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Examining the Influence of Technoference on Sexual Satisfaction and Relationship Satisfaction Using Actor-Partner Interdependence Modeling Among Young Adult Couples

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EXAMINING THE INFLUENCE OF TECHNOFERENCE ON SEXUAL SATISFACTION AND RELATIONSHIP SATISFACTION USING ACTOR-PARTNER INTERDEPENDENCE MODELING AMONG YOUNG ADULT COUPLES

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ABSTRACT

Young adult couples experience differing levels of relationship and sexual satisfaction throughout the development and duration of their relationship. The levels of relationship and sexual satisfaction depend on factors associated with expectations by the individual members of what constitutes acceptable rewards and costs for the continuance of the relationship. Technology use within a relationship is a relatively new concept in research shown to produce potential rewards and costs that influence relationship development and/or sustainment; however, the results of technology use in romantic relationships remains an understudied area. Even less is known about the effects of technoference on young adult couples' relationship satisfaction. Furthermore, there remains a dearth of information on technoference's correlation with sexual satisfaction. Due to the dearth of information associated with technoferences' effects of relationship satisfaction and sexual satisfaction among young adult couples, the current study utilized a descriptive correlational survey design from 158 young adult couples. I used actor-partner interdependence modeling to test the dyadic associations between technoference and relationship and sexual satisfaction among the young adult sample and found statistically significant support for three out of the four research questions.

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CHAPTER ONE INTRODUCTION

Young adult couples experience relationship development through multiple trajectories that direct the relationship towards sustainment and growth or dissolution (Flora & Segrin, 2000). During relationship development, an individual's subjective perspective of developmental components (i.e., behavioral, cognitive, and affective [Morton & Douglas, 1981]) allows individuals to create a conclusion about the relationship (e.g., satisfaction or dissatisfaction). For example, Flora and Segrin (2000) explained that behavioral components involved sexual aspects and quality and quantity of time spent together; the cognitive elements involved an individual's thoughts and language used to define the relationship (e.g., boyfriend/girlfriend, husband/wife); and the affective component accounted for the depth of feelings towards their partner. How couples navigated the behavioral, cognitive, and affective components of their relationship promoted either deeper relationship connection and satisfaction or dissatisfaction and potential relationship dissolution (Morgan et al., 2017; Tuval-Mashiach & Shulman, 2006).

As couples move towards new stages of depth in their relationship, they experience new variables that effect relationship sustainment and continued growth. For example, couples who move from casual dating to dating exclusively experience changing dynamics associated with behavioral aspects of their relationship (e.g., sexual activity and increased quality time spent together), cognitive aspects (expectations of the

partner based on change in relationship status [e.g., time spent together]), and affective components (e.g., deepened emotional closeness and connection) (Flora & Segrin, 2000). Recently, researchers began investigating technological use within romantic relationships and technology's influence on individuals' and couples' reports of relationship satisfaction, sustainment, and development (e.g., Campbell & Murray, 2015; Coyne, Stockdale, Busby, Iverson, & Grant, 2011; Coyne et al., 2012; Hertlein & Twist, 2018; Hertlein & Ancheta, 2014; McDaniel & Coyne, 2016a, 2016b).

Technology

Over the past 20 years, the expansion of technology into relationships provided credence for research into the possible positive and/or negative effects of technological integration into the lives of couples (Eichenberg, Huss, & Küsel, 2017; Morgan et al., 2017; Schade, Sandburg, Bean, Busby, & Coyne, 2013). Hertlein and Webster (2008) reported a 700% increase in adult use of internet access between 1995 and 2001. More recently, a Pew Research Center (2018) survey reported the majority (92%) of the Millennial generation (i.e., Millennials) owned a smartphone (i.e.,85% of Gen Xers [age 37 to 53] compared to 67% of Baby Boomers [54 to 72] and 30% of the Silent Generation [73 to 90]) surveyed. Further, 64% of Millennials owned a tablet, while 85% of Millennials used social media (e.g., Twitter, Facebook, Instagram).

In some cases, study participants reported technology supported relationships (Goodman-Dean, Mieczakowski, Johnson, Goldhaber, & Clarkson, 2016; Papp, Danielewicz, & Cayemberg, 2012). In other cases, study participants reported technology use may interfere with relationship development through individuals' perceptions of lowered levels of interpersonal connectedness and expressed empathy

during interaction (Przybylski & Weinstein, 2013) and attempting to resolve relationship issues through texting as opposed to face-to-face (Miller-Ott, Kelly, & Duran, 2012). Several researchers supported the idea of both positive and negative effects of technology use in relationships (e.g., Campbell & Murray, 2015; Murray; Campbell, 2015). Past researchers focused on the *how*, *when*, and *in what context* individuals used technology and the promotional or deleterious effects on relationship satisfaction (Campbell & Murray, 2015; Hertlein & Ancheta, 2014; Murray & Campbell, 2015). For example, Morgan et al.'s (2017) qualitative study produced four major themes: relationship impacts, appropriate media use, amount of media use, and distraction from the moment. Although Morgan et al.'s (2017) study found both positive and negative results of technology use within a relationship, the participants spoke more to the negative influence technology had on relationship engagement and satisfaction through blurred lines surrounding rules of use and what type of communication was appropriate over technology as opposed to in person.

Positive Influence of Technology

The technological boom of the past 20 years also promoted the use of technology within the establishment and maintenance of relationships (Campbell & Murray, 2015; Hertlein & Ancheta, 2014; Hertlein & Blumer, 2013; Lenhart & Duggan, 2014; Murray & Campbell, 2015). As such, multiple researchers acknowledged technology use in romantic relationships cultivated the relationship through different social media sites (e.g., Facebook, Twitter, Skype) and cellphone use (e.g., Facetime, phone calls, and text messaging) (Murray & Campbell, 2015; Sidelinger, Ayash, Godorhazy, & Tibbles, 2008; Su, 2016; Twist, Belous, Maier, & Bergdall, 2017) and a

potential promoter of sexual satisfaction through sexually-focused texting (i.e., sexting) (Galovan, Drouin, & McDaniel, 2018; Hertlein & Ancheta, 2014; Stasko & Geller, 2015).

