

MECHANISMS OF TURBULENCE, SEXUAL INTIMACY CHALLENGES, AND SEXUAL
COMMUNICATION IN DEPRESSED COUPLES

BY

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DISSERTATION

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Abstract

Symptoms of depression can permeate people's relationships, making depression an inherently interpersonal illness (Hames, Hagan, & Joiner, 2013; Rehman, Gollan, & Mortimer, 2008). Depressed couples are especially prone to unique and pervasive challenges to their sexual relationship (Baldwin, 2001; Cleveland Clinic, 2014; Delaney, 2016). Delaney (2016) documented depression-related sexual intimacy challenges as multi-layered and including lost libido, cognitive barriers, and interactive dilemmas, but a quantitative documentation of these challenges remains to be added to the literature. Sexual communication is linked to relationship and sexual satisfaction (Byers, 2005; Theiss & Solomon, 2007), but questions persist about best practices for defining and measuring sexual communication, and about the role communication about sex might play for depressed couples navigating sexual intimacy challenges. In this study, I integrated the premise of the marital discord model of depression (Beach, Sandeen, & O'Leary, 1990) with the logic of the relational turbulence model (Solomon & Knobloch, 2004) to hypothesize a model that positioned depressive symptoms as a predictor of mechanisms of turbulence (H1), mechanisms of turbulence as predictors of sexual intimacy challenges (H2), and sexual intimacy challenges as predictors of sexual satisfaction (H3). I also hypothesized that sexual intimacy challenges would negatively predict sexual communication (H4), which would positively predict sexual satisfaction (H5). A final hypothesis suggested that sexual communication would mediate the association between sexual intimacy challenges and sexual satisfaction (H6). I collected dyadic data from romantic couples in which one or both partners had been professionally diagnosed with a form of depression ($N = 116$) and used structural equation modeling to evaluate actor and partner effects. The final models offered mixed support for the hypothesized associations, as some paths were not statistically significant and path

additions were necessary to achieve model fit. The modified models revealed that depressive symptoms and interference from a partner predicted sexual intimacy challenges in depressed couples. The findings also uncovered relational uncertainty and interference from a partner as negatively associated with sexual communication. Finally, the data suggested that sexual communication exhibits an indirect effect connecting sexual intimacy challenges to sexual satisfaction. The findings contribute to theorizing about depression in romantic relationships, about the relational turbulence model, and about sexual communication. Pragmatically, the results point to minimizing mechanisms of turbulence and improving sexual communication as important areas for intervention with depressed couples.

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Chapter One: Introduction and Literature Review

Depression is a common but serious affective disorder that impacts approximately 16 million Americans each year (National Alliance on Mental Illness, 2012; National Institute of Mental Health, 2015b). Centers for Disease Control and Prevention (2011a) data indicate that nearly 10% of adult Americans suffer from depression, with around 4% meeting the criteria for major depression. Symptoms of depression are varied, but often include persistent feelings of sadness or emptiness, insomnia, irritability, a loss of interest in activities, and decreased energy (National Alliance on Mental Illness, 2012; National Institute of Mental Health, 2015a). Effects of depression can be debilitating for both the depressed individual and his or her romantic partner. As Rehman, Gollan, and Mortimer (2008) noted, “depression has interpersonal causes, is interpersonally mediated, and interpersonal factors can predict depression relapse” (p. 180). In other words, depression affects and is affected by relational factors across the illness trajectory. Coyne’s work in the 1970s first helped to focus an interpersonal lens on the experience of depression, but a contemporary emphasis on cognitive and biological factors has overshadowed the study of relational processes (Segrin, 2000). Although the Centers for Disease Control and Prevention (2011b) recognize that interpersonal relationships are especially likely to be burdened by depression, there is a substantial lack of research on the complex interpersonal dynamics associated with depression (Joiner & Timmons, 2009). Examining depression from an interpersonal perspective is crucial for understanding the causes and consequences of this mental illness (Segrin, 2000). Communication scholars represent an important voice in conversations about mental illness and close relationships (Fisher et al., 2012).

Depression can also obstruct a couple’s ability to maintain a close sexual connection, as it is linked to diminished sexual desire and physical dysfunctions, along with decreases in self-

esteem, difficulties experiencing pleasure, and troubles initiating sexual activity (Baldwin, 2001; Kennedy, Dickens, Eisfeld, & Bagby, 1999; Ostman, 2008). Of course, non-depressed partners are affected by a depressed person's difficulties with the sexual relationship, but some research suggests that non-depressed partners can face similar challenges (e.g., difficulties with physical function) as a result of their loved one's depressive illness (Ostman, 2008). Yet, gaps remain in the study of sexuality in depression. Most depression literature designates decreased libido as a symptom of depression (e.g., Kennedy et al., 1999) or a side effect of medication used to treat the depression (e.g., Higgins, Nash, & Lynch, 2010) and has thus ignored the relational dynamics that may drive sexual intimacy challenges for depressed couples. Laurent and Simons (2009) summarized research on decreased libido, difficulties with arousal (such as erectile dysfunction), orgasm and pain disorders, and reduced pleasure and satisfaction, showing that sexual intimacy challenges can extend beyond drive and function. Existing research also fails to document non-depressed partners' experiences in this domain, offering an opportunity for relationship scholars to contribute to the literature on depression.

Couples facing sexual difficulties may find it particularly daunting to communicate about the physical relationship. Sexuality is a taboo conversational topic in most relationships (Anderson, Kunkel, & Dennis, 2011; Baxter & Wilmot, 1985). Partners are likely to avoid conversations about the sexual aspects of their relationship, and avoidance of these conversations typically associates with decreased sexual satisfaction (Anderson et al., 2011; Theiss & Estlein, 2014). Despite its importance in shaping the relationship climate, sexual communication is an under-researched process in the study of close relationships (Sprecher & Cate, 2004). A dissertation that explicates how depressed couples face sexual intimacy challenges and how

communication about sex shapes those relational experiences will move the depression and sexual communication literatures forward in both theoretical and practical ways.

Three primary objectives guide this dissertation. First, I seek to add insight to theory and research in the study of depression in romantic relationships by testing the relational turbulence model (Solomon & Knobloch, 2004) in this context. This application will offer a valuable test of the model's predictive power in the study of depression and will add to literature positioning communication as central to processes of turbulence in close relationships. Second, I aim to contribute to the depression literature by (a) delineating the spectrum of sexual intimacy challenges for couples with depression, (b) investigating associations between sexual intimacy challenges, sexual communication, and sexual satisfaction, and (c) providing practitioners with insight into how to better help couples manage their relationship while battling depression. Finally, I intend to bolster the empirical rigor of the study of depression and sexual communication by collecting dyadic data and obtaining both qualitative and quantitative insight into couples' experiences.

Depression and Romantic Relationships

Depression is associated with a wide range of relationship troubles and exhibits a negative and reciprocal connection with relationship quality (Davila, Bradbury, Cohan, & Tochluk, 1997; Whitton & Whisman, 2010). Relationships involving individuals with depression tend to be characterized by rejection, dissatisfaction, low intimacy, and decreased involvement (Hames, Hagan, & Joiner, 2013). A bidirectional negative relationship likely exists between depression and relationship satisfaction (Davila, Stroud, & Starr, 2009; Kouros & Cummings, 2011; Whisman, 2001). Emerging research has also posited that depressive symptoms can spread from one partner to another and are more severe in discordant couples than nondiscordant

couples (Hames et al., 2013; Whisman, Robustelli, Beach, Snyder, & Harper, 2015). Depression impacts partnerships across the relational trajectory, including in formation, satisfaction and functioning, and dissolution (Davila et al., 2009). Even in instances where partners have relatively low levels of depression, the symptoms can still predict challenges for interpersonal romantic relationships (Kouros & Cummings, 2011). Longitudinal work suggests that decreases in relationship satisfaction align with increases in symptoms of depression (Whisman, 2013). The ties between relationship quality and depressive symptoms are well documented, and researchers have turned their attention to identifying mechanisms that drive these associations.

Some relationship troubles may be rooted in problems with communicating effectively for depressed couples (Gabriel, Beach, & Bodenmann, 2010; Sharabi, Knobloch, Delaney, 2016). Couples with depression experience several communication struggles, such as increased conflict and criticism, negative emotional responses, difficulties providing support, and hostility (Davila, 2001; Duggan & LePoire, 2006; Kouros & Cummings, 2011). Depression is associated with poorer relational functioning in areas such as problem solving, social support, and coping with relational events (Davila et al., 2009). The day-to-day challenges of managing depression can also exacerbate relationship troubles (Smith, Breiding, & Papp, 2012). The depression in relationships literature points to numerous barriers for couples in maintaining a close and satisfying partnership, including communication deficits. On top of that, depressed couples are likely to experience sexual problems, and these difficulties can not only damage the relationship, but also undermine depression recovery (Baldwin, 2001; Cleveland Clinic, 2014).

Depression and the Sexual Relationship

Sex problems in the depression context are common, appearing in over 70% of patients with depression (Casper et al., 1985). Laurent and Simons (2009) noted that a link exists between

mental illness and sexual functioning, claiming that depressed individuals are five times more likely to experience a sexual desire disorder. For example, Kennedy et al. (1999) sampled 134 depressed individuals and found that 50% of women and 42% of men reported a decrease in sexual desire. Forty-six percent of men experienced an inability to sustain an erection and 50% of women struggled with decreased sexual arousal. Frohlich and Meston (2002) found that college-aged women exhibiting depressive symptoms reported more sexual problems (e.g., difficulty with orgasm, sexual pain) than a control group, and reported less satisfaction with sexual relationships. Existing research has emphasized difficulties with desire, function, and satisfaction for depressed individuals. Eklund and Ostman (2010) asserted, however, that not enough is known about sexuality in the context of relationships marked by mental illness because most research has focused on sexual dysfunction, as it is more prevalent in those suffering with mental illness than the general population. Although scholars and practitioners acknowledge the prevalence of sex problems for individuals with depression, less is known about how sexual intimacy challenges can extend beyond libido and function.

Several possible sexual intimacy challenges exist for individuals with depression and their partners, and a focus on only decreased libido in depression misses the full picture of the sexual challenges depressed couples experience. Sexual problems in depression might be the result of a chemical imbalance, making desire and function challenging, or the sexual problems could be the result of the strain depression puts on the relationship (Cleveland Clinic, 2014). Sexuality is likely to be affected by depression through a lowered or lost libido, but partners may also experience a reduction in energy, lowered self-esteem, an inability to experience pleasure, reduced fantasy and masturbation, and physiological challenges, such as difficulty with erection, lubrication, and orgasm (Baldwin, 2001; Kennedy et al., 1999; Laurent & Simons, 2009).

Laurent and Simons (2009) explained that depression can be linked to a spectrum of sexual challenges (e.g., reduced satisfaction and pleasure, difficulties with orgasm, etc.), not just decreased interest. Partnerships marked by depression can also be impacted by varying emotional, physical, and relational sexual difficulties. Baldwin (2001) explained that sexual response disorders can happen on one of four phases: desire, excitement, orgasm, and resolution, but also notes that when one aspect of the sexual relationship is affected, other areas may be impaired as well. Even in non-clinical couples, relational quality and sexual satisfaction are related to not only one's own depressed mood, but also a partner's depressed mood (Bodenmann & Ledermann, 2007). The effects of depression on a couple's sexual partnership are multifaceted and prior research hints at relational issues that might affect both partners.

Qualitative findings underscore the complexity of this issue. In interviews with clinically depressed individuals and their partners, Ostman (2008) found that patients felt a desire for physical intimacy, but struggled to act on those desires. Ostman (2008) also found that non-depressed partners became reluctant to act on their own sexual desires, indicating that even partners without depressive symptoms can become inhibited. Sharabi et al. (2016) analyzed open-ended accounts of depression's relational effects and identified sexual intimacy as a negative consequence of depression for both patients and partners. Specifically, participants recognized issues with both frequency and desire as a result of depression. In an interview study on depression and sexual relationships, Delaney (2016) documented two layers of challenges that extend beyond a partner's decreased libido. *Cognitive challenges* refer to difficulties with self-esteem and feelings of isolation that can interrupt a couple's ability to connect sexually. *Interactive challenges* reference ways that depressed couples can struggle to have conversations

about their sexual partnership and feel unable to initiate sexual activity with a partner. The challenges to a depressed couple's sexual relationship are complex, multi-layered, and pervasive.

Sexual dysfunction and dissatisfaction are often dismissed as side effects of the medication used to treat the other symptoms of depression. Yet, it can be difficult to disentangle sexual intimacy challenges that are a result of medication from those that are a result of the illness itself (Baldwin, 2001). Kennedy et al. (1999) emphasized that the baseline effects of depression on sexuality should be considered when measuring effects of medication. Sexual problems are more common in depressed individuals who receive treatment than those who do not, but even untreated depressed people have higher incidence of sexual challenges than non-depressed individuals (Baldwin, 2001). Kennedy and colleagues (1999) sampled patients with major depression and found that severity of depressive symptoms was not associated with sexual dysfunction. Instead, women's personality characteristics such as higher neuroticism and lower extroversion were correlated with sexual dysfunction. These findings suggest that factors beyond severity of depressive symptoms are important to consider in examining sexual intimacy in couples coping with depression (Kennedy et al., 1999). Finally, Baldwin (2001) also argued that measurement of sexual dysfunction is critical, noting that scholars must differentiate between normal sexual dysfunctions and those associated with depression, as well as dysfunctions associated with medication.

The ties between depression, medication, and sexual challenges do not have a clear causal order. Laurent and Simons (2009) asserted that the relationship between depression and sexual problems is "multifactorial, complex, and often bidirectional" (p. 575). This is echoed by Reynaert, Zdanowicz, Janne, and Jacques (2010), who emphasized that sexual dysfunction could be the cause or consequence of depression, and thus, should not be simply treated as a symptom

or side effect. Scholars have turned their attention to the side effects of anti-depressant medication without fully exploring the link between depression itself and the sexual challenges faced by patients and their partners (Kennedy et al., 1999). As a whole, these findings point to a need to parse out sexual challenges that may be completely unrelated to depression, those that stem from the depression, those that are indirectly related to the depression, and those that are caused by medication used to treat the depression.

In sum, the literature contains strong evidence of a link between depression and substantial challenges to having a satisfying and fulfilling sexual relationship. A majority of this research comes from a clinical psychology perspective, however, leaving room for experts on communication in relationships to lend their voice to the conversation about depression and interpersonal relationships. As Reynaert and colleagues (2010) affirmed, scholars should attend to the emotional, behavioral, and relational factors associated with depression and sexual dysfunction and dissatisfaction. Individually, sexual dysfunction and mental illness can be detrimental to an individual's quality of life, and in combination, depression and sexual intimacy challenges can have an intensely negative effect on partners (Laurent & Simons, 2009). Moreover, clinicians can benefit from being better able to support patients and their partners as they navigate the sexual challenges associated with depression (Bodenmann & Ledermann, 2007; Ostman, 2008). Further research in the realm of relationships is needed to understand what these sexual challenges mean in the context of romantic partnerships and to highlight the most effective strategies for individuals and couples to cope with those challenges.

Sexual Communication in Romantic Relationships

The sexual connection between romantic partners plays a crucial role in the early stages, maintenance, and potential termination of relationships (Dewitte, 2014). The quality of the

sexual relationship may even predict relational stability, as suggested by Sprecher's (2002) longitudinal findings. Moreover, the dynamics of communication about sex between romantic partners can have both sexual and relational outcomes (Byers, 2005; Dewitte, 2014; Faulkner & Lannutti, 2010). Scholars have established that intimacy between partners is intricately tied to both the sexual connection and the interpersonal climate of the relationship (Theiss & Solomon, 2007). For example, sexual communication can influence emotional outcomes for partners, and frequency and quality of interactions are tied to overall relationship satisfaction (Sprecher & Cate, 2004; Theiss & Solomon, 2007). Conversations surrounding sex, though, are not always easy for partners. Sexuality is a taboo topic, and partners can struggle to engage in conversations about sex at various points in their relationships (Anderson et al., 2011; Baxter & Wilmot, 1985; Theiss, 2011; Theiss & Solomon, 2007). The sexual intimacy and interpersonal communication literatures both stand to benefit from increased attention to the ways couples communicate about their sexual relationship.

Defining sexual communication. A pressing task in the sexual communication literature is to accurately and comprehensively define this construct. Scholars have provided a range of conceptualizations. Sexual communication is comprised of both verbal (e.g., explaining a sexual preference to a partner) and nonverbal (e.g., eye contact) cues (Babin, 2013; Hess & Coffelt, 2012; Theiss & Solomon, 2007). Mark and Jozkowski (2013) described sexual communication in quite general terms, referring to it as “communication regarding sexual aspects of the relationship” (p. 414). Wheelless and Parsons (1995) took another broad approach by conceptualizing sexual communication as communication about sexual behavior, what sexual behavior is satisfying, and what is communicated by sexual behavior. Sprecher and Cate (2004) reviewed findings on sexual communication in terms of (a) sexual initiation, acceptance, and

refusal, and (b) disclosure of likes and dislikes. Green and Faulkner (2005) also provided a specific list of discussions that meet their broad conceptualization of sexual communication: safer sex, sexual health, sexual pleasure, and sexual limits (p. 239). Metts and Spitzberg (1996) advocated a definition that focuses on processes of coming together and negotiating within the relationship. Their description asserted that sexual communication is “the means by which individuals come to select potential partners for sexual relations, and through which the meanings, functions, and effects of sexual relations are negotiated” (Metts & Spitzberg, 1996, p. 49). This group of definitions suggests a broad approach to sexual communication.

More narrow conceptualizations also exist. A number of researchers have highlighted sexual self-disclosure as the hallmark of sexual communication, and also prioritized “openness” in these interactions (e.g., Byers & Demmons, 1999; Montesi, Fauber, Gordon, & Heimberg, 2011; Rehman, Rellini, & Fallis, 2011). This may include the sharing of fantasies, desires, preferences, and dislikes between partners. Theiss (2011) also aligned sexual communication with open and direct communication about sexual desires. These definitions are specific in how they center on the exchange of information about sex between partners. Babin (2013) asserted, though, that sexual communication should encompass a range of conversations (not just individuals’ self-disclosure), including safe sex decisions, scripts for interactions, consent, initiation and refusal, and disclosure. Quina, Harlow, Morokoff, Burkholder, and Deiter (2000) also found that conversations about sexual pleasure and conversations about sexual health are not the same, providing further rationale for a multi-dimensional structure for understanding sexual communication. Indeed, there are both broad and specific ways to conceptualize sexual communication, and the literature lacks consensus on exactly what scholars are examining in their studies of “sexual communication”.

This dissent in the literature may be partially a result of the taboo nature of talking about sex in general (Baxter & Wilmot, 1985). Communication relating to sexual intimacy is often passive and indirect, making it difficult for partners to decipher and for researchers to measure, particularly if scholars are defining the construct as open and direct (Theiss & Solomon, 2007). Further, most research on sexual communication has focused on communication surrounding sex that occurs outside of sexual situations, with less emphasis on how partners communicate *during* sexual encounters (Babin, 2013). Sexual communication is challenging for partners because it can put them at risk of rejection, threaten their self-confidence, be embarrassing, or endanger the relationship (Montesi et al., 2011; Theiss & Estlein, 2014). For example, some individuals would rather have unprotected sex than have a conversation about protection (Pliskin, 1997). Many individuals do not see sex as an easy topic for conversation, making it difficult for scholars to pin down exactly what constitutes sexual communication.

Some scholars have chosen to focus on sexual communication satisfaction, highlighting participants' perceptions of these interactions as opposed to the dynamics of conversations (e.g., Hess & Coffelt, 2012). For example, Wheelless, Wheelless, and Baus (1984) described sexual communication satisfaction as one's satisfaction with communication about behavior, communication about which behavior(s) are satisfying, satisfaction that comes from communication about sexual behaviors, and willingness to communicate about sex with a partner (p. 221). Byers and Demmons (1999) pointed out that it is important to also look at the content and process of communication about sex, not just individuals' perceptions of satisfaction in those conversations. In sum, multiple broad and specific conceptualizations of sexual communication exist in the literature, and those conceptualizations frame the research being conducted.

Communication scholars who are interested in the dynamics of couples' sexual relationships need to first explicate their conceptualization of sexual communication.

Sexual satisfaction, relationship satisfaction, and communication. Scholars have attended to questions about couples' relationship and sexual satisfaction, as well as the role communication may play in these relationship dynamics. Sexual satisfaction and relationship satisfaction are closely (and probably bidirectionally) linked, and sexual satisfaction is also a noted predictor of relationship stability (Byers, 2005; Sprecher & Cate, 2004). Sexual satisfaction is linked with relationship satisfaction, love, and commitment (Sprecher, 2002). Christopher and Kisler (2004) noted that most scholars argue that sexual satisfaction is the precursor to marital satisfaction, but others argue that the opposite is true (e.g., Byers & Demmons, 1999). Some studies (e.g., Byers, 2005; Sprecher, 2002) have concluded that neither seems to be causally linked to the other. Mark and Jozkowski (2013) reviewed research indicating that relationship satisfaction and sexual satisfaction likely move concurrently, and neither necessarily precedes the other. Convincing evidence exists that relationship quality and partners' sexual satisfaction are closely tied, and recent scholarship implies that these indicators work synchronously, as opposed to one causing the other.

Communication might account for the similar changes in relationship and sexual satisfaction over time because the way people communicate about sex is intricately linked to emotional, cognitive, and relational outcomes of sexual activity (Byers, 2005; Theiss & Solomon, 2007). For example, in a study on initial sexual experiences between partners, Theiss and Solomon (2007) found that direct communication about sex was positively associated with desirable sexual outcomes, such as positive emotions, optimistic cognitions about the relationship, and perceptions of good relationship consequences after a first sexual encounter.

There is likely a positive reciprocal relationship between conversations about initiation of sexual activity (and the outcomes of those conversations) and relationship satisfaction (Sprecher & Cate, 2004). Rehman and colleagues (2011) found both actor and partner effects for the connection between sexual self-disclosure and sexual satisfaction, in that one's self-disclosure about sexual likes and dislikes predicts one's own and one's partner's sexual satisfaction. Hess and Coffelt (2012) documented a link between the specific type of language married partners use to talk about sex and their satisfaction with sexual communication and overall relational quality. Satisfying conversations about sex can also have positive relational and sexual outcomes by providing individuals with an opportunity to better understand his/her partner's sexuality (Faulkner & Lannutti, 2010). Further, sexual satisfaction for both partners should improve as couples are able to agree about frequency and nature of sexual activities, a process that likely necessitates communication about sex (Snyder & Berg, 1983). These findings suggest that sexual communication is an important factor in the sexual climate of romantic relationships.

Although there is evidence that communication in general is associated with relationship and sexual satisfaction over time (e.g., Byers, 2005), conflicting findings exist in terms of the role sexual communication plays in sexual and relationship satisfaction. Overall communication and sexual communication are both important for a satisfying sexual partnership (Cupach & Comstock, 1990). Whereas some studies have not documented a link between sexual communication and satisfaction with sex or in the partnership (Byers & Demmons, 1999), other findings indicate that both frequency and quality of sexual communication are associated with relationship satisfaction (Sprecher & Cate, 2004).

MacNeil and Byers (2005) offered two potential explanations for how communication about sex might improve partners' perceptions of satisfaction. In the expressive pathway, an

individual's sexual self-disclosure contributes to overall relationship satisfaction, which in turn, influences sexual satisfaction. In the instrumental pathway, individuals are more sexually satisfied when they can disclose about sexual likes and dislikes in order to improve their partner's understanding of sexual preferences. In other words, the expressive pathway hypothesizes a mediated link between sexual self-disclosure and satisfaction, and the instrumental pathway hypothesizes that the disclosure directly facilitates more rewarding sexual interactions. An important step in the sexual communication literature is to identify the role that communication between partners plays in sexual and relationship satisfaction processes.

Support exists for both explanations. Cupach and Comstock (1990) found that sexual satisfaction mediates the relationship between sexual communication satisfaction and marital adjustment, providing support for the instrumental pathway. This suggests that satisfying conversations about sex may improve relationship satisfaction by facilitating more satisfying sexual relationships. Montesi et al. (2011) described results consistent with this finding, indicating that sexual satisfaction plays a mediating role between sexual communication and relationship satisfaction. MacNeil and Byers (2005) found support for the expressive pathway for women and support for the instrumental pathway for both men and women. Mark and Jozkowski (2013), however, asserted that the structure of this relationship may actually place communication as the mediator between relationship satisfaction and sexual satisfaction. In their study of heterosexual dyads, both sexual and non-sexual communication mediated the association between relationship and sexual satisfaction. Taken together, these conflicting findings indicate that the ties between sexual communication, sexual satisfaction, and relationship satisfaction are complex and worthy of further study. In any case, sexual communication is a critical component of sexual satisfaction, along with other individual,

relational, and cultural factors (Babin, 2013; Carpenter, Nathanson, & Kim, 2009). The sexual communication literature reviewed thus far suggests two avenues for advancing knowledge on how romantic couples communicate about sex. First, scholars can examine the pathways previously established with different conceptualizations of sexual communication. Second, scholars should sketch theoretical frameworks for how communication facilitates satisfaction in sexual relationships.

Sexual communication is challenging. Despite evidence for the importance of talking about sex, many individuals find sexual communication with a partner particularly challenging or dissatisfying. Although direct sexual communication may be key for satisfying sexual relationships (Theiss & Solomon, 2007), the taboo nature of talking about sex could explain individuals' discomfort and avoidance of these conversations. In their study on taboo topics in romantic relationships, Anderson and colleagues (2011) found that partners avoided conversations about their sexual history for multiple reasons, including leaving the past in the past, engaging in identity management, avoiding a threat to the relationship, and trying not to upset their partner. Faulkner and Lannutti (2010) found that young adults' unsatisfying conversations about sex were likely to center on relationship issues or making decisions, such as sexual pleasure and sexual health decisions. A lack of response to a sexual request can also associate with sexual dissatisfaction (Snyder & Berg, 1983). Evading conversations about sex is common, but the avoidance of sexual conversations negatively associates with sexual satisfaction (Theiss & Estlein, 2014).

Sexual communication could be particularly daunting for individuals who are prone to communication troubles more broadly. People with communication apprehension may feel limited or intimidated by conversations about sex (Babin, 2013; Wheelless & Parsons, 1995).

Individuals who experience high levels of social anxiety are likely to not only find sexual communication challenging, but are also likely to be less sexually satisfied in their sexual relationships (Montesi et al., 2013). In sum, romantic couples are prone to sexual and relational consequences as a result of their difficulties engaging in sexual communication.

Sexual communication can be problematic for partners across the relationship trajectory, including dating (e.g., Theiss & Solomon, 2007) and married (e.g., Theiss, 2011) couples. For example, partners typically engage in very little sexual communication prior to first intercourse, and that communication can be indirect or passive (Theiss & Solomon, 2007). This suggests that sexual communication could be more challenging at the beginning of the relationship. Yet, married couples can be prone to indirect and ineffective sexual communication as well (Theiss, 2011). Further, Wheelless et al. (1984) found that satisfaction with sexual communication varies greatly across relationship development and deterioration, indicating a need to examine these processes at differing points in partnerships. Indeed, communication about sexual issues such as consent, desires, history, or protection can have different meanings and consequences with a committed partner versus a new or more casual partner (Quina et al., 2000). Theiss (2011) adds to this picture by noting that relational uncertainty (or a lack of confidence in perceptions of the relationship; Knobloch & Solomon, 1999) could be a barrier to effective sexual communication, making it challenging for couples to maintain a satisfying sexual connection. Although the content of relational uncertainty differs in diverse relationship circumstances (Knobloch, 2008), uncertain appraisals of the partnership could make conversations about sex particularly difficult for partners. In short, romantic partners face obstacles in discussing their sexual connection throughout the relationship.

Sexual communication is nuanced and requires negotiation of many competing desires. Partners must communicate in ways that allow them to send and receive information, but also negotiate the relationship, attend to identity goals, manage face threats, protect a partner's feelings, etc. Although some literature suggests partners should communicate and disclose openly about sexual topics (e.g., MacNeil & Byers, 2005; Theiss & Solomon, 2007), partners might be more likely to use passive or indirect tactics (Theiss, 2011). On the one hand, Theiss and Solomon (2007) argued that direct communication is preferable and leads to positive relationship outcomes, and Theiss and Estlein (2014) pointed to topic avoidance and indirect communication as particularly problematic for couples discussing sexual intimacy. On the other hand, there is evidence that indirect communication may, in some cases, be most appropriate for partners. Quina et al. (2000), for example, point out that gendered expectations for relationships make it possible that indirect communication is more appropriate for women, while men are able to be more assertive in discussing sexuality issues. As an additional example, romantic partners send subtle cues of their interest in participating in sexual activity or communicate consent by simply not rejecting a partner's advance (Theiss & Solomon, 2007). Indirect strategies such as these may be less effective in meeting immediate goals than more direct communication techniques. Indirect communication can, however, serve to protect the relationship and the other partner, and this strategy may be a response to the threatening nature of talking about sex in close relationships (Theiss & Estlein, 2014). By focusing only on "direct" or "open" communication as effective for sexual relationships, relationships scholars are likely to miss out on the intricacies of these interactions.

Theory and research in other communication domains also imply that indirect or subtle sexual communication strategies have potential to be effective in tackling challenging

interpersonal conversations. For example, Theiss and Solomon (2006a) claimed that in the context of communicating about irritations in romantic relationships, partners must grapple with multiple concerns, including the severity of the relationship problem, qualities of the relationship, and individual communication tendencies. Directness may not always be the most desirable communication option for negotiating challenging conversations, such as those about irritations, or those about sexual issues. Several theories of interpersonal communication offer explanations for why.

Theorizing about avoidance of conversations hints that avoiding direct conversations is sometimes desirable for romantic couples. Topic avoidance is typically considered to be a negative for relationships, but certain strategies for avoiding conversations (e.g., complimenting or showing affection for a partner) may actually lead to desirable relationship outcomes (Dailey & Palomares, 2004). Petronio's (2002) communication privacy management theory speaks to ways that individuals seek to balance openness with privacy in their communication with others, suggesting that completely open and direct communication is likely not desirable. More specifically, some privacy-focused motivations for avoiding may moderate how avoidance affects outcomes (e.g., Caughlin and Afifi, 2004).

Politeness theory (Brown & Levinson, 1987) also offers insight into the nuances of relational communication. Politeness theory informs scholarship on relational communication by positing that partners negotiate desires to maintain positive face (self-image) and negative face (autonomy). Further, interactants are obliged to attend to both their own and their partner's face threats. The assumptions of politeness theory have evolved, but scholars tend to agree that management of face threats is a relational process that unfolds in conversation (Johnson, Roloff, & Riffe, 2004; Locher & Watts, 2005). Politeness theory suggests that avoidance, indirectness,

and other communication strategies may help partners mitigate face threats in conversations about sex. Moreover, individuals who are experiencing relational uncertainty (i.e., questions about involvement in the relationship) appraise messages as potentially more face threatening (Knobloch, Satterlee, & DiDomenico, 2010). Individuals suffering from depression, as well as individuals coping with sexual intimacy challenges, are likely to encounter relational uncertainty, necessitating some management of those face threats in conversation.

Scholarship on interpersonal communication illustrates the complexity of engaging in conversations on a taboo topic such as sex and suggests that direct or straightforward communication tactics may not always be most desirable for partners. More nuanced insight is warranted into the ways couples navigate challenging conversation about challenging sexual situations, and assumptions about direct communication as most effective should be questioned.

Summary. With this dissertation, I seek to bridge the literatures on depression in romantic relationships and sexual communication. Relationships marked by depression are understudied and present unique challenges for partners, particularly in the realm of maintaining a satisfying sexual connection (Joiner & Timmons, 2009; Laurent & Simons, 2009). The literature on sexual communication suggests that partners' interactions about their sexual connection are both complex and important for the overall climate of the relationship. Thus, a study on sexual intimacy challenges and sexual communication in the context of depression has potential to (a) enrich the literature on depression in romantic partnerships, (b) highlight processes of relational turbulence in depression, and (c) appraise the role of sexual communication in depressed partnerships.

Chapter Two: Theoretical Framework and Research Objectives

Both the depression and sexuality literatures have suffered from a lack of theoretical underpinning, despite well-established findings on the impact of depression on relationships and the role sexual communication plays in romantic partnerships. Scholarship that hinges on the application of theory to explain the dynamics of communication about sex in relationships marked by depression is poised to make meaningful contributions to these literatures. Theories such as the social skills deficit perspective, interactional theory, and integrative interpersonal theory each make assertions about the ties between relationship problems and depression (Hames et al., 2013). My theorizing started by consulting the marital discord model (Beach et al., 1990, 1993), which illuminates communication as a link between relationship issues and depression. To frame my hypotheses, I then turned to the relational turbulence model (Solomon & Knobloch, 2004). The relational turbulence model illuminates how interdependence between partners and uncertainty surrounding the partnership can be tied to conversations and relationship outcomes. I also prioritized a dyadic approach to depression in romantic partnerships. Examining the dynamics of depression from a dyadic standpoint is a useful way to evaluate both actor and partner effects and account for interdependence in close relationships (Bodenmann & Randall, 2013; Kenny, Kashy, & Cook, 2006). In the following sections, I review each framework and highlight its utility in the study of depression and sexual communication. I also draw upon these theories and existing research to propose several research questions and hypotheses. Please refer to Figure 1 for a visual representation of the proposed model.

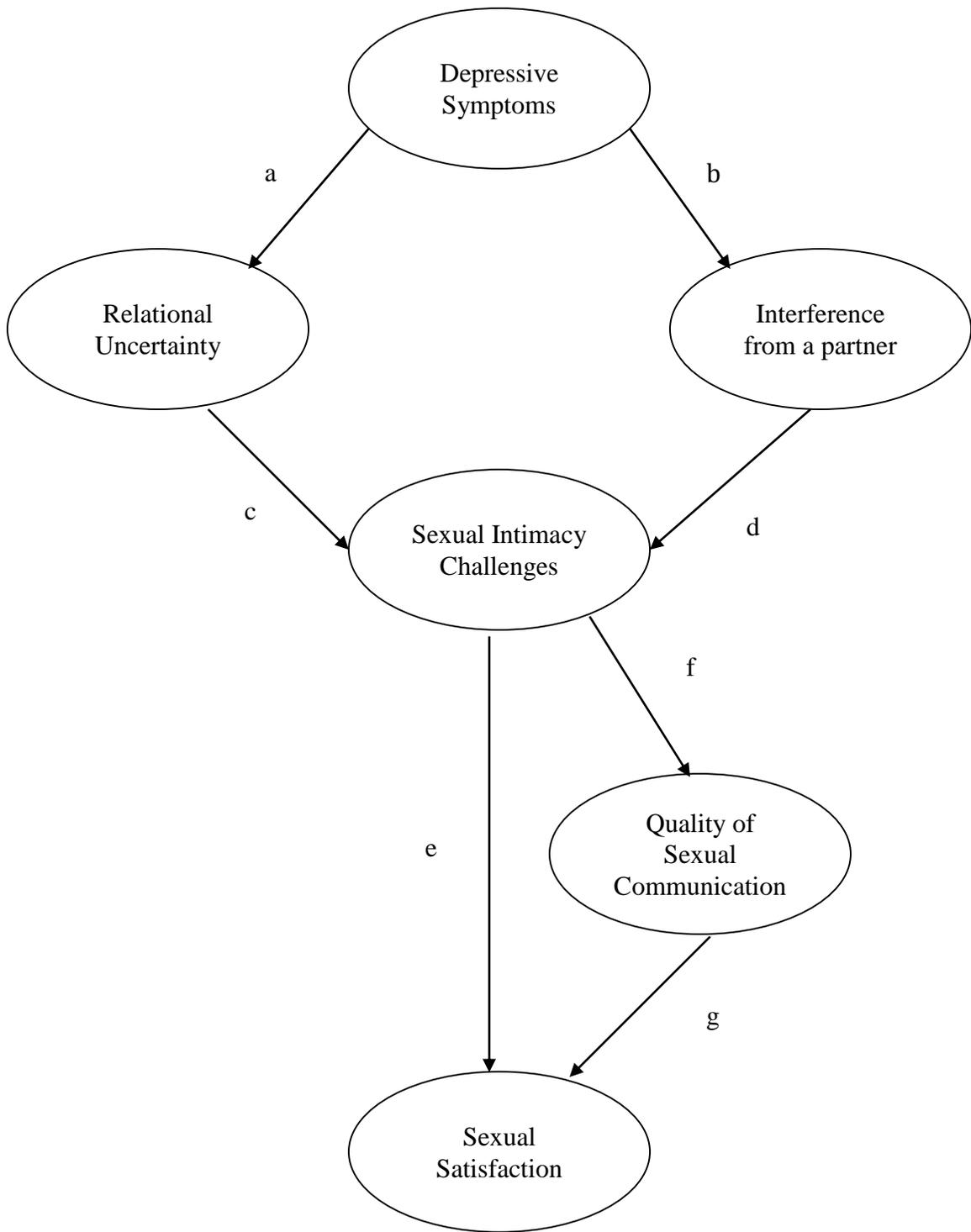


Figure 1. The Hypothesized Model.

