather than affection specifically within the context of sexual activity. Affection expressed during sexual activity may differ from trait affection due to the fact that it may be rooted in differing motives, such as to increase sexual arousal, which would not apply to all other types of expressions of affection. In addition, trait affection was positively predicted by biological sex, with women reporting higher levels of trait affection than men. As previous research suggests, biological sex is an important predictor of trait affection, with women reporting higher levels of trait affection than men (see Floyd, 2006a). Women may express more affection or have higher levels of trait affection than men due to societal norms that suggest it is more appropriate for women to do so (Floyd, Hesse, & Haynes, 2007).
Another trait predictor tested in the model was sexual self-esteem, or how comfortable individuals feel in a sexual context. Sexual self-esteem was positively associated with communication during sexual activity for both self-focused communication arousal and partner-focused communication arousal, yet not for talk during sexual communication. Sexual self-esteem entails assessing how comfortable an individual feels in a sexual context (Zeanah & Schwarz, 1996). Sexual self-esteem may be a more important predictor for women than men, as previous work has shown that women have lower sexual self-esteem than men (e.g., Babin, 2013), which was replicated in the present study. The finding of sexual self-esteem being linked with self-focused communication arousal and partner-focused communication arousal may suggest that promoting sexual self-esteem can help improve communication during sexual activity. Sexual self-esteem has been positively linked to sexual satisfaction (Menard & Offman, 2009) and negatively linked to sexual anxiety, which are both associated with overall sexual function and performance (Brassard, Dupuy, Bergeon, & Shaver, 2015). Combined with the findings of the present investigation, focusing on increasing one’s sexual self-esteem may be a crucial aspect in opening the lines of communication during sexual activity and improving sexual experiences.

The last trait predictor analyzed in the model was sexual assertiveness, or how confident an individual feels about sexual activity. Sexual assertiveness was not a significant predictor of any of the factors of communication during sexual activity. There are a couple explanations as to why sexual assertiveness was not predictive in the model. First, sexual assertiveness is often related to discussing concepts surrounding sexual activity (e.g., Morokoff et al., 1997) but not to communicating during sexual activity specifically. As previous research has found, it may be more important to not only feel comfortable but also confident in order to discuss matters
concerning sexual health such as STI disclosure or condom use (Štulhofer, Graham, Božičević, Kufrin, & Ajduković, 2009). However, the previous finding noting the importance of sexual assertiveness when discussing sexual topics does not seem to translate to communicating during sexual activity. The reason for the lack of findings with sexual assertiveness may be due to the fact that communicating during sexual activity may be viewed as inherently less risky than having to discuss a matter of sexual health, which could limit sexual activity if the conversation does not go well due to the stigma surrounding discussing sexually transmitted infections (Cunningham, Tschann, Gurvey, Fortenberry, & Ellen, 2002).

Secondly, sexual assertiveness may be viewed as being arrogant or boastful, especially in the sexual context. As one of the items on the scale would suggest, an individual needs to think quite highly of themselves and their sexual skills in order to be evaluated as sexually assertive. Additionally, the present sample consisted of young adults, many of whom may still be developing their sexual skills. Emerging adults are likely to be exploring their sexuality (Hazan & Zeifman, 1994), which may include perfecting their sexual skills. During this time period, individuals may feel less confident in their sexual skills than older or more experienced individual who may have had more time to work on their sexual skill set and increase their sexual assertiveness. Although there was no significant biological sex difference found in the current study, men did report more sexual assertiveness than women, which aligns with sexual scripts theory. Sexual scripts theory would argue that communication differences arise due to the differing sexual scripts placed on men and women, with women being in control of whether or not sex occurs and men making the sexual advances (Simon & Gagnon, 1986).
Communication During Sexual Activity and Sexual Outcomes