Negative Influence of Technology

The potential adverse effects of technology on romantic relationships provided illumination for the present study. Lenhart and Duggan (2014) found 42% of young adult couples (18-29) reported at least one partner's cellphone use interfered with quality time spent together and 18% reported an argument had occurred because of the amount of time spent on the internet. Murray and Campbell (2015) stated open-access to technology produced opportunities for outside influences (e.g., co-workers, friends, job responsibilitieetc.) to interfere with time spent together with a significant other, which the authors suggested may produce potential conflict among the couple. Another study found the potential of technology to cause blurred lines of relationship roles and rules, trust concerns, and distancing or disengagement during time spent together (Hertlein & Ancheta, 2014; Murray & Campbell, 2015). Gergen (2002) proposed the notion of absent presence concerning technology use during face-to-face interactions within a relationship. Concisely stated, absent presence represented an individual's physical presence while being emotionally and cognitively detached. An example of absent presence may be seen in restaurants when one or both partners are looking at their phone/s without interacting.

Further, Lenhart and Duggan (2014) reported relationship dispute over technology use interfered with quality time spent together. McDaniel and Coyne (2016a) coalesced Gergen's (2002) absent presence and Lenhart and Duggan's (2014) study of the

adverse effects of technology interference on quality time by introducing the term technoference as a term for the absent presence sometimes caused by technology use by one or both partners. McDaniel and Coyne (2016a) defined technoference as an individual's subjective perception of technology used by their partner that interferes with quality time spent together.

Technoference

The construct of technoference accounted for the negative influence of technology on relationship development and sustainment (McDaniel & Coyne, 2016a). As such, previous research surrounding technoference only examined relationship satisfaction and conflict over technology use that targeted one partner in a relationship (i.e., McDaniel & Coyne, 2016a; 2016b) and heterosexual couples with young children (McDaniel, Galovan, Cravens, & Drouin, 2018). McDaniel et al. (2018) encouraged future research on technoference to include relationship satisfaction and extend exploration of technoference on alternative variables and different populations.

McDaniel and colleagues (2016a, 2016b; 2018) recognized the potential intra- and interpersonal effects of technoference. When technology distracts or causes deleterious effects on relationship interaction, a partner may feel *left-out* or may conclude unequal rewards and costs (McDaniel et al., 2018). In essence, partners may put forth an effort to engage in collaborative interactions with their significant other and recognize nonreciprocity of their efforts (McDaniel & Coyne, 2016a, 2016b). When technoference occurred, individuals may begin to detach in emotional and/or physical ways (Coyne et al., 2012; McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018). Further, previous studies proposed technological interference in the relationship increased the possibility of

conflict in the relationship (Coyne et al., 2012; Hawkins & Hertlein, 2013; McDaniel & Coyne, 2016b; Miller-Ott et al., 2012; Morgan et al., 2017; Murray & Campbell, 2015). Therefore, I utilized technoference scores of both dyad members to explore correlations between their own and their partner's scores on relationship satisfaction and sexual satisfaction.

Relationship Satisfaction

For most, satisfaction is a primary goal for the continuance of a relationship. The goal of relationship satisfaction among dating, premarital, and married couples is evident through the continued support and development of marital and relationship education programs, of which, a significant component is the cultivation of relationship dynamics that promote satisfaction in the relationship (e.g., conflict resolution skills, healthy communication patterns) (Bowling, Hill, & Jencius, 2005; Randles, 2016). As such, couples have multiple factors that influence their perceptions of satisfaction within the relationship that lead to decisions of staying in the relationship or dissolving the relationship (Fitzpatrick & Sollie, 1999; Vanderbleek, Robinson, Casado-Kehoe, & Young, 2011). Therefore, insight into how different variables continue to affect young adult couples' experience of relationship dynamics provided a framework and foundation for the purpose of this study.

Relationship satisfaction has a long history of study within the context of coupled relationships. For example, researchers found cultural differences in communication (Hiew, Halford, van de Vijver, & Liu, 2016), attachment style (Goldsmith, Dunkley, Dang, & Gorzalka, 2016; Rogers, Bidwell, & Wilson, 2005), relationship status (Lehmann et al., 2015; Ogolsky, Surra, & Monk, 2016), and sexual

intimacy (Yoo, Bartle-Haring, Day, & Gangamma, 2014) in different contexts of married, dating, and engaged same-sex and heterosexual couples (e.g., Ellis & Davis, 2017; Julien, Chartrand, Simard, Bouthiller, & Bégin, 2003; Kurdek, 1994; Schmiedeberg & Schröder, 2016) as just a few variables known to affect relationship stability and satisfaction. Further, previous researchers suggested satisfying relationship dynamics changed individuals' physical and psychological components involved in the relationship, along with decision-making skills (Braithwaite, Delevi, & Fincham, 2010; Flora & Segrin, 2000; Johnson, Nguyen, Anderson, Liu, & Vennum, 2015). As such, decreased satisfaction and dissolution of romantic relationships correlated to negative consequences for the individuals at the mental (e.g., grief, depressive, and/or anxious symptoms) and physical (e.g., immune suppression and/or addictions) levels and negatively affected life satisfaction (Davis, Shaver, & Vernon, 2003; Doss et al., 2016; Morris, Reiber, & Roman, 2015; Rhoades, Kamp Dush, Atkins, Stanley, & Markman, 2011). Moreover, researchers argued relationship satisfaction equated to a social health priority as relationships involve systemic attributes on friendships, families, and children that cause a ripple effect of distress (Beach, Katz, Kim, & Brody, 2003; Ferreira, Narciso, Novo, Pereira, 2014) when relationship dissatisfaction emerged.

Couples have multiple factors that influence their perceptions of satisfaction within the relationship and decisions to continue the relationship (Fitzpatrick & Sollie, 1999; Vanderbleek et al., 2011). One such area affected by relationship growth involved sexual activity and experiences of sexual satisfaction or dissatisfaction (Flora & Segrin, 2000). Therefore, previous researchers (e.g., Rehman, Woody, & Purdon, 2016; Mark, Milhausen, & Maitland, 2013; McNulty, Wenner, & Fisher, 2016) solidified the need to

examine relationship and sexual satisfaction within relationship studies as a way to investigate areas of dyadic importance for relationship sustainment and development.