Theories of Depression

Scholars interested in the study of depression and romantic partnerships can turn to a handful of theories to inform their investigations. Segrin's (1990, 2000, 2001) social skills deficit (SSD) perspective asserts that basic differences in social behaviors exist between depressed and non-depressed individuals, pointing to diminished social skills as the culprit for relationship challenges in depression. Coyne's (1976a, 1976b) interactional theory suggests that depressed individuals are rejected by others through a cyclical process of reassurance seeking and increased negative affect (Hames et al., 2013; Joiner & Metalsky, 1995). Interactional theory assumes that it is irritating and frustrating to interact with a depressed person, and thus, depressed people can produce symptoms of depression in their close relationship partners (Segrin, 2001). Integrative interpersonal theory (IIT; Joiner & Metalsky, 1995) refines Coyne's perspective by (a) asserting that excessive reassurance seeking is the particular behavior that leads to rejection and (b) additionally identifying negative feedback seeking as a rejection-inducing interpersonal behavior. The social skills deficit perspective positions social skills as central to depressed relationships, while interactional theory and integrative interpersonal theory focus on processes of rejection, but these theories do not highlight the dyadic processes that are salient as couples grapple with sexual challenges. The marital discord model is a useful lens for initiating thinking about interdependent and communicative processes in depressed partnerships.

The Marital Discord Model of Depression

The marital discord model of depression (MDD; Beach & O'Leary, 1993; Beach, Sandeen, & O'Leary, 1990) asserts that marital relationships are important to consider in the development and maintenance of depressive symptoms. The MDD acknowledges the intricate link between relationships and depression, claiming that marital discord triggers depression

through reductions in support and increases in stress and hostility (Beach et al., 1990; Fincham, Beach, Harold, & Osborne, 1997; Rehman et al., 2008). Research on the association between marital functioning and depressive symptoms suggests that negativity in romantic relationships can lead to a perceptual shift, making individuals susceptible to both depression and relationship discord (Whisman et al., 2015). The original formulation of the MDD (Beach et al., 1990) proposed that marital discord precedes depression. The authors did, however, acknowledge the role that depression can play in the development and endurance of marital discord (p. 78) and accounted for some reciprocal influence. Broadly, then, the MDD is a theory that speaks to the ties between relationship functioning and depressive symptoms.

The MDD posits that relationship challenges and depression are linked through increases in negative interaction and decreases in positive interaction (Beach et al., 1990; Rehman et al., 2008). The MDD also suggests that depression is associated with heightened reactivity to marital stressors (Beach & O’Leary, 1993). The theory further posits that the presence of marital discord and severe marital stressors precipitate a major depressive episode, and that depressed individuals are likely to see relationship events as catastrophic (Beach, Katz, Kim, & Brody, 2003; Beach & O’Leary, 1993). Consequently, the MDD asserts that the link between marital trouble and depression is driven by an increase in negative behaviors and a decrease in positive behaviors in the relationship. Scholars have employed the MDD to point to the effects of marital quality on depression, the role of gender in this process, and the need to examine the link between relationship quality and depression from a systemic perspective (Beach et al., 2003; Fincham et al., 1997; Gustavson et al., 2012). While the marital discord model does point to specific features of marital relationships that can contribute to depression, the literature typically focuses on paths between marital satisfaction and depression (e.g., Fincham et al., 1997; Proulx,

Helms, & Buehler, 2007), as opposed to examining the particular behaviors suggested by Beach and colleagues (1990).

The marital discord model is useful for the current examination in two ways. First, the model emphasizes the importance of considering the depression experience alongside relational experiences. Originally advanced as a framework for treatment (c.f. Beach et al., 1990), the MDD underscores how examining dyadic processes can serve as intervention for both the depression and the relationship. Second, although it does not specifically speak to sexual intimacy challenges, the marital discord model can enhance the study of depression and sexual intimacy challenges by designating *communication processes* as a mechanism through which depression and relationship troubles are linked. Given these considerations, I recommend the relational turbulence model as a theory of relationships that has potential to link the depression and sexual communication literatures. In the sections that follow, I describe the relational turbulence model, highlight areas where the logic of the two theories overlaps, and propose several research objectives rooted in the relational turbulence model.

The Relational Turbulence Model

The relational turbulence model (RTM; Solomon & Knobloch, 2004) explains that romantic partners perceive their relationship as chaotic when in flux because they are experiencing uncertainty about the relationship and interference from their partners in their daily routines (Knobloch, 2007b). *Relational uncertainty* is the degree of confidence individuals have in their perceptions of involvement and stems from self, partner, and relationship sources (Solomon & Knobloch, 2004). Self uncertainty includes people's questions about their own involvement in the relationship, while partner uncertainty focuses on people's questions about their partner's involvement in the relationship. Relationship uncertainty focuses on the dyad and

encompasses questions about the partnership as a whole (Knobloch, 2008). These three overlapping but discrete sources of ambiguity contribute to turmoil in relationships because partners are limited in their abilities to make sense of the relationship when they are entertaining uncertainty about involvement in the partnership (Knobloch & Theiss, 2010). *Interference from a partner* is the degree to which a partner disrupts an individual's ability to achieve his or her day-to-day goals (Solomon & Knobloch, 2004). The theory posits that disruptions to routines occur when patterns of interdependence shift and can spark reactivity. Broadly, the RTM argues that relational uncertainty and interference from a partner are mechanisms of *relational turbulence*, which is manifest in emotional, cognitive, and communicative reactivity in partners (Knobloch & Theiss, 2010; Theiss & Solomon, 2006a).

The RTM is particularly well-suited to guide investigations into the experiences of couples grappling with depression. Although developed to study the progression of relationships from casual to serious (c.f. Solomon & Knobloch, 2004), the RTM has recently been employed to examine how couples experience challenging health situations such as infertility and breast cancer (Steuber & Solomon, 2008; Weber & Solomon, 2008). Transitions are characterized by a need to adapt to new circumstances, and these new circumstances can certainly occur beyond courtship (Solomon, 2015). Moreover, scholars' use of the model has expanded beyond the examination of relational transitions to consider processes that are salient throughout relationships, including communication of hurtful messages, threatening conversations about sex, and experiences of jealousy (McLaren, Solomon, & Priem, 2012; Theiss & Estlein, 2014; Theiss & Solomon, 2006b). Across depression symptomology, diagnosis, and treatment, relational partners are required to evaluate and alter their cognitive and relational frameworks to navigate the illness and its effects. The depression experience is not necessarily characterized by a clearly

defined transition, but the model's suitability for the study of health challenges and relationship processes makes it a strong framework to apply here. Next, I overview existing research that has drawn on the RTM to investigate (a) depression and (b) sexual relationships.

Relational turbulence and depression. Research rooted in the tenets of the relational turbulence model has produced evidence that the RTM serves as a valuable framework for examining the experience of depression in romantic relationships. One application of the RTM is to examine context-specific content areas of relational uncertainty and interference from a partner within depression. Self, partner, and relationship uncertainty are relevant across relationship types, but the content of people's questions about their relationships can depend on the relationship context (Knobloch, 2007a, 2008; Mikucki-Enyart, Caughlin, & Rittenour, 2015; Theiss & Nagy, 2013). In health contexts, such as infertility and breast cancer, and relationship contexts, such as a post-deployment reunion and in-law relationships, scholars have documented unique content areas of relational uncertainty and interference from a partner (Knobloch & Theiss, 2012; Mikucki-Enyart et al., 2015; Steuber & Solomon, 2008; Weber & Solomon, 2008). To document how mechanisms of turbulence may be unique in the depression context, Knobloch and Delaney (2012) examined the online discourse of individuals who suffer from depression and partners of depressed persons. Their analyses revealed depression-specific content areas of self, partner, and relationship uncertainty, as well as unique ambiguities surrounding the depression itself. Knobloch and Delaney (2012) also documented depression-specific interference from a partner in the data through people's discussions of disruptions to daily routines, challenges to personal well being, and disruptions to goals for the relationship.

In addition to illuminating content-specific mechanisms of turbulence, the RTM is valuable for documenting ways that the experience of depression can be a catalyst for relational

turbulence and can influence outcomes for couples coping with depressive symptoms. In a sample of returning military service members, the mechanisms of the RTM mediated the link between depressive symptoms and relational satisfaction (Knobloch & Theiss, 2011). Knobloch and Knobloch-Fedders (2010) found that the association between depressive symptoms and relationship quality was mediated by relational uncertainty for both women and men. Knobloch, Knobloch-Fedders, and Durbin (2011) combined the logic of integrative interpersonal theory with the construct of relational uncertainty to assess how ambiguity about the relationship may explain reassurance-seeking and negative-feedback seeking behaviors. They found that relational uncertainty was associated with negative feedback seeking behavior, indicating that depressed individuals who are experiencing ambiguity about the relationship may be inclined to communicate in ways that confirm their negative self-view.

The RTM has demonstrated utility in explaining the experiences of couples with depression. Yet, the bulk of work has highlighted relational uncertainty in depression without attending to interference from a partner. Knobloch and Delaney (2012), however, found examples of both relational uncertainty and interference from a partner in the online discourse of depressed individuals and partners of depressed individuals, so a full test of the model's predictive assertions will bolster the literature. Previous research has hinted at ways that relational uncertainty and interference from a partner may be apparent in the depression experience. The self-doubt, anxiety, and pessimism associated with depression likely fuel a lack of confidence in the relationship, and symptoms such as irritability and a loss of interest in activities can disrupt couples' routines and goals. As a primary step in adding a full test of these assertions to the literature, a first hypothesis suggests that depression will be tied to both the context-free and the context-specific mechanisms of turbulence outlined in the theory.

H1a: Depressive symptoms will be positively associated with relational uncertainty.

H1b: Depressive symptoms will be positively associated with interference from a partner.

Relational turbulence and sexual intimacy challenges. Delaney's (2016) findings represent a starting point for theorizing about sexual intimacy challenges in depressed couples by explicating couples' challenges as centering on issues with libido, cognitive difficulties, and troubles with interactions. I surmise that relational uncertainty and interference from a partner will be positively associated with sexual intimacy challenges. As a foundation for this theorizing, I turn to the cognitive and interactive challenges described earlier (Delaney, 2016). Sexual intimacy challenges in depression are multi-layered and complex (Eklund & Ostman, 2008; Kennedy et al., 1999; Laurent & Simons, 2009). In addition to well-documented challenges related to libido and interest (e.g., Baldwin, 2001; Delaney, 2016), couples might cope with cognitive challenges related to self-esteem and isolation and/or interactive challenges related to conversations and initiation of sexual activity (Delaney, 2016). Further research is needed, however, to verify and supplement Delaney's (2016) conceptualization of sexual intimacy challenges. To continue investigating the unique and varied sexual intimacy challenges for depressed couples, and to complement the evaluation of H2, I advance a first research question.

RQ1: What sexual intimacy challenges do depressed individuals and their partners face?

According to the RTM, relational uncertainty and interference from a partner spark turbulence by making it difficult to communicate effectively and by provoking negative evaluations of relationship events (Solomon, 2015; Solomon & Knobloch, 2004). For depressed couples, heightened relational uncertainty and interference from a partner might be relationship qualities that make it more difficult for romantic partners to connect sexually. The mechanisms of turbulence could predict these sexual intimacy challenges. If a person with depression is

experiencing relational uncertainty, ambiguity surrounding the relationship could prompt feelings of isolation, making it difficult to maintain a sexually intimate relationship. Similarly, when partners are disrupting each other's day-to-day routines, those goal blockages can fuel negative emotions, which might inhibit a partner's libido or limit efforts to initiate sex. To test the logic that mechanisms of turbulence predict sexual intimacy challenges for depressed couples, I propose a second hypothesis.

H2a: Relational uncertainty will be positively associated with sexual intimacy challenges.

H2b: Interference from a partner will be positively associated with sexual intimacy challenges.

Sexual intimacy challenges and sexual satisfaction. One outcome of the unique sexual intimacy challenges for depressed couples is likely to be decreased sexual satisfaction. A third prediction proposes that the sexual intimacy challenges related to depression correspond with decreases in overall sexual satisfaction. The sexual intimacy challenges specific to depression (e.g., lack of desire, struggling to act on desire, feelings of isolation, difficulties initiating sexual activity) should associate with decreases in overall sexual satisfaction. Evidence exists that individuals with depression are prone to impaired sexual satisfaction (Bodenmann & Ledermann, 2007; Ecklund & Ostman, 2010; Ishak et al., 2013), and the unique sexual intimacy challenges that depressed couples face may be a contributor to those decreases in sexual satisfaction. Research has also uncovered evidence that both partners are affected by the sexual challenges that come along with depression, such that even non-depressed partners can experience lower sexual satisfaction as a result of their loved one's sexual difficulties (Bodenmann & Ledermann, 2007; Ostman, 2008). As a prerequisite to theorizing about the role of communication in this

association, a third hypothesis predicts a negative association between sexual intimacy challenges and sexual satisfaction.

H3: Sexual intimacy challenges will be negatively associated with sexual satisfaction.

Relational turbulence and sexual communication. The RTM suggests that sexual communication, which is a challenging task generally, is especially difficult when partners are experiencing relational uncertainty and interference from a partner. For example, a partner experiencing ambiguity about the relationship may be hesitant to bring up sexual topics because he/she is not able to predict how his/her partner will react, and partners who are frustrated over disruptions to routines or goals being blocked might communicate in reactive and hostile ways. In sum, under turbulent conditions, sexual communication between partners might be particularly daunting.

The RTM offers relational uncertainty, in particular, as a theoretical construct that may be useful in explaining the dynamics of couples' communication about their sexual relationship (Theiss, 2011; Theiss & Nagy, 2010). Knobloch (2008) identified the sexual relationship as an area where married partners can experience relational uncertainty. Further, relational uncertainty is related to decreased sexual satisfaction for both actors and partners (Theiss & Nagy, 2010). More specifically, one's own ambiguity about the relationship is linked to lower levels of satisfaction, and a partner's relational uncertainty associates with sexual discontentment. Theiss and Nagy (2010) illustrated the utility of relational uncertainty for the study of sexuality by noting how the sexual partnership can change as the relationship endures. In light of career stressors, the potential addition of children, aging, etc., partners may face ambiguity about the relationship, which can shape the sexual climate of the relationship. As couples grapple with changes to the relationship, they must re-align and re-negotiate their norms and expectations for

the relationship, necessitating communication about sex (Theiss & Nagy, 2010). Existing research positions relational uncertainty as useful for studying sexual relationships, and in particular, the study of sexual communication.

Relational uncertainty can make it more difficult for partners to communicate effectively in general, and indirect or passive communication about sex can be associated with decreased sexual satisfaction for both individuals and their partners (Theiss, 2011). Theiss (2011) claimed that relational uncertainty primarily affects romantic relationships by hampering partners' efforts to communicate effectively. In her findings, communicative indirectness about sexual intimacy mediated the connection between relational uncertainty and sexual satisfaction, indicating that difficulty in conversations about sex may be the tie between ambiguity about the partnership and perceptions of the sexual relationship. Additionally, Theiss (2011) found a positive association between husbands' indirectness of sexual communication and their wives' satisfaction, and vice versa. In other words, the way one partner communicates about sex corresponds with his or her partner's sexual satisfaction. Theiss (2011) concluded that there are both intra- and inter-personal processes that shape sexual satisfaction for married partners (p. 577). These findings suggest that the relational turbulence model is useful for explaining the ties between questions about the partnership and the communication dynamics of the couple.

Most sexual communication research guided by the RTM has specifically highlighted the construct of relational uncertainty, but one study has tested the full model in this context. Theiss and Estlein (2014) turned to the RTM to examine how communication about sex can be threatening or challenging for romantic partners. In their study of undergraduates, these authors found that increased relational uncertainty and interference from a partner corresponded with perceiving sexual communication to be particularly threatening, and that the perceived threat

corresponded with indirect sexual communication and the avoidance of sexual conversations. Theiss and Estlein (2014) concluded that perhaps the association between the mechanisms of relational turbulence and sexual communication is not a direct one, and the cognitive reactions to relationship conditions are a more proximal predictor of people's behaviors (Theiss & Estlein, 2014). Further, Theiss and Estlein (2014) found that avoiding conversations about sex (for both males and females) and indirect conversations about sex (for females) associated negatively with sexual satisfaction. This study, then, shed light on the utility of examining relational turbulence processes in couples' sexual relationships and also positions communication as central to couples' perceptions of sexual satisfaction.

One strength of using the RTM in the study of sexual communication is that it maintains a strong foundation in the study of communication processes. Relational uncertainty can influence message production and message processing (Knobloch, 2006; Knobloch, Miller, Bond, & Mannone, 2007). Further, relational uncertainty explains why sexual communication is challenging and dissatisfying when done indirectly (Theiss & Estlein, 2014). The RTM literature on sexual communication has prioritized a focus on relational uncertainty (eschewing interference from a partner) as a factor in couple's sexual communication. Even though the study of relational uncertainty sheds substantial light on these interactions, the literature as it stands lacks the explanatory power of the full theory. Relational uncertainty and interference from a partner can both associate with polarized communication between partners (Solomon & Knobloch, 2004). These mechanisms of relational turbulence are tied to topic avoidance, withdrawal, indirect communication, decreased openness, and destructive conflict behaviors (Knobloch & Theiss, 2011; Theiss & Nagy, 2013; Theiss & Solomon, 2006a). Scholars should

build on the work initiated by Theiss and Estlein (2014) by including both relational uncertainty and interference from a partner in their research on sexual communication.

Quality of sexual communication. A first step in positioning communication about sex within the framework provided by the RTM is continuing to explicate what, exactly, constitutes good sexual communication. Given the range of definitions of sexual communication and the disproportionate focus on openness, disclosure, and directness, the literature stands to benefit from refined consideration of what features of conversation matter in sexual communication. In contrast to studies that have characterized sexual communication based on disclosure (e.g., Byers & Demmons, 1999) or directness (e.g., Theiss, 2011), sexual communication in this case is conceptualized as the individual's perceived quality of the couple's interaction(s). Restricting conceptualization and measurement to a specific quality of interaction, such as directness, limits the scope of findings on these interactions. For example, while some partners may find a particular approach successful, such as directly stating a complaint to a partner (e.g., "I really don't think we have enough sex"), others may find that approach threatening and consider a more oblique tactic to be more manageable (e.g., "How much sex do you think is normal for couples like us?").

As a precursor to reasoning about the role of sexual communication in turbulence processes, then, the second research question inquires into the dynamics of sexual communication between depressed individuals and their partners, and the third research question aims to delineate more and less successful tactics within those conversations. These research objectives stand to explicate participants' perceptions of *quality of sexual communication*.

RQ2: What are the features of depressed partners' conversations about their sexual relationship?

RQ3: What features of conversations about sex do partners perceive to be more or less successful in maintaining or improving their sexual relationship?

A successful climate for sexual communication may include feeling comfortable in discussion with a partner, a partner's response to disclosure, or an ability to resolve disagreements about sexual topics, amid other constructive qualities of conversation. As a first step in improving conceptualization and measurement of sexual communication, I will consider one broad and one narrow conceptualization of quality sexual communication. First, a global appraisal of quality of sexual communication is rooted in Catania's (2011) evaluation of people's perceptions of communication about sexual topics. Evaluating quality of sexual communication broadly incorporates several aspects of conversation, including responses between partners, emotional tone of the conversation, avoidance of interactions, and whether or not partners have ever had a conversation about sex. Second, guided by Spitzberg and Canary's (1985) conceptualization of *communication competence*, which positions perceptions of appropriateness and effectiveness as central to successful communication (c.f. Canary & Spitzberg, 1987, 1989), I assert that perceiving conversations as *effective* is key to quality sexual communication. The premise of the RTM implies that partners grappling with relational uncertainty and interference from a partner are less effective at engaging in quality sexual communication. Overall quality and specifically effectiveness are two ways to consider how partners may perceive sexual communication as successful.

The MDD and the RTM agree that extremes in communication are common in relationships marked by depression. The RTM suggests that relational uncertainty and interference from a partner lead to extremes in cognitive, emotional, and communication responses to relationship events (Solomon & Knobloch, 2004). Recent work on depressed

couples has situated specific communication processes as critical in the link between mechanisms of turbulence and relationship outcomes (e.g., Knobloch et al., 2011). Similarly, the MDD highlights intensified negative reactions as one of the problematic processes driving relationship troubles for depressed couples. For example, depressed partners are inclined to see relationship events as catastrophic or exceptionally stressful (Beach et al., 2003). Moreover, the MDD positions communication behaviors (e.g., supportive interactions, criticism) as central to the relationship climate (Beach et al., 1990).

People's sexual communication is likely to be less effective when they manage depression in their relationship, as both the RTM and MDD contend that communication under conditions of turbulence can be characterized by destructive conflict tactics, harmful avoidance of conversations, and withdrawal. Taken together, these theories suggest that the effectiveness of romantic partners' communicative responses may be hampered by the turbulence manifest in sexual intimacy challenges. Based on this reasoning, a fourth hypothesis posits that sexual intimacy challenges associate negatively with the quality of sexual communication.

H4: Sexual intimacy challenges will be negatively associated with quality of sexual communication.

Additionally, in light of evidence that successful sexual communication can boost sexual satisfaction (Babin, 2013; Byers, 2005; Cupach & Comstock, 1990; Theiss, 2011), hypothesis five predicts a positive association between sexual communication and sexual satisfaction.

H5: Quality of sexual communication will be positively associated with sexual satisfaction.

Sexual communication as a mediator. A final prediction evaluates the possibility of an indirect effect powered by sexual communication. This hypothesis is rooted in both theory and

empirical evidence. First, the MDD indicates that communication behaviors are a link between relationship troubles and depressive symptoms (Beach et al., 2003). Research guided by the RTM also points to communication playing a *mediating* role between mechanisms of turbulence and outcomes for partners (e.g., Theiss, 2011; Theiss & Knobloch, 2013). Further, couples with depression are prone to decreases in sexual satisfaction, and sexual communication is tied to partners' relationship outcomes, including sexual satisfaction (Byers, 2005; Cupach & Comstock, 1990; Laurent & Simons, 2009; Theiss & Solomon, 2007). An indirect effect seems probable in the association between challenges to sexual intimacy and perceptions of sexual satisfaction. In other words, the quality of couples' sexual communication is the pathway through which sexual intimacy challenges prompt sexual dissatisfaction. Sexual intimacy challenges are likely to be dissatisfying in their own right, but they are also likely to be dissatisfying if couples struggle to engage in effective sexual communication. Thus, a sixth hypothesis asserts that an indirect effect exists in the association between sexual intimacy challenges and sexual satisfaction.

H6: Quality of sexual communication will mediate the association between sexual intimacy challenges and sexual satisfaction.

Dyadic Effects in Depression and Sexual Communication

Substantial evidence suggests that one partner's experiences, cognitions, and behaviors are influenced by the other's (e.g., Byers & MacNeil, 2006; Theiss & Nagy, 2010). Yet, previous research highlighting relationship-level issues has been faulted for collecting and analyzing individual-level data (Delamater & Hyde, 2004; Wiederman, 2004). As Kenny and Cook (1999) asserted, in research on relationships, "a measurement refers not to an individual, but to an interpersonal system" (p. 433). Moreover, Gonzalez and Griffin (1999) simplified the argument

for dyadic data by reminding readers that “by definition, interpersonal interaction involves more than one person” (p. 449). In other words, to truly understand communication in interpersonal relationships, scholars must acknowledge and assess contributions of both partners. The interdependence between partners indicates that one partner’s behaviors, emotions, and cognitions can affect the other’s behaviors, emotions, and cognitions (Campbell & Kashy, 2002). Multiple scholars have called for increased use of dyadic data in the study of couples’ sexual relationships to evaluate interdependence in partners’ experiences (e.g., Hess & Coffelt, 2012; Mark, 2012; Miller-Ott & Linder, 2013; Theiss, 2011; Willoughby & Vitas, 2012). Ferreira, Narciso, and Novo (2012) explained that an individualistic focus in empirical work clouds the results and conclusions of such studies and does not acknowledge the complexity of relationship dynamics between partners. The literature on sexual relationships will be improved by prioritizing dyadic data.

Numerous challenges are present when investigating sexuality from a dyadic perspective (Wiederman, 2004). Specifically, the interdependence between partners that makes dyadic studies so useful and important can create complications in analyses. The Actor-Partner Interdependence Model (APIM; Campbell & Kashy, 2002; Kenny & Cook, 1999) is a well-established framework for analyzing couple-level data. The APIM guides researchers to examine *actor effects*, or how an individual’s variables influence his/her own outcomes, and *partner effects*, or how the individual’s variables affect his/her partner’s outcomes (Kenny & Cook, 1999; Theiss, 2011; Yucel & Gassanov, 2010). According to Kenny and Cook (1999), scholars are guilty of analyzing actor effects without accounting for partner effects and of using correlational analyses to estimate partner effects that fail to control for actor effects. The APIM

offers the statistical techniques necessary to avoid this mistake and has proven useful in the study of depression in romantic relationships and of sexual partnerships.

Actor and partner effects in depression. Dyadic data give a snapshot of interdependent processes in relationships marked by depression. Bodenmann and Randall (2013) advocated for a couples approach to the study and treatment of depression, conceptualizing it as a “we-disease” and focusing on depression from a systemic perspective (p. 223). Multiple scholars have adopted this approach and employed the APIM to examine how depression impacts relationships for both depressed and non-depressed partners. In a longitudinal test of the marital discord model, Beach and colleagues (2003) found that one spouse’s marital satisfaction associates with the other spouse’s subsequent level of depression. Knobloch and Knobloch-Fedders (2010) observed that in the context of depression, a partner effect exists between relational uncertainty and perceptions of relationship quality. In other words, when an actor is experiencing relational uncertainty, his or her partner may report lower relationship quality. Moreover, relational uncertainty operates as a mediator via partner effects in the associations between depressive symptoms and relationship quality (Knobloch & Knobloch-Fedders, 2010). In a study on depressive symptoms and qualities of conversation between depressed individuals and their partners, Knobloch and colleagues (2011) found that the depressive symptoms of both actors and partners predicted an actors’ reassurance-seeking behavior in conversation. The APIM can provide important insight into the relational processes and communication dynamics of depressed couples.

Actor and partner effects in sexual relationships. Partner effects have also appeared in work on sexual relationships between romantic partners. For example, Yucel and Gassanov (2010) uncovered evidence that suggests that both an actor’s and partner’s perceptions of sexual

costs and rewards can drive an individual's satisfaction. Theiss (2011) found both actor and partner effects of communication on sexual satisfaction. In this study, the indirectness of husbands' and wives' sexual communication (i.e., how openly and directly they discuss sexual matters) was associated with their spouse's sexual satisfaction, such that more indirect communication by one partner correlated with decreased sexual satisfaction for his or her spouse. Moreover, Theiss and Nagy (2010) observed that one partner's perceptions of relational uncertainty and interference from their partner both negatively associated with the other partner's sexual satisfaction. Evidence exists documenting that the perceptions and behaviors of both partners are closely intertwined in sexual relationships. In sum, the APIM is an analytical framework that will further contribute to the study of both depression and romantic partnerships. Given the potential for several partner effects in the proposed model, a fourth research question examines the existence of effects across partners.

RQ4: What (if any) partner effects exist in the hypothesized associations?

Summary

As a whole, the literature on depression in relationships stands to benefit from a thorough investigation of the sexual intimacy challenges couples grapple with, as well as a focused emphasis on theory in explaining relationship dynamics of couples managing depression. Research on sexual communication will also be bolstered by a stronger integration of theory. The marital discord model of depression proposes communication as central to the overlap of relationship troubles and depression, and the relational turbulence model nominates two mechanisms of turbulence (relational uncertainty and interference from a partner) as predictors of communication and relationship outcomes. The current study advances a model in which depression associates with relational uncertainty and interference from a partner, which in turn

are linked to sexual intimacy challenges, a marker of relational turbulence for romantic couples coping with depression. Then, the logic of the relational turbulence model aligns with that of the marital discord model to suggest that how couples communicate about their sexual relationship mediates the ties between sexual intimacy challenges and sexual satisfaction. See Figure 1 for a visual representation of the proposed model.

Chapter Three: Method

Study Design

I addressed my research objectives with a dyadic cross-sectional online survey comprised of both open- and closed-ended measures. Considering that most work in the study of sexual communication in romantic relationships is heavily quantitative (e.g., Byers & Demmons, 1999; Cupach & Comstock, 1990; Mark & Jozkowski, 2013), research that integrates participants' own perspectives stands to account for personal, relational, and cultural meaning-making processes (Lawrance & Byers, 1995; Okami, 2002). To expand the breadth and depth of the literature on sexual communication and on depression in romantic partnerships, I supplemented the quantitative scales with several open-ended questions.

I prioritized the collection of dyadic data because much of the research on sexual intimacy has focused on the individual as the unit of analysis, even when the focus of the study centers on relationship-level issues (Wiederman, 2004). Both seminal (e.g., Cupach & Comstock, 1990) and more recent (e.g., Hess & Coffelt, 2012) investigations into sexual communication have sampled individuals instead of dyads. This focus on the individual and on self-report data means that scholars have only gotten a portion of the picture of relationship processes. Thus, the current dyadic study starts to fill an important gap in the literature. I used the couple-level data to model actor and partner effects as I assessed the hypothesized associations. The following sections provide an overview of participant recruitment, data collection procedures, and measures used in data collection.

Study Procedures

I recruited eligible participants through nationwide advertising efforts intended to reach individuals with depression and their partners. All advertising and data collection procedures were approved by the University IRB. I distributed advertising materials to nationwide

depression support organizations, such as the National Alliance on Mental Illness (NAMI) and the Depression and Bipolar Support Alliance (DBSA), and to mental health research/treatment centers and relationship therapists. I posted recruitment information to a Facebook page dedicated to the study, and other online depression and relationship support resources (e.g., blogs, forums, etc.) featured information about the study. Finally, participants reached the study through the DBSA/University of Michigan website, weseearchtogether.org, a site dedicated to connecting depression researchers to volunteer participants. Appendix A includes samples of recruitment materials.

Couples needed to meet five eligibility criteria to participate. Individuals had to be (a) involved in a romantic relationship in which (b) both partners were willing to take part in the study and (c) one or both partners had been professionally diagnosed with depression. Additionally, each partner needed to be (d) at least 18 years of age and (e) have his/her own email address. Each couple who completed the survey received \$20 in Amazon.com e-gift cards (\$10 to each partner).

Advertising materials invited individuals and couples to e-mail a study-specific e-mail account to express interest in participation. Please see Appendix B for the full text of e-mails used for participant correspondence. Participants who contacted me were asked to verify their eligibility for the study and provide their partner's name and partner's e-mail address. I then contacted the partner with information about the study and invited him/her to participate. After both partners offered their initial consent to participate, I sent each participant a unique login and password and a link to complete the study on surveygizmo.com. Participants were instructed to complete the study within seven days, and reminders were sent on the fourth and seventh days.

Upon accessing the questionnaire and logging in, participants read the informed consent information (Appendix C) and were encouraged to save or print a copy for their records.

Next, participants completed a section of demographic measures. These items included age, gender, race/ethnicity, partner's age, partner's gender, partner's race/ethnicity, and relationship status. Individuals also responded to items about whether they were in a long distance or cohabiting relationship and about the presence of children in the relationship. Participants reported their own and their partner's depression diagnosis status, including whether they have been diagnosed, when they were diagnosed, what form of depression they have been diagnosed with, and about any treatment they were currently undergoing. Participants also selected any other chronic health conditions (e.g., heart disease, diabetes, etc.) they had.

Participants then completed a series of measures to assess each of the study variables. When they reached the end of the questionnaire, participants were asked to e-mail the study account a final time with a completion code to finalize their participation and receive the Amazon e-gift card. E-gift cards were sent out in batches twice per week.

Participants

The sample included 116 couples ($N = 232$ individuals), comprised of 106 heterosexual and 10 same-sex dyads ($n = 116$ males, 116 females). See Table 1 for a comparison of demographic information for the full sample reported here (116 couples) and the heterosexual sample used for quantitative analyses (106 couples). Participants ranged from 19 to 73 years of age ($M = 35.51$; $SD = 12.0$). Individuals reported their race/ethnicity as Caucasian/White (86.2%), African American/Black (5.6%), Asian American/Asian (4.3%), Hispanic/Latino/a (2.6%), Native American/Pacific Islander (0.4%), or other (0.4%). One participant (0.4%) did not disclose his/her race. A majority of couples were married (59.5%), and the remaining

described their relationships as seriously dating (19.8%), casual dating (12.9%), or engaged to be married (7.8%). Participants were romantically involved with their current partner for approximately 8 years ($M = 7.95$; $SD = 9.60$; $range = 2$ months to 50.5 years). Most participants ($n = 192$; 82.8%) lived together in the same home with their partner, and 20 participants (8.6%) were in long-distance relationships. Eighty participants (37.7%) reported having children with their current partner, and 77 (36.3%) reported that they ($n = 39$) and/or their partner ($n = 38$) had children from a previous relationship.

Most couples in the sample included one depressed partner; 183 individuals reported that they ($n = 93$, 40.1%) or their partner ($n = 90$, 38.8%) had been professionally diagnosed with depression. The remaining 49 participants (21.1%) reported that both partners had professional depression diagnoses. Four couples disagreed on diagnosis status. On average, participants had had their diagnoses for 6 years ($M = 6.04$; $SD = 7.54$; $range = 1$ month to 46.75 years).

Participants reported their own diagnoses of chronic mild depression/dysthymia (28%), major depression (24.6%), depression as a part of bipolar disorder (6.9%), seasonal affective disorder (3.9%), postpartum depression (3.0%), psychotic depression (1.3%), or other (0.9%). Most participants (78.9%) were currently taking medication for their depression, and approximately a third (30.3%) were receiving non-medicinal treatment, such as cognitive behavioral therapy, therapy or counseling, or attending a support group. Participants also disclosed concurrent mental health diagnoses of anxiety (29.3%), obsessive-compulsive disorder (12.5%), attention problems (10.8%), post-traumatic stress disorder (7.8%), and substance abuse (5.2%). Finally, participants reported on any chronic health conditions they currently had, including back pain (17.2%), hypertension (12.1%), diabetes (4.7%), asthma (7.8%), heart disease (3.4%), arthritis/rheumatic disease (9.9%), sinusitis/rhinitis (5.6%), allergies (16.8%), lung disease

(1.7%), cancer (0.0%), or other (10.8%), including acid reflux, migraines, fibromyalgia, gastrointestinal troubles, polycystic ovarian syndrome, thyroid problems, irritable bowel syndrome, sleep apnea, temporomandibular joint syndrome, and general pain.