A primary aim of the present study was to better understand the forms of communication during sexual activity that predict sexual outcomes, such as sexual arousal and sexual satisfaction. Self-focused and partner-focused communication arousal were positively associated with sexual arousal. Because both of these factors are focused on arousal (either for one’s self or one’s partner), it makes sense that sexual arousal would be predicted by these two factors. Few studies have examined sexual arousal as it relates to communication during sexual activity; however, other work suggests that communication during sexual activity is viewed positively and signals pleasure (Herz & Cahill, 1997; Levin, 2006). In addition, Jonason and colleagues (2015) also discussed findings related to mutualistic erotic talk with individuals enjoying and using this type more often than one that is focused on solely the individualistic erotic talk. Mutualistic erotic talk encompassed positive feedback, instructional statements, reflexive calls, and intimacy/bonding. Individualistic talk encompassed statements of sexual dominance, sexual submission, sexual ownership, and sexual fantasies. When examining whether communication during sexual activity predicts sexual satisfaction, only self-focused communication arousal was positively associated with sexual satisfaction. Although self-focused communication arousal sounds like it focuses only on one’s self, it is reliant upon the partner engaging in communication during sexual activity to enhance the sexual arousal for the individual. Therefore, this sub-factor may be more related to the mutualistic erotic talk described in Jonason and colleagues’ (2015) findings. The current findings extend those of Jonason et al. by providing more detail on the sexual arousal aspect of communication during sexual activity. There were many statements in Jonason and colleagues’ (2015) study that were not directly related to an individual’s sexual arousal; therefore, the current findings help further the already established knowledge of specific
statements that are often expressed during sexual activity to more generalized statements about how communication during sexual activity could affect one’s sexual arousal. Because the current study focuses on individual data, it is difficult to determine how partner-focused communication arousal could affect an individual’s sexual satisfaction. However, the more an individual communicated during sexual activity by focusing on their own arousal, the more sexual satisfaction the individual reported. In focusing on one’s self, an individual may be able to make their sexual experience more enjoyable and more satisfying for themselves.

**Communication During Sexual Activity and Indirect Effects**

In addition to the direct effects found, several indirect effects were also tested in order to determine if sexual satisfaction and arousal mediated the associations between the factors of communication during sexual activity and relational and sexual outcomes. The results revealed that sexual satisfaction fully mediated the association between self-focused and partner-focused communication arousal and relationship satisfaction. More specifically, the direct effect of partner-focused communication arousal on relationship satisfaction was not significant, yet the total indirect effect from partner-focused communication arousal through sexual satisfaction to relationship satisfaction was negative (though it was predicted to be positive). The findings revealed that partner-focused communication arousal was negatively associated with sexual satisfaction, which in turn was positively associated with relationship satisfaction. The partner-focused factor included items that asked about sexual arousal in response to their partner’s communication during sexual activity. Because the data are individual reports, the individual may believe that if their partner is focused more on their own arousal during sexual activity, that this could mean that there is less of a focus on the individual’s arousal. In romantic relationships, it is not only the partner’s behavior that is important, but it is also the *perception* of the behavior.
that affects relationship satisfaction (Murray, Holmes, & Griffin, 1996). However, this possibility is merely speculative and additional items would need to be assessed at the individual and/or dyadic level to gather a more complete picture of why partner-focused communication arousal is negatively related to relationship satisfaction.

When examining the self-focused communication arousal factor, there was a significant positive mediating relationship between this factor and relationship satisfaction through sexual satisfaction. More specifically, the direct path from self-focused communication arousal to relationship satisfaction was not significant; however, the overall total indirect effect from self-focused communication arousal through sexual satisfaction to relationship satisfaction was significant and positive. The findings revealed that self-focused communication arousal was positively associated with sexual satisfaction, which in turn was positively associated with relationship satisfaction. Given the well-established link between sexual satisfaction and relationship satisfaction (see del Mar Sánchez-Fuentes, Santos-Iglesias, & Sierra, 2013, for review), the findings that sexual satisfaction positively associated with relationship satisfaction was anticipated. The results of the current study also expand the findings of Jonason and colleagues (2015) regarding mutualistic and individualistic talk. Although both types of erotic talk were related to sexual satisfaction, Jonason et al. (2015) found that mutualistic talk was a stronger predictor of sexual satisfaction than individualistic talk, which aligns with the present finding that self-focused communication arousal (which would be most comparable to mutualistic erotic talk) is positively associated with sexual satisfaction. Although mutualistic erotic talk sounds much different than self-focused communication arousal on the surface, both include similar types of statements. Mutualistic erotic talk included statements of instruction, intimacy/bonding, reflexive calls, and positive feedback. The items used for the sub-factor of
self-focused communication arousal were pertaining to certain noises that one’s partner would make that would increase the individual’s sexual arousal, which is similar to reflexive calls (Yes! Oh God!). The items also included asking about if one’s partner said words that made the individual sexually aroused, which would potentially be similar to positive feedback (“you are really good at this”) or intimacy/bonding (“I love you”).