Sexual Satisfaction

Sexual satisfaction has a long history within scholarship surrounding individuals and couples and remains of interest for social scientists to examine how different factors influenced the experience of sexual satisfaction (e.g., Fallis, Rehman, Woody, & Purdon, 2016; van den Brink, Vollmann, Smeets, Hessen, & Woertman, 2018). As such, researchers recognized that sexual satisfaction did not occur within a vacuum. Therefore, multiple researchers attempted to find a causal link between sexual and relationship satisfaction (e.g., Byers, 2005; Laumann et al., 2006; Sprecher, 2002); however, the results of causal research remained inconclusive as to which construct caused the other. The most promising research suggested a bidirectional correlation between sexual satisfaction and relationship satisfaction (Fallis et al., 2016; Sprecher, 2002), yet the two variables remained distinct constructs (Babin, 2013).

Multiple researchers substantiated relationship satisfaction and sexual satisfaction's correlation in different contexts including long-term relationships (Lawarance & Byers, 1995), married couples (Butzer & Campbell, 2008; Cupach & Comstock, 1990), and different cultures and countries (Butzer & Campbell, 2008; Birnbaum, Reis, Mikulincer, Gillath, & Orpaz, 2006). Further analysis substantiated the correlation between relationship satisfaction and sexual satisfaction while accounting for positive communication (Litzinger & Gordon, 2005), attachment style (Birnbaum et al., 2006; Butzer & Campbell, 2008), and gender (Sprecher, 2002). Moreover, scholars presented evidence of couples experiencing high relationship satisfaction and low sexual

satisfaction and vice versa (Apt, Hurlbert, Pierce, & White 1996; Hurlbert & Apt, 1994, Litzinger & Gordon, 2005). Therefore, variability remained within the experience of sexual satisfaction in romantic relationships that required further exploration of potential correlations to variables that may influence a couple's experience of satisfaction at the sexual level within the relationship. As researchers expanded scholarship in the area of sexual satisfaction, researchers began to recognize the influence of technology on the sexual relationship of individuals and couples (e.g., Galovan et al., 2018; McGee, 2014).

The majority of research associated with sexual satisfaction and technology surrounded the development of relationships online (i.e., dating or infidelity) (e.g., Campbell & Murray, 2015; Hertlein & Webster, 2008; Murray & Campbell, 2015), sexting (e.g., Galovan et al., 2018; Hertlein & Twist, 2017; McDaniel & Drouin, 2015; Weisskirch & Delevi, 2011), and technological considerations within sex therapy (e.g., Hertlein, 2010; McArthur & Twist, 2017; Parker, Blackburn, Perry, & Hawks, 2013). For example, Hertlein and Webster (2008) synthesized the research concerning relationships using technology as a mediator of communication. Using technology platforms as a medium for communication created benefits for individuals in relationships (Cooper, McLoughlin, & Campbell, 2000), such as cultivating the development of a new relationship and facilitating communication during long-distance relationships (Murray & Campbell, 2015) and progressing the couple towards heightened levels of physical, cognitive, and emotional closeness (Flora & Segrin, 2000). Conversely, partner technology use may place a wedge between individuals in the couple concerning opportunities of sexual activity and begin to erode sexual satisfaction by the

mere fact that technology may interfere with potential sexual encounters as individuals focus on technology and not their partner (Coyne et al., 2012).

Problem Statement

Relationship satisfaction and sexual satisfaction continue to evolve within the context of social understanding as new generations define relationships and the constructs involved that influence the experience of satisfaction in those relationships (Frei & Shaver, 2002). The advent of technology integration in couples' relationships (Gergen, 2011) suggested the need for continued examination of technology's effects on couples and their experiences within the relationship (Hertlein, 2012). Research concerning technology interference among couples and families only recently became of interest within the counseling realm (Murray & Campbell, 2015). Although preliminary research suggested healthy and unhealthy effects of technology on relationship satisfaction (e.g., Campbell & Murray, 2015; Hertlein & Ancheta 2014; McDaniel et al., 2018; Murray & Campbell, 2015), there is a dearth of research concerning technoference and the resulting effects on relationship satisfaction and sexual satisfaction of young adult couples. Further, there is no research, to date, on the correlations between relationship satisfaction, sexual satisfaction, and technoference that incorporated gay, lesbian, and heterosexual couples in the same study (Kurdek, 1994, 1995). As such, this study focused on filling the gap in the literature associated with the dyadic associations between technoference and relationship satisfaction and sexual satisfaction among young adult, heterosexual and same-sex couples.

Social Significance

Relationship effects. Multiple factors influence couples' experience of satisfaction in their relationship. Through the current study, I examined the avenues of social significance by exploring the potential correlations of technoference on both partners' scores on relationship satisfaction and sexual satisfaction. Therefore, the correlations of technoference to a couple's experience of satisfaction, sexual and relational, promoted couple understanding of potential influences of technological interference on satisfaction and relationship longevity (Campbell & Murray, 2015). Finally, I expanded the social effects of technology's potential deleterious elements in relationships for couples to analyze their relationship behaviors that affect cognitive and affective components (Flora & Segrin, 2000; Morton & Douglas, 1981). By analyzing relationship dynamics, couples can communicate their wants and needs of each other and produce subjective rules and regulations surrounding the use of technology in their relationship to combat the potentially deleterious effects of technology on the relationship (Twist et al., 2017).

Professional Significance

Counselor Education and Supervision. Counselor educators are required to continually analyze their competency as counselor educators (American Counseling Association [ACA] *Code of Ethics* [F.7.b.], 2014) and integrate information into their classes that prepare students for the problems and situations they may face in future therapy sessions with individuals and couples (Council for Accreditation of Counseling & Related Educational Programs [CACREP], 2016; Vacc & Charkow, 1999). As information becomes privy to researchers and academics, educators have an opportunity

to disseminate that information to students. The current study added breadth to the information dispersed to student counselors as they become informed of new research associated with correlations between technoference, relationship satisfaction, and sexual satisfaction.