Table 1

Demographic Information for Full Sample and Opposite Sex Couples-Only Sample

Demographic Variable	Full Sample (<i>N</i> = 116 dyads)	Opposite Sex Couples (<i>N</i> = 106 dyads)
Age		
Women	<i>M</i> = 34.68 <i>SD</i> = 12.14	<i>M</i> = 34.69 <i>SD</i> = 11.91
Men	<i>M</i> = 36.35 <i>SD</i> = 11.85	<i>M</i> = 36.64 <i>SD</i> = 12.20
Full Sample	<i>M</i> = 35.51 <i>SD</i> = 12.00	<i>M</i> = 35.67 <i>SD</i> = 12.07
Race/Ethnicity		
Caucasian/White	200 (86.2%)	182 (85.8%)
African American	13 (5.6%)	12 (5.7%)
Asian American/Asian	10 (4.3%)	9 (4.2%)
Hispanic/Latino/a	6 (2.6%)	6 (2.8%)
Native American/Pacific Islander	1 (0.4%)	1 (0.5%)
Other/No Answer	2 (1.0%)	2 (1.0%)
Relationship status		
Married	138 (59.5%)	132 (62.3%)
Serious dating	46 (19.8%)	36 (17.0%)
Casual dating	30 (12.9%)	30 (14.2%)
Engaged	18 (7.8%)	14 (6.6%)
Length of relationship (years)	<i>M</i> = 7.95; <i>SD</i> = 9.60	<i>M</i> = 7.95; <i>SD</i> = 9.60
Cohabiting	192 (82.8%) Yes	174 (82.1%) Yes

Table 1 (continued)

Demographic Variable	Full Sample (<i>N</i> = 116 dyads)	Opposite Sex Couples (<i>N</i> = 106 dyads)
Children		
Together	80 (34.5%)	80 (37.7%)
Me, from a previous relationship	39 (16.8%)	39 (18.4%)
My partner, from a previous relationship	38 (16.4%)	38 (17.9%)
Depression diagnosis		
Both of us have been diagnosed	49 (21.1%)	41 (19.3%)
I have been diagnosed	93 (40.1%)	87 (41%)
My partner has been diagnosed	90 (38.8%)	84 (39.6%)
Time since diagnosis	<i>M</i> = 6.04; <i>SD</i> = 7.54 years	<i>M</i> = 6.04; <i>SD</i> = 7.54 years
Type of depression		
Chronic mild depression/dysthymia	65 (28.0%)	52 (24.5%)
Major depression	57 (24.6%)	57 (26.9%)
Depression as part of bipolar disorder	16 (6.9%)	16 (7.5%)
Seasonal affective disorder	9 (3.9%)	9 (4.2%)
Postpartum depression	7 (3.0%)	7 (3.3%)
Psychotic depression	3 (1.3%)	3 (1.4%)
Other	2 (0.9%)	2 (0.9%)

Measures

All quantitative analyses were only performed on the opposite-sex couples in the sample because participant sex was the distinguishing variable for the APIM analyses. Kenny and colleagues (2006) argued that dyad members are distinguishable when a “meaningful” factor separates the members (p. 6). In this sample, two potentially meaningful distinguishing variables were apparent: participant sex and depression diagnosis status. A considerable portion of the sample (approximately 20%) included couples in which both partners reported a professional depression diagnosis. Designating depression diagnosis as a distinguishing variable would have substantially decreased the sample size and reduced the power of the tests of the hypothesized associations. Distinguishing by sex came with both limitations and strengths. This approach involved removing the ten same-sex couples from the sample. Recent research has highlighted the unique relational dynamics of same-sex couples coping with depression (Thomeer, Reczek, & Umberson, 2015). Given that same-sex couples constituted less than 10% of the sample, meaningful comparisons were not possible. Thus, I elected to follow prior research on depression (e.g., Beach et al., 2003; Knobloch et al., 2016) and sexual communication (e.g., Theiss, 2011) by distinguishing couples by sex.

I conducted confirmatory factor analyses (CFA) on each set of multi-item measures to confirm the unidimensionality of factors (Reinard, 2006). Following Browne and Cudeck (1993) and Kline (2011), criteria for model fit were set at: $\chi^2 / df < 3.00$, CFI $> .90$, and RMSEA $< .10$. As external factors, I used either the three-item relationship satisfaction scale provided by Fletcher, Simpson, and Thomas (2000) or the four-item self uncertainty scale provided by Knobloch and Solomon (1999). Results of CFA tests are reported with each measure.

Depressive symptoms. I measured depressive symptoms with the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff & Locke, 1986; Wood, Taylor, & Joseph, 2010), an instrument used to assess depressive symptoms in community populations. This 20-item measure invited participants to consider how they have felt or behaved in the past week on a 4-point scale (0 = *rarely*, 1 = *sometimes*, 2 = *occasionally*, 3 = *most of the time*). The CES-D captures four aspects of depressive symptoms: depressed affect, positive affect, somatic activity, and interpersonal issues (Radloff, 1977). The 20 items were: (a) I was bothered by things that don't usually bother me, (b) I did not feel like eating; my appetite was poor, (c) I felt that I could not shake off the blues, even with the help of my family or friends, (d) I felt that I was just as good as other people (reverse scored), (e) I had trouble keeping my mind on what I was doing, (f) I felt depressed, (g) I felt everything I did was an effort, (h) I felt hopeful about the future (reverse scored), (i) I thought my life had been a failure, (j) I felt fearful, (k) my sleep was restless, (l) I was happy (reverse scored), (m) I talked less than usual, (n) I felt lonely, (o) people were unfriendly, (p) I enjoyed life (reverse scored), (q) I had crying spells, (r) I felt sad, (s) I felt that people disliked me, and (t) I could not get going. The summed scores indicated that 59% ($n = 125$) of the sample met the cutoff for clinical depression based on the CES-D (Radloff & Locke, 1986). The mean of the scale was used in the analyses to avoid biasing totals as a result of any missing responses to individual items.

CFA analyses revealed a poor fit for the solution containing all 20 items ($\chi^2 / df = 3.23$, CFI = .86, RMSEA = .10), but removing one item ("I was happy") produced a marginally acceptable fit ($\chi^2 / df = 2.93$, CFI = .89, RMSEA = .09). The problematic item was one of the reverse-scored items measuring positive affect. Reverse-scored items on the CES-D have demonstrated potential to skew total scores on the measure because they increase cognitive

demand on participants (Carlson et al., 2011). With this in mind, I calculated two versions of the variable as means of either 20 ($M = 1.08$; $SD = 0.68$) or 19 ($M = 1.08$; $SD = 0.68$) items, and the reliability was high ($\alpha = .95$; $\alpha = .94$) for both versions of the scale. I conducted 10% of the substantive analyses with both versions of the scale, and the results were identical. Thus, I used all 20 items in all analyses to maintain consistency with previously published research.

Relational uncertainty. Relational uncertainty was operationalized by the abridged forms of Knobloch and Solomon's (1999) scales. Participants responded to the question "How certain are you about...?" on a 6-point scale (1 = *completely uncertain* and 6 = *completely certain*) for a total of 12 items. Items measuring self uncertainty included: (a) your view of your relationship, (b) how important your relationship is to you, (c) how you feel about your relationship, and (d) your goals for the future of your relationship. The items assessing partner uncertainty were: (a) your partner's view of your relationship, (b) how important your relationship is to your partner, (c) how your partner feels about your relationship, and (d) your partner's goals for the future of your relationship. The items measuring relationship uncertainty were: (a) the current status of your relationship, (b) how you can or cannot behave around your partner, (c) the definition of your relationship, and (d) the future of your relationship.

Participants also responded to an additional 13 items to measure depression uncertainty. These items were developed based on Knobloch and Delaney's (2012) analysis of online discourse about people's experience of depression in romantic relationships and are also described by Knobloch, Sharabi, Delaney, and Suranne (2016). The scale was prefaced by the stem "When you think about depression in your relationship, how certain are you about...?" and included the following items: (a) how to support your partner, (b) whether your partner is still the same person as when you met, (c) your ability to cope with depression in your relationship, (d)

how to have a satisfying sexual relationship with your partner, (e) how to deal with feelings of helplessness or hopelessness, (f) how to deal with loneliness, (g) how to take care of your own needs, (h) who or what is responsible for the depression, (i) how to let your partner support you, (j) your ability to understand what your partner is going through, (k) where to go for advice, (l) whether depression will lead to self-harm, and (m) whether your relationship will ever be normal. For the purposes of these analyses, item four (how to have a satisfying sexual relationship with your partner) was removed to avoid overlap with the measures of sexual intimacy challenges. All items were reverse scored so that higher values represent higher levels of relational uncertainty.

CFA results documented the unidimensionality of each of the four subscales: (a) self uncertainty, $\chi^2 / df = 2.08$, CFI = .99, RMSEA = .07; (b) partner uncertainty, $\chi^2 / df = 2.16$, CFI = .98, RMSEA = .07; (c) relationship uncertainty, $\chi^2 / df = 1.6$, CFI = .99, RMSEA = .05; and (d) depression uncertainty, $\chi^2 / df = 2.23$, CFI = .95, RMSEA = .08. I conducted two sets of subsidiary CFA tests to examine the potential for a single variable measuring relational uncertainty. First, I tested a single-factor model including all 24 items ($\chi^2 / df = 4.59$, CFI = .75, RMSEA = .13) and a single-factor model of only the 12 items measuring self, partner, and relationship uncertainty ($\chi^2 / df = 4.38$, CFI = .90, RMSEA = .13). Both of these tests revealed a poor fit. I then tested a second-order factor for all four variables ($\chi^2 / df = 2.37$, CFI = .91, RMSEA = .08) and a second-order factor with just the context-free sources of relational uncertainty ($\chi^2 / df = 2.70$, CFI = .95, RMSEA = .09). The second-order tests did acceptably fit the data, but I treated the four sources of relational uncertainty as separate variables for two reasons. First, the fit statistics for the separate scales demonstrated a better fit to the data, and second, in the second-order factors, the path coefficients for partner uncertainty (in both tests)

and depression uncertainty (in the four-variable test) were notably lower than the path coefficients for self uncertainty and relationship uncertainty. A combined variable could cloud differences in associations between each source of relational uncertainty and other variables. Thus, I followed prior theory and research by evaluating the four sources of relational uncertainty separately (e.g., Knobloch, 2010; Knobloch et al., 2016).

The four subscales demonstrated strong reliability: self uncertainty ($\alpha = .92$), partner uncertainty ($\alpha = .90$), relationship uncertainty ($\alpha = .87$), and depression uncertainty ($\alpha = .92$). I calculated the relational uncertainty variables as the means of the items described previously: self uncertainty ($M = 2.14$; $SD = 1.06$), partner uncertainty ($M = 2.20$; $SD = 1.08$), relationship uncertainty ($M = 2.25$; $SD = 1.02$), and depression uncertainty ($M = 2.67$; $SD = 0.96$).

Interference from a partner. Interference from a partner was measured with a six-item scale from Solomon and Knobloch (2001). The stem “My romantic partner...” preceded the items, and participants responded on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*). The six items measuring interference from a partner were: (a) interferes with the plans I make, (b) causes me to waste time, (c) interferes with my career goals, (d) interferes with the things I need to do each day, (e) makes it harder for me to schedule my activities, and (f) interferes with whether I achieve the everyday goals I set for myself (for example, goals for exercise, diet, entertainment, etc.). CFA results confirmed the unidimensionality of the measure, $\chi^2 / df = 1.51$, CFI = .99, RMSEA = .05. Each participant’s score was calculated by the mean of all six responses ($M = 2.18$; $SD = 1.29$), and the scale demonstrated strong reliability ($\alpha = .95$).

An additional seven items measured interference from a partner specific to the depression experience, as suggested by Knobloch and Delaney’s (2012) findings. The instructions and response choices for this section used the same format as the Solomon and Knobloch (2001)

scale. Seven of twelve items were unidimensional according to CFA tests. The seven items were: (a) makes it harder to communicate openly, (b) makes it harder to have a loving relationship, (c) makes it harder to have fun as a couple or family, (d) interferes with his/her own health and safety, (e) makes it harder to have a satisfying sexual relationship, (f) interferes with treatment for depression, and (g) makes it harder for me to spend time with friends and family members. The item measuring interference in goals for a satisfying sexual relationship was removed for these analyses to avoid overlap with the measures of sexual intimacy challenges, and the 6-item solution produced acceptable fit in CFA tests, $\chi^2 / df = 2.7$, CFI = .97, RMSEA = .09. Scores were calculated as the mean of the six responses ($M = 2.19$; $SD = 1.24$). The six items demonstrated desirable reliability ($\alpha = .92$).

I examined the possibility of a unidimensional scale that combined the general and specific measures of interference from a partner. A single factor scale with all twelve items did not acceptably fit the data, $\chi^2 / df = 4.91$, CFI = .89, RMSEA = .14. A second-order factor including both variables did marginally fit the data, $\chi^2 / df = 2.93$, CFI = .95, RMSEA = .10. Given (a) the only minimally acceptable fit and (b) the lack of prior research comparing context-free and context-specific facets of interference from a partner, I elected to evaluate the scales separately. This approach also maintained consistency with my treatment of the relational uncertainty scales.

Sexual intimacy challenges. Participants responded to both open- and closed-ended items to assess their level of sexual intimacy challenges. First, participants responded either “yes” or “no” to an item that asked whether their own, their partner’s, or both their own and their partner’s depression makes it difficult to maintain the sexual relationship. Then, participants who responded “yes” were asked to describe how depression has challenged their sexual relationship

by responding to the open-ended item: “How (if at all) do you think depression makes it difficult to maintain a sexual relationship with your partner?” A follow up question (“Are there any other ways that you think your sexual relationship is challenged by your or your partner’s depression?”) gave participants an opportunity to describe any other effects.

Next, participants completed a set of sexual intimacy challenges scales constructed from the results of Delaney’s (2016) interviews with depressed individuals and their partners. The items were divided into three sections based on Delaney’s (2016) findings about libido, cognitive, and interactive challenges. Participants indicated their agreement with each item on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*) such that higher scores signify greater sexual intimacy challenges.

The first section assessed the primary dimension of libido challenges for both partners. This scale included 12 items with 11 remaining after CFA tests. Three items measured frequency: (a) my partner and I have sex less frequently than I would like, (b) I wish we had sex more often, and (c) my partner and I do not have sex often enough. Four items measured own interest in sex: (a) depression has decreased my interest in sex, (b) depression makes me uninterested in sexual intimacy, (c) depression has damaged my sex drive, and (d) depression limits my desire to be sexually intimate. An additional four items measured libido challenges for a partner’s interest in sex: (a) depression has decreased my partner’s interest in sex, (b) depression makes my partner uninterested in sexual intimacy, (c) depression has damaged my partner’s sex drive, and (d) depression limits my partner’s desire to be sexually intimate.

Confirmatory factor analyses established that each set of items was unidimensional (frequency: $\chi^2 / df = 1.77$, CFI = .99, RMSEA = .06; own interest: $\chi^2 / df = 1.05$, CFI > .99, RMSEA = .02; partner interest: $\chi^2 / df = 1.82$, CFI = .99, RMSEA = .06), and also revealed a

second order factor including all three subscales to be an acceptable fit, $\chi^2 / df = 2.61$, CFI = .96, RMSEA = .09. Thus, each participant's score was calculated for each of the three subscales (frequency: $M = 3.28$, $SD = 1.05$, $\alpha = .84$; own interest: $M = 2.74$, $SD = 1.24$, $\alpha = .94$; partner interest: $M = 2.66$, $SD = 1.23$, $\alpha = .94$) as well as for the full 11-item scale ($M = 2.89$, $SD = 0.91$, $\alpha = .90$). For the substantive analyses, I used the second order factor including all 11 items.

The second scale assessed cognitive barriers to sexual intimacy. This section included 16 items capturing perceptions of one's own and one's partner's difficulties with self-esteem and isolation, and 15 items remained after CFA procedures. Four items measured a participant's own self-esteem challenges: (a) my low self-confidence hinders our sex life, (b) my difficulties with self-esteem weaken our sexual relationship, (c) my low self-esteem challenges our sexual partnership, and (d) our sex life is damaged by my poor self-confidence. Three items captured the challenges related to a participant's own issues with isolation: (a) feelings of isolation make it difficult for me to be sexually intimate, (b) depression makes me feel sexually distant from my partner, and (c) for me, feelings of isolation are a barrier to our sexual relationship. An additional four items assessed perceptions of a partner's self-esteem challenges: (a) my partner's low self-confidence hinders our sex life, (b) my partner's difficulties with self-esteem weaken our sexual relationship, (c) my partner's low self-esteem challenges our sexual partnership, and (d) our sex life is damaged by my partner's poor self-confidence. Finally, four items addressed perceptions of a partner's isolation challenges: (a) feelings of isolation make it difficult for my partner to be sexually intimate, (b) depression makes my partner not want to be touched, (c) depression makes my partner feel sexually distant from me, and (d) for my partner, feelings of isolation are a barrier to our sexual relationship.

CFA tests confirmed these four dimensions (own self-esteem: $\chi^2 / df = 2.06$, CFI = .99, RMSEA = .07; own isolation: $\chi^2 / df = 0.79$, CFI > .99, RMSEA = .01; partner self-esteem: $\chi^2 / df = 2.04$, CFI = .99, RMSEA = .07; partner isolation: $\chi^2 / df = 1.69$, CFI = .99, RMSEA = .06), and also revealed two second-order factors as appropriate measures of one's own cognitive challenges ($\chi^2 / df = 2.13$, CFI = .98, RMSEA = .07) and of a partner's cognitive challenges ($\chi^2 / df = 1.92$, CFI = .98, RMSEA = .07). I calculated means and reliabilities for each participant on each of the four subscales (own self-esteem: $M = 2.54$, $SD = 1.25$, $\alpha = .95$; own isolation: $M = 2.65$, $SD = 1.19$, $\alpha = .89$; partner self-esteem: $M = 2.55$, $SD = 1.23$, $\alpha = .95$; partner isolation: $M = 2.54$, $SD = 1.11$, $\alpha = .91$) and for the two second-order factors (own cognitive: $M = 2.60$, $SD = 1.15$, $\alpha = .95$; partner cognitive: $M = 2.54$, $SD = 1.12$, $\alpha = .95$). I used the second order factors in the substantive analyses.

The third scale measured interactive barriers to sexual intimacy. This measure included 20 items measuring perceptions of one's own and one's partner's difficulties with conversations about sex and initiation of sexual activity. Six items measured one's own difficulties with conversations: (a) conversations about our sexual relationship are frustrating for me, (b) I find conversations with my partner about sex to be difficult, (c) talking with my partner about sex is challenging for me, (d) I don't know how to talk to my partner about our sex life, (e) I'm unsure how to have a conversation about sex with my partner, and (f) I am hesitant to talk about sex with my partner. Four items assessed one's own challenges related to initiation: (a) it is hard for me to let my partner know when I am interested in sex, (b) it is difficult for me to start sexual activity with my partner, (c) I'm unsure how to initiate a sexual interaction with my partner, and (d) I don't know how to initiate sexual activity with my partner. Six items measured perceptions of a partner's difficulty with conversations: (a) conversations about our sexual relationship are

frustrating for my partner, (b) my partner finds conversations with me about sex to be difficult, (c) talking with me about sex is challenging for my partner, (d) my partner doesn't know how to talk to me about our sex life, (e) my partner is unsure how to have a conversation about sex with me, and (f) my partner is hesitant to talk about sex with me. Finally, four items measured perceptions of a partner's struggles with initiation: (a) it is hard for my partner to let me know when he/she is interested in sex, (b) it is difficult for my partner to start sexual activity with me, (c) my partner is unsure how to initiate a sexual interaction with me, and (d) my partner doesn't know how to initiate sexual activity with me.

Confirmatory factor analyses verified the four subscales of the measure (own conversations: $\chi^2 / df = 1.46$, CFI = .99, RMSEA = .05; own initiation: $\chi^2 / df = 2.38$, CFI = .99, RMSEA = .08; partner conversations: $\chi^2 / df = 1.82$, CFI = .99, RMSEA = .06; partner initiation: $\chi^2 / df = 1.11$, CFI > .99, RMSEA = .02) and also confirmed the two second order factors of own interactive ($\chi^2 / df = 2.59$, CFI = .96, RMSEA = .09) and partner interactive ($\chi^2 / df = 1.75$, CFI = .98, RMSEA = .06) challenges. I calculated means and assessed reliabilities for each subscale (own conversation: $M = 2.77$, $SD = 1.11$, $\alpha = .95$; own initiation: $M = 2.65$, $SD = 1.08$, $\alpha = .90$; partner conversation: $M = 2.68$, $SD = 1.05$, $\alpha = .94$; partner initiation: $M = 2.55$, $SD = 1.01$, $\alpha = .91$). Finally, I computed means and reliabilities for each of the two second-order factors (own interactive: $M = 2.71$, $SD = 1.03$, $\alpha = .96$; partner interactive: $M = 2.62$, $SD = 0.98$, $\alpha = .96$), which were used in the substantive analyses.

Sexual communication. Two quantitative measures and one set of open-ended questions assessed participants' perceptions of sexual communication. For the quantitative scales, I used one established measure of sexual communication while developing and testing a new measure to conceptualize sexual communication in the framework of communication competence.

Dyadic sexual communication. Catania's (2011) Dyadic Sexual Communication Scale (DSCS) is an established measure of the quality of sexual communication. Ten of Catania's original 13 items demonstrated unidimensionality in CFA analyses. Although the scale has been primarily used in work on conversations surrounding sexual health, it has also been employed in work on couples' sexual communication and its link to satisfaction, for example by Mark and Jozkowski (2013) in their study on sexual and nonsexual communication associating with sexual satisfaction. Participants noted their level of agreement on a 6-point scale (1 = *disagree strongly*, 6 = *agree strongly*). Items were scored such that higher scores represent higher perceived quality of sexual communication. The 10 items were: (a) my partner rarely responds when I want to talk about our sex life, (b) some sexual matters are too upsetting to discuss with my sexual partner, (c) there are sexual issues or problems that we have never discussed, (d) my partner and I never seem to resolve our disagreements about sexual matters, (e) when my partner and I talk about sex, I feel like he or she is lecturing me, (f) my partner complains that I am not very clear about what I want sexually, (g) my partner and I have never had a heart-to-heart talk about our sex life together, (h) my partner has no difficulty talking to me about his or her sexual feelings and desires, (i) even when angry with me my partner is able to appreciate my views on sexuality, and (j) I seldom feel embarrassed when talking about the details of our sex life with my partner. These 10 items produced an acceptable fit in CFA procedures, $\chi^2 / df = 2.79$, CFI = .91, RMSEA = .09. A score was computed by calculating the mean of those 10 items for each participant ($M = 4.18$, $SD = 0.92$), and the scale demonstrated acceptable reliability ($\alpha = .82$).

Sexual communication competence effectiveness (SCCE). I developed a new measure of sexual communication competence effectiveness (SCCE) by adapting items offered by Spitzberg and Canary (1985). Participants responded to the items preceded by the stem "When

we discuss our sexual relationship...” on a 6-point scale (1 = *strongly disagree*; 6 = *strongly agree*). Items were scored such that higher values represent higher levels of effectiveness. Twenty items were included in the original measure. Although previously documented as unidimensional when measuring communication competence (Canary & Spitzberg, 1987), several of the 20 items seemed to focus on control (i.e., “My partner dominates the conversation.”) as opposed to effectiveness of the conversations. After examining the items individually for face validity, I removed six items that assessed control in the conversation and retained 14 that focused on individual and dyadic goal achievement. These items did not acceptably fit the data, $\chi^2 / df = 4.96$, CFI = .83, RMSEA = .14. Removing-poor fitting items one-by-one highlighted items highlighting the dyad’s effectiveness (e.g., “our conversations are very beneficial.”) as more cohesive than the individually focused items (e.g., “I am effective in the conversations”). This pattern of adjustment led to a seven-item solution, and the final CFA tests verified the unidimensionality of the seven items, $\chi^2 / df = 2.88$, CFI = .96, RMSEA = .09.

The seven items included: (a) our conversations are very beneficial, (b) our conversations are unsuccessful (reverse scored), (c) I get what I want out of the conversations, (d) the conversations are unprofitable (reverse coded), (e) conversations about our sexual relationship are advantageous, (f) the conversations are rewarding, and (g) I find the conversations to be very useful and helpful. Each participant’s score was calculated as the mean of the seven items ($M = 4.06$, $SD = 1.07$). The measure of sexual communication competence effectiveness demonstrated strong reliability ($\alpha = .92$).

As a pilot for future studies conceptualizing sexual communication competence as that which is both appropriate and effective, I also tested a set of 20 items to measure sexual

communication appropriateness. Information about these items and the scale's performance in the substantive tests of the full model is available from the author.

Features of successful and unsuccessful conversations about sex. To contribute to efforts to more robustly conceptualize and operationalize sexual communication, I also included two open-ended items asking participants to describe specific conversations. Following Faulkner and Lannutti's (2010) exemplar for asking participants about satisfying and unsatisfying conversations, the survey invited participants to describe a successful and unsuccessful interaction they have recently had with their partner. Participants read the following instructions: "Think about the recent conversations you've had with your partner about your sexual relationship. Have you had a conversation that you felt went well and you were able to effectively communicate with your partner? If there is a conversation you would describe as successful, please describe it in as much detail as possible in the spaces below." Then, two text boxes solicited participants to share "What happened in the conversation?" and "What made the conversation successful?" A parallel set of instructions and questions asked about an unsuccessful conversation.

Sexual satisfaction. Participants completed the General Measure of Sexual Satisfaction (GMSEX; Lawrance, Byers, & Cohen, 2011) to assess sexual satisfaction. The GMSEX was developed as part of the Interpersonal Exchange Model of Sexual Satisfaction and is documented as a strong unidimensional measure of sexual satisfaction (Lawrance et al., 2011; Mark, Herbenick, Fortenberry, Sanders, & Reece, 2014). The instructions asked participants to evaluate their sexual relationship on five sets of word pairs. Each word pair was accompanied by a 7-point scale. In CFA tests, the full five-item measure did not meet fit criteria, but a four-item solution indicated acceptable fit ($\chi^2 / df = 2.63$, CFI = .98, RMSEA = .09). The four items were:

(a) very bad-very good, (b) very pleasant-very unpleasant (reverse scored), (c) very negative-very positive, and (d) very unsatisfying-very satisfying. Participants' scores were calculated as a mean ($M = 4.99$; $SD = 1.45$), and the four-item scale demonstrated good reliability ($\alpha = .90$).

Chapter Four: Results

I used both qualitative and quantitative analytical approaches to evaluate the research questions and hypotheses for this study. In one set of analyses, a team of research assistants examined participants' responses to the open-ended items to address research questions 1, 2, and 3. In another set of analyses, I used structural equation modeling coupled with the actor-partner interdependence model to investigate actor and partner effects in the hypothesized associations. For the purpose of streamlining interpretation, I present the qualitative analyses first and then describe my work with the quantitative data.

Analyses of Qualitative Data

RQ1: What sexual intimacy challenges do depressed individuals and their partners face? My first research question inquired into the specific sexual intimacy challenges depressed couples encounter. I answered this question in two phases: first, by soliciting responses to an open-ended item and second, through a set of closed-ended scales written to measure the sexual intimacy challenges I uncovered in my preliminary interview study (Delaney, 2016). In this section, I delineate the analyses of the open-ended items, share the results of the multi-phase coding process, and offer descriptive information about the new measures of sexual intimacy challenges.

Out of 232 participants (including both same-sex and opposite-sex couples), 103 participants ($n = 49$ men; $n = 54$ women) responded "Yes" to the item asking if depression had affected the couple's sexual relationship. All participants who responded "Yes" were invited to describe those sexual intimacy challenges in the open-ended items. Of those 103 individuals, 69 provided responses to the item asking how depression had affected their sex life. For 28 couples, both partners ($n = 56$) answered the item, and 13 individuals answered the item but their partners

did not. Participants wrote an average of 67.86 words in their responses (*range* = 3 to 381 words per participant; *SD* = 75.00).

The analyses of the open-ended data occurred in five steps based on guidelines provided by Krippendorff (2004). First, two research assistants unitized the data. They divided responses that included more than one idea so that each unit of data captured one thought and only one thought. In this step, the research assistants also italicized irrelevant text (i.e., “My husband has had depression for 18 years.”) so that only text that answered the research question remained. The unitizing resulted in 242 thematic units ($M = 3.49$ thought units per participant; *range* = 1 to 12 units per participant; *SD* = 2.54). In a second step, the research assistants were trained in the coding scheme. The initial coding guide included five categories (lost libido, self-esteem, isolation, conversations, and initiation) as described by Delaney (2016). The coding team was instructed to assign thought units to one of these five categories or a sixth “other” category.

Next, the research assistants coded a subset of the data (75 thought units) using the five original categories and the sixth other category. In this preliminary coding, the judges yielded a Krippendorff’s α of .77. The research team met to resolve discrepancies and clarify the coding scheme. The coders made two recommendations based on the first round of coding. First, they endorsed a need to add a category to capture issues with motivation, lethargy, and low energy. Second, they suggested expanding the “conversation” category to capture negativity more broadly, including within conversations. The research team discussed these revisions, reviewed the new seven-category coding guide, and made refinements (per Corbin & Strauss, 2008). The coders then applied the updated coding scheme to the full dataset, yielding a final Krippendorff’s α of .88. As a last step, the research team met to resolve remaining disagreements and assign final categories to each thought unit.

The final coding scheme included six categories of sexual intimacy challenges related to depression and one miscellaneous category to capture the handful of idiosyncratic responses. Each participant endorsed an average of 2.25 categories (*range* = 1 to 6 categories per participant; *SD* = 1.23). The following paragraphs include descriptions of each category, information about the prevalence of that category, and exemplars from participants' accounts.

Lost libido. Most participants who responded to the question referenced challenges with a loss of interest in a sexual relationship (*n* = 58; 84%). In total, 107 thematic units (44%) encompassed this theme. The lost libido category included references to reductions in frequency of sex, lack of interest from both partners, difficulties with attraction, and unmet needs.

One participant summed up her experience by saying: "Not interested in sex" (36 years old, married, diagnosed with major depression), while another described depression's sexual effects as making him "not in the mood" (29 years old, married, partner diagnosed with major depression), even though his wife was the one diagnosed with a depression. One participant saw the medication that treated his depression as the source of libido problems: "The antidepressants that I'm on kill my sex drive. I'm happy, but I'm less interested in sex" (34 years old, seriously dating, both diagnosed with major depression). Another felt that the depression itself diminished his libido, explaining: "Lack of sex drive from being depressed" (33 years old, married, both partners diagnosed with major depression). The lost libido category also included sexual problems related to function. Men and women both reported issues with function, including this woman, who said: "Orgasm is difficult" (35 years old, married, diagnosed with psychotic depression). Further, participants felt "turned off" by the depression and its effects on depressed loved ones, such as one individual who explained that depression made his partner less attractive: "These traits are a major turn off to the point where I don't find him attractive at all

when he is behaving this way” (30 years old, in a serious same-sex dating relationship, partner diagnosed with major depression).

One woman summed up the lost libido category, describing how she wishes she had the sex drive that she lost: “I love my husband and I WANT to want to have sex and be affectionate and sweet” (41 years old, married, diagnosed with major depression). Indeed, a majority of depressed individuals and their partners reported that depression had a negative effect on their sexual relationship through lost libidos, diminished attraction, and unmet sexual needs.

Self-esteem. Twenty participants (29%) wrote about challenges with self-esteem related to the depression as specific sexual intimacy challenges. Thirty-four thought units (14%) captured ways that insecurity and self-blame were barriers to a satisfying sexual relationship for depressed couples. Depressed individuals and their partners discussed ways that low self-confidence and self-esteem made it difficult to engage in sexual activity. These responses included descriptions about depression affecting self-image and body image in ways that made individuals feel undesirable or not sexy.

For example, one participant explained that depression inhibited her sexual relationship because “I feel unworthy a lot of the time” (50 years old, married, diagnosed with depression as part of bipolar disorder). Another participant described how her depression sparked doubts about her body, making sexual contact intimidating: “I have body image issues that can come into play during times of intercourse, if I am feeling overweight or self conscious about my body and sexual organs” (42 years old, married, diagnosed with chronic mild depression/dysthymia, husband diagnosed with depression as part of bipolar disorder). One man discussed how his own depression impacted his wife’s self-esteem indirectly: “because we infrequently engage in sexual

behavior, she begins to question her attractiveness and desirability by me” (73 years old, married, diagnosed with major depression).

Responses referencing self-esteem also spoke to more general issues with insecurity. For example, one participant explained: “When I don’t like myself, I can’t imagine anyone else liking me” (58 years old, married, diagnosed with major depression). Partners’ attempts to boost self esteem did not necessarily alleviate this sexual intimacy challenge, as one participant shared: “No matter how much my partner tells me that he loves me or that I’m beautiful, I can’t seem to get out of the spiraling black hole in my head” (27 years old, seriously dating, diagnosed with major depression). Another stated how his depression made him treat his wife poorly, which made him feel unworthy of sexual affection: “I don’t feel like I deserve to have sex with my wife because I tend to hurt her emotionally in everyday life” (42 years old, married, diagnosed with depression as part of bipolar disorder).

In one dyad, both partners identified self-esteem as a salient sexual intimacy challenge. One partner explained, “It is difficult for my partner to think of herself as ‘sexy,’ ‘lovable,’ or ‘fun’ enough to engage in sexual activity” (24 years old, engaged to a partner with major depression). In her survey, his partner (24 years old, engaged, diagnosed with major depression) identified how her depression (and in particular, its effects on their sexual partnership) affected her fiancé’s self-esteem in a way that damaged their bond, writing “He’s really insecure about whether I am attracted to him (I am!) and is deeply impacted when I say no.” Taken together, the excerpts exemplifying the self-esteem sexual intimacy challenge are notable because for depressed partners, these challenges were rooted in the self-esteem issues symptomatic of depression, but the effects of the illness were also reflected in diminished self-image of non-depressed partners.

Isolation. Sixteen participants (23.19%) discussed how feelings of isolation inhibited the sexual relationship. Eighteen thematic units (7.4%) comprised this theme, which centered on feelings of detachment and disengagement. Participants described how mental and physical isolation from their partner caused by the depression carried over into feelings of sexual separation. Partners withheld from each other or pushed each other away. Individuals shared how feelings of disconnection blocked the sexual relationship or made it less satisfying when partners were able to engage in sexual activity.

Participants emphasized how depression's isolating effects made partners feel separated from each other, such as one woman who described this effect by saying: "It seems that whenever one is in the mood the other is distant and not able to be turned on" (25 years old, in a same-sex marriage, both partners diagnosed with chronic mild depression/dysthymia). This sentiment was corroborated by another participant who shared that either she or her partner felt "disconnected and disengaged" (34 years old, married, diagnosed with chronic mild depression/dysthymia, partner diagnosed with major depression). In these cases, depressed participants struggled with a mental divide from their partners, such as one wife who struggled to connect with her husband, sharing "I can't get out of my head long enough to enjoy the expression of love with my partner" (42 years old, married, diagnosed with chronic mild depression/dysthymia, husband diagnosed with depression as part of bipolar disorder). Another participant described her own mental isolation as making it difficult to engage in sex, saying her mind "wanders" (50 years old, married, diagnosed with depression as part of bipolar disorder).

Notably, non-depressed partners discussed how feelings of isolation affected both partners in the relationship. One individual stated: "A lot of the time my partner has a barrier put up" (28 years old, seriously dating, partner diagnosed with chronic mild depression/dysthymia).