There were total mediation effects from self-focused and partner-focused communication arousal through sexual satisfaction to sexual closeness. The direct effect from self-focused communication arousal to sexual closeness was not significant. However, similar to the findings with relationship satisfaction as the outcome, there was a positive overall indirect effect from self-focused communication arousal to sexual closeness through sexual satisfaction. The findings revealed that self-focused communication arousal was positively associated with sexual satisfaction, which in turn was positively associated with sexual closeness.

The direct effect from partner-focused communication arousal to sexual closeness was not significant. However, similar to the findings with relationship satisfaction as the outcome, the total indirect effect for the partner-focused communication arousal was negative. The findings revealed that partner-focused communication arousal was negatively associated with sexual satisfaction, which in turn was positively associated with sexual closeness. Sexual closeness is a one-item measuring asking how close an individual feels to their sexual partner (Frost et al., 2017). It may be that if an individual feels that their partner is too focused on their own sexual arousal during communication during sexual activity, such perceptions could affect their sexual satisfaction and in turn they may not feel as close to their partner following the sexual experience. Individuals report greater satisfaction when they feel that a partner is considerate or
concerned about their needs (e.g., Collins & Feeney, 2004; Cutrona, 1996), and thus a lack of consideration may be detrimental to feelings of closeness and satisfaction.

There were total mediation effects from talk during sexual activity, self-focused, and partner-focused communication arousal through sexual arousal to sexual closeness. More specifically, for each of the sub-factors of communication during sexual activity, there was no significant direct effect from talk during sexual activity, self-focused, or partner-focused communication arousal to sexual closeness. However, there were positive total indirect effects for each sub-factor. The findings revealed that talk during sexual activity, self-focused communication arousal, and partner-focused communication arousal were positively associated with sexual arousal, which in turn was positively associated with sexual closeness. All of the sub-factors were positively associated with sexual arousal, which might suggest that that all types of communication during sexual activity that were measured can elicit sexual arousal from the individual. The communication during sexual activity items specifically examine noises or words that the individual finds appealing, which is related to how an individual may become sexually aroused during sexual activity. In many cases, one feeling sexually aroused could be related to feelings of being sexually close to one’s partner. However, with sexual closeness being a one-item variable and not being as widely used, it would be useful to replicate these findings in future research studies.

Taken together, the findings from the indirect effects testing make an important contribution to research on AET. It is important for sexual satisfaction and relationship satisfaction that individuals are able to communicate honestly and openly with one another, which includes expressing affection to each other (Byers, 2001; Montesi, Fauber, Gordon, & Heimberg, 2011; Pascoal, Narciso, & Pereira, 2014). If one views their communication during
sexual activity as a way of expressing affection, then such communication might help facilitate higher levels of sexual and relational satisfaction. In congruence with the current findings, it may be that expressing affection comes more from the self-focused communication arousal or talk during sexual activity than it does from the partner-focused communication arousal. Partner-focused communication arousal may be considered less affectionate due to the wording of the items that suggest the partner is only expressing communication arousal for their own benefit and not necessarily for their partner’s benefit. Typically when expressing affection, an individual does so to help convey an emotion, which will ideally benefit the other person once they are able to understand that emotion. These findings would support the Jonason et al. (2015) findings that sexual satisfaction and relationship satisfaction were positively related to mutualistic talk, which is related to talk during sexual activity and self-focused communication arousal as previously stated. AET’s propositions, which focus more on the need for pair bonding within the context of sexual relationships, are related to the finding that using communication during sexual activity is associated with positive sexual and relational outcomes. With a focus on pair bonding, individuals may be able to have a better sexual and relational experience.