Through the correlational results between technoference and relationship and sexual satisfaction of this study, I provide opportunities for instructors and students to engage in meaningful class activities (e.g, role plays, vignettes, reflections, etc. [Eriksen & McAuliffe, 2011]) and conversations (e.g., divergent questioning, small group discussion, etc. [Eriksen & McAuliffe, 2011]) of how best to broach technoference in future counseling sessions. As such, role plays and class discussions provided opportunities for students to become acquainted with the constructs of relationship satisfaction, sexual satisfaction, and technoference. By building student counselors' awareness and understanding of the topics, along with utilizing experiential learning activities, the counselor educator provides a conduit for self-efficacy in broaching the constructs in future counseling sessions (Bandura, 1995, 1997; Ikonomopoulos, Vela, Smith, & Dell'Aquila, 2016; Eriksen & McAuliffe, 2011)

As counselor educators utilize their roles as educators, supervisors, and researchers to promote the counseling profession (Association for Counselor Education and Supervision website, 2018), researchers may take note of the correlations between technoference and relationship satisfaction and sexual satisfaction. The correlations provided direction for future research to examine technoference in different populations, in correlation with different variables, and different contexts (e.g., family time, parent-child interactions [McDaniel et al., 2018]). Along with future research possibilities,

counselor educators providing supervision to student counselors continue to build their student's knowledge base through expansion of insight concerning variables likely to be seen in the practice of their supervisees **(**ACA, 2014**)**.

Counselor educators provide supervision to their student counselors in different settings and specializations (e.g., marriage, family, and couples counseling, mental health counseling, rehabilitation counseling, and school counseling) (CACREP, 2016). As such, counselor educators have multiple platforms to disseminate new research and information. Furthermore supervisors may use the results of this study to initiate discussion surrounding the overarching theme of technology in relationships and how student counselors or licensed professional counselor interns or associates engage their clients in discussing the possible positive and negative effects of technology on the client and their relationships.

Counselors. Counselors are required to continue to expand their knowledge base through continuing education (ACA, 2014) which denotes the dissemination of research into practice. Rosenbaum (2009) discussed the clinical significance of relationship satisfaction, sexual satisfaction, and social exchange theory research as a way to explore the couple's satisfaction in the relationship. Also, counselors may benefit from examining the values placed on different relational aspects and in what contexts exchanges occur (e.g., time spent together) (Campbell & Murray, 2015; Murray & Campbell, 2015; Thibaut & Kelley, 1959; Twist et al., 2017). The therapeutic appeal of grounding clinical work with couples in social exchange theory allowed the processing of underlying emotional drive behind the behaviors within the relationship (Thibaut & Kelley, 1959). Counselors may benefit from the awareness of new factors that may

account for an imbalance of rewards and costs and effect relationship satisfaction and sexual satisfaction.

In the present research, I furthered clinician's information on the dyadic associations of a new variable's (i.e., technoference) and relationship and sexual satisfaction. Further, this study may assist counselors in creating lines of questioning associated with the constructs under investigation to explore the couple's thoughts, feelings, and behaviors. Therefore, counselors can cultivate opportunities for couples to develop plans to address technoference if it occurs (e.g., contractual rules surrounding technology use during relationship interactions) (Twist et al., 2017).

Information concerning sexual satisfaction, technoference, and relationship satisfaction may shed light on how technoference, relationship satisfaction, and sexual satisfaction align with potential use in multiple clinical interventions. For example, the Good-Enough Sex Model (Metz & McCarthy, 2005, 2007, 2008, 2010) accounted for different variables that may interfere with sexual satisfaction and concomitantly relationship satisfaction. The Good-Enough Sex Model provided space for the couple to examine factors that may influence their perceptions of sexual satisfaction and create alternative behavioral interactions (e.g., communication patterns, problem-solving, and sexual activity) to promote sexual satisfaction and relationship satisfaction (Metz & McCarthy, 2005, 2007, 2008, 2010).

Marriage and Relationship Education

Relationship education programs could benefit from the results of technoference on sexual satisfaction and relationship satisfaction. Relationship education curriculum provides individuals and couples the opportunity to learn about themselves and

relationship characteristics that align with their personality and relationship priorities (e.g., Premarital Interpersonal Choices and Knowledge [PICK], Van Epp, 2010; Van Epp, Futris, Van Epp, & Campbell, 2008), engaged, premarital, and married couples seeking relationship development skills for the sustainment and benefit of marriage (Kruenegel-Farr et al., 2013) and conflict management, communication skills, and develop appropriate expectations that promote relationship and marriage sustainment (e.g., Markman, Stanley, & Blumberg, 2010; Rhoades, Stanley, Markman, & Allen, 2015). In the current study, I utilized a construct of major importance in marital and relationship education programs (i.e., relationship satisfaction), while introducing a new construct to consider within the relationship confines (e.g., technology use).

Theoretical Foundation

Thibaut and Kelley (1959) developed social exchange theory within social psychology and showed relevance to research on relationship satisfaction (Frisby, Sidelinger, & Booth-Buterfield, 2015; Sabatelli, 1988), technoference (McDaniel et al., 2018), and sexual satisfaction (Byers, Demmons, & Lawrance, 1998; Byers & MacNeil, 2006; Fallis et al., 2016; Sprecher, 1998a). Social exchange theory suggested an exchange process of costs and benefits (i.e., rewards) of social interaction (Sprecher, 1998b; Thibaut & Kelley, 1959). Floyd and Wasner (1994) reported social exchange theory allowed for the exploration of a multitude of interpersonal constructs among dyadic couples. In essence, an individual's understanding of the potential costs and rewards of maintaining a relationship influence decisions.

Sabatelli (1988) defined social exchange theory as an individual’s commitment to a relationship based on an equation of rewards minus costs and the expectations placed

on continuing to experience rewards. Furthermore, maintining realistic relationship expectations remains an important aspect of relationship development and sustainment (Flora & Segrin, 2000; Sabatelli, 1988). A component of assessing the level of satisfaction in the relationship occurred according to perceived partner attributes and the subjective analysis of quality time spent together as a couple (Sabatelli, 1988; Thibaut & Kelley, 1959).

The main tenants of social exchange theory involved the rewards obtained, the costs incurred, the comparison of relationship rewards and costs versus the individual's expectations of rewards and costs in the relationship, and the comparison of alternative relationships to their current relationship (Kelley & Thibaut, 1978; Rusbult, 1983; Thibaut & Kelley, 1959). Therefore, I considered relationship satisfaction and sexual satisfaction (dependent variables) as the foci of social exchange theory's products of rewards and costs within the relationship from the effects of the independent variable, technoference. Further, an individual's perceptions of the degree to which the independent variable (i.e., technoference) affected relationship satisfaction and sexual satisfaction may be a factor of their perception and the opinion of their partner on analyses of rewards and costs in the relationship (Kelley & Thibaut, 1978).