Another participant discussed how her husband's isolation made it difficult to rekindle the physical relationship: "He is unavailable mentally which often interferes when I try to initiate any type of intimacy" (43 years old, married, partner diagnosed with depression as part of bipolar disorder). One husband explained how his spouse's depressive symptoms sparked his own withdrawal: "My natural response to this is withdrawing" (34 years old, married, partner diagnosed with psychotic depression). Overall, the category of isolation captured sexual intimacy challenges rooted in partners' feelings of separation and disconnection from their partner.

Tiredness and motivation. Fifteen participants (21.74%) described issues with tiredness, a lack of motivation, and low energy as important sexual intimacy challenges. Twenty-four thought units (9.9%) captured ways that an overall lack of energy or tiredness related to the depression were to blame for sexual difficulties. Here, the lethargy associated with depression directly impacted couples' ability to connect sexually. Exhaustion and disrupted sleeping patterns made it difficult for couples to find the time and energy to have a satisfying sexual relationship. Participants were frustrated at how depression depleted their energy resources, making them feel too exhausted to engage in sexual activities.

Participants discussed ways that the lethargy associated with depression limited their ability to be sexually active. For example, one participant shared, "sometimes it [depression] makes me feel too tired" (28 years old, engaged, diagnosed with major depression). Another participant stated "the decreased energy with depression makes it difficult to want to have sexual intimacy with my partner" (29 years old, seriously dating, diagnosed with chronic mild depression/dysthymia). One individual felt limited in her ability to participate in sex due to her lack of energy, recounting "Even after he initiates, the amount of energy I feel I have to expend

to engage in sex sometimes feels overwhelming and so I stop the encounter” (31 years old, married, diagnosed with major depression).

Other participants described depression as draining motivation for other activities, an effect that carried over to inhibit their sexual partnership. One participant explained how his wife’s lack of energy made it difficult for her to be active in anything, including sex, disclosing “When she is suffering from depression, she does not have the will to do any activity: dancing, movies, shopping, or sex” (45 years old, married, partner diagnosed with major depression). Another participant summed up her own depression-related sex problems by saying she had a “lack of motivation” (27 years old, married, diagnosed with major depression). As an additional example, one participant (62 years old, married, partner diagnosed with major depression) shared about his wife’s exhaustion: “the challenges of making it thru each day make her interest limited at the end of the day.”

Non-depressed participants, too, lamented the effect of exhaustion on the sexual partnership. A final exemplar of the tiredness and motivation category comes from a participant who described his wife’s tiredness as an important barrier to their sexual connection: “It’s hard to be sexually engaged with someone who is defined by being ‘sleepy’ ...” (38 years old, married, partner diagnosed with chronic mild depression/dysthymia). In sum, several participants reflected on ways that depression made a partner feel lethargic, unmotivated, and exhausted. Depressed and non-depressed partners alike identified that tiredness and motivation presented sexual intimacy challenges for depressed couples, particularly through ways that depression depleted energy for the depressed partner.

Initiation. Twelve out of 69 individuals (17.40%) referenced issues with initiation of sexual activity as hindering their sexual relationship. Seventeen thematic units (7%) were

included in this category. Participants explained that getting started in intimate situations with their partner proved to be particularly daunting. These individuals felt that they did not know how to begin or saw rejection as a cost not worth risking in their relationship. Non-depressed partners also expressed not wanting to seem too insistent or insensitive to their loved one's needs when it came to the depression, which made initiation particularly tough.

Several participants discussed ways that initiating a sexual encounter was difficult or threatening. As an example, one participant commented on her how she saw her husband's depression impacting their sex life by stating "My husband is not interested in initiating sex" (34 years old, married, both diagnosed with major depression). Another participant described his own difficulties with starting a sexual encounter with his depressed partner: "I am unable to initiate sexual activities on my own a majority of the time" (28 years old, seriously dating, partner diagnosed with chronic mild depression/dysthymia).

Several participants talked about ways that difficulties with initiation generated tension between partners. One participant shared: "My husband wants me to initiate and do all the work to provide him sexual pleasure" (64 years old, married, partner diagnosed with major depression). Similarly, one wife expressed her husband's difficulties with her lack of initiation: "I know that I'm not initiating sex or being as affectionate as he'd like" (41 years old, married, diagnosed with major depression). Similarly, one depressed husband described his wife's frustration with the lack of initiation in their sexual relationship: "Every now and then she will express her disappointment that I do not initiate sexual activity with her" (73 years old, married, diagnosed with major depression).

A final dimension of the initiation category centered on difficulties with initiation manifest in individuals' desire to avoid upsetting their partner with attempts to connect sexually.

One participant candidly expressed: “She never lets me touch her” (23 years old, married, partner diagnosed with chronic mild depression/dysthymia). An additional participant worried that attempts to initiate sex would change his wife’s perception of him. In his words, “I’m concerned that if I try and she isn’t in the mood, she’ll just perceive me as being too insensitive or too pushy” (38 years old, married, partner diagnosed with chronic mild depression/dysthymia). As a whole, the accounts of difficulties with initiation reflected participants’ dilemmas with making an effort to connect despite the depression.

Negativity. Twenty-one participants (30.43%) provided insight into ways that the negative emotional and communicative climate of depression hindered sexual relationships. Thirty thematic units (12.3%) referenced negative moods and interactions. Importantly, the negativity theme encompassed the category described by Delaney (2016) as difficulties with conversations. This refined version of the theme centers upon disruptions to intimacy that are visible in negative interactions between partners. The negative moods and pessimistic attitudes prevalent in depression spark negativity in conversations, which fosters feelings of distance and disconnection. Negativity disrupts attempts to nurture the sexual relationship and acts as a turn-off for partners.

Several participants offered accounts of how depression created a negative emotional climate, and in turn, affected partners’ ability to connect. One participant reflected on her mood swings by saying “My mood swings impact the quality of connection we feel” (35 years old, married, diagnosed with psychotic depression). A husband shared: “There has been a lot of bitterness that we are working through” (40 years old, married, diagnosed with chronic mild depression/dysthymia, partner diagnosed with postpartum depression). Other participants expanded on ways negativity was evident in communication between partners. One individual

(30 years old, in a serious same-sex dating relationship, partner diagnosed with major depression) explained about his partner: “He is always negative, always whining.” One woman confessed that she “can be mean and critical” (58 years old, married, diagnosed with major depression). Participants also shared how their mood and communication fluctuates along with their depressive symptoms, such as this participant who stated: “My personality during extreme bouts of depression – I am often irritable and grouchy” (38 years old, married, diagnosed with depression as part of bipolar disorder, partner diagnosed with chronic mild depression/dysthymia).

One married couple provided an account of how depression instigated negativity between partners in ways that affected the sexual relationship, even beyond the duration of a negative interaction. The wife said that her husband “can get overtaken with agitation, negativity, and anger.” She went on to explain: “Being blamed and belittled has a great impact on how I feel about my partner” (55 years old, married, partner diagnosed with depression as part of bipolar disorder). Her husband acknowledged these problems and their enduring effects: “My depression and anger have a long lasting effect on my partner, longer than I feel is warranted” (64 years old, married, diagnosed with depression as part of bipolar disorder). Overall, the negativity category captured sexual intimacy challenges stemming from the climate of emotional and communicative negativity that often accompanies depressive symptoms.

Miscellaneous. A final category included thematic units that did not otherwise fit within the six substantive categories. In total, 13 participants (18.84%) provided 13 thought units (5.3% of the total data) that (a) did not fit the descriptions of the other categories and (b) did not cohere to illustrate an additional meaningful category. These miscellaneous thought units included references to positive effects on the sexual relationship, such one participant who said “the

quality and emotional exchange is better than it was before” (25 years old, married, partner diagnosed with major depression). Miscellaneous thought units also referenced physical pain as associated with sexual intimacy challenges, broad references to a damaged connection, and other idiosyncratic content.

As an additional means of investigating RQ1, I examined responses from the opposite sex couples to the quantitative scales evaluating sexual intimacy challenges in couples coping with depression. Three sets of items captured participants perceptions of challenges to their sexual relationship related to (a) issues with libido, (b) cognitive challenges, and (c) interactive barriers to a satisfying sexual partnership. In contrast to the open ended item, which participants only saw if they answered “yes” to the item about depression’s effect on the sexual relationship, every participant saw these items. Confirmatory factor analyses (described in Chapter Three) verified the dimensionality of the scales, including five second-order factors measuring challenges with libido, one’s own cognitive challenges, a partner’s cognitive challenges, one’s own interactive challenges, and a partner’s interactive challenges. I examined the potential for differences between participants who responded “yes” to the filter item and those who answered “no” through independent samples *t*-tests. For both men and women, people who reported having sexual intimacy challenges scored statistically significantly higher on all of the sexual intimacy challenges scales than those who did not. Please refer to Table 2 for a summary of these *t*-tests.

Table 2

Means and t-tests for Women and Men on Sexual Intimacy Challenges Measures

Challenge	Women			Men		
	Yes <i>M (SD)</i>	No <i>M (SD)</i>	<i>t</i> (104)	Yes <i>M (SD)</i>	No <i>M (SD)</i>	<i>t</i> (104)
Libido						
Frequency	3.53 (1.07)	2.76 (0.86)	4.04	4.01 (0.83)	2.89 (0.96)	6.37
Own Interest	3.78 (0.99)	2.18 (1.09)	7.29	3.07 (1.08)	1.98 (0.90)	5.66
Partner Interest	2.91 (1.17)	1.93 (0.91)	4.81	3.68 (0.96)	2.22 (1.08)	7.32
Full Scale	3.40 (0.61)	2.29 (0.75)	8.40	3.59 (0.61)	2.36 (0.82)	8.61
Cognitive						
Own Self-Esteem	3.48 (1.03)	2.01 (1.08)	7.11	2.86 (1.24)	1.87 (0.90)	4.64
Own Isolation	3.65 (0.81)	1.94 (1.00)	9.71	3.11 (1.00)	1.95 (0.91)	6.22
Partner Self-Esteem	2.96 (1.18)	1.76 (0.94)	5.80	3.43 (0.88)	2.12 (1.13)	6.55
Partner Isolation	3.00 (0.95)	1.75 (0.80)	7.26	3.40 (0.79)	2.08 (1.00)	7.47
Own Full Scale	3.57 (0.79)	1.98 (0.99)	9.14	2.99 (1.01)	1.91 (0.88)	5.84
Partner Full Scale	2.98 (0.99)	1.75 (0.86)	6.78	3.42 (0.70)	2.10 (1.02)	7.81
Interactive						
Own Conversation	3.34 (0.97)	2.24 (1.00)	5.71	3.21 (1.07)	2.31 (0.94)	4.59
Own Initiation	3.12 (1.04)	2.22 (0.95)	4.65	3.07 (0.99)	2.23 (0.91)	4.53
Partner Conversation	3.12 (0.98)	2.17 (0.92)	5.09	3.18 (0.97)	2.31 (0.95)	4.67
Partner Initiation	2.76 (1.07)	2.12 (0.88)	3.35	3.15 (0.84)	2.23 (0.92)	4.36
Own Full Scale	3.23 (0.90)	2.23 (0.95)	5.54	3.14 (0.94)	2.27 (0.89)	4.86
Partner Full Scale	2.94 (0.96)	2.15 (0.87)	4.42	3.17 (0.82)	2.27 (0.89)	5.33

Note. All tests statistically significant at $p < .001$.

Several differences were evident based on the sex of the participant. Women scored higher than men on the own interest subscale, $t(105) = 3.59, p < .001$. Men identified frequency, $t(105) = 2.23, p = .03$, and their partner's interest, $t(105) = 3.51, p < .001$, as problematic more than women did. Notably, men and women did not differ on the second-order variable addressing all three dimensions of sexual intimacy challenges related to libido. Women ranked their own self-esteem, $t(105) = 3.19, p = .002$, and isolation, $t(105) = 2.98, p = .004$, as more problematic than men did, while men ranked their partners' self-esteem, $t(105) = 3.30, p < .001$, and isolation, $t(105) = 3.20, p < .001$, as particularly challenging. For the second order variables, women said that their own cognitive difficulties caused greater sexual intimacy challenges, $t(105) = 3.44, p < .001$, while the men said that their partner's cognitive challenges were more difficult than women did, $t(105) = 3.68, p < .001$. Men and women did not differ on five of six measures of interactive sexual intimacy challenges. Men identified their partner's difficulties with initiation as more problematic than women did, $t(105) = 2.78, p < .001$.

In sum, the qualitative and quantitative data for RQ1 lead to two broad conclusions. First, the revisions to the coding scheme suggest the need for continued development of the quantitative measures of sexual intimacy challenges. In these data, the theme of tiredness and motivation was a necessary addition to the previous categories to capture depressed couples' perceptions of sexual intimacy challenges. The category previously labeled as "conversations" was broadened to include a focus on negativity in the relationship. These revisions are an important step forward in understanding the sexual intimacy challenges for depressed couples, and updated quantitative measures should reflect these findings. Second, the quantitative data offer a first attempt at measuring sexual intimacy challenges for depressed couples. The confirmatory factor analyses suggested that second order measures of libido, own cognitive,

partner cognitive, own interactive, and partner interactive challenges are useful scales for representing these challenges. The scales did differentiate between individuals who perceived their sex life as challenging and those individuals who did not, and descriptive statistics offer insight into how men and women may differ in their perceptions of cognitive challenges. Additional fine-tuning of the measures is necessary, however, to account for the tiredness/motivation theme and the negativity category, and to continue refining the items to best capture the experiences of depressed couples.

RQ2: What are the features of depressed partners' conversations about their sexual relationship? and RQ3: What features of conversations about sex do partners perceive to be more or less successful in maintaining or improving their sexual relationship? The second and third research questions aimed to aid efforts to improve measurement of sexual communication. The goal for these research questions was to delineate features of conversations about sex that partners perceive to be helpful in navigating the difficulties they face in their sexual relationship. I invited participants to respond to a set of open-ended items by describing a recent conversation about sex they would label as *successful* and one they would designate as *unsuccessful*. Unfortunately, the responses did not offer adequate information to garner insight into the conversations of interest. Only a small fraction of participants provided responses to the items for RQ2 and RQ3, and of those who did respond, most participants offered colloquial ideas about what constitutes effective or ineffective communication without describing features of conversation that comprise those interactions. Next, I describe the properties of the data.

For the item asking about a successful conversation, 81 participants (35% of the full sample) entered some sort of text into the questionnaire. Of those 81 participants, 60 (74% of the subsample) provided responses that did not actually describe a conversation. Several participants

entered text that indicated they had not had or could not recall a successful conversation about sex with their current romantic partner (i.e., “Never had one.”). Other participants revealed that they had had successful conversations, but did not provide actual descriptions of interactions (i.e., “Most of our conversations go well but we never act on anything”). Another set of participants used this question as a chance to further describe their sexual difficulties (i.e., “I have a really high sexual desire, and my husband’s medication means he has no sexual desire”). Finally, several participants entered text that described unsuccessful interactions or attempts (i.e., “She avoids all conversations about this topic”). After parsing out these irrelevant responses, only 21 participants (less than 10% of the full sample) offered responses that actually described an interaction. Several participants described qualities such as listening, understanding, empathy, and openness. Their descriptions did not, however, offer insight into what “listening” or “openness” might look like within their conversations.

A similar pattern emerged for the measures asking about unsuccessful conversations. A total of 83 participants (36% of the full sample) entered some text into these items. Of those participants, 45 (54% of the subsample) provided responses that did not give insight into features of conversation. Several participants entered text, but their response declined to answer the question (i.e., “N/A” or “Prefer not to answer”). Other responses talked about a sexual encounter or an attempt at a sexual encounter, but not a conversation about sex (i.e., “I wanted to have sex but she didn’t, so we didn’t”). Several responses described a conversation in which one partner suggested a sexual activity and the other declined, but again did not describe features of conversation (i.e., “I wanted to use a sex toy but he refused”). Finally, some participants used this item as an opportunity to further elaborate on the sexual intimacy challenges they described earlier in the questionnaire (i.e., “My partner cannot maintain an erection and it really upsets

me”). After separating these non-relevant answers, 38 participants (16% of the full sample) did provide some description of a conversation about sex. Broadly, their responses describe unsuccessful conversations as involving argument, withdrawal, and out-of-control emotions from both partners. The low rates of meaningful response on both of these items impeded efforts to systematically categorize responses. Accordingly, for the purposes of substantive quantitative analyses, I relied upon the quantitative measures of sexual communication.

Preliminary Analyses of Quantitative Data

For the quantitative analyses, I relied upon structural equation modeling and the actor-partner interdependence model to examine actor and partner associations among the variables. Before constructing the models, I conducted several preliminary analyses to describe the data and identify relevant covariates.

As a first step, I examined bivariate correlations for men and women (Table 3). Statistically significant associations appeared for men in 312 of 325 tests, while statistically significant correlations were present in 318 of 325 tests for women. A second preliminary test examined the within-couple correlations for each variable (Table 4). Couples shared statistically significant positive correlations on every study variable.

Table 3

Bivariate Correlations for Men and Women

Variable	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13
V1: Depressive Symptoms		.33**	.22*	.37**	.06	.34**	.28**	.04	.50**	.31**	.35**	.64**	.58**
Mechanisms of Turbulence													
V2: Self Uncertainty	.46**		.68**	.87**	.64**	.37**	.48**	.07	.33**	.27**	.28**	.23**	.28**
V3: Partner Uncertainty	.47**	.76**		.81**	.58**	.32**	.54**	.19*	.23*	.27**	.28**	.16	.19*
V4: Relationship Uncertainty	.48**	.88**	.78**		.60**	.42**	.55**	.09	.30**	.29**	.28**	.28**	.31**
V5: Depression Uncertainty	.37**	.58**	.67**	.60**		.34**	.42**	.14	.14	.29**	.23*	.08	.16
V6: Inter. from a Partner	.33**	.48**	.28**	.47**	.32**		.79**	.27**	.29**	.41**	.40**	.30**	.36**
V7: Depression Interference	.29**	.51**	.40**	.53**	.42**	.83**		.38**	.29**	.52**	.49**	.31**	.30**
Libido Challenges													
V8: Frequency	.11	.07	.22**	.12	.11	.24*	.24*		.37**	.73**	.84**	.25**	.39**
V9: Own Interest	.49**	.34**	.27**	.39**	.41**	.32**	.34**	.19*		.48**	.74**	.75**	.84**
V10: Partner Interest	.15	.26**	.27**	.27**	.19	.37**	.37**	.58**	.31**		.90**	.41**	.56**
V11: Full Libido Scale	.35**	.31**	.34**	.36**	.33**	.42**	.43**	.74**	.71**	.82**		.56**	.72**
Cognitive Challenges													
V12: Own Self Esteem	.48**	.27**	.27**	.31**	.38**	.32**	.31**	.34**	.72**	.48**	.70**		.79**
V13: Own Isolation	.52**	.41**	.44**	.44**	.50**	.44**	.51**	.34**	.80**	.53**	.77**	.78**	

Note. Correlations for men appear above the diagonal, and correlations for women appear below the diagonal.

* $p \leq .05$. ** $p \leq .01$.

Table 3 (continued)

Variable	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13
Cognitive Challenges (cont.)													
V14: Partner Self Esteem	.32**	.37**	.33**	.35**	.23**	.54**	.59**	.49**	.36**	.73**	.69**	.47**	.57**
V15: Partner Isolation	.31**	.41**	.41**	.37**	.33**	.50**	.57**	.51**	.47**	.81**	.79**	.57**	.71**
V16: Own Full Scale	.53**	.36**	.37**	.40**	.47**	.40**	.43**	.36**	.80**	.53**	.78**	.95**	.94**
V17: Partner Full Scale	.33**	.40**	.38**	.37**	.29**	.54**	.61**	.52**	.42**	.80**	.76**	.53**	.66*
Interactive Challenges													
V18: Own Conversation	.41**	.34**	.31**	.42**	.35**	.47**	.42**	.34**	.58**	.66**	.71**	.60**	.68**
V19: Own Initiation	.38**	.29**	.29**	.32**	.33**	.39**	.37**	.35**	.49**	.65**	.66**	.59**	.61**
V20: Partner Conversation	.21*	.26**	.27**	.32**	.26**	.44**	.41**	.49**	.40**	.77**	.73**	.48**	.56**
V21: Partner Initiation	.23*	.24**	.28**	.31**	.13	.33**	.38**	.53**	.31**	.73**	.68**	.44**	.45**
V22: Own Full Scale	.42**	.33**	.32**	.39**	.36**	.45**	.42**	.36**	.57**	.69**	.72**	.63**	.68**
V23: Partner Full Scale	.23*	.26**	.29**	.33**	.20*	.40*	.41**	.53**	.37**	.78**	.74**	.48**	.53**
Comm. and Satisfaction													
V24: Dyadic Sexual Comm.	-.41**	-.43**	-.38**	-.45**	-.29**	-.53**	-.47**	-.26**	-.34**	-.55**	-.51**	-.41**	-.51**
V25: Effective Sexual Comm.	-.40**	-.57**	-.54**	-.58**	-.61**	-.54**	-.47**	-.22**	-.39**	-.36**	-.44**	-.35**	-.54**
V26: Sexual Satisfaction	-.43**	-.55**	-.53**	-.62**	-.52**	-.47**	-.55**	-.23**	-.49**	-.51**	-.55**	-.53**	-.65**

Note. This section of Table 3 contains the correlations for variables 1-13 with variables 14-26 for *women only*.

* $p \leq .05$. ** $p \leq .01$.

Table 3 (continued)

Variable	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26
V1: Depressive Symptoms	.31**	.40**	.65**	.37**	.33**	.40**	.40**	.37**	.38**	.40**	-.45**	-.24**	-.46**
Mechanisms of Turbulence													
V2: Self Uncertainty	.31**	.26**	.28**	.31**	.37**	.28**	.41**	.29**	.34**	.37**	-.46**	-.49**	-.57**
V3: Partner Uncertainty	.39**	.33**	.19	.38**	.26**	.32**	.30**	.28**	.30**	.31**	-.34**	-.41**	-.50**
V4: Relationship Uncertainty	.34**	.31**	.31**	.34**	.35**	.27**	.37**	.32**	.32**	.37**	-.46**	-.46**	-.63**
V5: Depression Uncertainty	.17	.27**	.13	.23**	.25*	.26**	.24*	.12	.27**	.20*	-.26**	-.45**	-.43**
V6: Inter. from a Partner	.35**	.48**	.35**	.43**	.30**	.31**	.28**	.24**	.32**	.27**	-.39**	-.29**	-.34**
V7: Depression Interference	.51**	.58**	.27**	.57**	.37**	.33**	.43**	.38**	.37**	.43**	-.41**	-.45**	-.48**
Libido Challenges													
V8: Frequency	.67**	.69**	.33**	.72**	.41**	.47**	.43**	.48**	.46**	.48**	-.25**	-.28**	-.39**
V9: Own Interest	.64**	.60**	.84**	.66**	.60**	.65**	.50**	.60**	.65**	.58**	-.56**	-.38**	-.53**
V10: Partner Interest	.73**	.87**	.51**	.85**	.58**	.56**	.69**	.65**	.60**	.70**	-.45**	-.43**	-.57**
V11: Full Scale	.83**	.88**	.68**	.90**	.64**	.68**	.66**	.70**	.69**	.71**	-.51**	-.44**	-.60**
Cognitive Challenges													
V12: Own Self Esteem	.53**	.57**	.95**	.58**	.49**	.58**	.42**	.50**	.56**	.49**	-.49**	-.20*	-.37**
V13: Own Isolation	.64**	.72**	.94**	.72**	.56**	.69**	.54**	.67**	.66**	.64**	-.58**	-.42**	-.57**

Note. This section of Table 3 contains the correlations for variables 14-26 with variables 1-13 for *men only*.

* $p \leq .05$. ** $p \leq .01$.

Table 3 (continued)

	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26
Cognitive Challenges (cont.)													
V14: Partner Self Esteem		.79**	.61**	.95**	.57**	.58**	.61**	.68**	.61**	.68**	-.47**	-.38**	-.53**
V15: Partner Isolation	.86**		.68**	.94**	.59**	.66**	.68**	.70**	.66**	.73**	-.48**	-.43**	-.57**
V16: Own Full Scale	.55**	.68**		.68**	.55**	.67**	.51**	.62**	.64**	.59**	-.57**	-.33**	-.50**
V17: Partner Full Scale	.97**	.96**	.63**		.62**	.65**	.68**	.73**	.67**	.74**	-.51**	-.43**	-.58**
Interactive Challenges													
V18: Own Conversation	.63**	.68**	.67**	.68**		.80**	.81**	.70**	.95**	.80**	-.72**	-.63**	-.56**
V19: Own Initiation	.51**	.60**	.64**	.57**	.79**		.67**	.70**	.95**	.72**	-.71**	-.51**	-.49**
V20: Partner Conversation	.74**	.75**	.55**	.77**	.85**	.73**		.81**	.78**	.95**	-.66**	-.59**	-.63**
V21: Partner Initiation	.78**	.73**	.47**	.78**	.69**	.60**	.82**		.74**	.95**	-.62**	-.48**	-.60**
V22: Own Full Scale	.60**	.67**	.69**	.66**	.95**	.95**	.84**	.68**		.80**	-.75**	-.60**	-.55**
V23: Partner Full Scale	.80**	.78**	.54**	.82**	.81**	.70**	.96**	.95**	.80**		-.68**	-.57**	-.65**
Comm. and Satisfaction													
V24: Dyadic Sexual Comm.	-.60**	-.62**	-.49**	-.63**	-.75**	-.70**	-.71**	-.59**	-.76**	-.68**		.73**	.58**
V25: Effective Sex Comm.	-.47**	-.48**	-.47**	-.49**	-.63*	-.53**	-.54**	-.32**	-.62**	-.45**	.71**		.61**
V26: Sexual Satisfaction	-.57**	-.56**	-.63**	-.59**	-.66**	-.52**	-.53**	-.44**	-.62**	-.51**	.59**	.66**	

Note. Correlations for men appear above the diagonal, and correlations for women appear below the diagonal.

* $p \leq .05$. ** $p \leq .01$.

Table 4

Descriptive Statistics, t-tests, and Within Couple Correlations

Variable	Women		Men		<i>t</i> (105)	<i>r</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Depressive Symptoms	1.19	0.64	0.97	0.70	2.95*	.37**
Mechanisms of Turbulence						
Self Uncertainty	2.15	1.10	2.13	1.02	0.20	.58**
Partner Uncertainty	2.22	1.17	2.19	1.00	0.26	.59**
Relationship Uncertainty	2.27	1.07	2.23	0.98	0.47	.64**
Depression Uncertainty	2.73	1.02	2.63	0.90	1.22	.66**
Interference from a Partner	2.13	1.32	2.23	1.26	-0.72	.40**
Depression Interference	2.21	1.26	2.18	1.21	0.24	.44**
Sexual Intimacy Challenges						
Libido – Frequency	3.15	1.04	3.41	1.06	-2.23*	.36**
Libido – Own Interest	3.00	1.31	2.48	1.13	3.59**	.28*
Libido – Partner Interest	2.43	1.15	2.89	1.25	-3.51**	.35**
Libido – Full Scale	2.86	0.88	2.93	0.95	-1.07	.73**
Cognitive – Own Self-Esteem	2.76	1.28	2.33	1.18	3.19*	.36**
Cognitive – Own Isolation	2.82	1.25	2.49	1.11	2.98*	.54**
Cognitive – Partner Self-Esteem	2.37	1.23	2.73	1.21	-3.30**	.58**
Cognitive – Partner Isolation	2.39	1.08	2.69	1.13	-3.20**	.61**
Cognitive – Own Full Scale	2.79	1.19	2.41	1.08	3.44**	.50**
Cognitive – Partner Full Scale	2.38	1.11	2.71	1.10	-3.68**	.65**
Interactive – Own Conversation	2.80	1.13	2.73	1.09	0.78	.62**

Table 4 (continued)

Variable	Women		Men		<i>t</i> (105)	<i>r</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Sexual Intimacy Challenges (cont.)						
Interactive – Own Initiation	2.68	1.09	2.62	1.03	0.60	.48**
Interactive – Partner Conversation	2.66	1.06	2.71	1.05	-0.64	.67**
Interactive – Partner Initiation	2.45	1.03	2.66	0.99	-2.78*	.70**
Interactive – Own Full Scale	2.74	1.05	2.67	1.01	0.75	.59**
Interactive – Partner Full Scale	2.55	1.00	2.68	0.97	-1.93	.75**
Sexual Communication						
Dyadic Sexual Communication	4.18	0.87	4.17	0.96	0.05	.71**
Effective Sexual Communication	3.97	1.11	4.14	1.04	-1.70	.56**
Satisfaction						
Sexual Satisfaction	4.82	1.50	5.16	1.39	-3.59**	.78**

* $p \leq .05$. ** $p \leq .01$.

A third preliminary test examined differences among men and women on the substantive variables through the use of paired samples *t*-tests. See Table 4 for descriptive statistics for men and women, results of the *t*-tests, and the within couple correlations. Women ($M = 1.19$, $SD = 0.64$) exhibited statistically significantly higher levels of depressive symptoms than men ($M = 0.97$, $SD = 0.70$), $t(105) = 2.95$, $p = .004$. Women and men did not differ on any of the relational uncertainty or interference from a partner scales. On the sexual intimacy challenges scales, men and women exhibited statistically significant differences in 10 out of 16 tests. Scores were not statistically significantly different for men and women on either of the sexual communication scales. Men ($M = 5.16$, $SD = 1.39$) reported higher levels of sexual satisfaction than women ($M = 4.82$, $SD = 1.50$), $t(105) = 3.59$, $p = .001$.

A final set of preliminary analyses examined several potential covariates. The data revealed differences for age in 16 tests for women and three tests for men (Table 5). Statistically significant associations also appeared between relationship length and study variables in five tests for men and seven tests for women (Table 6). Next, I conducted independent samples *t*-tests on the depression-related variables. Several differences were evident based on depression diagnosis status. As expected, depressed individuals ($n = 72$ women, 56 men) reported greater depressive symptoms than non-depressed individuals ($n = 34$ women, 50 men). The data revealed differences by depression diagnosis status for several sexual intimacy challenges for both men and women. I also examined differences between medicated ($n = 59$ women, 43 men) and non-medicated ($n = 13$ women, 13 men) individuals who reported a depression diagnosis. Results showed differences on four relationship-oriented variables: marital status, cohabitation status, parental status, and how participants answered the yes/no item about sexual intimacy challenges. For tests of parental status, differences were only evident in tests of whether the

couple had children together or not, as a combined variable including children together and children from previous relationships did not reveal statistically significant differences compared to non-parents. Please refer to Table 7 and Table 8 for statistically significant *t*-test results for women and men.

Based on these preliminary analyses, I included eight covariates in the substantive analyses: age and relationship length (two continuous variables), depression diagnosis status, medication, marital status, parental status, cohabitation status, and report of sexual intimacy challenges (six dichotomous variables). In the following section, I overview my analytical process and describe the results of the quantitative analyses.

Table 5

Correlations between Participant Age and Study Variables for Men and Women

Variable	Men	Women
Libido – Frequency	.20*	.32**
Libido – Partner Interest	-	.35**
Libido – Full Scale	.22*	.37**
Cognitive – Own Isolation	-	.25*
Cognitive – Partner Self-Esteem	-	.24*
Cognitive – Partner Isolation	-	.26*
Cognitive – Own Full Scale	-	.23*
Cognitive – Partner Full Scale	-	.26*
Interactive – Own Conversation	-	.32**
Interactive – Own Initiation	-	.25*
Interactive – Partner Conversation	-	.38**
Interactive – Partner Initiation	-	.25*
Interactive – Own Full Scale	-	.30*
Interactive – Partner Full Scale	-	.33**
Sexual Communication Effectiveness	-	-.23*
Sexual Satisfaction	-.27*	-.30*

Note. $n = 106$ men, 106 women.

* $p \leq .05$. ** $p \leq .01$.

Table 6

Correlations between Relationship Length and Study Variables for Men and Women

Variable	Men	Women
Depression Uncertainty	.20*	.20*
Interference from a Partner	-	.22*
Depression Interference	-	.22*
Libido – Partner Interest	-	.25*
Libido – Full Scale	-	.27*
Cognitive – Partner Self-Esteem	.22*	-
Cognitive – Partner Isolation	-	.22**
Cognitive – Partner Full Scale	-	.21*
Interactive – Own Conversation	.21*	-
Interactive – Own Initiation	.20*	-
Interactive – Own Full Scale	.22*	-

Note. $n = 106$ men, 106 women.

* $p \leq .05$. ** $p \leq .01$.

Table 7

Independent Samples t-tests for Women

Variable	Yes		No		<i>t</i> (104)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Depressed vs. Non-Depressed					
Depressive Symptoms	1.27	0.66	1.00	0.57	2.07*
Libido – Own Interest	3.31	1.26	2.34	1.18	3.75**
Cognitive – Own Self Esteem	3.02	1.25	2.21	1.20	3.14*
Cognitive – Own Full Scale	3.00	1.14	2.34	1.20	2.76*
Medication vs. Non-Medicated Treatment ^a					
Depressive Symptoms	1.38	0.61	0.81	0.71	2.94*
Partner Uncertainty	2.31	1.25	1.65	0.84	2.30*
Libido – Full Scale	3.03	0.73	2.56	0.86	2.07*
Cognitive – Own Self-Esteem	3.21	1.17	2.15	1.24	2.91*
Cognitive – Own Isolation	3.11	1.12	2.41	1.33	1.98*
Cognitive – Own Full Scale	3.16	1.07	2.28	1.21	2.63*
Cohabitation vs. Living Separately					
Effective Sexual Communication	3.89	1.17	4.36	0.67	-2.37*
Parents vs. Non-Parents					
Libido – Own Interest	3.40	1.27	2.75	1.28	2.52*
Libido – Full Scale	3.08	0.92	2.72	0.83	2.06*
Cognitive – Own Isolation	3.17	1.20	2.60	1.23	2.32*
Interactive – Own Conversation	3.09	1.22	2.62	1.04	2.13*
Sexual Satisfaction	4.33	1.67	5.12	1.32	-2.70*

Table 7 (continued)

Variable	Yes		No		<i>t</i> (104)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Married vs. Non-Married					
Relationship Uncertainty	2.44	1.17	2.00	0.80	2.27*
Interference from a Partner	2.34	1.36	1.79	1.19	2.12*
Depression Interference	2.41	1.31	1.88	1.14	2.12*
Libido – Frequency	3.35	1.17	2.84	0.67	2.85*
Libido – Own Interest	3.30	1.28	2.50	1.22	3.14*
Libido – Partner Interest	2.62	1.19	2.11	1.04	2.26*
Libido – Full Scale	3.09	0.85	2.48	0.80	3.63**
Cognitive – Own Self Esteem	3.00	1.28	2.37	1.21	2.49**
Cognitive – Own Isolation	3.12	1.21	2.32	1.15	3.37**
Cognitive – Partner Self Esteem	2.55	1.29	2.07	1.05	2.05**
Cognitive – Partner Isolation	2.55	1.09	2.11	1.00	2.09*
Cognitive – Own Full Scale	3.06	.114	2.34	1.16	3.11*
Cognitive – Partner Full Scale	2.55	1.15	2.09	0.98	2.18*
Interactive – Own Conversation	3.02	1.17	2.44	0.96	2.67*
Interactive – Own Initiation	2.84	1.15	2.40	0.92	2.18*
Interactive – Partner Conversation	2.84	1.10	2.35	0.90	2.51*
Interactive – Own Full Scale	2.93	1.09	2.42	0.89	2.64*
Effective Sexual Communication	3.76	1.20	4.32	0.85	-2.80*
Sexual Satisfaction	4.41	1.53	5.50	1.19	-3.84**

Table 7 (continued)

Variable	Yes		No		<i>t</i> (104)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Sexual Intimacy Challenges					
Depressive symptoms	1.36	0.66	1.01	0.57	2.87*
Self Uncertainty	2.43	1.26	1.85	0.82	2.83*
Partner Uncertainty	2.56	1.37	1.86	0.78	3.30**
Relationship Uncertainty	2.59	1.19	1.94	0.80	3.32**
Depression Uncertainty	3.14	1.09	2.29	0.73	4.74**
Interference from a Partner	2.47	1.42	1.78	1.11	2.78*
Depression Interference	2.66	1.34	1.74	0.99	4.05**
Libido – Frequency	3.53	1.07	2.76	0.86	4.04**
Libido – Own Interest	3.78	0.99	2.18	1.09	7.29**
Libido – Partner Interest	2.91	1.17	1.93	0.91	4.81**
Libido – Full Scale	3.40	0.61	2.29	0.75	8.40**
Cognitive – Own Self-Esteem	3.48	1.03	2.01	1.08	7.11**
Cognitive – Own Isolation	3.65	0.81	1.94	1.00	9.71**
Cognitive – Partner Self-Esteem	2.96	1.18	1.76	0.94	5.80**
Cognitive – Partner Isolation	3.00	0.95	1.75	0.80	7.26**
Cognitive – Own Full Scale	3.57	0.79	1.98	0.99	9.14**
Cognitive – Partner Full Scale	2.98	0.99	1.75	0.86	6.78**
Interactive – Own Conversation	3.34	0.97	2.24	1.00	5.71**
Interactive – Own Initiation	3.12	1.04	2.22	0.95	4.64**
Interactive – Partner Conversation	3.12	0.98	2.17	0.92	5.09**

Table 7 (continued)

Variable	Yes		No		<i>t</i> (104)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Sexual Intimacy Challenges (cont.)					
Interactive – Partner Initiation	2.76	1.07	2.12	0.88	3.35**
Interactive – Own Full Scale	3.23	0.90	2.23	0.95	5.54**
Interactive – Partner Full Scale	2.94	0.96	2.15	0.87	4.42**
Dyadic Sexual Communication	3.95	0.86	4.41	0.83	-2.84*
Effective Sexual Communication	3.49	1.14	4.47	0.83	-5.05**
Sexual Satisfaction	4.05	1.32	5.63	1.24	-6.31**

Note. Depressed ($n = 72$) vs. non depressed ($n = 34$); Only participants diagnosed with depression were asked about medication (Yes: $n = 59$; No: $n = 13$); Cohabiting ($n = 87$) vs. living separately ($n = 19$); Parents ($n = 40$) vs. non-parents ($n = 66$); Married ($n = 66$) vs. not married ($n = 40$); Sexual Intimacy Challenges yes ($n = 54$) vs. no ($n = 52$).