**Study II Findings**

Although the original relationships proposed were not able to be tested due to the small sample size for Study II, exploratory analyses were employed to investigate the longitudinal effects of the intervention. The results revealed that communication during sexual activity at 2 weeks predicted sexual satisfaction and sexual arousal at week 4, yet not relationship satisfaction at week 4. The communication during sexual activity intervention could not be tested; however, the results of the exploratory analyses suggest that communication during sexual activity can have positive long-term effects on an individual’s sexual experience. The lack of a significant
effect of communication during sexual activity on relationship satisfaction could be due to the
timeline of the study. Evaluating one’s sexual arousal and sexual satisfaction may not require as
much time as evaluating one’s relationship satisfaction. Thus, the effect of communication
during sexual activity on relationship satisfaction may not as immediate as its effect on sexual
arousal or sexual satisfaction. The findings from study II also provide support for sexual scripts
theory (Simon & Gagnon, 1986). Increasing communication during sexual activity may allow
this form of communication to become more normalized within the sexual script of the
individual and/or their sexual partner.

**Theoretical Implications**

The current study used both AET (Floyd, 2002) and sexual scripts theory (Simon &
Gagnon, 1986) as theoretical frameworks to explore communication during sexual activity and
its predictors and outcomes related to sexual and relational health. The findings of the study
extend and challenge both theories as well as demonstrate the importance of using both theories
in sexual communication research. As discussed above, trait affection was only associated with
talk during sexual activity and not with self-focused or partner focused communication arousal.
This finding extends AET into research on communication during sexual activity by suggesting
that trait affection is linked to the more concrete factor of talking during sexual activity, which
could be considered a verbal form of expressing affection (Floyd & Morman, 1998). Although
the other two factors might also be considered verbal forms of affectionate communication, the
talk during sexual activity factor includes more praise or instructional statements, which may be
viewed as more affectionate than statements to merely elicit arousal from an individual or one’s
self. However, given that trait affection was not associated with self-focused or partner-focused
communication arousal, it is possible that communication aimed at sexual arousal is distinct from
both trait and state affectionate communication. Although trait affection and sexual arousal are
correlated, expressing affection can be done for many different reasons, which would not always
include to elicit sexual arousal (e.g., to offer praise, to give support, or to provide approval). The
finding also ties back to the question of whether or not all communication during sexual activity
can be classified as affectionate communication. The present findings suggest that the
classification of communication during sexual activity as affectionate communication depends
on what is being discussed. This furthers the above explanation that the measure of trait affection
may need to be focused on more contextual elements. Future research is needed to examine how
communication during sexual activity is seen as affectionate communication by possibly adding
more items to the trait affection measure that look specifically at affection expressed during
sexual activity. For example, there may need to be a new measure of sexual trait affection or
items added to the trait affection measure that would include asking about how affectionate an
individual is during sexual activity or with a sexual partner. Currently, items on the measure do
not allow for much analysis of sexual context due to the wording of the questions, which are not
sexually oriented (e.g., hugging or saying “I love you”). Items assessing sexual trait affection
may ask questions such as “how often do you kiss your partner during sexual activity?” or “how
often do you say ‘I love you’ during sexual activity?”.

The findings of this study extend sexual scripts theory to specifically examine the types
of sexual scripts around communication during sexual activity. Communication during sexual
activity would fall into the interpersonal scripts piece of the theory. The findings of this study
emphasize the importance of communication during sexual activity as part of the overall sexual
script an individual internalizes. With the sample of emerging adults, they are also still
developing sexual scripts regarding what is considered “normal” in sexual interaction through
their own experiences (Carpenter, 2010). The findings of study II suggest that if individuals incorporate more communication during sexual activity into their sexual routine, it is more likely to become normalized or part of the sexual script. This is related to salience, which is an important part of sexual script theory and states that if sexual experiences become more salient, they are more likely to be considered when developing scripts (Simon & Gagnon, 1986). The preliminary findings of the longitudinal effects of study II suggest that communication during sexual activity may benefit couples, and thus, creating scripts that include more open communication during sex may benefit individuals and their relationships.