Thibaut and Kelley (1959) defined rewards as experiences that promote enjoyability of the relationship by an individual. Alternatively, the authors defined costs as inhibitors to specific behaviors or actions. By keeping costs low and rewards high, individuals can increase their satisfaction within the relationship (Fallis et al., 2016; Sabatelli, 1988; Thibaut & Kelley, 1959). For example, as relationships develop and evolve, the individuals continue to examine the aspects of the relationship viewed as

essential to the continuation of the relationship. The individual experienced higher levels of relationship satisfaction (Hazan & Shaver, 1994; Fallis et al., 2016) and sexual satisfaction (Byers, Demmons, & Lawrance, 1995; Byers & MacNeil, 2006; Fallis et al., 2016) if assessment of relationship dynamics produced rewards. Conversely, if individuals viewed important aspects negatively (i.e., costs), satisfaction may be deemed unsatisfactory and result in conflict within the relationship (Dınçyürek, Akintuğ, & Beıdoğlu, (2013).

Further, a mentality of *reciprocity* (Sprecher, 1998a) of costs and benefits promoted equality (Sprecher, 2001, 2018) within the relationship. On the other hand, dissolution may manifest if costs begin to outweigh benefits and reduced reciprocity of rewards occurs. Therefore, proponents of social exchange theory suggested balancing the rewards and costs within the relationship to promote subjective reciprocity (Thibaut & Kelley, 1959; Sprecher, 1998a, 1998b, 2001). Examples of the costs and rewards of performing a particular action are prevalent in the decision to communicate about sexual behavior within a romantic relationship (Montesi et al., 2013; Montesi, Fauber, Gordon, & Heimberg, 2011). The potential costs of divulging sexual likes, dislikes, and fantasies created the opportunity for rejection or advances denied (Montesi et al., 2011). Another cost could potentially occur if technology interfered with the initiation of sexual activity and needs are not met (Coyne et al., 2012; Sprecher, 1998a). On the other hand, the rewards of such disclosure could bring about a more intimate relationship that promoted relationship (Byers & Demmons, 1999) and sexual satisfaction (Brown & Weigel, 2018; Byers & Demmons, 1999; MacNeil & Byers, 2005, 2009). Further, the individual's self-efficacy of the disclosure may increase as their dislikes, likes, and fantasies are accepted.

Another cost/reward example involved technoference. The reward may be intrapersonal reinforcement of posting to social media (i.e., likes) (Han, Min, & Lee, 2015; Wang, Tchernev, & Solloway, 2012). Conversely, the cost may be reduced time spent together which erodes relationship connectedness (McDaniel & Coyne, 2016a, 2016b; Murray & Campbell, 2015; Norton, Baptist, & Hogan, 2018).

Sexual Satisfaction

Social exchange theory had sensible use within the realm of sexual satisfaction. Lawrance and Byers (1995) created a model of sexual satisfaction using social exchange theory as the basis for the Interpersonal Exchange Model of Sexual Satisfaction (IEMSS). Byers (2005) explained the IEMSS perpetuated the idea that relationship satisfaction is affected by sexual satisfaction. Therefore, problematic aspects of a relationship hindered the functionality of sexual interactions in a relationship. Conversely, sexual dissatisfaction produced relationship dissatisfaction. Hence the bidirectionality of sexual satisfaction and relationship satisfaction.

The IEMSS purported four main components: 1) balancing the sexual rewards and costs within a sexual relationship, 2) perception of how actual rewards and costs compared to the expected rewards and costs, 3) the equal distribution of experienced rewards and costs between the individuals in the relationship, and 4) the aspects of the relationship outside of the sexual relationship (Byers & MacNeil, 2006). Kelley and Thibaut (1959) described rewards as exchanges between partners that one or both partners deemed as positive and satisfying attributes or experiences that provided an individual with something (e.g., sexual activity), while costs signified experiences between partners that caused discomfort, distress, or detracted something from a partner

(e.g., sexual activity). As such, grounding sexual satisfaction in social exchange theory provided a theoretical foundation for the exploration of how technoference correlated with sexual satisfaction. As stated above, technoference may cause less opportunity for sexual exchanges that cause an individual's sexual exchange analysis to gravitate towards inequality and negatively affect sexual satisfaction.

Relationship Satisfaction

From Thibaut and Kelley's (1959) perspective, relationship satisfaction incurred rewards and remained a subsequent goal of relationships, while costs incurred to relationship satisfaction produced positive correlations with variables shown to adversely affect relationships (e.g., sexual dissatisfaction, unhealthy communication) (Gottman & Levenson, 1992). Therefore, I used social exchange theory to set the foundational framework to understand relationship satisfaction by increasing the rewards of the relationship while decreasing the costs incurred in the relationship (Thibaut & Kelley, 1959).

Further, interdependence theory posited individuals in relationships utilized exchanges over time as a source of analysis for relationship satisfaction (Johnson, Horne, Hardy, & Anderson, 2018) and an individual's decisions and behaviors affected both themselves and their partner (Balliet, Tybur, & Van Lange, 2017). As such, individuals utilized a dyadic perspective when developing commitment in their relationship based on the rewards and costs to the overall relationship, while reducing the focus on their own rewards and costs. Therefore, the interdependence theory helped explain the development of social exchange theory to reduce costs and increase rewards through compromises used to reach and sustain relationship satisfaction.

Technoference

McDaniel and Coyne (2016a) coined technoference in 2016. Technoference related to social exchange theory through the interference of technology on relational quality time (McDaniel & Coyne, 2016a, 2016b; Sabatelli, 1988). The introduction of technology during quality time spent together could produce a cost to the relationship and the individual who is being replaced by the technology in time spent together. Conversely, the partner using technology may not see the use of technology as a cost to the relationship and cause a further disconnect from their partner when confronted with technoference conversations.

Study Aims

The study included the following aims:

1) Extend previous research on technoference (e.g., Galovan et al., 2018; McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018) by exploring the effects of technoference on relationship satisfaction of young heterosexual and same-sex couples.