^a For this test, $t = 70$ women.

* $p \leq .05$. ** $p \leq .01$.

Table 8

Independent Samples t-tests for Men

Variable	Yes		No		<i>t</i> (104)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Depressed vs. Non-Depressed Depressive Symptoms	1.27	0.70	0.64	0.53	5.26**
Libido – Own Interest	2.71	1.18	2.24	1.02	2.18*
Cognitive – Own Self Esteem	2.65	1.20	1.98	1.04	3.04*
Cognitive – Own Isolation	2.70	1.18	2.25	0.98	2.10*
Cognitive – Own Full Scale	2.67	1.14	2.12	0.94	2.72*
Medication vs. Non-Medicated Treatment ^a Partner Uncertainty	2.39	1.17	1.82	0.57	2.93*
Cohabitation vs. Living Separately Depressive Symptoms	1.03	0.72	0.71	0.54	2.15*
Parents vs. Non-Parents Depressive Symptoms	1.20	0.80	0.84	0.60	2.46*
Married vs. Non-Married Depressive Symptoms	1.12	0.76	0.72	0.52	3.17*
Partner Uncertainty	2.34	1.09	1.95	0.78	2.09*
Interference from a Partner	2.44	1.32	1.88	1.09	2.25*
Libido – Frequency	3.62	1.08	3.06	0.93	2.71*
Libido – Own Interest	2.67	1.17	2.17	0.98	2.27*
Libido – Partner Interest	3.16	1.27	2.45	1.11	2.86*
Libido – Full Scale	3.15	0.94	2.57	0.85	3.20*
Cognitive – Own Self Esteem	2.53	1.25	2.00	0.97	2.43*

Table 8 (continued)

Variable	Yes		No		<i>t</i> (104)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Married vs. Non-Married (cont.)					
Cognitive – Own Isolation	2.70	1.13	2.13	0.99	2.63*
Cognitive – Partner Self Esteem	3.01	1.20	2.26	1.09	3.24*
Cognitive – Partner Isolation	2.95	1.14	2.25	0.96	3.26*
Cognitive – Own Full Scale	2.62	1.11	2.07	0.96	2.60*
Cognitive – Partner Full Scale	2.98	1.09	2.25	0.98	3.46**
Sexual Satisfaction	4.81	1.40	5.74	1.17	-3.53**
Sexual Intimacy Challenges					
Depressive symptoms	1.23	0.72	0.75	0.61	3.66**
Self Uncertainty	2.50	1.08	1.81	0.85	3.64**
Partner Uncertainty	2.53	1.06	1.90	0.85	3.38**
Relationship Uncertainty	2.62	1.14	1.90	0.68	3.85**
Depression Uncertainty	2.93	1.01	2.37	0.71	3.28**
Interference from a Partner	2.59	1.39	1.92	1.06	3.86*
Depression Interference	2.64	1.25	1.77	1.03	3.86**
Libido – Frequency	4.01	0.83	2.89	0.96	6.37**
Libido – Own Interest	3.07	1.08	1.98	0.90	5.66**
Libido – Partner Interest	3.68	0.96	2.22	1.08	7.32**
Libido – Full Scale	3.59	0.61	2.36	0.82	8.61**
Cognitive – Own Self-Esteem	2.86	1.24	1.87	0.90	4.64**
Cognitive – Own Isolation	3.11	1.00	1.95	0.91	6.22**

Table 8 (continued)

Variable	Yes		No		<i>t</i> (104)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Sexual Intimacy Challenges (cont.)					
Cognitive – Partner Self-Esteem	3.43	0.88	2.12	1.13	6.55**
Cognitive – Partner Isolation	3.40	0.79	2.08	1.00	7.47**
Cognitive – Own Full Scale	2.99	1.01	1.91	0.88	5.84**
Cognitive – Partner Full Scale	3.42	0.70	2.10	1.02	7.81**
Interactive – Own Conversation	3.21	1.07	2.31	0.94	4.59**
Interactive – Own Initiation	3.07	0.99	2.23	0.91	4.53**
Interactive – Partner Conversation	3.18	0.97	2.31	0.95	4.67**
Interactive – Partner Initiation	3.15	0.84	2.23	0.92	4.36**
Interactive – Own Full Scale	3.14	0.94	2.27	0.89	4.86**
Interactive – Partner Full Scale	3.17	0.82	2.27	0.89	5.33**
Dyadic Sexual Communication	3.84	1.01	4.46	0.82	-3.43**
Effective Sexual Communication	3.68	1.19	4.53	0.68	-4.43**
Sexual Satisfaction	4.24	1.23	5.95	0.96	-8.00**

Note. Depressed ($n = 56$) vs. non depressed ($n = 50$); Only participants diagnosed with depression were asked about medication (Yes: $n = 43$; No: $n = 13$); Parents ($n = 40$) vs. non-parents ($n = 66$); Cohabiting ($n = 87$) vs. living separately ($n = 19$); Married ($n = 66$) vs. not married ($n = 40$); Sexual Intimacy Challenges yes ($n = 49$) vs. no ($n = 57$).

* $p \leq .05$. ** $p \leq .01$.

^a For this test, $t = 54$ men.

Substantive Analyses of Quantitative Data

I tested 40 models to examine the actor and partner associations between depressive symptoms and mechanisms of turbulence (H1), mechanisms of turbulence and sexual intimacy challenges (H2), sexual intimacy challenges and sexual satisfaction (H3), sexual intimacy challenges and sexual communication (H4), and sexual communication and sexual satisfaction (H5). I also estimated indirect effects of sexual intimacy challenges on sexual satisfaction through sexual communication (H6). Within these models, I evaluated the possibility of partner effects (RQ4). I conducted tests separately by source of relational uncertainty (self, partner, relationship, and depression) and by second-order sexual intimacy challenge (libido, own cognitive, partner cognitive, own interactive, and partner interactive) in order to (a) avoid problems related to multicollinearity, (b) account for conceptual differences among sources of relational uncertainty, and (c) assess differences among types of sexual intimacy challenges. Within each set of tests, I report results for two measures of sexual communication: the established dyadic sexual communication scale (DSCS) and the new sexual communication competence effectiveness (SCCE) scale.

Model fitting. I used structural equation modeling (SEM; AMOS 20) using maximum likelihood estimation to estimate the hypothesized models. Structural equation modeling is useful for these analyses because it can account for measurement error, aids in the study of latent variables, and allows for modeling of mediation (Bollen, 1989; Holbert & Stephenson, 2008; Preacher & Hayes, 2008b). Additionally, structural equation modeling tests for actor and partner effects simultaneously (Kenny et al., 2006). In AMOS, I formed composite variables (i.e., parcels) to construct a latent-composite model, which accounts for both systemic and random error (Stephenson & Holbert, 2003). Following Bollen (1989), I set the error variance for each

latent variable to $(1-\alpha)*\sigma^2$. To control for the covariates, I regressed each substantive variable onto the set of eight covariates. I then used the residual variables to construct the substantive models. This process ensured that the path coefficients of the models signify associations between variables after accounting for effects of the control variables. As a final preparation for the APIM analyses, I standardized the variables using the means and standard deviations computed across the full sample to aid interpretation (Kenny et al., 2006). The model included male and female versions of each variable and path pictured in Figure 1 and started with paths for both actor and partner effects for each hypothesis.

I assessed the model fit with three goodness-of-fit tests: χ^2 / df should not exceed 3.00; CFI should be greater than .90; and RMSEA should be less than .10 (Browne & Cudek, 1993; Kenny et al., 2006; Kline, 2011). Using several fit indices in combination is a recommended technique to compensate for limitations of an individual test (Hu & Bentler, 1999). The information provided by the model chi-square test (χ^2 / df) should be used in combination with other means of assessing fit because the model chi-square is prone to Type I error and there is not consensus on what constitutes a strong fit (Kenny et al., 2006; Kline, 2011). The CFI is an incremental fit index because it represents the improvement in fit of the target model with a null model, and the RMSEA is an absolute fit index because it represents how well the model fits the data without comparing to a reference model (Hu & Bentler, 1999, p. 2; Kenny et al., 2006). After testing the hypothesized model for each set of variables, if the fit criteria were not met, I first examined the path coefficients and deleted non-statistically significant paths one-by-one. I then inspected the modification indices to make theoretically reasonable additions to the models. I followed this trim-and-add strategy to achieve adequate fit, and then examined the path coefficients and tests of indirect effects.

Testing for sex differences and indirect effects. After achieving model fit, I examined each model for paths that remained or were added for both men and women, then added constraints to set those paths as equal across sexes (Kenny et al., 2006). Comparing the constrained models to the free models allows for testing for sex differences in the path coefficients, as the free models will display better fit if differences exist (Kenny et al., 2006). In all 40 models, the constrained models were equal or slightly better fits than the free models, indicating that differences for men and women are not substantial. Thus, the constrained models are reported here.

To examine the hypothesized indirect effect of sexual intimacy challenges on sexual satisfaction through sexual communication, I employed bootstrapping within the SEM analyses. Bootstrapping is a procedure that resamples the data a specified number of times and assesses the indirect effects from each set of resampled cases. Bootstrapping procedures create an approximate distribution of the mediated effect by repeatedly sampling (usually at least 1,000 times, but commonly 5,000 times) from the data to estimate the indirect effect in each resampled set of data (Hayes, 2009; Preacher & Hayes, 2008a). This distribution of the estimated indirect effects provides a confidence interval for the presence of an indirect effect in the full sample (Preacher & Hayes, 2008a, 2008b). Preacher and Hayes (2008a, 2008b) and Hayes (2009) position bootstrapping as a recommended method for testing mediational hypotheses because it does not assume a symmetrical distribution of the indirect effects, is more powerful than other methods, can detect indirect effects even when a direct effect is not apparent, is able to accommodate smaller samples than other methods, and reduces the instance of Type 1 errors. As recommended by Hayes (2009), I generated 5,000 samples to test the size and statistical significance of any indirect effects of sexual communication on the association between sexual

intimacy challenges and sexual satisfaction. To determine the statistical significance of effects, I examined the 95% bias-corrected confidence intervals, considering an indirect effect to be present when zero was not held within the confidence interval (Preacher & Hayes 2008b).

In the following pages, I explain the results of these models by describing the necessary modifications, providing the final fit statistics, and outlining the results of the tests for indirect effects. To start, I summarize several model modifications that were common across analyses. Next, I overview the models resulting from these analyses, organized first, by source of relational uncertainty and then, by measure of sexual communication. Results are reported separately for models operationalizing sexual communication with the established dyadic sexual communication (DSCS) measure and the new measure of sexual communication competence effectiveness (SCCE). Please refer to Figure 2 for a visual representation of the adjusted model.

Path modifications. Several modifications were necessary in each round of analyses to achieve model fit, but some patterns of adjustment were consistent across tests. The actor and partner paths for women from depressive symptoms to interference from a partner (path *b*) were trimmed in 40 out of 40 tests, but the actor and partner paths for men from depressive symptoms to interference from a partner (path *b*) remained in 40 of 40 models. The path from relational uncertainty to sexual intimacy challenges (path *c*) was statistically insignificant and was, thus, deleted in 40 out of 40 tests. Finally, the actor paths for men and women from sexual communication to sexual satisfaction (path *g*) remained in 40 out of 40 tests.

Some paths were universal or nearly universal across either sexual communication scale, source of relational uncertainty, or sexual intimacy challenge. A first set of modifications was consistent based on sexual communication scale. The path from sexual intimacy challenges to sexual satisfaction (path *e*) showed no statistically significant association for both women and

men in 19 out of 20 tests for the DSCS, with the exception of the path for women in the depression uncertainty model for own cognitive challenges. The actor and partner paths for women from sexual intimacy challenges to sexual communication (path *f*) were retained in all 20 tests of the DSCS. In tests of the SCCE, actor path *f* was retained only for women in models of own interactive challenges and for men in models of own interactive and partner interactive challenges. The data revealed an actor path should be added connecting relational uncertainty to sexual satisfaction (path *y*) for both men and women in 20 out of 20 DSCS models. The data also prompted the addition of an actor path for men and women from relational uncertainty to sexual communication (path *x*) in 20 out of 20 SCCE models.

A second set of paths was common across the context-free sources of relational uncertainty but unique for the depression uncertainty and interference models. In models of self, partner, and relationship uncertainty, the actor paths from interference from a partner to sexual intimacy challenges (path *d*) were trimmed for both women and men in models of own cognitive challenges. Path *d* was also trimmed for men in models of own interactive and partner interactive challenges. Identical path deletions were needed in the models for depression uncertainty, except these models did retain the path for men for partner interactive challenges. In models of self, partner, and relationship uncertainty, the data supported the partner path from women's interference from a partner to men's sexual intimacy challenges (path *d*) in models for partner cognitive and partner interactive challenges, but this path was not statistically significant in the depression uncertainty models. For the self, partner, and relationship models considering the SCCE, the actor path from sexual intimacy challenges to sexual satisfaction (path *e*) was trimmed for women for libido and partner interactive challenges and for men for libido, own cognitive, partner cognitive, and own interactive challenges. In the depression uncertainty

models of the SCCE, the pattern was identical for men as in the self, partner, and relationship uncertainty models, but path *e* was retained for women in four of five models (with the exception of the model for partner interactive challenges). In models of self, partner and relationship uncertainty with the DSCS, the actor path from sexual intimacy challenges to sexual communication (path *f*) remained for men. For the depression uncertainty models with the DSCS, the actor path *f* for men in tests of libido and partner cognitive challenges was not statistically significant. In the self, partner, and relationship uncertainty models, the data revealed an actor path from depressive symptoms to sexual intimacy challenges (path *v*) for both men and women in models for own cognitive and own interactive challenges for the DSCS models, with an additional actor path for men in the SCCE models for partner interactive challenges. In the depression uncertainty models, the same paths were apparent, but the men's actor effect for partner interactive challenges was statistically significant in both the DSCS and the SCCE tests.

A third set of paths was similar across measures of sexual communication but unique based on sexual intimacy challenge. For all four sources of relational uncertainty, the partner path from men's sexual intimacy challenges to women's sexual satisfaction (path *e*) was retained for partner interactive challenges. The data revealed a partner path for all four sources of relational uncertainty from men's depressive symptoms to women's sexual intimacy challenges (path *v*) for partner cognitive challenges.

Figure 2 displays the hypothesized and added paths. In the following sections, I overview any remaining path modifications based on source of relational uncertainty and measure of sexual communication. Information about path coefficients for women's actor effects (Table 9, Table 13, Table 17, and Table 21), men's actor effects, (Table 10, Table 14, Table 18, and Table 22), men's and women's partner effects (Table 11, Table 15, Table 19, and Table 23) and the

results of the tests of indirect effects (Table 12, Table 16, Table 20, Table 24) are included after the sections on each source of relational uncertainty. Table 25 and Table 26 offer a summary of the final paths for both actor and partner effects and for hypothesized and added paths. Finally, Table 27 includes information about the range of the squared multiple correlation statistic for each endogenous variable.

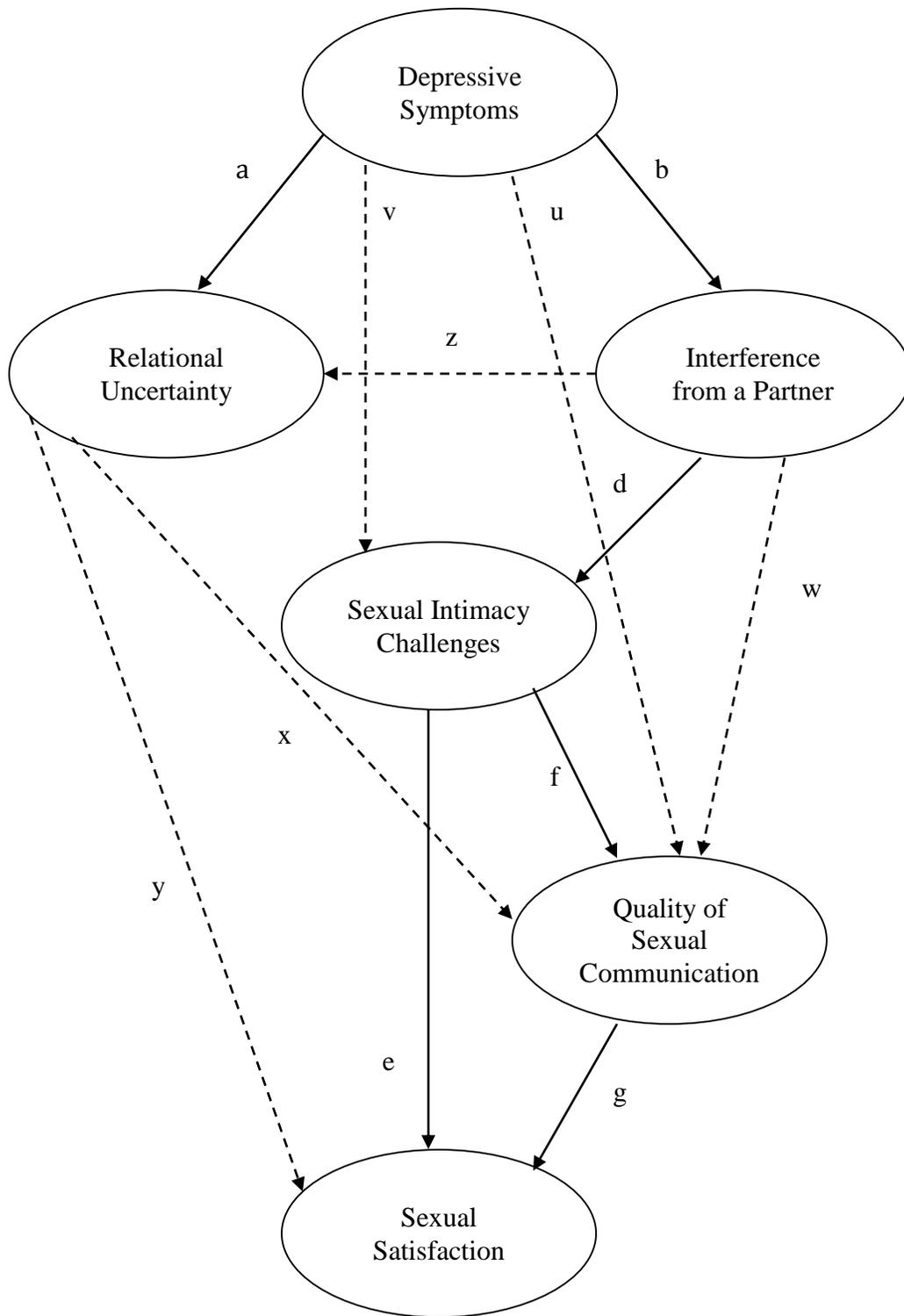


Figure 2. Modified Model. Hypothesized paths are solid lines, and added paths are dashed lines. See Tables 9-24 for specific model modifications and path coefficients for men and women.

Final Structural Equation Models

Self uncertainty. Across both measures of sexual communication, two modifications were identical. The actor paths for men and women linking depressive symptoms to relational uncertainty (path *a*) were retained. Also, in all 10 models, the data supported adding an actor path for women from interference from a partner to relational uncertainty (path *z*).

Self uncertainty and the DSCS. For models considering self uncertainty with the DSCS as a measure of sexual communication, three additional paths were necessary. In all five models, the modification indices revealed an actor path from relational uncertainty to sexual communication (path *x*) for men and an actor path from interference from a partner to sexual communication (path *w*) for women. Finally, the data supported an actor path for women and men from depressive symptoms to sexual communication (path *u*) in the model for partner interactive challenges.

These collections of modifications resulted in fitting models for libido ($\chi^2 / df = 1.44$; CFI = .95; RMSEA = .07); own cognitive ($\chi^2 / df = 1.51$; CFI = .95; RMSEA = .07); partner cognitive ($\chi^2 / df = 1.31$; CFI = .97; RMSEA = .06); own interactive ($\chi^2 / df = 1.09$; CFI = .99; RMSEA = .03); and partner interactive ($\chi^2 / df = 1.54$; CFI = .95; RMSEA = .07) challenges. In these adjusted models, an indirect effect from sexual intimacy challenge to sexual satisfaction through communication was apparent for men and women for all five sexual intimacy challenges. An indirect partner effect was also statistically significant in all five models such that women's sexual intimacy challenges were associated with men's sexual satisfaction through men's sexual communication.

Self uncertainty and the SCCE. For models considering self uncertainty with the SCCE, the data suggested a path for both men and women from relational uncertainty to sexual satisfaction (path γ) for the libido and partner interactive challenges.

These modifications produced fitting models for difficulties related to libido ($\chi^2 / df = 1.47$; CFI = .94; RMSEA = .07); own cognitive ($\chi^2 / df = 1.57$; CFI = .93; RMSEA = .07); partner cognitive ($\chi^2 / df = 1.57$; CFI = .93; RMSEA = .07); own interactive ($\chi^2 / df = 1.36$; CFI = .96; RMSEA = .06); and partner interactive ($\chi^2 / df = 1.26$; CFI = .97; RMSEA = .05) challenges. Two statistically significant indirect effects appeared in these models: an effect for both men and women for own interactive challenges and an indirect effect for men for partner interactive challenges.

Table 9

Path Coefficients for Women's Actor Effects in Self Uncertainty Models

Model	Hypothesized Paths								Added Paths			
	<i>a</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>z</i>	<i>y</i>	<i>x</i>	<i>w</i>	<i>v</i>	<i>u</i>
Dyadic Sexual Communication Scale												
Libido	.33***	-	.29***	-	-.30***	.44***	.29**	-.38***	N/A	-.43**	N/A	N/A
Own Cog.	.33***	-	-	-	-.37***	.44***	.28**	-.38***	N/A	-.41**	.50***	N/A
Partner Cog.	.33***	-	.37**	-	-.35***	.43***	.29**	-.38***	N/A	-.40**	N/A	N/A
Own Int.	.33***	-	.27**	-	-.63***	.45***	.29**	-.37***	N/A	-.28**	.36***	N/A
Partner Int.	.33***	-	.40**	-	-.43**	.45***	.28**	-.36***	N/A	-.32**	N/A	-.22***
Sexual Communication Effectiveness Scale												
Libido	.34***	-	.29***	-	-	.42***	.30**	-.31***	-.56***	N/A	N/A	N/A
Own Cog.	.34***	-	-	-.33***	-	.59***	.29**	N/A	-.58***	N/A	.49***	N/A
Partner Cog.	.34***	-	.37**	-.20**	-	.60***	.29**	N/A	-.58***	N/A	N/A	N/A
Own Int.	.33***	-	.28***	-.17*	-.39***	.58***	.29**	N/A	-.47***	N/A	.36***	N/A
Partner Int.	.33***	-	.40**	-	-	.30**	.30**	-.33***	-.53***	N/A	N/A	N/A

Note. Letters refer to paths depicted in Figure 2. A dash represents a hypothesized path that was dropped to achieve model fit, and N/A indicates paths that were not added in that model. Path *c* was dropped in all tests and is not included in this table.

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

Table 10

Path Coefficients for Men's Actor Effects in Self Uncertainty Models

Model	Hypothesized Paths								Added Paths			
	<i>a</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>z</i>	<i>y</i>	<i>x</i>	<i>w</i>	<i>v</i>	<i>u</i>
Dyadic Sexual Communication Scale												
Libido	.33***	.39***	.29***	-	-.30***	.44***	N/A	-.38***	.34**	N/A	N/A	N/A
Own Cog.	.33***	.39***	-	-	-.37***	.44***	N/A	-.38***	-.29**	N/A	.50***	N/A
Partner Cog.	.33***	.39***	.37**	-	-.35***	.43***	N/A	-.38***	-.26**	N/A	N/A	N/A
Own Int.	.33***	.39***	-	-	-.63***	.45***	N/A	-.37***	-.22**	N/A	.36***	N/A
Partner Int.	.33***	.39***	-	-	-.43**	.45***	N/A	-.36***	-.24**	N/A	N/A	-.22***
Sexual Communication Effectiveness Scale												
Libido	.34***	.39***	.29**	-	-	.42***	N/A	-.31***	-.56***	N/A	N/A	N/A
Own Cog.	.34***	.39***	-	-	-	.59***	N/A	N/A	-.58***	N/A	.49***	N/A
Partner Cog.	.34***	.39***	.37**	-	-	.60***	N/A	N/A	-.58***	N/A	N/A	N/A
Own Int.	.33***	.39***	-	-	-.39***	.58***	N/A	N/A	-.47***	N/A	.36***	N/A
Partner Int.	.33***	.39***	-	-.32**	-.23**	.30***	N/A	-.33***	-.53***	N/A	.22*	N/A

Note. Letters refer to paths depicted in Figure 2. A dash represents a hypothesized path that was dropped to achieve model fit, and N/A indicates paths that were not added in that model. Path *c* was dropped in all tests and is not included in this table.

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

Table 11

Path Coefficients for Partner Effects in Self Uncertainty Models

Model	Women		Men		
	<i>d</i>	<i>f</i>	<i>b</i>	<i>e</i>	<i>v</i>
	Dyadic Sexual Communication Scale				
Libido	-	-.35***	.40***	-	-
Own Cognitive	-	-.24*	.40***	-	-
Partner Cognitive	.21*	-.41***	.39***	-	.29**
Own Interactive	-	-.20**	.40***	-	-
Partner Interactive	.37**	-.35**	.40***	-.18*	-
	Sexual Communication Effectiveness Scale				
Libido	-	-	.39***	-	-
Own Cognitive	-	-	.39***	-	-
Partner Cognitive	.21*	-	.39***	-	.28**
Own Interactive	-	-	.39***	-	-
Partner Interactive	.28**	-	.39***	-.40***	-

Note. Letters refer to paths depicted in Figure 2.

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

Table 12

Summary of Indirect Effects of Sexual Communication on the Association between Sexual Intimacy Challenges and Sexual Satisfaction - Self Uncertainty

Model	β	95% BC CI (lower, upper)
Dyadic Sexual Communication Scale		
Libido (actor)	-.13***	-.21, -.07
Libido (partner – women to men)	-.15***	-.26, -.08
Own Cognitive (actor)	-.16***	-.25, -.10
Own Cognitive (partner – women to men)	-.10*	-.18, -.03
Partner Cognitive (actor)	-.15***	-.23, -.09
Partner Cognitive (partner – women to men)	-.18***	-.26, -.11
Own Interactive (actor)	-.28***	-.38, -.19
Own Interactive (partner – women to men)	-.09**	-.16, -.04
Partner Interactive (actor)	-.19***	-.28, -.12
Partner Interactive (partner – women to men)	-.16***	-.25, -.09
Sexual Communication Effectiveness Scale		
Own Interactive (actor) ^a	-.23***	-.31, -.16
Partner Interactive (actor – men only) ^b	-.07**	-.14, -.02

Note. Only models with statistically significant indirect effects are reported. Unless otherwise indicated, all indirect effects (a) were evident for both men and women and (b) represent full mediation.

BC CI = Bias corrected confidence interval.

^a Partial mediation for women, full for men.

^b Partial mediation for men.

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

Partner uncertainty. Three sets of modifications were consistent for the partner uncertainty models across the DSCS and the SCCE. The actor path for women for depressive symptoms to relational uncertainty (path *a*) was statistically significant across models, but no association was apparent in this actor path for men. In all 10 tests, the modification indices revealed a partner path from women's interference from a partner to men's relational uncertainty (path *z*). The modification indices also suggested an actor path for women from interference from a partner to sexual communication (path *w*) for each sexual intimacy challenge in both the DSCS and the SCCE models.

Partner uncertainty and the DSCS. In models considering partner uncertainty with the DSCS, the data also supported an actor effect for women and men from depressive symptoms to sexual communication (path *u*) for the partner interactive challenges.

This pattern of modifications formed fitting models for challenges related to libido ($\chi^2 / df = 1.63$; CFI = .93; RMSEA = .08); own cognitive ($\chi^2 / df = 1.59$; CFI = .94; RMSEA = .08); partner cognitive ($\chi^2 / df = 1.51$; CFI = .95; RMSEA = .07); own interactive ($\chi^2 / df = 1.16$; CFI = .98; RMSEA = .04); and partner interactive ($\chi^2 / df = 1.66$; CFI = .94; RMSEA = .08) challenges. An indirect effect emerged from sexual intimacy challenges to sexual satisfaction through communication for men and women for all five sexual intimacy challenges. An indirect partner effect was also statistically significant in all five models such that women's sexual intimacy challenges were associated with men's sexual communication, which was associated with men's sexual satisfaction.

Partner uncertainty and the SCCE. One retained path was unique for the partner uncertainty models focusing on the SCCE. The partner path for women from sexual intimacy

challenges to sexual communication (path *f*) remained in the models of own cognitive and partner cognitive challenges.

These modifications produced fitting models for challenges related to libido ($\chi^2 / df = 1.63$; CFI = .91; RMSEA = .08); own cognitive ($\chi^2 / df = 1.44$; CFI = .95; RMSEA = .07); partner cognitive ($\chi^2 / df = 1.45$; CFI = .95; RMSEA = .07); own interactive ($\chi^2 / df = 1.31$; CFI = .96; RMSEA = .05); and partner interactive ($\chi^2 / df = 1.70$; CFI = .92; RMSEA = .08) challenges. The indirect effect was statistically significant in four tests: from women to men for own cognitive challenges, from women to men in partner cognitive challenges, for both men and women for own interactive challenges, and for men for partner interactive challenges.

Table 13

Path Coefficients for Women's Actor Effects in Partner Uncertainty Models

Model	Hypothesized Paths								Added Paths			
	<i>a</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>z</i>	<i>y</i>	<i>x</i>	<i>w</i>	<i>v</i>	<i>u</i>
Dyadic Sexual Communication Scale												
Libido	.45***	-	.29**	-	-.32***	.54***	N/A	-.30**	N/A	-.39**	N/A	N/A
Own Cog.	.45***	-	-	-	-.39***	.55***	N/A	-.30**	N/A	-.40**	.50***	N/A
Partner Cog.	.45***	-	.37**	-	-.35**	.53***	N/A	-.29**	N/A	-.39***	N/A	N/A
Own Int.	.45***	-	.26**	-	-.64***	.55***	N/A	-.29**	N/A	-.27***	.36***	N/A
Partner Int.	.44***	-	.39**	-	-.41**	.53***	N/A	-.28**	N/A	-.34**	N/A	-.22***
Sexual Communication Effectiveness Scale												
Libido	.44***	-	.28**	-	-	.61***	N/A	N/A	-.41**	-.33**	N/A	N/A
Own Cog.	.45***	-	-	-.35***	-	.58***	N/A	N/A	-.41**	-.35**	.49***	N/A
Partner Cog.	.45***	-	.38**	-.21**	-	.59***	N/A	N/A	-.39**	-.38***	N/A	N/A
Own Int.	.44***	-	.27**	-.17*	-.42**	.57***	N/A	N/A	-.34**	-.19*	.36***	N/A
Partner Int.	.45***	-	.40**	-	-	.51***	N/A	N/A	-.38**	-.38***	N/A	N/A

Note. Letters refer to paths depicted in Figure 2. A dash represents a hypothesized path that was dropped to achieve model fit, and N/A indicates paths that were not added in that model. Path *c* was dropped in all tests and is not included in this table.

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

Table 14

Path Coefficients for Men's Actor Effects in Partner Uncertainty Models

Model	Hypothesized Paths								Added Paths			
	<i>a</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>z</i>	<i>y</i>	<i>x</i>	<i>w</i>	<i>v</i>	<i>u</i>
Dyadic Sexual Communication Scale												
Libido	-	.39***	.29**	-	-.32***	.54***	N/A	-.30**	N/A	N/A	N/A	N/A
Own Cog.	-	.39***	-	-	-.39***	.55***	N/A	-.30**	N/A	N/A	.50***	N/A
Partner Cog.	-	.39***	.37**	-	.35**	.53***	N/A	-.29**	N/A	N/A	N/A	N/A
Own Int.	-	.39***	-	-	-.64***	.55***	N/A	-.29**	N/A	N/A	.36***	N/A
Partner Int.	-	.39***	-	-	-.41**	.53***	N/A	-.28**	N/A	N/A	N/A	-.22***
Sexual Communication Effectiveness Scale												
Libido	-	.39***	.28**	-	-	.61***	N/A	N/A	-.41**	N/A	N/A	N/A
Own Cog.	-	.39***	-	-	-	.58***	N/A	N/A	-.41**	N/A	.49***	N/A
Partner Cog.	-	.39***	.39**	-	-	.59**	N/A	N/A	-.39**	N/A	N/A	N/A
Own Int.	-	.39***	-	-	-.42**	.57***	N/A	N/A	-.34**	N/A	.36***	N/A
Partner Int.	-	.39***	-	-.30**	.35**	.51***	N/A	N/A	-.38**	N/A	.22*	N/A

Note. Letters refer to paths depicted in Figure 2. A dash represents a hypothesized path that was dropped to achieve model fit, and N/A indicates paths that were not added in that model. Path *c* was dropped in all tests and is not included in this table.