Although these theories have been used as frameworks for communication and sexuality research, there has only been one previous study that applied both of these theories in the sexual communication context (Bennett, LoPresti, McGloin, & Denes, 2019). The current study was the first to use both theoretical frameworks to inform predictions about communication during sexual activity and provides evidence that both frameworks are useful to examine in sexual communication research. Sexual scripts theory acknowledge that sexual matters are not always deemed as inherently important, but are made important by social experiences (Simon & Gagnon, 1986). With the introduction or priming of communication during sexual activity from the current study in the intervention piece, individuals may be able to incorporate communication during sexual activity into the sexual scripts that they are still developing during young adulthood. More specifically, individuals are able to enact communication during sexual activity after this becomes part of their sexual script. Then, they are able to organize and evaluate whether or not communication during sexual activity should be incorporated into their more core sense of what a sexual encounter should be like, or their intrapsychic script. The findings of the current study suggest that if individuals are able to incorporate communication during sexual
activity into their sexual scripting process, they may be able to obtain sexual and relational benefits.

**Limitations and Future Directions**

Although the current study aimed to address several important aspects of communication during sexual activity, there are limitations that should be noted. First, this study focused specifically on young adults in romantic relationships, which is of importance due to their developing sexuality and sexual preferences (Hazan & Zeifman, 1994). However, it would be valuable for future research to examine communication during sexual activity in other generations of couples. It may be that more established couples have developed relationship norms (Hinde, 1979; Knapp & Vangelisti, 1992) that are more influential than individual differences, such as trait characteristics. Within the context of a long-term ongoing sexual relationship, sex differences may also be less meaningful, as sex differences are more pronounced in short-term than long-term relationships (Buss & Schmitt, 1993). It would also be valuable for future research to include a larger sample of non-heterosexual couples, as such couples may have differing norms regarding sexual behavior (as discussed in chapter 4), which may subsequently influence their communication during sexual activity and its attendant outcomes.

The associations among the study variables should also be examined with individuals in a range of relationship types (e.g., single/uncommitted, consensual non-monogamous, etc.) to validate the findings beyond a monogamous heterosexual sample. For individuals who are single, communication during sexual activity may be less important for the overall sexual experience, in particular if the sexual activity is not an ongoing occurrence with that specific partner. The current study also only examined individual data. Although this is an effective starting point,
future research should gather dyadic data in order to determine the effects of communication during sexual activity on not only the individual’s sexual and relational outcomes, but also how such communication may affect their partner’s sexual and relational outcomes. It may be that an individual’s communication during sexual activity has stronger effects on their partner’s sexual and relational experience than their own. Collecting dyadic data may also serve to expand the newly developed communication measure. For example, including both partners’ assessments may reveal unique factors connected to perceptions of the partner’s communication during sexual activity.

Although the newly developed communication during sexual activity scale was shown to be valid and reliable in the current study, the scale has not been validated in any additional studies. It is also worth noting that many of the original scale items that did not load onto the three sub-factors. It is possible that the wording of the items that were dropped may have not been measuring communication during sexual activity but instead were measuring different constructs (e.g., sexual arousal). The scale is therefore somewhat limited in scope, as it may be measuring arousal as a response to communication during sexual activity, rather than the communication itself. In it unlikely, however, that the scale is tautological with sexual arousal, as the sub-factors were only small to moderately correlated with sexual arousal. There may be better ways to measure other forms of communication during sexual activity that are not specifically related to sexual arousal, like the other scales used in this study to ensure convergent validity (e.g., sexual self-disclosure scale; Snell, 1998). Some of these scales, for example, examine other information that may be disclosed, such as number of sexual partners or different positions that one has tried (Snell, 1998). These items are more distinct from sexual arousal than those in the new measure of communication during sexual activity. Another example would be
the dyadic sexual communication scale (Cantania, 1998), which more broadly assesses one’s sex life as a whole. These alternative scales have not been used in the context of communicating during sexual activity, but could be adapted to apply to this context. However, these scales might not be useful for predicting sexual arousal as one of the primary outcomes, because the items focus more on topics surrounding sexual activity than on the actual communication that occurs during sexual activity.