2) Extend previous research on technoference (e.g., Galovan et al., 2018; McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018) on the novel variable of sexual satisfaction.

3) Utilize actor-partner interdependence modeling (APIM) to explore the potential correlations between one partner's (partner effects) independent variable (i.e., technoference) on their partner's (actor) dependent variable scores (i.e., relationship satisfaction and sexual satisfaction) (see Figure 1.1.).

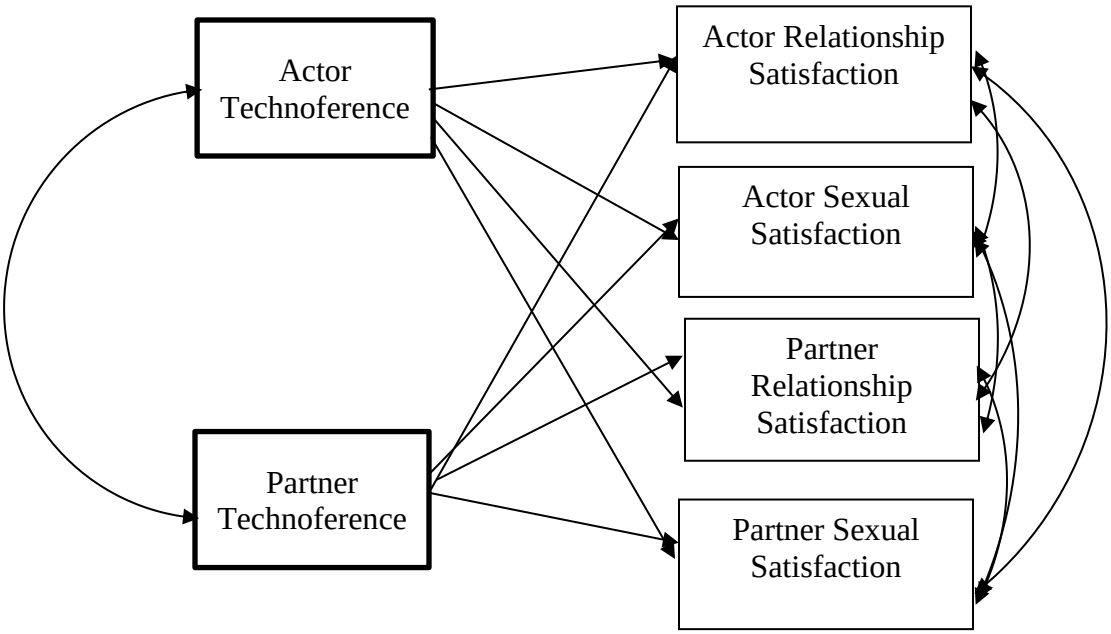

Figure 1.1. Conceptual actor-partner interdependence model of the associations between technoference and relationship satisfaction and sexual satisfaction

Research Questions and Hypotheses

Based on the aims of the study, I proposed the following research questions and hypotheses:

1) How does technoference, as measured in dyads by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their own scores of relationship satisfaction, as measured by the Revised Dyadic Adjustment Scale (RDAS; Busby, Christensen, Crane, & Larson, 1995)?

Hypothesis: An individual's technoference score will be negatively correlated with their own relationship satisfaction score. (McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018).

2) How does technoference, as measured in dyads by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their partner's

score on relationship satisfaction, as measured by the Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995)?

Hypothesis: An individual's technoference score will be negatively correlated with their partner's relationship satisfaction score (McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018).

3) How does technoference, as measured in dyads by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their own sexual satisfaction, as measured by the Global Measure of Sexual Satisfaction score (GMSEX; Lawrance & Byers, 1995)?

Hypothesis: An individual's own technoference score will be negatively correlated with their own sexual satisfaction score.

4) How does technoference, as measured in dyads by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their partner's sexual satisfaction, as measured by the Global Measure of Sexual Satisfaction score (GMSEX; Lawrance & Byers, 1995)?

Hypothesis: An individual's technoference score will be negatively correlated with their partner's sexual satisfaction score (Campbell & Murray, 2015; Hertlein, 2010; Murray & Campbell, 2015).

Methodology

Research Design

Previous research using different combinations of sexual satisfaction, technoference, and relationship satisfaction (e.g., Fallis, Rehman, & Purdon, 2014; Litzinger & Gordon, 2005; Mark & Jozkowski, 2013; McDaniel et al., 2018; Metz,

Rosser, & Strapko, 1994; Yoo, Bartle-Harring, Day, & Gangamma, 2014) used cross-sectional descriptive correlational study designs. According to Heppner, Wampold, Owen, Thompson, & Wang (2016), a descriptive correlational design equated to quantitative methodology. I used statistical analyses to examine the effects of the independent variable (technoference) on the dependent variables (relationship satisfaction and sexual satisfaction).

By using a descriptive correlational survey design method allowed, I only described the correlations under study. As such, causation could not be explored because of the non-manipulation of the dependent variables (Heppner et al., 2016). To imply causation, Bleske-Rechek, Morrison, & Heidtke (2015) proposed three standards of (1) two variables must covary; (2) there must be evidence that one variable precedes the other variable; and (3) alternative explanations for the relationship must be examined. As such, I focused on correlations between technoference and relationship satisfaction and sexual satisfaction. Therefore, the current research did not meet Bleske-Rechek, Morrison, and Heidtke's (2015) criteria for causation analysis. However, I met quantitative criteria through the use of a descriptive correlational survey research design (Heppner et al., 2016). As a result of using a descriptive correlational survey design, I investigated quantified variables through assessments and inventories within the environment the participants interacted, which denoted high external validity and low internal validity, due to the non-manipulation of variables and the correlational nature of examining technoference and relationship satisfaction and sexual satisfaction (Heppner et al., 2016).

Heppner et al. (2016) discussed several methodological assumptions of quantitative studies. These assumptions included: a) deductive processes (i.e., outside-in approach), b) seeking cause and effect, correlations, and/or inferential explanations, c) independent and dependent variables are categorized before the study begins, and d) accuracy of results are found through validity and reliability statements and measures. I utilized a quantitative methodology with the previously mentioned assumptions in mind.