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

Table 15

Path Coefficients for Partner Effects in Partner Uncertainty Models

Model	Women			Men		
	<i>d</i>	<i>f</i>	<i>z</i>	<i>b</i>	<i>e</i>	<i>v</i>
Dyadic Sexual Communication Scale						
Libido	-	-.33***	.34**	.39***	-	-
Own Cognitive	-	-.27**	.34**	.39***	-	-
Partner Cognitive	.22*	-.45***	.34**	.39***	-	.29**
Own Interactive	-	-.22**	.35**	.39***	-	-
Partner Interactive	.38***	-.34***	.35**	.39***	-.20**	-
Sexual Communication Effectiveness Scale						
Libido	-	-	.36**	.38***	-	-
Own Cognitive	-	-.25**	.36**	.38***	-	-
Partner Cognitive	.22*	-.26***	.35**	.38***	-	.29**
Own Interactive	-	-	.35**	.38***	-	-
Partner Interactive	.29**	-	.35**	.38***	-.39***	-

Note. Letters refer to paths depicted in Figure 2.

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

Table 16

Summary of Indirect Effects of Sexual Communication on the Association between Sexual Intimacy Challenges and Sexual Satisfaction - Partner Uncertainty

Model	β	95% BC CI (lower, upper)
Dyadic Sexual Communication Scale		
Libido (actor)	-.17***	-.26, -.11
Libido (partner – women to men)	-.18***	-.29, -.09
Own Cognitive (actor)	-.22***	-.31, -.14
Own Cognitive (partner – women to men)	-.15**	-.23, -.05
Partner Cognitive (actor)	-.19***	-.26, -.12
Partner Cognitive (partner – women to men)	-.24***	-.34, -.17
Own Interactive (actor)	-.35***	-.45, -.26
Own Interactive (partner – women to men)	-.12**	-.20, -.05
Partner Interactive (actor)	-.22***	-.33, -.16
Partner Interactive (partner – women to men)	-.18***	-.28, -.10
Sexual Communication Effectiveness Scale		
Own Cognitive (partner – women to men)	-.14**	-.25, -.04
Partner Cognitive (partner – women to men)	-.15***	-.25, -.07
Own Interactive (actor) ^a	-.24***	-.33, -.16
Partner Cognitive (actor, men only) ^b	-.18***	-.28, -.10

Note. Only models with statistically significant indirect effects are reported. Unless otherwise indicated, all indirect effects (a) were evident for both men and women and (b) represent full mediation.

BC CI = Bias corrected confidence interval.

^a Partial mediation for women, full for men.

^b Partial mediation for men.

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

Relationship uncertainty. Two patterns of paths were identical across measures of sexual communication for the relationship uncertainty tests. Actor paths for men and women linking depressive symptoms to relational uncertainty (path *a*) were statistically significant across models. In all the models for both the DSCS and the SCCE, the data revealed an actor path for women from interference from a partner to relational uncertainty (path *z*).

Relationship uncertainty and the DSCS. In models considering relationship uncertainty and the DSCS, three path additions were necessary based on the modification indices: an actor path for men from relational uncertainty to sexual communication (path *x*), an actor path from interference from a partner to sexual communication (path *w*) for women in all five models and for men in models for libido and own cognitive challenges, and an actor path for women from depressive symptoms to sexual communication (path *u*) for the partner interactive challenges.

The modifications led to fitting models for all five sexual intimacy challenges: libido ($\chi^2 / df = 1.67$; CFI = .93; RMSEA = .08); own cognitive ($\chi^2 / df = 1.57$; CFI = .94; RMSEA = .07); partner cognitive ($\chi^2 / df = 1.45$; CFI = .96; RMSEA = .07); own interactive ($\chi^2 / df = 1.26$; CFI = .98; RMSEA = .05); and partner interactive ($\chi^2 / df = 1.69$; CFI = .94; RMSEA = .08) challenges. Actor (for both men and women) and partner (from women to men) indirect effects were statistically significant in all five models.

Relationship uncertainty and the SCCE. One set of additions was needed for the models considering relationship uncertainty and the SCCE. In all five models, the data revealed actor paths for men and women from relational uncertainty to sexual satisfaction (path *y*).

These adjustments resulted in fitting models for libido ($\chi^2 / df = 1.60$; CFI = .93; RMSEA = .08); own cognitive ($\chi^2 / df = 1.48$; CFI = .95; RMSEA = .07); partner cognitive ($\chi^2 / df = 1.36$; CFI = .96; RMSEA = .06); own interactive ($\chi^2 / df = 1.22$; CFI = .98; RMSEA = .05); and

partner interactive ($\chi^2 / df = 1.35$; CFI = .96; RMSEA = .06) challenges. Two indirect effects appeared. For own interactive challenges, the indirect effect from sexual intimacy challenges to sexual satisfaction (through communication) was statistically significant for both men and women. For partner interactive challenges, the indirect effect was present and statistically significant only for men.

Table 17

Path Coefficients for Women's Actor Effects in Relationship Uncertainty Models

Model	Hypothesized Paths								Added Paths			
	<i>a</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>z</i>	<i>y</i>	<i>x</i>	<i>w</i>	<i>v</i>	<i>u</i>
Dyadic Sexual Communication Scale												
Libido	.31***	-	.29***	-	-.30***	.40***	.29**	-.48***	N/A	-.43**	N/A	N/A
Own Cog.	.31***	-	-	-	-.37***	.37***	.29**	-.49***	N/A	-.42**	.50***	N/A
Partner Cog.	.31***	-	.37**	-	-.34***	.37***	.29**	-.49***	N/A	-.41**	N/A	N/A
Own Int.	.31***	-	.27**	-	-.63***	.40***	.29**	-.48***	N/A	-.28***	.36**	N/A
Partner Int.	.31***	-	.40**	-	-.43**	.39***	.28**	-.47***	N/A	-.32**	N/A	-.21**
Sexual Communication Effectiveness Scale												
Libido	.32***	-	.29**	-	-	.36***	.31**	-.46***	-.57***	N/A	N/A	N/A
Own Cog.	.32***	-	-	-.28***	-	.35***	.29**	-.41**	-.57**	N/A	.49***	N/A
Partner Cog.	.33***	-	.37**	-.17*	-	.35***	.29**	-.44**	-.57**	N/A	N/A	N/A
Own Int.	.31***	-	.28***	-.16*	-.41***	.35***	.29**	-.42***	-.43***	N/A	.36***	N/A
Partner Int.	.32***	-	.40**	-	-	.31***	.32**	-.36***	-.52***	N/A	N/A	N/A

Note. Letters refer to paths depicted in Figure 2. A dash represents a hypothesized path that was dropped to achieve model fit, and N/A indicates paths that were not added in that model. Path *c* was dropped in all tests and is not included in this table.

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

Table 18

Path Coefficients for Men's Actor Effects in Relationship Uncertainty Models

Model	Hypothesized Paths								Added Paths			
	<i>a</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>z</i>	<i>y</i>	<i>x</i>	<i>w</i>	<i>v</i>	<i>u</i>
Dyadic Sexual Communication Scale												
Libido	.31***	.39***	.29***	-	-.30***	.40***	N/A	-.48***	-.33**	-.43**	N/A	N/A
Own Cog.	.31***	.39***	-	-	-.37***	.37***	N/A	-.49***	-.30**	-.42**	.50***	N/A
Partner Cog.	.31***	.39***	.37**	-	-.34***	.37***	N/A	-.49***	-.25**	N/A	N/A	N/A
Own Int.	.31***	.39***	-	-	-.63***	.40***	N/A	-.48***	-.24**	N/A	.36***	N/A
Partner Int.	.31***	.39***	-	-	-.43**	.39***	N/A	-.47***	-.23*	N/A	N/A	N/A
Sexual Communication Effectiveness Scale												
Libido	.32***	.39***	.29**	-	-	.36***	N/A	-.46***	-.57***	N/A	N/A	N/A
Own Cog.	.32***	.39***	-	-	-	.35***	N/A	.41***	-.57**	N/A	.49***	N/A
Partner Cog.	.33***	.39***	.37**	-	-	.35***	N/A	-.44**	-.57**	N/A	N/A	N/A
Own Int.	.31***	.39***	-	-	-.41***	.35***	N/A	-.42***	-.43***	N/A	.36***	N/A
Partner Int.	.32***	.39***	-	-.31**	-.36**	.31***	N/A	-.36***	-.52***	N/A	.22*	N/A

Note. Letters refer to paths depicted in Figure 2. A dash represents a hypothesized path that was dropped to achieve model fit, and N/A indicates paths that were not added in that model. Path *c* was dropped in all tests and is not included in this table.

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

Table 19

Path Coefficients for Partner Effects in Relationship Uncertainty Models

Model	Women		Men		
	<i>d</i>	<i>f</i>	<i>b</i>	<i>e</i>	<i>v</i>
	Dyadic Sexual Communication Scale				
Libido	-	-.35***	.40***	-	-
Own Cognitive	-	-.27**	.40***	-	-
Partner Cognitive	.21*	-.42***	.39***	-	.29**
Own Interactive	-	-.20**	.40***	-	-
Partner Interactive	.38***	-.35***	.40***	-.15*	-
	Sexual Communication Effectiveness Scale				
Libido	-	-	.39***	-	-
Own Cognitive	-	-	.39***	-	-
Partner Cognitive	.21**	-	.39***	-	.29**
Own Interactive	-	-	.39***	-	-
Partner Interactive	.27**	-	.39***	-.36***	-

Note. Letters refer to paths depicted in Figure 2.

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

Table 20

Summary of Indirect Effects of Sexual Communication on the Association between Sexual Intimacy Challenges and Sexual Satisfaction - Relationship Uncertainty

Model	β	95% BC CI (lower, upper)
Dyadic Sexual Communication Scale		
Libido (actor)	-.12***	-.20, -.06
Libido (partner – women to men)	-.14***	-.23, -.07
Own Cognitive (actor)	-.14***	-.21, -.07
Own Cognitive (partner – women to men)	-.10**	-.17, -.04
Partner Cognitive (actor)	-.13***	-.20, -.07
Partner Cognitive (partner – women to men)	-.16***	-.23, -.10
Own Interactive (actor)	-.25***	-.34, -.16
Own Interactive (partner – women to men)	-.08**	-.13, -.03
Partner Interactive (actor)	-.16***	-.24, -.10
Partner Interactive (partner – women to men)	-.13***	-.21, -.07
Sexual Communication Effectiveness Scale		
Own Interactive (actor) ^a	-.14***	-.24, -.07
Partner Interactive (actor, men only) ^b	-.11***	-.17, -.06

Note. Only models with statistically significant indirect effects are reported. Unless otherwise indicated, all indirect effects (a) were evident for both men and women and (b) represent full mediation.

BC CI = Bias corrected confidence interval.

^a Partial mediation for women, full for men.

^b Partial mediation for men.

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

Depression uncertainty and depression interference from a partner. For both the DSCS and the SCCE, the actor paths for men and women from depressive symptoms to relational uncertainty (path *a*) were retained, as were the partner path for men from interference from a partner to sexual intimacy challenges (path *d*) in the models for own cognitive challenges. The modification indices supported the addition of actor paths for men and women from interference from a partner to sexual communication (path *w*) in 10 out of 10 tests. The data also revealed a partner path for men from depressive symptoms to sexual intimacy challenges (path *v*) in both models for partner interactive challenges. For women in both the DSCS and SCCE models, the data supported a path from depressive symptoms to sexual communication (path *u*) in models of libido, own cognitive, partner cognitive, and partner interactive challenges.

Depression uncertainty and the DSCS. In models considering depression uncertainty and the DSCS, the data supported adding the path from depressive symptoms to sexual communication (path *u*) in the model of own interactive challenges for women and in models of libido and partner interactive challenges for men. A partner path also appeared in the model of libido challenges, such that men's depressive symptoms predicted women's sexual communication (path *u*).

This set of adjustments led to fitting models for all five sexual intimacy challenges: libido ($\chi^2 / df = 1.80$; CFI = .91; RMSEA = .09); own cognitive ($\chi^2 / df = 1.77$; CFI = .92; RMSEA = .09); partner cognitive ($\chi^2 / df = 1.85$; CFI = .91; RMSEA = .09); own interactive ($\chi^2 / df = 1.71$; CFI = .93; RMSEA = .08); and partner interactive ($\chi^2 / df = 1.86$; CFI = .92; RMSEA = .09) challenges. Several sets of indirect effects were present. For models of libido and partner cognitive challenges, the indirect actor effect for women and the partner effect from women to men were statistically significant. In models of own cognitive, own interactive, and partner

interactive challenges, the indirect actor effect appeared for both men and women, and the partner effect from women to men was also statistically significant.

Depression uncertainty and the SCCE. Two unique patterns of partner paths were apparent in the models for depression uncertainty and the SCCE. The data supported the partner path from women's libido challenges to men's sexual satisfaction (path *e*). Additionally, partner paths for women from sexual intimacy challenges to sexual communication (path *f*) remained in models of libido, own cognitive, partner cognitive, and own interactive challenges.

These modifications formed fitting models for libido ($\chi^2 / df = 1.74$; CFI = .91; RMSEA = .08); own cognitive ($\chi^2 / df = 1.66$; CFI = .93; RMSEA = .08); partner cognitive ($\chi^2 / df = 1.58$; CFI = .93; RMSEA = .07); own interactive ($\chi^2 / df = 1.82$; CFI = .91; RMSEA = .09); and partner interactive ($\chi^2 / df = 1.63$; CFI = .93; RMSEA = .08) challenges. An indirect partner effect from women to men appeared in four models: libido challenges, own cognitive challenges, partner cognitive, and own interactive challenges. The indirect effect was statistically significant for both women and men in the model for own interactive challenges for men only in the partner interactive challenges model.

Table 21

Path Coefficients for Women's Actor Effects in Depression Uncertainty and Depression Interference Models

Model	Hypothesized Paths								Added Paths			
	<i>a</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>z</i>	<i>y</i>	<i>x</i>	<i>w</i>	<i>v</i>	<i>u</i>
Dyadic Sexual Communication Scale												
Libido	.22***	-	.31**	-	-.35**	.59***	N/A	-.32**	N/A	-.28**	N/A	-.26**
Own Cog.	.22***	-	-	-.22**	-.33***	.53***	N/A	-.29**	N/A	-.33**	.47***	-.19**
Partner Cog.	.22***	-	.51**	-	-.39***	.58***	N/A	-.32**	N/A	-.30**	N/A	-.23**
Own Int.	.22***	-	.22*	-	-.60***	.56***	N/A	-.31**	N/A	-.24**	.36***	-.14**
Partner Int.	.22**	-	.24**	-	-.41***	.55***	N/A	-.32**	N/A	-.24**	N/A	-.21**
Sexual Communication Effectiveness Scale												
Libido	.22***	-	.31**	-.29**	-	.60**	N/A	N/A	-.46***	-.26**	N/A	-.23**
Own Cog.	.22***	-	-	-.34***	-	.59***	N/A	N/A	-.45***	-.24***	.47***	-.25***
Partner Cog.	.22**	-	.52**	-.21**	-	.61***	N/A	N/A	-.43***	-.28***	N/A	-.24**
Own Int.	.22***	-	.22*	-.18*	-.38***	.58***	N/A	N/A	-.41***	-.19**	.37***	N/A
Partner Int.	.21**	-	.24**	-	-	.53***	N/A	N/A	-.43**	-.23**	N/A	-.25**

Note. Letters refer to paths depicted in Figure 2. A dash represents a hypothesized path that was dropped to achieve model fit, and N/A indicates paths that were not added in that model. Path *c* was dropped in all tests and is not included in this table.

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

Table 22

Path Coefficients for Men's Actor Effects in Depression Uncertainty and Depression Interference Models

Model	Hypothesized Paths								Added Paths			
	<i>a</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>z</i>	<i>y</i>	<i>x</i>	<i>w</i>	<i>v</i>	<i>u</i>
Dyadic Sexual Communication Scale												
Libido	.22***	.28**	.31**	-	-	.59***	N/A	-.32**	N/A	-.28**	N/A	-.26**
Own Cog.	.22***	.27**	-	-	-.33***	.53***	N/A	-.29**	N/A	-.33**	.47***	N/A
Partner Cog.	.22***	.29**	.51**	-	-	.58***	N/A	-.32**	N/A	-.30**	N/A	N/A
Own Int.	.22***	.27**	-	-	-.60***	.56***	N/A	-.31**	N/A	-.24**	.36***	N/A
Partner Int.	.22**	.26**	.24**	-	-.41***	.55***	N/A	-.32**	N/A	-.24**	.35***	-.21**
Sexual Communication Effectiveness Scale												
Libido	.22***	.27**	.31**	-	-	.60**	N/A	N/A	-.46***	-.26**	N/A	N/A
Own Cog.	.22***	.27**	-	-	-	.59***	N/A	N/A	-.45***	-.24***	.47***	N/A
Partner Cog.	.22**	.28**	.52**	-	-	.61***	N/A	N/A	-.43***	-.28***	N/A	N/A
Own Int.	.22***	.27**	-	-	-.38***	.58***	N/A	N/A	-.41***	-.19**	.37***	N/A
Partner Int.	.21**	.27**	.24**	-.29**	-.29***	.53***	N/A	N/A	-.43**	-.23**	.35***	N/A

Note. Letters refer to paths depicted in Figure 2. A dash represents a hypothesized path that was dropped to achieve model fit, and N/A indicates paths that were not added in that model. Path *c* was dropped in all tests and is not included in this table.

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

Table 23

Path Coefficients for Partner Effects in Depression Uncertainty and Depression Interference Models

Model	Women		Men				
	<i>e</i>	<i>f</i>	<i>b</i>	<i>d</i>	<i>e</i>	<i>v</i>	<i>u</i>
Dyadic Sexual Communication Scale							
Libido	-	-.47**	.26*	-	-	-	-.16**
Own Cognitive	-	-.23*	.26*	.24*	-	-	-
Partner Cognitive	-	-.56***	.25*	-	-	.28**	-
Own Interactive	-	-.19**	.27*	-	-	-	-
Partner Interactive	-	-.29***	.27*	-	-.20**	.28**	-
Sexual Communication Effectiveness Scale							
Libido	-.18*	-.23**	.26*	-	-	-	-
Own Cognitive	-	-.26***	.25*	.23*	-	-	-
Partner Cognitive	-	-.26**	.25*	-	-	.27**	-
Own Interactive	-	-.16*	.26*	-	-	-	-
Partner Interactive	-	-	.26*	-	-.39***	.27**	-

Note. Letters refer to paths depicted in Figure 2.

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

Table 24

Summary of Indirect Effects of Sexual Communication on the Association between Sexual Intimacy Challenges and Sexual Satisfaction - Depression Uncertainty

Model	β	95% BC CI (lower, upper)
Dyadic Sexual Communication Scale		
Libido (actor – women only)	-.20**	-.34, -.10
Libido (partner – women to men)	-.27***	-.39, -.17
Own Cognitive (actor) ^a	-.17***	-.26, -.11
Own Cognitive (partner – women to men)	-.12*	-.21, -.03
Partner Cognitive (actor – women only)	-.23***	-.36, -.12
Partner Cognitive (partner – women to men)	-.33***	-.44, -.24
Own Interactive (actor)	-.34***	-.44, -.25
Own Interactive (partner- women to men)	-.10**	-.18, -.04
Partner Interactive (actor)	-.22***	-.32, -.15
Partner Interactive (partner – women to men)	-.16***	-.25, -.09
Sexual Communication Effectiveness Scale		
Libido (partner – women to men) ^b	-.13*	-.25, -.04
Own Cognitive (partner – women to men)	-.15**	-.25, -.06
Partner Cognitive (partner – women to men)	-.16**	-.24, -.08
Own Interactive (actor) ^a	-.22***	-.30, -.15
Own Interactive (partner – women to men)	-.09*	-.17, -.01
Partner Interactive (actor – men only) ^b	-.15***	-.24, -.07

Note. Only models with statistically significant indirect effects are reported. Unless otherwise indicated, all indirect effects (a) were evident for both men and women and (b) represent full mediation.

BC CI = Bias corrected confidence interval.

^a Partial mediation for women, full for men.

^b Partial mediation.

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

Table 25

Summary of Path Modifications – Actor Paths

Path	Women		Men	
	DSCS	SCCE	DSCS	SCCE
Hypothesized Paths				
Depressive Symptoms to Relational Uncertainty	20/20	20/20	15/20	15/20
Depressive Symptoms to Interference	0/20	0/20	20/20	20/20
Relational Uncertainty to Sexual Intimacy Challenges	0/20	0/20	0/20	0/20
Interference to Sexual Intimacy Challenges	16/20	16/20	9/20	9/20
Sexual Intimacy Challenges to Sexual Satisfaction	1/20	13/20	0/20	4/20
Sexual Intimacy Challenges to Sexual Communication	20/20	4/20	18/20	8/20
Sexual Communication to Sexual Satisfaction	20/20	20/20	20/20	20/20
Additional Paths				
Interference to Relational Uncertainty	10/20	10/20	0/20	0/20
Relational Uncertainty to Sexual Satisfaction	20/20	7/20	20/20	7/20
Relational Uncertainty to Sexual Communication	0/20	20/20	10/20	20/20
Interference to Sexual Communication	20/20	10/20	7/20	5/20
Depressive Symptoms to Sexual Intimacy Challenges	8/20	8/20	9/20	12/20
Depressive Symptoms to Sexual Communication	8/20	4/20	4/20	0/20

Note. The number indicates the portion of final models including the path.

Table 26

Summary of Path Modifications – Partner Paths

Path	Women		Men	
	DSCS	SCCE	DSCS	SCCE
Hypothesized Paths				
Depressive Symptoms to Relational Uncertainty	0/20	0/20	0/20	0/20
Depressive Symptoms to Interference	0/20	0/20	20/20	20/20
Relational Uncertainty to Sexual Intimacy Challenges	0/20	0/20	0/20	0/20
Interference to Sexual Intimacy Challenges	6/20	6/20	1/20	1/20
Sexual Intimacy Challenges to Sexual Satisfaction	0/20	1/20	4/20	4/20
Sexual Intimacy Challenges to Sexual Communication	20/20	6/20	0/20	0/20
Sexual Communication to Sexual Satisfaction	0/20	0/20	0/20	0/20
Additional Paths				
Interference to Relational Uncertainty	5/20	5/20	0/20	0/20
Relational Uncertainty to Sexual Satisfaction	0/20	0/20	0/20	0/20
Relational Uncertainty to Sexual Communication	0/20	0/20	0/20	0/20
Interference to Sexual Communication	0/20	0/20	0/20	0/20
Depressive Symptoms to Sexual Intimacy Challenges	0/20	0/20	5/20	5/20
Depressive Symptoms to Sexual Communication	0/20	0/20	1/20	0/20

Note. The number indicates the portion of final models including the path.

Table 27

Range of Squared Multiple Correlations for Endogenous Variables

Variable	Women	Men
Self, Partner, and Relationship Uncertainty Models		
Relational Uncertainty	.18 - .26	.12 - .17
Interference from a Partner	.15 - .17	.17 - .17
Sexual Intimacy Challenges	.10 - .30	.07 - .27
Sexual Communication	.28 - .79	.15 - .66
Sexual Satisfaction	.37 - .58	.44 - .80
Depression Uncertainty and Depression Interference from a Partner Models		
Relational Uncertainty	.04 - .05	.05 - .05
Interference from a Partner	.07 - .08	.08 - .09
Sexual Intimacy Challenges	.10 - .38	.08 - .27
Sexual Communication	.43 - .79	.35 - .69
Sexual Satisfaction	.45 - .54	.49 - .66

Note. Information about squared multiple correlations organized by sexual intimacy challenge is available from the author.

Chapter Five: Discussion and Conclusions

I devoted this dissertation to documenting the experiences of depressed couples as they contend with sexual intimacy challenges in their relationships. I evaluated the relational turbulence model in the depression context, highlighted how sexual intimacy challenges and sexual communication operate in depressed partnerships, and prioritized a dyadic approach to data collection and analyses. The research questions explored the sexual intimacy challenges that are salient for depressed couples and the features of their conversations about sex. I started by considering the marital discord model of depression (Beach et al., 1990) and its focus on how relational climate can affect and be affected by depression in romantic relationships. I then called upon the relational turbulence model (Solomon & Knobloch, 2004) to hypothesize a model in which depressive symptoms predicted mechanisms of turbulence and mechanisms of turbulence predicted sexual intimacy challenges. The logic of the two theories suggested that sexual intimacy challenges would be negatively associated with sexual communication and sexual satisfaction, and prior research (e.g., Babin, 2013; MacNeil & Byers, 2005) implied that sexual communication would predict sexual satisfaction. Finally, I called upon existing research to propose that sexual communication would operate as a mediating variable between sexual intimacy challenges and sexual satisfaction.

The data offered mixed support for my hypotheses. For women and men, depressive symptoms did predict relational uncertainty (H1a), but only men's depressive symptoms predicted interference from a partner (H1b). Relational uncertainty did not predict sexual intimacy challenges in any models (H2a). Interference from a partner, however, did predict several sexual intimacy challenges for women and men (H2b). Sexual intimacy challenges exhibited some ties to sexual satisfaction (H3) and some associations with sexual communication

(H4), depending on how sexual communication was operationalized. For both men and women, sexual communication was consistently positively associated with sexual satisfaction (H5) in models of both measures of sexual communication. The anticipated indirect effect was statistically significant in most models for the DSCS and in several models for the SCCE (H6). Several path additions were necessary, including paths linking depressive symptoms to sexual intimacy challenges and sexual communication, paths documenting an association between relational uncertainty and sexual satisfaction, and paths suggesting that relational uncertainty and interference from a partner predict sexual communication.

RQ4 inquired into the possibility of partner effects, and several partner paths were statistically significant in the models. Notably, men's depressive symptoms predicted women's perceptions of interference from a partner in all 40 tests, and women's sexual intimacy challenges predicted men's communication in all tests of the DSCS and in a few tests of the SCCE. Finally, for models examining partner cognitive challenges, men's depressive symptoms exhibited a statistically significant partner effect in predicting women's sexual intimacy challenges. Broadly, this collection of findings gives insight into (a) how features of the relationship and depressive symptoms predict sexual intimacy challenges, (b) how mechanisms of turbulence correspond with sexual communication, and (c) the mediating role of sexual communication in the ties between sexual intimacy challenges and sexual satisfaction.

These findings both align with and expand upon existing theory and research. In this chapter, I summarize and discuss each set of findings within current perspectives on depression, relational turbulence, and sexual communication. I then consider theoretical and practical implications of this study. Finally, I review strengths and limitations of my work and offer a research agenda for the next stages in this program of research.

Sexual Intimacy Challenges for Depressed Couples (RQ1)

Research question one was advanced to test Delaney's (2016) assertion that diverse and unique sexual intimacy challenges exist for depressed couples. Indeed, the current findings reflect the categories that emerged from Delaney's (2016) interview study. Responses to the open- and closed-ended items in this study corroborate the assertion that depressed couples encounter libido, cognitive, and interactive challenges. Yet, the open-ended accounts in the current study point to a need to also consider issues with overall negativity and tiredness and motivation. Several scholars have pointed to a depressed partner's negativity as a destructive aspect of depressed partnerships (e.g., Beach et al., 1990; Coyne, 1976a; Joiner & Metalsky, 1995), but these findings suggest that negativity between partners is a specific deterrent to a sexual connection. Fatigue is a symptom of depression linked to social difficulties (Targum & Fava, 2011), and the participants' accounts in this study confirm that the lethargy of a depressed partner can hinder a couple's sexual relationship. These emerging categories illuminate additional outlets through which depression hurts couples' ability to establish and maintain a sexual connection.

The new quantitative scales assessing sexual intimacy challenges provided empirical evidence of the dimensions of depression-related sexual intimacy challenges. Participants were asked a filter item about whether depression had an impact on their sexual relationship. Only those who answered "yes" were invited to give open-ended accounts of how, but every participant was asked to respond to the new sexual intimacy challenges scales. Participants who initially reported that depression had an impact on their sexual relationship did, indeed, report greater sexual intimacy challenges than those who responded "no" to the filter item. Further, men and women agreed on some of the challenges that affected their sexual relationship. For

example, women reported *their own* troubles with interest in sex as particularly challenging, while men said that *their partner's* difficulties with interest were problematic. In this case, men and women agreed that women's troubles with interest were a notable sexual intimacy challenge for the couple. Similarly, when assessing cognitive barriers to sexual intimacy, women identified their own problems with self-esteem and isolation as hindering the sexual connection. Men, again, said that their partner's troubles with self-esteem and isolation were problematic more than women did. In these measures, both men and women pointed to women's difficulties as relevant sexual intimacy challenges. These findings comport with prior research pointing to women as particularly susceptible to issues with interest and enjoyment, while men are more likely to encounter physical function issues as a result of depression (Baldwin, 2001; Kennedy et al. 1999). The current findings are important in two ways. First, the tests of the sexual intimacy challenges scales open the door to additional theorizing and investigation into the sexual intimacy challenges that are salient for depressed couples. Second, by identifying ways that both partners identify women's issues with libido, self-esteem, and isolation as problematic, the current findings offer supplementary evidence of ways that depression can impact women differently than men (e.g., Fincham et al., 1997; Gabriel et al., 2010; Girgus & Yang, 2015).

Additional preliminary tests identified associations between sexual intimacy challenges and depression status, parental status, marital status, medication, age, and relationship length, both on the subscales and the combined measures used in the substantive analyses. Depressed women and men reported greater sexual intimacy challenges than non-depressed participants on the own cognitive challenges scale and on subscales measuring challenges with own interest, own self-esteem, and own isolation. Women who were parents reported greater sexual intimacy challenges on the libido scale and on subscales measuring own interest, own isolation, and own

conversation challenges. Women taking medication for their depression reported greater libido challenges, own self-esteem challenges, and own cognitive challenges than non-medicated women. Married women perceived greater sexual intimacy challenges than unmarried women in 14 out of 16 tests, and married men reported greater sexual intimacy challenges than unmarried men in 10 out of 16 tests.

Perceptions of several sexual intimacy challenges were correlated with age and length of relationship. For men, age was positively associated with perceptions of sexual intimacy challenges on the frequency subscale and the libido scale. For women, age was positively related to 14 out of 16 sexual intimacy challenges, including all five of the combined scales (libido, own cognitive, partner cognitive, own interactive, and partner interactive). For men, length of relationship shared a positive correlation with the own interactive scale and with subscales measuring partner self-esteem, own conversation, and own initiation. Length of relationship for women was positively correlated with the libido and partner cognitive scales and with subscales measuring partner interest and partner isolation.

These associations identify several variables that may help to predict sexual intimacy challenges, but most notably, these tests give insight to factors beyond depressive symptoms and medication that might play a role in sexual intimacy challenges for depressed couples. Several studies on depression have identified sexual problems in the depression context (e.g., Kennedy et al., 1999; Laurent & Simons, 2009; Ostman, 2008), and some scholars have highlighted those difficulties as a side effect of the medication used to treat depression (e.g., Higgins et al., 2010). These preliminary tests suggest that depression is associated with several sexual intimacy challenges, and they document a handful of associations between medication and sexual intimacy challenges for women, but none for men. Together, these tests call attention to several

individual, depression, and relationship variables that covary with depression-related sexual intimacy challenges.

Research question one leads to one broad conclusion and one important consideration for future research. On the one hand, the findings substantiate my claim that scholars should examine the sexual intimacy challenges for depressed couples in nuanced ways that expand beyond libido. Depressed individuals and their partners are also likely to deal with issues stemming from cognitive barriers and interactive difficulties. Cognitive challenges related to self-esteem, isolation, and tiredness and motivation, along with interactive challenges related to initiation and negativity, were notable themes in the analyses of participants' responses to an open-ended question about their sexual relationship. The sexual intimacy challenges documented here build upon research that has hinted at diverse sexual intimacy challenges for couples (e.g., Laurent & Simons, 2009; Reynaert et al., 2010; Sharabi et al., 2016). The findings for RQ1 answer the call by Reynaert et al. (2010) to consider emotional (e.g., feelings of isolation), behavioral (e.g., trouble with initiation), and relational (e.g., negativity between partners) factors associated with sexual dissatisfaction in depression.

On the other hand, the emerging categories of negativity and tiredness/motivation reflect that additional revisions are necessary to the new scales for quantifying sexual intimacy challenges. Negativity and fatigue are well-known symptoms of depression (Coyne, 1976a; Joiner & Metalsky, 1995; Targum & Fava, 2011), but participants in this study identified ways that these symptoms actually hinder a couple's ability to connect sexually. The tiredness/motivation category was not apparent in the interview data that led to my conceptualization of sexual intimacy challenges as multi-layered, but participants in this online survey study emphasized ways that lethargy made it difficult to maintain a sexual relationship.

The current data also led to expanding the previous *conversations* category to include a more global assessment of how negativity in interactions inhibits sexual intimacy. The emerging themes do, however, fit the existing multi-layered framework. The tiredness/motivation theme is similar to the themes of self-esteem and isolation in that they are ways that symptoms of depression might also be apparent in the sexual connection between partners. The negativity theme aligns closely with my previous conceptualization of conversations as challenging (Delaney, 2016). The findings for RQ1 build upon existing theorizing about sexual intimacy challenges as complex, multi-layered, and spanning across interest, cognitions, and interactions. These results document complementary accounts of challenges related to libido, self-esteem, isolation, and initiation and also illuminate additional categories of negativity and tiredness/motivation. Refinement of measurement will be key in continuing to investigate the nature of sexual intimacy challenges in depression.

Conversations about Sex (RQ2 and RQ3)

Research questions two and three aimed to document how depressed individuals and their partners perceive their conversations about sex to be successful or unsuccessful. The high attrition rate in this section of the questionnaire, combined with the quality of responses, precluded an in-depth coding process to draw meaningful conclusions from these data. Two notable methodological problems occurred. First, the questions about conversations appeared toward the end of the questionnaire. I followed Faulkner and Lannutti (2010) in inviting participants to provide rich description of a conversation about sex. Where my study diverged, however, is in the inclusion of several other sets of items in the survey. In their study, the description of conversations was the primary task for participants. In my study, participants likely expended their efforts in responding to the open- and closed-ended items earlier in the

questionnaire, so fatigue may have discouraged full responses to this set of questions. Self-report data on conversations is useful because it gives insight into individuals' perceptions of (a) what happened in the conversation and (b) their evaluation of the conversation (Caughlin & Basinger, 2014). My objective in asking participants to describe conversations was, indeed, to garner information about what happened in successful and unsuccessful conversations about sex and to understand how participants evaluated those conversations. The technique of asking participants to give in-depth descriptions of previous conversations may be most appropriate when it is the core of the study, not an additional set of items among several sets of measures.

A second methodological concern is the reliance only upon a self-report about a conversation to answer the research questions. A robust description of features of conversation is not likely to emerge in participants' written description of their interactions. A combination of methods that prioritize validity and the ability to prompt participants to describe actions and perceptions is necessary to fully answer the research questions. Observational and interview data will be useful for investigations into the success or failure of sexual conversations. Observing conversations as they unfold between partners will give a first hand account into partners' behaviors, and interviews will provide the opportunity to ask follow up questions. For example, for participants in this study who referenced listening or open-mindedness as key to successful conversations, I would like to ask them to describe how a partner could enact strong listening or signal his/her open-mindedness. A study that primarily examines features of conversation will be useful for expanding upon the handful of participants who offered insight here.

The Hypothesized Model

The hypothesized model positioned depressive symptoms as a predictor of relational uncertainty and interference from a partner (H1); relational uncertainty and interference from a

partner as predictors of sexual intimacy challenges (H2); sexual intimacy challenges as predictors of sexual satisfaction (H3) and sexual communication (H4); and sexual communication as a predictor of sexual satisfaction (H5). Finally, I surmised in the original model that sexual communication would mediate the relationship between sexual intimacy challenges and sexual satisfaction (H6). Broadly, the hypothesized model did not receive robust support, as several paths were not sustained and several paths were added to acquire model fit. The final model, however, does align with the logic of the marital discord model and the relational turbulence model, along with existing research. In the following sections, I appraise the findings for each hypothesis and summarize the additional paths.