Additionally, the scale items that were dropped may not have been relevant to young adults in committed romantic relationships, but may be meaningful within other populations. For example, the two items assessing moans or groans and saying words during sexual activity may be more prevalent in older populations. Given that the sample consisted of college students, many participants may be in living situations that involve roommates, which may hinder making noise or yelling words that may be seen as explicit. As noted above, testing the newly developed scale (as well as the original scale, including the items that were not retained in the present study) would help determine if the full scale provides an effective measurement of communication during sexual activity in different populations. One specific population that would be of interest would be individuals who are in consensually non-monogamous relationships, which may involve more communication within the relationship as a whole due to negotiating rules of the relationship (Finn, Tunariu, & Lee, 2012).

The second study was limited to an exploratory analysis of how the communication during sexual activity intervention associated with individuals’ sexual and relational outcomes. Although there were some interesting preliminary findings, the sample size was too small to draw any substantive conclusions, likely due to the limited constraints on relationship length (i.e., individuals had to be in a relationship for less than three months, engaging in sexual activity
every week, and reporting on the same partner for the entirety of the study). Although these constraints were determined by previous research studies that indicated three months or less as being a newly developing relationship (e.g., Aune, Buller, & Aune, 1996), there is not a definitive time frame that everyone would agree on that constitutes a “new relationship.” Some individuals may argue that a new relationship could be the length of time until a couple transitions out of the honeymoon phase, which could range from six months to 30 months (e.g., Lorber, Erlanger, Heyman, & O’Leary, 2015). In future studies, researchers should try to either oversample for individuals or couples in newly developed relationships or expand the inclusion criteria.

Although the current study showed that increasing communication during sexual activity is associated with beneficial sexual outcomes, the effectiveness of the intervention in Study II could not be determined due to the fact that the only respondents of both parts of the survey were from the experimental group. Future researchers to be aware of this aspect of the study in terms of trying to retain participants that are part of the control group, such as by offering monetary incentives to assist in keeping participants involved. The study design may also require reconsideration or additional tools to improve retention rates. Researchers could send more frequent email reminders or could use a text messaging system in order to more appropriately reach the emerging adult population. There may also be a need to send more frequent reminders to individuals in the control group to encourage their continued participation. It could be that those in the experimental group remained in the study due to the fact that they were having to increase their communication during sexual activity, so they were actively doing something and thinking about the study; whereas, those in the control group may have not had the study at top of their mind.
In addition to retaining participants, there is room for growth in developing an intervention. The current intervention only focused on increasing communication during sexual activity and not on other factors that may also be essential to include in assisting individuals or couples in developing better communication during sexual activity, such as more generalized communication strategies. These strategies could include increasing eye contact when talking with a partner, saying the partner’s name, and using “I” language, which entails referring to feelings and emotions stemming from one’s self. These communication strategies would all be relevant and useful to employ within the sexual context.

Due to the fact that biological sex also had an impact on the model, researchers might consider designing unique interventions for men and women in future studies. With the significant sex differences between men and women on sexual self-esteem, this may be an area to focus on. Because sexual self-esteem was a significant predictor of communication during sexual activity, future intervention work might benefit from focusing on increasing an individual’s sexual self-esteem in order to allow individuals to feel more efficacious to communicate during sexual activity, especially for women, who had lower sexual self-esteem than men. Increasing women’s sexual self-esteem may have a positive impact on their communication during sexual activity by enabling women to feel more comfortable expressing themselves in the context of sexual activity.