With all the benefits of quantitative methodology in research, Heppner et al. (2016) espoused several problem factors that required accountability throughout the study process. First, controlling for extraneous variables remained a constant process to minimize, as much as possible, the chance of obtaining significant results due to alternative variables than the ones under study. Second, constructs and assessments needed validity to argue for their inclusion in the study and promote efficacy to the results. Finally, validity denoted the need to conceptualize the constructs into substance (i.e., reification). Operational definitions provided a conduit to conceptualizing ideas into substance.

Participants

I targeted young adult couples as participants for the study. Following previous research on young adult couples (e.g., Lenhart & Duggan, 2014; McDaniel et al., 2018), inclusion criteria involved several factors. First, I defined a couple as two individuals (same-sex or opposite sex) who, separately, stated they are in a committed relationship with each other (Johnson et al., 2015; Mark et al., 2013; van Dulmen & Goncy, 2010). Second, the couples answered from several options of their relationship type: dating, cohabiting, engaged, or married. I defined the age range for young adult couples between

18 and 35. The age range coincided with previous researchers' inclusion criteria associated with young adult couples (e.g., Canu, Tabor, Michael, Bazzini, & Elmore, 2014; Johnson et al., 2015; Schade et al., 2013; van Dulmen & Goncy, 2010; Wong, 2017). Further, the age range coincided with the developmental components of social exchange theory as couples reduced focus on obtaining solely personal rewards and increased focus on incorporating actions that produced rewards for both themselves and their partner (Lantagne & Furman, 2017).

Instruments

Demographic Questionnaire. The demographic form included several facets of information that provided context to the participants of the study (e.g., race/ethnicity, age, gender, sexual orientation, relationship status, length of relationship [in months], and sexually-active status) (see Table 1.1.). Previous researchers on relationship satisfaction (e.g., Aumer, 2014; McDaniel et al., 2018; Sanderson & Kurdek, 1993), sexual satisfaction (e.g., Aumer, 2014; Fahs & Swank, 2011; Flynn et al., 2016; Huang et al., 2009) and technoference (e.g., Galovan et al., 2018; McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018) included race/ethnicity as a descriptive characteristic. Second, age may play an important role in responses to assessments as previous researchers (e.g., Pew Research Center, 2018; Mark et al., 2013; Schmiedeberg & Schröder, 2016; Zambianchi & Carelli, 2018) on both the independent variable and dependent variables explained differences in technology use and satisfaction (i.e., relationship and sexual) as evolving over the course of the relationship and lifespan. Also, I followed previous researchers (e.g., McDaniel et al., 2018) and included gender as a demographic variable. Previous researchers (e.g., Mark et al., 2013; McDaniel et al., 2018) supported the importance of

including gender as results indicated significant variability between gender scores of the constructs under study as a distinguishing variable; however, I did not utilize gender as a distinguishing variable because of the inclusion of same-sex couples in the study. Fourth, as stated earlier, there remains a dearth of information on the correlations of relationship satisfaction, sexual satisfaction, and technoference among mixed sexuality samples. As such, I included heterosexual and same-sex couples in the sample. I also included relationship type and length of relationship in the demographic form. According to social exchange theory and interdependence theory, the relationship type and length may affect an individual's decisions and actions that diverted away from focus on their own rewards within the relationship and increase decision making and behaviors that promoted rewards for both themselves and their partner (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959).

Table 1.1. Demographic questionnaire.

1) Please indicate your ethnicity (check all boxes that apply).

- □ Caucasian (White)
- □ African American (Black)
- □ Hispanic (non-White)
- □ Asian
- □ Hawaiian/Pacific Islander
- □ Other

2) Please indicate your sexual orientation.

- o Heterosexual
- o Homosexual
- o Lesbian

3) Please indicate your age.

4) Please indicate your gender.

- o Male

- Female
- Transgender

5) Please indicate your relationship status.

- Dating
- Cohabitating
- Engaged
- Married

6) Please indicate your relationship length (in months)

7) Please indicate your relationship sexual-status.

- Sexually-active
- Not sexually-active

Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995). The Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS; Lawrance & Byers, 1992) included the GMSEX. As such, Lawrance and Byers (1992; 1995) suggested the GMSEX aligned with social exchange theory as a means of assessing an individual's cognitive and affective perceptions of their sexual satisfaction within the relationship. Previous researchers (e.g., Byers, personal communication, 2018; Lawrance & Byers, 1995; McNicoll, Corsini-Munt, Rosen, McDuff, & Bergeron, 2017; Rancourt, Flynn, Bergeron, & Rosen 2017; Vannier & Rosen, 2017) provided evidence for the independent use of the GMSEX from the IEMSS. Furthermore, Lawrance and Byers (1995) and Lawrance, Byers, and Cohen (2011) considered the GMSEX a unidimensional measure of sexual satisfaction. Lawrance and Byers (1995) used college students, alumni, and staff, and a community-based sample to norm the GMSEX. Also, del Mar Sánchez-Fuentes, Santos-Iglesias, Byers, and Sierra (2015) produced a Spanish version of the IEMSS that included the GMSEX, while del Mar Sánchez-Fuentes and

Sierra (2015) utilized the Spanish version of the GMSEX on their sample of heterosexual and same-sex couples.

The creators explained the GMSEX measured an individual's level of sexual satisfaction within a relationship (i.e., "In general, how would you describe your sexual relationship with your partner?") by using five bipolar dimensions (i.e., *Very Bad-Very Good*, *Very Unpleasant-Very Pleasant*, *Very Negative-Very Positive*, *Very Unsatisfying-Very Satisfying*, and *Worthless-Very Valuable*) (Lawrance & Byers, 1992, 1995; Lawrance, Byers, & Cohen, 2011). Further, the individuals answered the bipolar dimensions on a 7-point Likert scale format (1 to 7) (Lawrance & Byers, 1992, 1995). The scores range from 5 to 35, with higher scores representing higher levels of sexual satisfaction. Lawrance and Byers (1995) and Byers (2005) found high internal reliability among long-term relationships and student samples.