Depressive symptoms and mechanisms of turbulence (H1). A first hypothesis predicted that depressive symptoms would associate with two mechanisms of relational turbulence: relational uncertainty and interference from a partner. Mixed support appeared for this hypothesis. For women, depressive symptoms were positively associated with each source of relational uncertainty in 40 out of 40 tests. For men, the association between depressive symptoms and relational uncertainty was confirmed in 30 of 40 tests, with the path from depressive symptoms to partner uncertainty being statistically insignificant. No partner effects appeared for the association between depressive symptoms and relational uncertainty.

For the second part of the hypothesis focusing on interference from a partner, actor and partner effects emerged for men in 40 out of 40 tests, but no actor or partner effects appeared for women. An additional path from interference from a partner to relational uncertainty also emerged. Women's interference from a partner predicted their own self and relationship uncertainty. In the models of partner uncertainty, the data revealed a partner effect, such that women's interference from a partner corresponded with men's relational uncertainty. No

statistically significant association was apparent between the two mechanisms of turbulence for the models focusing on depression-specific relational uncertainty and interference from a partner.

Together, these paths illuminate associations among depressive symptoms and mechanisms of turbulence. Knobloch and Delaney (2012) identified themes of relational uncertainty and interference from a partner as salient to the context of depression, but their qualitative data did not allow for the testing of associations. Knobloch and colleagues (2016) did document associations between depressive symptoms and men's and women's relational uncertainty, but did not include interference from a partner in the models. In the current study, depressive symptoms consistently predicted relational uncertainty for both men and women, with the exception of partner uncertainty for men. This comports with prior research documenting actor effects for self and relationship uncertainty, but not partner uncertainty (Knobloch et al., 2011). The findings for H1a imply that when an individual is susceptible to symptoms of depression, he or she is also likely to grapple with questions about involvement in and viability of the relationship.

Here, men's depressive symptoms predicted their own perceptions of interference from a partner and were also a significant predictor of women's perceptions of interference from a partner. The partner effect suggests that as men encounter more severe depressive symptoms, their partners report higher perceptions of disruptions to goals and routines. The actor and partner effects from men's depressive symptoms to both men's and women's interference from a partner shed light on how depression can affect relationships differently based on who is depressed. Perhaps men are more tuned in to goal blockages when they are cognitively and emotionally taxed by depression, while women are prone to seeing instances of interference when their partners are limited by depression. If depressed men are unable to engage in

household tasks, do not participate in shared activities, or spoil plans with family and friends, their partners could be particularly apt to see these disruptions to the relationship. The bivariate correlations for women did reveal statistically significant associations between depressive symptoms and their own perceptions of interference from a partner, but these associations were not statistically significant in the more stringent test of the model. Together, these paths extend Knobloch and Delaney's (2012) findings that position interference from a partner as a notable part of the depression experience. Although past research has documented an association between depressive symptoms and interference for both men and women (e.g., Knobloch & Theiss, 2011), the current findings offer evidence that men's depressive symptoms, in particular, could explain goal blockages and routine disruptions for both partners.

In the context-free relational uncertainty models, women's interference from a partner emerged as a statistically significant predictor of relational uncertainty. The path aligned women's interference from a partner with their own self and relationship uncertainty. In models of partner uncertainty, women's interference from a partner predicted men's partner uncertainty. This partner effect exposes a link between women's perceptions of disruptions to goals and routines and men's doubts about their partner's involvement in the relationship. Several scholars (e.g., Knobloch & Delaney, 2012; Steuber & Solomon, 2008) have speculated about connections between relational uncertainty and interference from a partner, and a handful of studies have pointed to positive correlations between these mechanisms of turbulence (e.g., Knobloch & Theiss, 2010; Solomon & Theiss, 2008). In the depression context, Knobloch and Delaney (2012) documented qualitative evidence of ways that the goal blockages of interference from a partner may fuel cognitive ambiguities about the partnership. The current data offer quantitative

evidence of a connection between interference from a partner and relational uncertainty in the depression context.

The findings for H1, combined with the supplemental paths, suggest that depressive symptoms share a positive actor association with relational uncertainty for both men (in models of self, relationship, and depression uncertainty) and women (in models of all four sources of relational uncertainty), but for interference from a partner, men's depressive symptoms are the statistically significant predictor for both men and women. These findings also document distinct actor and partner associations between relational uncertainty and interference from a partner. These findings supplement existing investigations that have emphasized relational uncertainty in depression (e.g., Knobloch et al., 2011; Knobloch et al., 2016) by detailing how depressive symptoms also predict goal blockages.

Mechanisms of turbulence and sexual intimacy challenges (H2). The second hypothesis asserted that mechanisms of turbulence would positively associate with sexual intimacy challenges for depressed couples. No actor or partner effects appeared for men or women for relational uncertainty, but several actor and partner effects did emerge for both context-free and context-specific interference from a partner. For women, the traditional sources of interference from a partner exhibited an actor effect for libido, partner cognitive, own interactive, and partner interactive challenges and a partner effect for partner cognitive and partner interactive challenges. These partner effects imply that as women perceive greater interference from their partner, men report greater sexual intimacy challenges related to women's cognitive and interactive struggles. In other words, when women are struggling with interference, men see greater sexual intimacy challenges rooted in their partner's difficulties with self-esteem, isolation, interaction, and initiation. In the depression-specific models, the same

actor effects appeared, but no partner effects. For men, context-free interference from a partner showed an actor effect for libido and partner cognitive challenges. In the tests of depression-specific interference, men exhibited an actor effect for libido, partner cognitive, and partner interactive challenges and a partner effect for own cognitive challenges. This partner effect suggests that as men experience greater levels of interference from their partner, women report more severe challenges related to their own self-esteem and isolation.

Additional paths were necessary to supplement H2, indicating that depressive symptoms play a role in the prevalence of cognitive and interactive sexual intimacy challenges. For men and women, depressive symptoms consistently predicted own cognitive and own interactive challenges. Depressive symptoms also predicted men's partner interactive challenges in several tests. One partner effect appeared such that men's depressive symptoms predicted women's partner cognitive sexual intimacy challenges. In short, this partner effect delineates men's depressive symptoms as a predictor of women's evaluation of how their partner's issues with self-esteem and isolation have a negative impact on the sexual partnership.

The findings for H2, along with the supplemental paths, offer insight into the processes by which individuals with depression and their partners experience sexual intimacy challenges. I anticipated that mechanisms of turbulence would predict sexual intimacy challenges, but this hypothesis received minimal support. The path from relational uncertainty to sexual intimacy challenges was statistically insignificant (and therefore dropped) in every test of the model, but interference from a partner did exhibit some actor and partner effects in predicting sexual intimacy challenges. The interference from a partner paths allude to ways that disruptions to routines, goal blockages, and hindrances to the relationship might spark challenges that are manifest in perceptions that decreased libido, troubles with self-esteem and isolation, and

difficulties in interactions are challenging to the sexual relationship. Scholars have asserted that relational factors are important to consider in investigations of sexual issues in depression (e.g., Bodenmann & Ledermann, 2007; Reynaert et al., 2010). The findings for interference from a partner suggest that difficulties with dyadic coordination are tied to specific sexual issues for depressed couples.

Depressive symptoms emerged as the best predictor of one's own perceptions of cognitive challenges, or sexual difficulties related to self-esteem and isolation, and one's own perceptions of interactive challenges, including sexual difficulties related to conversations about sex and initiation of sexual activity. This path, although not in the original hypotheses, aligns with my conceptualization that sexual intimacy challenges can be grounded in symptoms of depression itself. As depression diminishes an individual's feelings of self-worth (e.g., Coyne, Gallow, Klinkman, & Calarco, 1998; Shahar & Davidson, 2003), those symptoms make a sexual relationship difficult to maintain. Similarly, when depression impedes communication between partners (e.g., Segrin, 2001), those effects can be evident in sexual interactions. The path from depressive symptoms to own cognitive and own interactive challenges confirms prior research linking depression to sexual difficulties (e.g., Baldwin, 2001; Kennedy et al., 1999). Although the current findings do point to some ways that relationship factors, such as interference from a partner, associate with sexual intimacy challenges, severity of depressive symptoms remains an important variable to consider as well.

This set of findings points to a need for further theorizing about the nature of associations between depressive symptoms, mechanisms of turbulence, and sexual intimacy challenges. I surmised that mechanisms of turbulence would predict challenges to the sexual relationship. In these models, interference from a partner predicted some sexual intimacy challenges, but an

alternate order of the variables also seems feasible, given the associations between depressive symptoms and several sexual intimacy challenges. A model in which depressive symptoms predict sexual intimacy challenges, which then predict mechanisms of turbulence, could also be a viable way to explain the unique sexual intimacy challenges related to depression. Yet, the route predicted and confirmed here, wherein depression predicts interference from a partner and then interference from a partner predicts sexual intimacy challenges, is supported by the premise of the RTM that interference from a partner prompts negative appraisals of relationship circumstances (Solomon, 2015; Solomon & Theiss, 2011). Interference from a partner occurs when changes to interdependence between partners spark disruptions to routines and goals for the individual (Knobloch & Solomon, 2004; Solomon & Knobloch, 2004). When couples are struggling to coordinate routines, blocking each other's goals, and disrupting day-to-day activities, they might be less interested in sexual activity, feel a need to withdraw from their partner, or feel frustrated over a partner's lack of sexual initiation. Considering the mixed support for the hypothesized path and the need for an additional path to predict sexual intimacy challenges, future investigations will be useful for delineating associations between depressive symptoms, interference from a partner, and sexual intimacy challenges.

Sexual intimacy challenges and sexual satisfaction (H3). The third hypothesis asserted that sexual intimacy challenges would be associated with lower levels of sexual satisfaction. For men and women, the actor effect for this hypothesis was not supported in 19 out of 20 models considering the DSCS. In the models including the SCCE, the actor path was retained in 13 of 20 models (in one test of libido and in all four tests of own cognitive, partner cognitive, and own interactive challenges) for women and four of 20 models (partner interactive challenges only) for men. One consistent partner effect emerged for linking men's partner interactive challenges to

women's sexual satisfaction, such that as men perceived that their partner's struggles with interactions were debilitating to the sexual relationship, their partners reported lower levels of sexual satisfaction in tests of both the DSCS and the SCCE.

Evidence points to sexual dissatisfaction as pertinent among couples coping with depression (Laurent & Simons, 2009; Reynaert et al., 2010; Sharabi et al., 2016). The findings for H3 document specific sexual intimacy challenges that might drive the association between depression, sexual difficulties, and decreased sexual satisfaction. For women, paths from own cognitive and partner cognitive challenges were statistically significant in predicting sexual satisfaction. In other words, when women feel that their own or their partner's troubles with self-esteem and isolation are damaging the sexual relationship, their own sexual satisfaction is likely to be lower. Diminished self-esteem is a documented effect of depression, and scholars have speculated that it could be tied to sexual dissatisfaction for depressed couples (Reynaert et al., 2010). Feelings of loneliness and isolation are also symptomatic of depression and can be problematic for couples in maintaining a sexual relationship (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006; Delaney, 2016; Radloff, 1977). For men and women, depressive symptoms predicted cognitive challenges, and for women, perceptions of their own and their partner's cognitive sexual intimacy challenges predicted sexual satisfaction. These findings illuminate cognitive challenges, in particular, as one mechanism that might explain sexual dissatisfaction for women in relationships marked by depression. Prior research has established that couples coping with sexual stressors are less satisfied (Snyder & Berg, 1983), and these findings suggest that for depressed couples, cognitive challenges may be acutely tied to satisfaction for partners.

Three of the confirmed paths hint at ways that women's difficulties with conversations and initiation could predict their own and their partner's sexual satisfaction. The actor path from women's own interactive challenges, the actor path from men's partner interactive challenges, and the partner path from men's partner interactive challenge can be interpreted together. These paths elucidate that when a woman is burdened by challenges relating to conversations and initiation, her sexual intimacy challenges are linked to sexual satisfaction for both partners. Reynaert and colleagues (2010) identify relational factors as important considerations in the sexual difficulties of depressed couples, and these paths specify interactions between partners as one relational dynamic that corresponds with sexual satisfaction. The current findings support prior assertions that interactions between relational partners are likely to negatively correlate with sexual satisfaction (e.g., Faulkner & Lannutti, 2010), and these actor and partner paths point to women's difficulties with interactions as particularly relevant.

Together, these findings point to two conclusions. First, the effects based on which sexual intimacy challenge was in the model and sex of the partner hint at how different sexual intimacy challenges impact sexual satisfaction in unique ways. Notably, despite strong bivariate correlations (-.55 for men and -.66 for women), the hypotheses tests for challenges related to libido (frequency and interest) relating to satisfaction were null. Only the other layers of challenges maintained any statistically significant associations here. The findings also suggest that the negative association between sexual intimacy challenges and sexual satisfaction might be particularly strong for women. Second, the findings for hypothesis three set the stage for the tests of hypotheses four, five, and six by revealing differing patterns based on which sexual communication variable was included. To further understand the association of sexual intimacy challenges with sexual satisfaction for the SCCE models (and the lack of association in this

sample for the DSCS models), a next step is to evaluate the hypotheses related to sexual communication.

Sexual intimacy challenges and sexual communication (H4). In the fourth hypothesis, I predicted that sexual intimacy challenges would be negatively associated with sexual communication. This hypothesis received strong support for the DSCS, an established measure of quality of sexual communication, and some support for the SCCE, a new measure specifically focusing on effectiveness of sexual communication. In the DSCS models, the actor effect was confirmed in 20 of 20 tests for women and 18 of 20 (with the exception of libido and partner cognitive challenges in the depression uncertainty models) for men. In the SCCE models, the data supported the actor effect for women and men in all four models considering own interactive challenges, and also in the four models considering partner interactive challenges for men. In these tests, a partner effect would suggest that when one partner reports greater levels of sexual intimacy challenges, his/her partner would report lower quality of sexual communication. Evidence for partner effects from women's sexual intimacy challenges to men's sexual communication did emerge. In the DSCS models, all 20 tests supported this partner effect. In the SCCE models, only the models for partner uncertainty and depression uncertainty included partner effects. In these tests, women's own and partner cognitive challenges predicted men's communication, along with libido challenges and own interactive challenges in the depression uncertainty models.

The divergent findings for the different measures of sexual communication give insight into how sexual intimacy challenges associate with sexual communication. For both women and men, sexual intimacy challenges were a statistically significant predictor of sexual communication as conceptualized by the DSCS. A partner effect also appeared as women's

sexual intimacy challenges predicted men's sexual communication. In past research, the DSCS has been useful for discerning between couples who have experienced sexual problems and those who have not (Cameron & Tomlin, 2007; Catania, 2011). The scale has also associated with sexual functioning in the cancer context (Perz, Ussher, & Gilbert, 2014). The findings for H4 when utilizing the DSCS as a measure of communication confirm that if partners are struggling with greater sexual intimacy challenges, they are also likely to perceive their sexual communication as lower in quality. The DSCS is a global measure of sexual communication that includes items about responses in conversations, emotions, avoidance of conversations, embarrassment, and complaints about the sexual relationship (Catania, 2011). Together, these items shed light on how depression-related sexual intimacy challenges could associate with lower quality of sexual communication. When a partner feels decreased interest in sex as a result of depression, he or she might communicate with heightened emotions or perceive his/her partner's responses more negatively. When a partner is suffering from diminished self-esteem, he or she might evaluate the couple's interactions as more embarrassing. When a partner sees initiation as particularly challenging, he or she might be more likely to avoid any conversations about sex. In short, this set of results points to a consistent association between sexual intimacy challenges and lower overall quality of sexual communication for depressed women and men.

In the models prioritizing the effectiveness of sexual communication, fewer statistically significant effects emerged. For women and men, own interactive challenges predicted effectiveness of sexual communication. For men, their perceptions of a partner's struggles with interactive challenges also predicted sexual communication. This is another set of findings that illuminates how women's difficulties with interactions surrounding sex can have outcomes for both partners. When combined with findings for H3, these results point to ways that when

women feel intimidated or burdened by conversations and initiation, they also evaluate their own and their partner's ability to communicate effectively about sex less favorably. Prior research has established that when people see sexual conversations as threatening, they are likely to avoid those conversations and/or communicate in more indirect ways. These strategies are often perceived as ineffective in conversations about sex (Theiss & Estlein, 2014; Theiss & Solomon, 2007). The null findings for libido and cognitive challenges suggest that these types of sexual intimacy challenges are not associated with ineffective sexual communication, but the consistent associations between interactive challenges and lower sexual communication effectiveness also imply that difficulties with conversations and initiation are tied specifically to less effective communication for depressed couples.

Notable path additions supplement the findings for H4. Relational uncertainty corresponded with sexual communication for both men and women in all 20 tests of the SCCE and for men in the self and relationship uncertainty tests of the DSCS. Interference from a partner was related to women's sexual communication in 20 out of 20 tests of the DSCS and in the partner uncertainty and depression uncertainty models for the SCCE. For men in the relationship uncertainty models of the DSCS, interference from a partner predicted sexual communication in models of libido challenges and own cognitive challenges. The depression-specific form of interference associated with sexual communication for all five challenges for both the DSCS and the SCCE for men and women. Finally, depressive symptoms were a statistically significant predictor of sexual communication as measured by the DSCS for men (in models of self and partner uncertainty) and women (in models of self, partner, and relationship uncertainty) for models considering partner interactive challenges. In the depression uncertainty models, depressive symptoms predicted sexual communication for women in libido, own

cognitive, partner cognitive, and partner interactive models for both the DSCS and the SCCE, and for men in the DSCS models for libido and partner interactive challenges.

These sets of modifications are theoretically advisable when considered alongside the relational turbulence model. A core position of the relational turbulence model is that mechanisms of turmoil (relational uncertainty and interference from a partner) associate with extremes in communication (Solomon, 2015; Solomon & Knobloch, 2004). Existing findings point to ways that relational uncertainty hinders communication between depressed partners (Knobloch et al., 2011; Knobloch et al., 2016), and the current findings suggest that interference from a partner plays a role in communication between partners as well.

Relational uncertainty creates a communication disadvantage because partners are at an information deficit (Knobloch et al., 2007; Knobloch & Solomon, 2005). In the current sample, relational uncertainty predicted lower perceived quality of sexual communication for models of self and relationship uncertainty. When partners were experiencing ambiguity about their own involvement in the relationship or about the status of the partnership, they evaluated their sexual communication more negatively. For the models using the SCCE to assess effectiveness of communication, each source of relational uncertainty (self, partner, relationship, and depression), was a statistically significant predictor of sexual communication, suggesting that uncertainties about the partnership share an association with people's abilities to communicate effectively about their sex lives. These paths align with prior research linking relational uncertainty to sexual communication (e.g., Theiss, 2011) and advance the premise of the RTM that relational uncertainty is connected with communication between partners.

The logic of the relational turbulence model dictates that interference from a partner sparks frustration and negative emotion, which generate polarized communication behaviors

(Solomon & Knobloch, 2001; Solomon, Weber, & Steuber, 2010). In these data, interference from a partner predicted women's evaluation of quality of sexual communication on the DSCS in all 20 models, suggesting that perceptions of interference are linked to negative evaluations of communication about sex for women. As women see their relationship and daily goals disrupted in the depression context, they may be reactive in their conversations or view their partners as particularly unskilled communicators. For both men and women, depression-specific interference from a partner was a statistically significant predictor of both measures of sexual communication, suggesting that when unique instances of interference occur in the depression context (e.g., difficulties maintaining a treatment regimen, missing out on times with friends and family), individuals might feel limited in the quality of their sexual communication overall, and specifically in how effective that communication is.

Prior research has linked relational uncertainty and interference from a partner to negative communication outcomes such as avoidance of conversations, less openness, and increased aggressiveness (Knobloch & Theiss, 2011; Knobloch et al., 2016; Theiss & Knobloch, 2013). In conversations about sex, specifically, relational uncertainty and interference from a partner are associated with perceiving sexual communication as threatening (Theiss & Estlein, 2014). The current findings align with the logic that communication is difficult under conditions of relational uncertainty and interference from a partner, but also add insight into how these associations may differ based on source of relational uncertainty, operationalization of communication, and sex of the individual. Finally, the paths linking depression uncertainty and depression interference from a partner to sexual communication are a notable contribution to efforts to examine communicative processes related to depression-specific relational turbulence (Knobloch & Delaney, 2012; Knobloch et al., 2016). The challenges of depression may be to

blame for depleted communication resources in romantic partnerships (e.g., Fisher et al., 2012, p. 540), and the current findings point to relational uncertainty and interference from a partner as mechanisms that could help to explain that depletion.

An additional set of added paths for H4 involved linking depressive symptoms to sexual communication. Several theoretical frameworks point to ways that depressive symptoms have a negative impact on communication between relationship partners (e.g., Coyne 1976a, Joiner & Metalsky, 1995; Segrin, 2001), and this path is evidence of those effects. In the self uncertainty, partner uncertainty, and relationship uncertainty models of partner interactive challenges, depressive symptoms predicted the DSCS. In the models examining depression uncertainty and interference, the path from depressive symptoms to sexual communication was necessary for every sexual intimacy challenge for women for both measures of sexual communication, with the exception of own interactive challenges in the SCCE models. For men, this path was statistically significant in the libido and partner interactive models for the DSCS. Although depressive symptoms do likely inhibit quality and effectiveness of sexual communication, the negative impact of depression on communication might be best explained by the associations through relational uncertainty and interference from a partner, as documented here and in prior investigations.

Sexual communication and sexual satisfaction (H5). The fifth hypothesis posited that sexual communication would be a positive predictor of sexual satisfaction. Across sources of relational uncertainty, measures of sexual communication, and sexual intimacy challenges, this hypothesis was supported. Actor effects appeared for both men and women in 40 out of 40 models. No partner effects emerged. For both measures of sexual communication, a positive relationship existed between sexual communication and sexual satisfaction for both men and

women. This finding comports with existing theory and research that claim sexual communication and satisfaction are tied (Byers, 2005; Dewitte, 2014; Theiss & Solomon, 2007).

One additional path augments the prediction of sexual satisfaction. Men's and women's relational uncertainty predicted their sexual satisfaction in all 20 tests of the DSCS. This path also emerged in the SCCE tests considering relationship uncertainty (for all five challenges) and self uncertainty (for libido and partner interactive challenges). The reasoning of the relational turbulence model supports the addition and interpretation of this path. In addition to communicative reactivity, the relational turbulence model highlights links between relational uncertainty and cognitive reactivity to relationship conditions (Knobloch & Theiss, 2010; Solomon, 2015). Prior research has documented an association between relational uncertainty and sexual satisfaction, and scholars have suggested that communication might mediate the link between relational uncertainty and sexual satisfaction (Theiss, 2011; Theiss & Nagy, 2010). Although I did not test this mediated relationship in these models, the paths among relational uncertainty, sexual communication, and sexual satisfaction hint at the potential for an indirect effect passing through communication. Together, the paths from sexual communication and relational uncertainty to sexual satisfaction imply that ambiguity about the relationship and how couples communicate about sex are important predictors of sexual satisfaction.

Sexual communication as a mediator (H6). A final hypothesis anticipated an indirect effect from sexual intimacy challenges to sexual satisfaction, predicting that sexual communication would emerge as a mediator. This hypothesis received strong support for sexual communication as operationalized by the DSCS and some support when sexual communication was operationalized by the SCCE. For models considering self, partner, and relationship uncertainty with the DSCS, the indirect actor effect appeared for both men and women for all

five sexual intimacy challenges (15 out of 15 tests). For the DSCS models with depression uncertainty, the indirect effect appeared for women only in libido and partner cognitive challenges and for both men and women in the other challenges. Additionally, the DSCS models also revealed an indirect partner effect in 20 of 20 tests. Here, women's sexual intimacy challenges predicted men's sexual communication, which then predicted men's sexual satisfaction. For all five sexual intimacy challenges, the indirect partner effect for women was statistically significant.

The SCCE models revealed several indirect actor and partner effects as well. In tests of self, partner, relationship, and depression uncertainty, an indirect actor effect appeared for men and women for own interactive challenges. Similarly, an indirect effect for men appeared across sources of relational uncertainty in the tests for partner interactive challenges. In tests considering partner and depression uncertainty, the indirect partner effect from women to men emerged for cognitive own and cognitive partner challenges. The indirect partner effect from women to men also emerged in the depression uncertainty model for libido challenges. In the SCCE models, several of the indirect effects were partial because the path from sexual intimacy challenges to sexual satisfaction remained in the models. This suggests that sexual communication effectiveness explains some, but not all, of the association between sexual intimacy challenges and sexual communication.

Across models, the anticipated indirect effect documented a pattern in which the negative effect of sexual intimacy challenges on sexual satisfaction occurred through the quality and effectiveness of sexual communication between partners. I will first consider the established measure of sexual communication. The DSCS is a broad (and potentially multi-dimensional) measure of sexual communication that demonstrated consistent indirect effects for both men and

women. These findings suggest that the perceived overall quality of sexual communication between partners may help couples who are coping with sexual intimacy challenges related to depression to maintain a positive view of their sexual relationship. In these 20 models, the indirect effect for the DSCS helps explain the lack of support for H3, which asserted that sexual intimacy challenges would predict sexual satisfaction. In all of the DSCS models, the direct path from sexual intimacy challenges to sexual satisfaction was not statistically significant, but the indirect path was confirmed.

The indirect partner effect from women to men is noteworthy. In these models, the partner effect occurred from women's sexual intimacy challenges to men's sexual communication, and then men's sexual communication predicted sexual satisfaction. Several notable partner effects have appeared in the literatures on depression (e.g., Beach et al., 2003; Knobloch & Knobloch-Fedders, 2010) and sexual communication (e.g., Theiss, 2011; Theiss & Nagy, 2010). Given that this is the first study specifically examining sexual intimacy challenges in the context of depression, a precedent has not yet been set for how these difficulties might exhibit dyadic effects for partners. Theiss (2011) described a partner effect in which directness of communication influenced sexual satisfaction for both husbands and wives. The current findings expand upon Theiss' work by documenting a partner effect predicting sexual communication, such that when women report greater sexual intimacy challenges, their partners appraise the couple's sexual communication (particularly as measured by the DSCS) as lower quality. The current data did not replicate Theiss' findings of a partner effect from sexual communication to sexual satisfaction, but neither of my measures of sexual communication specifically highlighted directness. Instead, the current findings corroborate prior research in illuminating

interdependence between partners, and also point to ways that women's experiences of sexual intimacy challenges are related to men's evaluations of sexual communication.

In this study, I tested a new measure of sexual communication effectiveness, inspired by Spitzberg and Canary's (1985) assertion that competent communication is both appropriate and effective. The indirect effect for the SCCE measure of sexual communication was less consistent than for the DSCS and was more specific to unique sexual intimacy challenges. The findings point to ways that associations between interactive challenges and satisfaction are especially likely to be linked through effective communication. This finding is sensible, as it stands to reason that when couples are struggling with conversations and initiation, if they can collaborate to communicate effectively, those issues may not be as negatively associated with satisfaction as for couples who do not have the tools to communicate effectively. Prior research has also illuminated links between communication about sex and sexual satisfaction for romantic couples (Cupach & Comstock, 1990; Montesi et al., 2011; Theiss & Estlein, 2014). The current findings examine this association alongside a specific sexual intimacy challenge for depressed couples: difficulties with conversations and initiation of sex. These findings bolster Theiss and Estlein's (2014) claim that when couples perceive communication about sex as threatening (i.e., struggling to initiate sex because they want to avoid rejection), they might communicate in less effective ways, and are also likely to be less satisfied. Together, the statistically significant indirect effects for sexual communication effectiveness point to ways that sexual intimacy challenges are linked to partners' sexual satisfaction through how effectively the couple communicates about sex.

Summary of modified model. The hypothesized relationships focused primarily on predicting sexual intimacy challenges with mechanisms of turbulence and then predicting communication and relationship outcomes with those sexual intimacy challenges. The necessary

path additions, however, revealed several relationships directly between mechanisms of turbulence (relational uncertainty and interference from a partner) and sexual communication. The refined model offers several clues into how sexual intimacy challenges and sexual communication function in depressed partnerships by illuminating associations between (a) depressive symptoms, mechanisms of turbulence, and sexual intimacy challenges; (b) sexual intimacy challenges, mechanisms of turbulence, and sexual communication; and (c) sexual intimacy challenges, sexual communication, and sexual satisfaction.

The final model, when considered in several iterations based on source of relational uncertainty, layer of sexual intimacy challenge, and measure of communication, points to three conclusions rooted in the theorizing of the relational turbulence model. First, depressive symptoms and interference from a partner are statistically significant predictors of sexual intimacy challenges. Second, relational uncertainty and interference from a partner are notable negative correlates of sexual communication. Third, sexual communication mediates the relationship between sexual intimacy challenges and sexual satisfaction, but the consistency of this indirect effect differs based on measure of sexual communication. In the following sections, I discuss both theoretical and practical consequences of these findings.

Theoretical Implications

Depression in romantic relationships. The current findings strengthen research on depression in romantic relationships by incorporating theory into evaluations of how the depression experience affects and is affected by communication. This study answers calls for theorizing about the ties between mental health problems and communication (e.g., Duggan, 2006; Fisher et al., 2012; Rehman et al., 2008) by consulting the marital discord model of depression (MDD; Beach & O’Leary, 1993; Beach et al., 1990) as a lens for examining

depressed partnerships and the relational turbulence model (RTM; Solomon & Knobloch, 2004) as a framework for interpreting the dynamics of relationships in flux.

In its original formulation, the MDD asserted that marital discord prompted communication patterns that would predict depressive symptoms (Beach et al., 1990, 2003). In a more recent advancement of the model, however, Beach (2014) offered two substantive updates to the perspective. First, Beach (2014) reconceptualized the model to include a range of romantic partnerships and family relationships as well, re-naming the model *the couple and family discord model of depression*. Second, the contemporary iteration of the model deemphasizes causal order and emphasizes the value of intervention in the relationship to address both relationship and depression troubles. As a precursor to the discord model's focus on treatment and intervention, the relational turbulence model aids in illuminating the dyadic process that may link depression to relationship outcomes. As depressed couples navigate their illness, they are prone to questions about the status of their partnership and are vulnerable to interference from their partner and from the effects of the depression. The RTM posits that these mechanisms of turbulence can alter couples' communication abilities (Knobloch et al., 2016; Solomon, 2015; Solomon & Knobloch, 2004). In the current context, my findings suggest that depression sparks relational uncertainty and interference from a partner, which then inhibits the quality and effectiveness of individuals' communication about their sex lives. In turn, that communication is linked to sexual satisfaction. Prior research has documented ties between sexual and relationship satisfaction (Sprecher & Cate, 2004; Theiss & Solomon, 2007). The constellation of the logic of the MDD, the assertions of the RTM, and the empirical evidence of the current findings sheds light on ways that depression, communication, and relationship outcomes are intricately tied. The MDD focuses on communication patterns as a link between depression and relationship troubles. The RTM

widens that lens to explain how two mechanisms of turbulence can influence communication.

The current study on sexual intimacy, then, shines a spotlight on how communication about sex is central to sexual satisfaction for depressed couples.

In applying the RTM to the study of depression and sexual communication, the current investigation also adds a focus on interference from a partner to the literature on depression. The RTM asserts that interference from a partner produces frustrations and negative emotions, diminishing communication quality (Solomon & Knobloch, 2004). The MDD, too, explains that disruptions to routines are stress-producing patterns that can exacerbate depressive symptoms in relationships (Beach et al., 1990). Knobloch and Delaney (2012) documented several depression-specific opportunities for goal blockages in romantic couples, but a test of associations between depressive symptoms and perceptions of interference had not yet been conducted. The current study underscores the utility of the RTM in the depression literature by illuminating actor and partner effects for men's depression associating with their own and their partner's perceptions of interference from a partner. Several studies have established that relational uncertainty plays a role in communication between depressed partners (e.g., Knobloch & Knobloch-Fedders, 2010; Knobloch et al., 2011; Knobloch et al., 2016) and in communication about sex (Theiss, 2011; Theiss & Nagy, 2010). The current findings revealed that interference from a partner was associated with both sexual intimacy challenges and sexual communication. As future inquiries theorize about how sexual intimacy challenges are manifest in depressed couples, the RTM and its focus on processes of interference stands to be a valuable framework.

To that end, this study builds theory on depression in romantic relationships by confirming that sexual intimacy challenges are a salient and nuanced part of depression for romantic partners. The current findings offer novel insight about the nature of sexual intimacy

challenges for depressed couples, building on preliminary qualitative findings (Delaney, 2016). I took a first step in measuring those challenges quantitatively and documented ways that depressive symptoms and interference from a partner predict those challenges. Given the dearth of theory in previous explanations of sex problems for depressed couples (e.g., Baldwin, 2001; Kennedy et al., 1999; Ostman, 2008), my research incorporates theoretical thinking by (a) starting with rich description of layered sexual intimacy challenges and (b) examining associations among depressive symptoms, mechanisms of turbulence, and sexual intimacy challenges. In the current data, interference from a partner was a statistically significant predictor of several sexual intimacy challenges, including partner effects from women to men in models of partner cognitive and partner interactive challenges. For own cognitive and own interactive challenges, the models revealed a necessary actor path from depressive symptoms to sexual intimacy challenges. A partner effect in which men's depressive symptoms predicted women's perceptions of partner cognitive challenges was also statistically significant.

These predictions are noteworthy in two ways. First, my initial theorizing assumed that the cognitive and interactive challenges I documented in my interviews would be most likely predicted by relationship qualities: relational uncertainty and interference from a partner. I assumed that these sexual troubles are happening in the depression context, but are also related to the dynamics of the relationship. On the contrary, relational uncertainty maintained no statistically significant associations with any of the sexual intimacy challenges. In models of own cognitive challenges (for men and women) and own and partner interactive challenges (for men), interference from a partner also failed to predict sexual intimacy challenges. In approximately two-thirds of tests, interference from a partner was a statistically significant predictor of sexual intimacy challenges, including several partner effects. These paths suggest that depressive

symptoms are an important proximal predictor of sexual intimacy challenges, but goal blockages between partners may also explain certain sexual intimacy challenges for depressed couples. Second, the documentation of nuances in paths based on sexual intimacy challenges contributes to theorizing about how depressed couples are vulnerable to layered difficulties in their sexual relationship. If libido challenges, cognitive challenges, and interactive challenges have slightly differing causes and consequences, future theorizing on the effects of depression in romantic relationships must account for these distinctions.

A final contribution to the study of depression and romantic relationships comes in underscoring the importance of considering communication in evaluating the effects of depression. The bulk of prior research has documented ways depression makes communication difficult for partners (e.g., Gabriel et al., 2010; Rehman et al., 2008). For example, Knobloch and colleagues (2016) point to depressive symptoms and relational uncertainty as tied to topic avoidance. Depression can also be linked to ineffective social support and problems coping with relationship troubles (Davila et al., 2009). Indeed, the current findings document that depression and its relational correlates are associated with lower quality and effectiveness of communication about sex. Depressive symptoms, relational uncertainty, interference from a partner, and sexual intimacy challenges all shared negative associations with both measures of sexual communication. The findings for H5 (sexual communication and sexual satisfaction) and H6 (sexual communication as a mediator), however, illustrate the importance of sexual communication between partners. Sexual communication exhibited a full or partial indirect effect in a majority of tests of the DSCS and several tests of the SCCE scale. This implies that communication about sex is a route through which sexual intimacy challenges are negatively associated with sexual communication, suggesting that positive interactions about sex might

minimize the damage on the sexual relationship. In addition to examining the negative aspects of communication in the depression context, a next phase of theorizing can highlight protective mechanisms of strong communication between partners.