Another element that may be useful to consider is that women tend to be more sexually aroused through auditory signals as opposed to men, who are more sexually aroused by visual cues (Herz & Cahill, 1997). Women may be able to increase their own sexual arousal through their verbal communication during sexual activity, which would be a benefit for the sexual experience and relationship as a whole. Examining the benefits of communication during sexual
activity may also be an important area to focus intervention work in the future. Overall, a more educational-based intervention might highlight the current study’s findings and how communication during sexual activity could have positive effects on one’s overall relationship and sexual experience. Consulting with practitioners such as sex or couples therapists may also reveal additional elements that would be appealing to couples, such as ease of implementation or how much an intervention of this nature would be helpful. More research, specifically qualitative research, should be conducted to determine what is most important to highlight in an intervention of this nature that would make it useful and applicable to couples and sexual partners.

Additionally, future research is needed to examine pornography consumption and its possible effects on sexual and relational outcomes. Individuals may learn what they should communicate during sexual activity or may be more willing to incorporate behaviors from sexually explicit material (Weinberg, Williams, Kleiner, & Irizarry, 2010). Pornography consumption may help explain how frequently an individual communicates during sexual activity or what phrases an individual is likely to say or express. This variable relates to sexual scripts theory (Simon & Gagnon, 1986) because many scripts are informed by pornography (Wright, 2011). In most pornographic material, women are portrayed as being more active in terms of communication during sexual activity with more moans, groans, and other forms of verbal communication, specifically when talking to the camera (McKee, 2005). Although women are less likely to consume pornography as often as men (Bennett, LoPresti, McGloin, & Denes, 2019), it does not mean that women are unaware of the sexual scripts or sexual norms that pornography puts forth. Women may also think that men expect more communication during sexual activity from them due to the fact that they know men are more likely to consume pornography with this type of sexual script (Wiederman, 2005). By acknowledging the
limitations of the current study and providing potential future directions, the topic of
communication during sexual activity has room to expand and evolve along with the frameworks
of AET and sexual scripts theory.

**Conclusion**

Overall, the current study contributes to the growing body of literature on communication
during sexual activity and on interpersonal communication as a whole. By examining
communication during sexual activity as it relates to sexual and relational outcomes, this study
aimed to develop a new measure of communication during sexual activity. Taking all of the
findings into account, the importance of communication during sexual activity is apparent for
aiding in better sexual and romantic relationships. Though the main study findings are
correlational and thus causal paths cannot be established, the results of the model testing
nonetheless suggest that communication during sexual activity may be one way that individuals
can help their current romantic relationship potentially be stronger and healthier. Learning more
about what individuals communicate during sexual activity is essential to assist in helping
couples maintain their relationship and be more honest and open with one another. The sub-
factor of talk during sexual activity relates to both parties communicating with one another and
negotiating what is best to do next, for example, in the sexual context. Being able to see one
another as more of a team or a unit and being concerned about a partner’s well-being is one of
the strategies often promoted by romantic relationship experts (Afifi, Davis, & Merrill, 2016).

Developing an intervention for communicating during sexual activity may be of interest
not only to researchers, but also to sexual therapists and other professionals who work with
couples or individuals with sexual issues. Even individuals without sexual issues could benefit
from the development of an intervention focused on increasing one’s sexual self-esteem and
highlighting the importance of communication during sexual activity. The focus on developing communication efficacy, in this case in a sexual context, is likely to benefit the development and growth of relationships. Taken together, discovering ways to encourage couples to more freely express themselves, specifically during sexual activity, is a worthwhile aim for future research.
Appendices

Appendix A: Figure 1

Figure 1 Proposed path model. This figure displays the hypothesized relationships being investigated in Study 1.

Note: Dashed lines indicate predicted indirect effects
Appendix B: Figure 2

Figure 2. Proposed path model. This figure displays the hypothesized relationships being investigated in Study 2.

Notes: Dashed lines indicate predicted indirect effects.
Appendix C: Figure 3

Figure 3. Tested Structural Model. This figure displays the hypothesized relationships being investigated in Study 1.

Note: Dashed lines indicate predicted indirect effects

$\chi^2 = 1568.44, df = 915, p < .001; CFI = .87; TFI = .86; RMSEA = .07, SRMR = .12$
Appendix D: Figure 4

Figure 4. Tested Structural Model. This figure displays the hypothesized relationships being investigated in Study 1.