The relational turbulence model. The current findings also contribute to theorizing about processes of relational turbulence in romantic relationships. Notably, this study offers a test of the RTM in both depression and sexual communication contexts, supplementing two literatures that have examined relational uncertainty without highlighting the model's other mechanism of turbulence (e.g., Knobloch et al., 2011, Theiss, 2011). The current results indicate that couples might be particularly prone to difficulties with sexual communication when partners are experiencing relational uncertainty and interference from a partner, demonstrating that the RTM is a useful model for investigating why sexual communication is difficult and why some couples might be better than others at navigating conversations about sex (e.g., Theiss, 2011, Theiss & Estlein, 2014). Although a handful of studies have assessed ties between relational uncertainty and sexual communication, these findings point to *both* mechanisms of turbulence as associating with sexual communication, and the negative associations imply that individuals struggle with sexual communication under conditions of relational uncertainty and interference from a partner. Yet, couples who can minimize perceptions of relational uncertainty and interference from a partner may be stronger communicators. Specifically, the ties between relational uncertainty and sexual communication suggest that feeling secure and certain in the relationship could make sexual communication easier and more effective, and when couples are able to coordinate routines and collaborate to meet goals, they could be better equipped to navigate a tricky conversation about sex.

In this study, I also contributed to a growing body of research theorizing about turbulent processes in romantic relationships marked by depression (e.g., Knobloch et al., 2011; Knobloch et al., 2016). The RTM was originally formulated to examine relationships as they increase in intimacy, but has since evolved to focus on how mechanisms of turbulence operate in couples and how dyads adapt to changes in circumstances (Solomon, 2015). Depression has been previously linked to mechanisms of turbulence, and relational uncertainty in depression is associated with relationship satisfaction and communication outcomes such as topic avoidance and negative-feedback seeking (Knobloch & Delaney, 2012, Knobloch & Knobloch-Fedders, 2010; Knobloch et al., 2011; Knobloch et al., 2016). The current study confirms that the RTM is useful for theorizing about depressed partnerships. The findings also extend use the RTM to (a) include interference from a partner in tests of the RTM in the depression context, (b) document associations for depression-specific mechanisms of turbulence, and (c) evaluate associations between the two mechanisms of turbulence. These contributions represent a step forward in applying the RTM to the depression context and clarifying the nature of its cognitive and interpersonal mechanisms of turbulence.

Sexual communication in romantic relationships. The current findings additionally contribute to theorizing about sexual communication in romantic partnerships. Sexual intimacy challenges and sexual satisfaction shared consistently positive associations in the tests of bivariate correlation, but this path was not statistically significant in many of the substantive tests of the model. Sexual communication, then, added explanatory power to the model by exhibiting the mediating effect on that association. As demonstrated by the frequent indirect effects, the relationship between sexual intimacy challenges and sexual satisfaction can be explained, to some extent, through the quality of couples' sexual communication. These findings augment

other RTM research that has posited that mechanisms of turbulence can mediate outcomes for sexual communication (e.g., Theiss, 2011). Yet, the indirect effects were not consistent across measures of communication. The actor and partner indirect effect appeared in most tests of the DSCS, a measure of communication focusing on a broad evaluation of the quality of sexual communication. In models of the SCCE, which centers on perceived effectiveness of communication about sex, the mediated effect was only statistically significant in a handful of tests. If effectiveness of communication is not what drives that indirect effect, what is the DSCS measuring that does produce this result? Several of the DSCS items capture avoidance of conversations about sex (e.g., “My partner rarely responds when I want to talk about our sex life”). Although avoidance can be functional in relationships (Caughlin & Afifi, 2004), Theiss and Estlein (2014) asserted that topic avoidance might be especially problematic for couples when it comes to sexual communication. Perhaps the indirect effect for the DSCS is grounded in how the measure captures avoidance of or engagement in conversations about sex. The current findings, then, document that communication about sex matters, but leave room for speculation about exactly how and why.

In that same vein, the findings described here underscore the importance of conceptualization and operationalization in studies of sexual communication. Given the unique patterns of findings for the DSCS when compared to the SCCE, questions remain about the factors that contribute to overall quality of sexual communication for romantic partners. A next phase in theorizing about sexual communication processes will be to continue efforts to capture what exactly sexual communication is, along with what makes some couples better at it than others, in a way that can extend across studies and contexts. Faulkner and Lannutti (2010) identified six content areas of conversations about sex, both satisfying and unsatisfying. These

authors point to (a) decision making, (b) sexual pleasure, (c) relationship issues, (d) attitudes/values, (e) past experience, and (f) sexual health as predominant themes of sexual conversation. A next step in measurement could stem from extending Faulkner and Lannutti's (2010) findings to specify *how* partners communicate about each of these content areas.

Theory is still needed, however, to guide efforts to improve conceptualization and operationalization of sexual communication. In this study, I started by turning to Spitzberg and Canary's (1985) claims about communication competence as encompassing appropriateness and effectiveness. I then prioritized assessment of effectiveness to evaluate the role of sexual communication in the hypothesized model. As scholars parse out the intricacies of sexual communication, they can rely upon established theories and perspectives that guide thinking about communication more broadly, such as multiple goals theory (Caughlin, 2010; Clark & Delia, 1979), communication privacy management theory (Petronio, 2002), and politeness theory (Brown & Levinson, 1987). Turning to these theories (and others) and asking questions about how they do and do not extend to conversations about sex will (a) give scholars a baseline for theorizing about sexual communication processes and (b) expose areas where existing theories do not pertain so that complementary theory and research can fill in the blanks.

Practical Implications

Interpersonal communication scholarship represents an important voice in conversations about health and illness (Duggan, 2006; Fisher et al., 2012). Especially in the depression context, communication issues are intricately woven into the fabric of the illness and the relationship (e.g., Davila, 2001; Gabriel et al., 2010; Segrin, 2001). Accordingly, the findings of this study carry three notable practical implications for couples coping with depression and the practitioners who work with those couples. First, when clinicians counsel individuals or couples,

they can refer to the sexual intimacy challenges described by Delaney (2016) and evaluated here. If therapists and counselors can delineate the extent to which a couple is coping with issues related to interest and function versus issues stemming from cognitive troubles and destructive interactions, they will be better equipped to help couples strategize ways to overcome their unique constellation of sexual intimacy challenges.

Practitioners can also gather valuable information from the current findings indicating that sexual communication is a potent predictor of sexual satisfaction. The actor path connecting sexual communication with sexual satisfaction was statistically significant in all 40 tests, and the hypothesis that sexual communication would mediate the association between sexual intimacy challenges received strong support in tests of the DSCS and some support in tests of the SCCE. For practitioners and couples working through the challenges of depression, this finding bolsters existing applied scholarship encouraging communication skills to be a part of therapeutic protocols (e.g., Whisman & Beach, 2012). The current findings designate communication about sex as one area that warrants special attention. As communication scholars work to explicate and measure sexual communication, so should clinicians devise methods for helping couples improve their abilities in talking about sexual topics.

Finally, practitioners can call upon the relational turbulence model to help couples identify and cope with depression in their partnerships. The current findings align with existing research documenting ties between depressive symptoms and mechanisms of turbulence (Knobloch & Delaney, 2012; Knobloch et al., 2016) and extend the literature on relational turbulence in depression by documenting that relational uncertainty and interference from a partner are associated with sexual communication. When partners are wrestling with questions about the partnership or frustrated over the interfering effects of depression, they may be unable

to produce and process messages that help the couple solve problems, achieve understanding, and collaborate to tackle sexual intimacy issues (among other depression-related relationship issues, no doubt). In practice, clinicians can work with individuals and couples to manage ambiguities surrounding the relationship and depression and coordinate routines that help minimize interference.

Strengths and Limitations

This study is admirable for several of its theoretical and methodological strengths. I considered a theory of depression in relationships—the marital discord model—with a theory of interpersonal communication—the relational turbulence model—to document the processes surrounding depressed couples’ experiences of sexual intimacy challenges and sexual communication. By capitalizing on the strengths of both theories, my model offers insight into the ways that depression corresponds with sexual intimacy challenges and communication is related to the effects of depression on the sexual relationship. The design of my study also strengthened the resulting findings and conclusions. I invited participants to share in-depth insight into their experiences to supplement the information gathered from the quantitative scales. I prioritized measurement by developing new measures of sexual intimacy challenges in depression and by comparing two measures of sexual communication. These efforts enrich the literature by setting the stage for new investigations into sexual intimacy challenges and by underscoring the need for careful examination of how researchers measure sexual communication. The sample in this study is noteworthy as well. I collected a dyadic dataset and analyzed it using the Actor-Partner Interdependence Model, efforts that paid off, as the analyses revealed several partner effects that are important in the study and treatment of depression from a

dyadic perspective (Bodenmann & Randall, 2013; Carr, 2014). My sample was also diverse in age, location, and relationship status, enhancing the generalizability of these findings.

The study should, of course, be considered in light of several limitations, particularly concerning data collection and analyses. I relied upon participants' own reports of having a diagnosis and being in a romantic relationship, so I could not verify individuals' diagnosis status. My sample also does not offer an unbiased glimpse into couples managing a range of depression's individual and relational effects. I used depression support organizations and treatment resources for recruitment, so the sample could be less depressed or more in control of depression's negative effects than many couples who are not currently in treatment or those who have not yet been clinically diagnosed. These data are also cross-sectional, which constrains the extent of the claims to be made about these findings. The directions of the associations in the hypothesized and modified model are rooted in theory, but could also arguably go in other directions. A cross-sectional study also cannot account for the ebbs and flows of relationship dynamics or the cyclical processes likely involved in depression, its effects, and communication. Longitudinal data and studies of interventions will address the weaknesses of cross-sectional studies such as this one. An additional limitation stems from my inclusion of both married and unmarried couples in my sample. The preliminary analyses did reveal several differences on study variables between married men and women and their unmarried counterparts. The differences were controlled for in these analyses, but a more thorough focus on how developmental stage plays a role in both depression and conversations about sex will enrich this line of inquiry.

Although the structural equation modeling analyses used in this study offer many strengths for dealing with measurement error, testing actor and partner effects, and evaluating

indirect effects, SEM analyses are most useful for large samples, particularly those well over 100 (Preacher & Hayes, 2008a). The sample of 106 dyads is close to the minimum, so larger samples are needed to more stringently test the assertions made here. An additional analytical limitation concerns the reliance upon the modification indices to inform new path additions for model fitting. The models required numerous modifications to achieve fit. The data-driven nature of adjusting models based on the modification indices can be criticized for being atheoretical, but the path additions were theoretically reasonable and align with other research on depression and relational turbulence. As a whole, the current study can be commended for including dyadic data, but the results should be interpreted with caution and triangulated with additional studies.

Future Directions

Three future directions for research are evident. In the study of sexual intimacy challenges for depressed couples, an important step is to compare depressed and non-depressed samples to investigate how unique these challenges actually are to the depression experience. It stands to reason that issues like self-esteem, isolation, and negativity are likely challenges that are specific to depressed couples, but a comparison of depressed and non-depressed couples will shed light on how the sexual intimacy challenges outlined here and elsewhere (e.g., Delaney, 2016) are unique to depression, exacerbated by depressive symptoms, or common outside of the depression context. Similarly, to contribute to the broader literature on relationships and health (e.g., HIV/AIDS, Brashers, Neidig, & Goldsmith, 2004; heart conditions; Goldsmith, Bute, & Lindholm, 2012; breast cancer; Weber & Solomon, 2008), a next step involves exploring the potential for other health issues to present unique sexual intimacy challenges.

Measurement of sexual communication remains a key item on the agenda for sexual communication researchers. The measurement of interpersonal communication processes is a

challenging task, requiring a strong link between conceptualization and operationalization, and some scholars are guilty of using and interpreting measures in their studies in ways that contradict the original construct for which the measure was developed (c.f. Caughlin & Basinger, 2014). The sexual communication literature includes lots of claims about what sexual communication is, how it works, and what it is related to in romantic relationships, but differences across measures should give audiences pause when interpreting and synthesizing these results. Thus, scholars still need to work on better measurements for sexual communication. Given the diverse array of topics and processes involved, maybe this task will not be about creating a scale that captures every dimension, but instead be about urging scholars to be especially specific in their conceptualization and operationalization. Clarity in argument and precision in measurement should be priorities for the study of communication about sex.

A final future direction merges theoretical and practical implications of the current study. To augment the current findings about (a) how relational uncertainty and interference from a partner correspond with quality of sexual communication, and (b) how sexual intimacy challenges, sexual communication, and sexual satisfaction are connected, a study to pilot test the effectiveness of an intervention for depressed couples is warranted. Communication scholars and clinicians can collaborate to develop and test interventions that help couples manage relational uncertainty, decrease opportunities for interference from a partner, and improve their sexual communication abilities. The findings of the current study will demonstrate their value when applied in a way that aids couples in minimizing mechanisms of turbulence and maximizing couples' abilities to communicate about sex. This application will also offer an additional test of the relational turbulence model by examining evidence of improvement in outcomes for couples when mechanisms of turbulence are reduced.

Conclusions

The purpose of this study was to test the logic that depressed couples contend with relational uncertainty, interference from a partner, and unique sexual intimacy challenges, and that sexual communication mediates the effect that sexual intimacy challenges have on couples' sexual satisfaction. I evaluated my model by collecting and analyzing data from over one hundred couples in which one or both partners suffered from a form of depression. In testing 40 structural equation models, I highlighted ways that depressive symptoms and interference from a partner predict several depression-related sexual intimacy challenges and how sexual communication shares an association with sexual satisfaction. Broadly, the results of this study answer questions about how depressive symptoms are manifest in romantic relationships, how mechanisms of turbulence are associated with sexual communication, and how communication about sex is a factor in the associations between depression and sexual satisfaction. The findings are noteworthy for theoretical and practical contributions, but also leave several questions about depression and sexual communication unanswered. Together, the findings discussed here have set the stage for a next phase of research examining the experiences of depressed couples and the dynamics of conversations about sex.

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Appendix A: Recruitment Materials

Study Information Flyer – Included with advertising email correspondence and posted on wesearchtogether.org

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN



Department of Communication

College of Liberal Arts and Sciences
3001 Lincoln Hall
702 South Wright Street
Urbana, IL 61801

Do you have depression? Are you in a relationship with someone who has depression? Researchers from the University of Illinois are conducting a study to better understand how romantic partners communicate when one or both people are depressed.

You are eligible to participate in the study if:

- (1) You are in a romantic relationship,
- (2) You and/or your partner have been professionally diagnosed with depression,
- (3) Both partners are willing to participate in the study,
- (4) Both partners are 18 years of age or older, and
- (5) Both partners have their own email account.

Participation involves completing an online questionnaire, which includes questions about depression, your relationship with your partner, your sexual relationship, and how you and your partner communicate. You will be asked to respond to several questions about your sexual partnership, including questions about satisfaction and physical function, how depression does/does not affect your sex life, and how you communicate with your partner about sex. The questionnaire takes approximately 45 to 60 minutes to complete. All couples who complete the study will receive \$20 in Amazon e-gift cards (\$10 to each partner).

If you're interested in participating, first, **talk with your partner about the study**. Make sure **both partners** are aware of the eligibility criteria and what participation entails. Then, if **both partners** are willing to participate, send an email to depression.study.2015@gmail.com with:

- (a) your name and email address,
- (b) your partner's name and email address, and
- (c) who has been diagnosed with depression (you, your partner, or both).

Thank you,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

Recruitment Email – Local Chapters of Nationwide Depression Support Organizations

Hello!

Many thanks for all of your efforts to help the individuals in your area who suffer from depression and other mental illnesses. My name is Amy Delaney and I am a doctoral candidate at the University of Illinois at Urbana-Champaign. I am a communication scholar who studies romantic relationships, and I'm currently working on a study to better understand the relationships of individuals with depression and their romantic partners.

I am looking for couples to participate in my research by completing an online questionnaire about their experiences of being in a relationship in which one or both partners has depression. Participation should take approximately 45 to 60 minutes, and the questionnaire focuses on depression, sexual intimacy, and communication between romantic partners. Couples are eligible to participate if they are in a romantic relationship and (a) both partners are willing to participate, (b) both partners are 18 years of age or older, (c) one or both partners has been professionally diagnosed with depression, and (d) each partner has his/her own email account. All couples who complete the study will receive \$20 in Amazon e-gift cards (\$10 to each partner). We want to encourage couples to talk about the study and ensure that both partners are interested in participation before either partner signs up for the study.

I would very much appreciate your help in advertising this study to your members who may be eligible. A flyer with information about the study and my contact information is attached. These details are suitable for forwarding to a listserv, posting to a website or facebook page, including in a newsletter, and circulating to potential participants. Please share the attached recruitment materials with members who may be eligible and interested in participating, but do not otherwise encourage or pressure members to participate. We will not notify you with information about which (if any) members enroll in the study.

If you are willing to share information about the study with your members, or if you have any questions about the project, please reply to this email. If you are unable or do not wish to share this information, please respond, and I will remove your contact information from my list.

Thank you,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

Follow up Email – Local Chapters of Nationwide Depression Support Organizations

Hello!

I recently contacted you about a study I am conducting about depression in romantic relationships. I am contacting you again to ask for your help in advertising this research to those who may be eligible to participate.

As a reminder, I am looking for couples to participate in my research by completing an online questionnaire about their experiences of being in a relationship in which one or both partners has depression. Participation should take approximately 45 to 60 minutes, and the questionnaire focuses on depression, sexual intimacy, and communication between romantic partners. Couples are eligible to participate if they are in a romantic relationship and (a) both partners are willing to participate, (b) both partners are 18 years of age or older, (c) one or both partners has been professionally diagnosed with depression, and (d) each partner has his/her own email account. All couples who complete the study will receive \$20 in Amazon e-gift cards (\$10 to each partner). We want to encourage couples to talk about the study and ensure that both partners are interested in participation before either partner signs up for the study.

I would very much appreciate your help in advertising our study to your members who may be eligible. A flyer with information about the study and my contact information is attached. These details are suitable for forwarding to a listserv, posting to a website or facebook page, including in a newsletter, and circulating to potential participants. Please share the attached recruitment materials with members who may be eligible and interested in participating, but do not otherwise encourage or pressure members to participate. We will not notify you with information about which (if any) members enroll in the study.

If you are willing to share information about the study with your members, or if you have any questions about the project, please reply to this email. If you are unable or do not wish to share this information, please respond and I will remove your contact information from my list.

Thank you,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

Recruitment Email – Mental Health Professionals, Relationship Therapists, and Treatment Centers

Hello!

Many thanks for all of your efforts to help the individuals in your area who suffer from depression and other mental illnesses. My name is Amy Delaney and I am a doctoral candidate at the University of Illinois at Urbana-Champaign. I am a communication scholar who studies romantic relationships, and I'm currently working on a study to better understand the relationships of individuals with depression and their romantic partners.

I am looking for couples to participate in my research by completing an online questionnaire about their experiences of being in a relationship in which one or both partners has depression. Participation should take approximately 45 to 60 minutes, and the questionnaire focuses on depression, sexual intimacy, and communication between romantic partners. Couples are eligible to participate if they are in a romantic relationship and (a) both partners are willing to participate, (b) both partners are 18 years of age or older, (c) one or both partners has been professionally diagnosed with depression, and (d) each partner has his/her own email account. All couples who complete the study will receive \$20 in Amazon e-gift cards (\$10 to each partner). We want to encourage couples to talk about the study and ensure that both partners are interested in participation before either partner signs up for the study.

I would very much appreciate your help in advertising our study to patients and clients who may be eligible. A flyer with information about the study and my contact information is attached. These details are suitable for forwarding to a listserv, posting to a website or facebook page, including in a newsletter, and circulating to potential participants. Participants will be asked several questions about their sexual partnership, including questions about satisfaction and physical function, how depression does/does not affect their sex life, and how the couple communicates about sex. Please share the attached recruitment materials with couples who may be eligible and interested in participating, but do not otherwise encourage or pressure patients to participate. We will not notify you with information about which (if any) patients enroll in the study.

If you are willing to share information about the study at your practice, or if you have any questions about the project, please reply to this email. If you are unable or do not wish to share this information, please respond, and I will remove your contact information from my list.

Thank you,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

Follow up Email - Mental Health Professionals, Relationship Therapists, and Treatment Centers

Hello!

I recently contacted you about a study I am conducting about depression in romantic relationships. I am contacting you again to ask for your help in advertising this research to those who may be eligible to participate.

As a reminder, I am looking for couples to participate in my research by completing an online questionnaire about their experiences of being in a relationship in which one or both partners has depression. Participation should take approximately 45 to 60 minutes, and the questionnaire focuses on depression, sexual intimacy, and communication between romantic partners. Couples are eligible to participate if they are in a romantic relationship and (a) both partners are willing to participate, (b) both partners are 18 years of age or older, (c) one or both partners has been professionally diagnosed with depression, and (d) each partner has his/her own email account. All couples who complete the study will receive \$20 in Amazon e-gift cards (\$10 to each partner). We want to encourage couples to talk about the study and ensure that both partners are interested in participation before either partner signs up for the study.

I would very much appreciate your help in advertising our study to patients and clients who may be eligible. A flyer with information about the study and my contact information is attached. These details are suitable for forwarding to a listserv, posting to a website or facebook page, including in a newsletter, and circulating to potential participants. Participants will be asked several questions about their sexual partnership, including questions about satisfaction and physical function, how depression does/does not affect their sex life, and how the couple communicates about sex. Please share the attached recruitment materials with couples who may be eligible and interested in participating, but do not otherwise encourage or pressure patients to participate. We will not notify you with information about which (if any) patients enroll in the study.

If you are willing to share information about the study at your practice, or if you have any questions about the project, please reply to this email. If you are unable or do not wish to share this information, please respond, and I will remove your contact information from my list.

Thank you,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

Advertising Text – Sample social media posts

Researchers from the University of Illinois are conducting a study to better understand how romantic partners communicate when one or both people are depressed. If you and/or your partner has depression, you may be able to participate in research to help couples better cope with depression.

You are eligible to participate in the study if:

- (1) You are in a romantic relationship,
- (2) You and/or your partner have been professionally diagnosed with depression,
- (3) Both partners are willing to participate in the study,
- (4) Both partners are 18 years of age or older, and
- (5) Both partners have their own email account.

Participation involves completing an online questionnaire, which includes questions about depression, your sexual relationship, and how you and your partner communicate. You will be asked to respond to several questions about your sexual partnership, including questions about satisfaction and physical function, how depression does/does not affect your sex life, and how you communicate with your partner about sex. The questionnaire takes approximately 45 to 60 minutes to complete. All couples who complete the study will receive \$20 in Amazon e-gift cards (\$10 to each partner).

If you're interested in participating, first, **talk with your partner about the study**. Make sure **both partners** are aware of the eligibility criteria and what participation entails. Then, if **both partners** are willing to participate, send an email to depression.study.2015@gmail.com with:

- (a) your name and email address,
- (b) your partner's name and email address, and
- (c) who has been diagnosed with depression (you, your partner, or both).

Do you or your partner have depression? Researchers from the University of Illinois are conducting a study to better understand how romantic partners communicate when one or both people are depressed. By participating, you can contribute to efforts to help other couples manage their depression. Each couple will receive \$20 in Amazon e-gift cards!

You are eligible to participate in the study if:

- (1) You are in a romantic relationship,
- (2) You and/or your partner have been professionally diagnosed with depression,
- (3) Both partners are willing to participate in the study,
- (4) Both partners are 18 years of age or older, and
- (5) Both partners have their own email account.

To participate, you will complete an online questionnaire about your relationship, sexual intimacy, and communication with your partner. You will be asked to respond to several questions about your sexual partnership, including questions about satisfaction and physical function, how depression does/does not affect your sex life, and how you communicate with your

partner about sex. The questionnaire takes approximately 45 to 60 minutes to complete. All couples who complete the study will receive \$20 in Amazon e-gift cards (\$10 to each partner).

If you're interested in participating, first, **talk with your partner about the study**. Make sure **both partners** are aware of the eligibility criteria and what participation entails. Then, if **both partners** are willing to participate, send an email to depression.study.2015@gmail.com with:

- (a) your name and email address,
- (b) your partner's name and email address, and
- (c) who has been diagnosed with depression (you, your partner, or both).

Appendix B: Participant Emails

Kick-off email – Participant

Dear NAME,

Thank you for your interest in this study of depression and romantic relationship. The study involves completing a 45 to 60 minute online questionnaire about depression, your sexual relationship, and communication within your relationship. You will be asked to respond to several questions about your sexual partnership, including questions about satisfaction and physical function, how depression does/does not affect your sex life, and how you communicate with your partner about sex. To participate, you must meet these five criteria:

- (1) You are in a romantic relationship,
- (2) You and/or your partner have been professionally diagnosed with depression,
- (3) Both partners are willing to participate in the study,
- (4) Both partners are 18 years of age or older, and
- (5) Both partners have their own email account.

All couples who complete the study will receive \$20 in Amazon e-gift cards (\$10 to each partner). Once both partners finish the online questionnaire and submit a completion code, each person will receive an e-mail with his/her Amazon e-gift card.

We want to be sure that both partners are willing to join the study and that neither partner feels pressured to enroll. If you are willing and able to participate, please **reply** to this email to officially enroll in the study. We will send this message to your partner as well. If both partners consent to participate, you will each receive an email with login information and a link to the questionnaire. If you do not want to participate, please let us know, and we will remove both your and your partner's contact and diagnosis information from our records.

Please do not hesitate to let me know if you have questions. Thank you for your time.

Warmly,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

Kick-off email – Partner

Dear NAME,

Your romantic partner recently expressed interest in our study about depression in romantic relationships. We are looking for couples to participate in research to better understand how depression affects romantic relationships. This study involves completing a 45 to 60 minute online questionnaire about depression, your sexual relationship, and communication within your relationship. You will be asked to respond to several questions about your sexual partnership, including questions about satisfaction and physical function, how depression does/does not affect your sex life, and how you communicate with your partner about sex. To participate, you must meet these five criteria:

- (1) You are in a romantic relationship,
- (2) You and/or your partner have been professionally diagnosed with depression,
- (3) Both partners are willing to participate in the study,
- (4) Both partners are 18 years of age or older, and
- (5) Both partners have their own email account.

All couples who complete the study will receive \$20 in Amazon e-gift cards (\$10 to each partner). Once both partners finish the online questionnaire and submit a completion code, each person will receive an e-mail with his/her Amazon e-gift card.

We want to be sure that both partners are willing to join the study and that neither partner feels pressured to enroll. If you are willing and able to participate, please **reply** to this email to officially enroll in the study. If both partners consent to participate, you will each receive an email with login information and a link to the questionnaire. If you do not want to participate, please let us know, and we will remove both your and your partner's contact and diagnosis information from our records.

Please do not hesitate to let me know if you have questions. Thank you for your time.

Warmly,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

Study login and instructions email

Dear NAME,

Thank you for signing up for this study of depression and romantic relationships. Your participation means that you are contributing to research that will help other couples who cope with depression in their relationship.

As a reminder, participation involves completing an online questionnaire, and it should take around 45 to 60 minutes. Here is your login information for the study:

Your ID is: XXXX

Your PASSWORD is: XXXXX

You can find the questionnaire at: [*link to SurveyGizmo questionnaire*](#)

Please note: To be included in the study (and eligible to receive \$20 in Amazon e-gift cards), you and your partner must complete the questionnaire in the next 7 days. On DAY AND DATE, your ID and password will expire. It is important that you keep your ID and password private from your partner, and please complete the questionnaire in private.

Please contact me right away if you have any difficulty accessing or completing the questionnaire. After you complete the questionnaire, a final screen will list a survey completion code. Once both partners email their codes to us, you will receive your \$10 e-gift card through email within 7 days. Thank you so much for your time and efforts to participate in this important research.

Warmly,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

4 –day reminder email

Dear NAME,

This is just a reminder that your participant ID and password for the study of depression and romantic relationships will expire on DAY AND DATE. You must complete the questionnaire (available at *link to study website*) in the next 3 days, or your login information will expire. As a reminder, here is your login information:

Your ID is: XXXX

Your PASSWORD is: XXXXX

If you are no longer interested in participating, or if you have other questions or concerns, please contact me at depression.study.2015@gmail.com.

Warmly,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

7 – day reminder email

Dear NAME,

This is a final reminder that your participant ID and password for the study of depression and romantic relationships will expire on DAY AND DATE. You must complete the questionnaire (available at *link to study website*) in the next 24 hours, or your login information will expire. As a reminder, here is your login information:

Your ID is: XXXX

Your PASSWORD is: XXXXX

If you are no longer interested in participating, you do not need to contact us further. Your login information will expire on DAY AND DATE. If you have other questions or concerns, please contact us at depression.study.2015@gmail.com.

Warmly,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

Thank you email

Dear NAME,

Thank you for your time and efforts to participate in our study of depression and romantic relationships. Your responses will help us better understand the experiences of depressed individuals and their partners, and we are hoping to help make the depression experience easier for couples.

Once both partners finish the online questionnaire and submit the completion code, each person will receive an e-mail with his/her Amazon e-gift card. Please allow up to seven days to receive your e-mailed e-gift card.

Please do not hesitate to contact me if you have questions about this study. If you know other couples that may qualify to participate in this research, please share the study information and invite them to contact us at depression.study.2105@gmail.com for more details on eligibility and enrollment. Also, please let me know if you are interested in receiving a summary of the findings when they are ready.

My best,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

For information on depression support resources, please visit:

National Alliance on Mental Illness

Website: www.nami.org

NAMI HelpLine: 1-800-950-6264

Depression and Bipolar Support Alliance

Website: www.dbsalliance.org

Find a certified counselor in your area: <http://www.nbcc.org/CounselorFind>

If you feel that you are distressed, in crisis, or need to talk about suicidal thoughts, please call 1-800-273-8255. This is a confidential, toll-free, 24-hour suicide prevention hotline.

Gift card e-mail (sent through University Amazon e-card system)

Dear Participant,

Thank you for participating in our study! We really appreciate your time and help. If you know other couples that may qualify to participate in this research, please share the study information and invite them to contact us at depression.study.2105@gmail.com for more details on eligibility and enrollment.

Below is the information about your Amazon.com* e-gift card claim code.

Amount: \$10.00

Claim code: XXXX-XXXXXX-XXXX

To redeem your Amazon.com claim code: Visit www.amazon.com/gc.
Click "Apply it to Your Account" and enter the claim code when prompted.

Funds are applied automatically to eligible orders during the checkout process.
You must pay for any remaining balance on your order with another payment method.

Your claim code may also be entered when prompted during checkout.

For more information, visit www.amazon.com/help/gc.

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For questions or assistance with your claim code, please contact:

Amy L. Delaney, MA, Doctoral Candidate
University of Illinois Urbana-Champaign
Department of Communication, MC-456
702 South Wright St.
Urbana, IL 61801

Or e-mail: agrime2@illinois.edu

Dropped from study email

Dear NAME,

Thanks for your interest in this study of depression and romantic relationships. Unfortunately, your participant ID and password have expired because you did not complete the questionnaire within the seven-day time frame. Your information will be deleted from our records.

My best,

Amy L. Delaney, Doctoral Candidate
University of Illinois Urbana-Champaign
depression.study.2015@gmail.com

For information on depression support resources, please visit:

National Alliance on Mental Illness

Website: www.nami.org

NAMI HelpLine: 1-800-950-6264

Depression and Bipolar Support Alliance

Website: www.dbsalliance.org

Find a certified counselor in your area: <http://www.nbcc.org/CounselorFind>

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Appendix C: Informed Consent

Study of Depression, Sexuality, and Communication

Investigator: Amy Delaney, Doctoral Candidate, University of Illinois at Urbana-Champaign, Department of Communication

Responsible Principal Investigator: Leanne Knobloch, Ph.D., University of Illinois at Urbana-Champaign, Department of Communication

The purpose of this study is to examine how depression affects romantic relationships, including how partners communicate with each other and how partners can find it difficult to maintain a satisfying sexual relationship. You are eligible to participate if:

- (a) you are 18 years of age or older,
- (b) you are involved in a romantic relationship,
- (c) your partner is also willing to participate,
- (d) you and/or your partner has been professionally diagnosed with depression, and
- (e) you and your romantic partner have separate email accounts.

If you are eligible and choose to participate, you will be invited to complete an online questionnaire, which should take approximately 45 to 60 minutes of your time. The questionnaire will include demographic questions, as well as questions asking about depression, your intimate relationship, and how you and your partner communicate about sex. You can complete the study at a time and place that is convenient to you, but please work on it alone and when you have privacy.

The risks you will encounter by participating in this research are comparable to those you would experience in everyday life. However, the nature of the study may cause you to think about things that can be difficult or challenging in your relationship. Specifically, you will be asked several detailed questions about your sexual relationship with your partner. You may choose not to answer questions that make you feel uncomfortable, and you may end your participation in this research at any time. You can simply close your web browser to end participation.

Please note: If at any time during your participation you feel depressed or distressed, please seek assistance from one or more of the resources listed at the bottom of this page. We will not review your responses individually or contact you to offer direct support, regardless of how you answer our questions. Please seek assistance if you need mental health or crisis counseling.

In sharing your experiences, you may better understand your relationship. Additionally, this research stands to help other couples better manage their experience with depression.

Each couple who completes the study will receive \$20 in Amazon e-gift cards (\$10 to each partner). After you complete the questionnaire individually, a final screen will list a survey completion code. If you would like to receive the e-gift card, email this code to depression.study.2015@gmail.com. The survey completion code will not be connected to your responses on the questionnaire, and it will only be used to verify your completion of the study so that you may receive your gift card. After both partners submit their completion codes, each person will receive his/her e-gift card through e-mail within seven days.

The responses you provide in the study are confidential. Study files will be stored on password-protected, secure computers and will be held confidential within the limits of Internet technology. Only research team members will be able to access your questionnaire, and your partner will not have access to your information. Your name and other identifying information will not be linked to your responses.

Information from this project may be summarized in conference presentations, dissertation work, journal publications, or other academic writings. The summaries will not contain any information that could be used to identify you.

If you have any questions or concerns, please contact Amy Delaney at depression.study.2015@gmail.com. In addition, you may contact the RPI, Dr. Leanne Knobloch, at knobl@illinois.edu or (217) 333-8913.

You also may direct your questions or concerns about your rights as a participant in this study to the University of Illinois Institutional Review Board at 217-333-2670 or via email at irb@illinois.edu.

Participation in this study is voluntary and you may discontinue participation at any time. It is preferred that you answer every question, but you have the right to skip any items that you do not want to answer. The decision to participate, decline, or withdraw from participation will have no effect on your grades at, status at, or future relations with the University of Illinois.

By clicking “I consent” below, I assert that: I meet the following requirements, I have read and understood the above consent form, and I voluntarily agree to participate in the study.

- I am 18 years of age or older;
- I am currently involved in a romantic relationship;
- My partner or I or both have been professionally diagnosed with depression.
- My partner and I each have our own email addresses.

I consent

If you do not consent, or if you do not meet the eligibility criteria, please close your browser to discontinue your involvement in the study.

Please print this page for your records. If you do not have access to a printer, please email the research team at depression.study.2015@gmail.com for an electronic copy of this information.

For information on depression support resources, please visit:

National Alliance on Mental Illness

Website: www.nami.org

NAMI HelpLine: 1-800-950-6264

Depression and Bipolar Support Alliance

Website: www.dbsalliance.org

Find a certified counselor in your area: <http://www.nbcc.org/CounselorFind>

If you feel that you are distressed, in crisis, or need to talk about suicidal thoughts, please call 1-800-273-8255. This is a confidential, toll-free, 24-hour suicide prevention hotline.