Note: Dashed lines indicate predicted indirect effects

χ² = 1305.053, df = 762, p < .001; CFI = .88; TLI = .87; RMSEA = .07, SRMR = .13
Figure 5 Panel model 1 for Study II.
Appendix F: Figure 6

**Figure 6.** Panel model 2 for Study II.
Appendix G: Figure 7

Figure 7. Panel model 3 for Study II.
### Appendix H: Table 1

<table>
<thead>
<tr>
<th>Table 1. Bivariate Zero-Order Correlation Matrix of Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tr>
<td>1. Relationship Length (in weeks)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Biological Sex</td>
<td>.06</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>3. Race</td>
<td>-.11</td>
<td>-.01</td>
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<td>4. Age</td>
<td>.48*</td>
<td>-.14</td>
<td>-.06</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>5. Trust Adequacy</td>
<td>.03</td>
<td>.22**</td>
<td>.06</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td>6. Sexual Self-Esteem</td>
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<td>-.19*</td>
<td>.04</td>
<td>.97</td>
<td>.18*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>7. Sexual Assertiveness</td>
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<td>-.03</td>
<td>.02</td>
<td>.99</td>
<td>.16*</td>
<td>.47**</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>8. Communication During Sexual Activity</td>
<td>.07</td>
<td>.17*</td>
<td>-.11</td>
<td>-.02</td>
<td>.24**</td>
<td>.35**</td>
<td>.27**</td>
<td>-</td>
<td>-</td>
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<td>9. Sexual Arousal</td>
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<td>.03</td>
<td>.05</td>
<td>.21*</td>
<td>.34**</td>
<td>.36**</td>
<td>.56**</td>
<td>-</td>
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<tr>
<td>10. Sexual Satisfaction</td>
<td>.18*</td>
<td>.14</td>
<td>-.08</td>
<td>-.01</td>
<td>.23**</td>
<td>.37**</td>
<td>.53**</td>
<td>.23**</td>
<td>.36**</td>
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<td>11. Relationship Satisfaction</td>
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<td>.02</td>
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<td>.93</td>
<td>.15</td>
<td>.26**</td>
<td>.33**</td>
<td>.09</td>
<td>.13</td>
<td>.57**</td>
<td>-</td>
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<td>12. Sexual Closeness</td>
<td>.12</td>
<td>.02</td>
<td>-.02</td>
<td>-.15</td>
<td>.04</td>
<td>.30**</td>
<td>.41**</td>
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<td>.27**</td>
<td>.52**</td>
<td>.42**</td>
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</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.001 level (2-tailed).
### Appendix I: Table 2

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
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</tr>
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<tbody>
<tr>
<td>I make noises during sexual activity (e.g., moans, groans, screams, etc.)?</td>
<td>0.66</td>
<td>0.16</td>
<td>0.05</td>
<td>-0.07</td>
</tr>
<tr>
<td>I say words during sexual activity (e.g., Oh God! Yes! Right there!, Pussy, Cock)?</td>
<td>0.51</td>
<td>0.23</td>
<td>0.14</td>
<td>0.03</td>
</tr>
<tr>
<td>I talk with my partner during sexual activity (e.g., about what you like, about your day, about what you want to do next).</td>
<td>-0.01</td>
<td>-0.07</td>
<td>0.86</td>
<td>-0.03</td>
</tr>
<tr>
<td>My partner talks to me during sexual activity (e.g., about what you like, about your day, about what you want to do next).</td>
<td>-0.07</td>
<td>0.00</td>
<td>0.90</td>
<td>-0.09</td>
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<td></td>
</tr>
<tr>
<td>9. Relationship Satisfaction</td>
<td>0.39**</td>
<td>0.31**</td>
<td>0.09</td>
<td>-0.03</td>
<td>0.04</td>
<td>0.13</td>
<td>0.17*</td>
<td>0.62**</td>
<td>-</td>
</tr>
</tbody>
</table>
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