Lawrance and Byers (1995) found test-retest reliability of .84 at two-weeks, while Byers and MacNeil (2006) reported longitudinal test-retest reliability of .78 at three months and .73 at 18 months. Mark, Herbenick, Fortenberry, Sanders, and Reece (2014) found test-retest reliability for the GMSEX at two-month follow up (initial $\alpha = .95$, two-month follow-up $\alpha = .96$). Furthermore, Mark et al. (2014) found the GMSEX had the highest test-retest reliability when compared to the Index of Sexual Satisfaction (ISS; Hudson, Harrison, & Crosscup, 1981), the New Sexual Satisfaction Scale-Short Form (NSSS-S; Štulhofer, Buško, & Brouillard, 2010), and a single-item assessment (Mark et al., 2014).

Lawrance and Byers (1995) reported construct validity with the ISS (Hudson, Harrison, & Crosscup, 1981) as the correlation produced $r = .65$, $p < .001$. Mark et al.

(2014) furthered construct validity for the GMSEX with the NSSS-S, ISS, and a single-item assessment. Byers and MacNeil (2006) furthered GMSEX's validation with long-term heterosexual couples (dating and married).

I chose the GMSEX because of the excellent psychometric properties (Byers & MacNeil, 2006; Lawrance & Byers, 1995; Mark et al., 2014). Second, the brevity of the GMSEX coincided with the other assessments used for data analysis. Third, the normed samples (i.e., college students, staff, alumni, and community participants) coincided with the target population age range. Finally, previous dyadic studies used the GMSEX within scholarship associated with couples' sexual satisfaction (e.g., Lykins, Janssen, Newhouse, Heiman, & Rafaeli, 2012; MacNeil & Byers, 2005; Rosen, Mooney, & Muise, 2017).

Revised Dyadic Adjustment Scale (RDAS; Busby, Crane, Larson, & Christensen, 1995). Busby et al. (1995) developed the RDAS to assess the level of adjustment an individual has to their current relationship. The RDAS consists of 14 items on a Likert scale ranging from 0 to 5 or 4. The RDAS is a revised version of the Dyadic Adjustment Scale (Spanier, 1976) with construct validity of $r = .97$ ($p < .01$), criterion validity, and discriminant validity verified in the original development of the RDAS.

The RDAS has three subscales: the dyadic consensus scale, the dyadic satisfaction scale, and the dyadic cohesion scale. The dyadic consensus subscale provided questions concerning the degree an individual perceived themselves and their partner to agree or disagree on a particular topic (e.g., "*Religious matters*"; "*Making major decisions*"). The dyadic satisfaction subscale provided questions aimed at

obtaining an individual's perception of satisfaction in their current relationship (e.g., "*How often do you discuss terminating your relationship?*"). The dyadic cohesion subscale provided questions concerning an individual's perception of collaborative interaction with their partner (e.g., "*Do you and your mate engage in outside interests together?*").

Busby et al. (1995) reported the RDAS discriminated between distressed and non-distressed individuals in relationships with a cut-off score of 48. Individual scores ranged from 0-69. Scores of 48 and above indicated better levels of adjustment, while scores of 47 and below equated to lower levels of adjustment in the relationship. Busby et al. (1995) reported Split-half reliability coefficient to be .94 which suggested the scale could be split into two forms. Internal consistency equaled $\alpha = .90$. The population used in the development of the RDAS consisted of mainly Caucasian, middle class, first-time married, and well-educated couples.

I chose the RDAS due to the brevity, acceptable levels of psychometrics (Busby et al., 1995). Also, the RDAS was normed using clinical and nonclinical couples. Finally, the RDAS provided a cutoff score that allows for discernment between distress and non-distressed couples 47.31 (Anderson et al., 2014) and 48 (Crane, Middleton, & Bean, 2000).

Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a). TILES is a 5-item, 8-point scale that measured an individual's perception of how often their partner's technology use interfered with quality time spent together. Participants rated each item as: 0 (never), 1 (*less than once a* week), 2 (*once a* week), 3 (*once every few* days), 4 (*once a* day), 5 (*2 to 5 times a* day), 6 (*6 to 9 times a*

day), 7 (*10 or more times a* day). McDaniel and Coyne (2016a) suggested TILES assessed an individual's subjective perspective of how often technology interferes with time spent with their significant other (e.g., "*My partner sends texts or emails to others during our face-to-face conversations*"). As such, McDaniel & Coyne (2016a) used a principal component analysis (PCA) to examine the factor loadings of the five questions produced by the authors (See Table 1.2.). The PCA produced one factor explaining 63% of the variance. Further, the PCA produced acceptable factor loadings (see Table 1.1.). The initial alpha coefficient equaled .85. Higher scores indicated higher perceived interference of technology in the relationship.

Table 1.2. Factor loadings from the principal component analysis of the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a).

Question	Factor loading
1. During a typical mealtime that my partner and I spent together, my partner pulls out and checks his phone or mobile device.	.83
2. My partner sends texts or emails to others during our face-to-face conversations.	.86
3. When my partner's phone or mobile device rings or beeps, he pulls it out even if we are in the middle of a conversation.	.85
4. During leisure time that my partner and I are able to spend together, my partner gets on his phone, mobile device, or tablet.	.80
5. My partner gets distracted from our conversation by the TV.	.62

I chose TILES as the assessment for technology interference as it is the only scale in existence explicitly created to examine the effects of technoference on relationships. Secondly, previous researchers using TILES involved the young adult couple population and correlations of technoference to relationship satisfaction (e.g., Galovan et al., 2018; McDaniel et al., 2018). Third, TILES provided a subjective perspective of how technology effects time spent together with a partner's significant other. Finally, the brevity of TILES (5 items) meant the items were taken and scored

quickly.

There were several limitations to TILES. The authors did not provide any validity analyses (e.g., construct, convergent). The authors of TILES were aware of this limitation in its creation and performed a principal component analysis (PCA). Secondly, the normed population consisted of 143 cohabitating or married women. The women were mainly Caucasian (89%), completed at least some college (82%), and middle class with a mean household income of $68,000. The average age of the women was 30 years old. As such, generalizability to other ethnicities and women in relationships at different stages of the relationship requires further research. Finally, the wording of TILES needed small changes to account for use within dyadic research. The original form focused on female's perceptions of how often their male partner's use of technology interfered with their perception of quality time spent together. As such, I followed previous researchers (McDaniel et al., 2018) and changed the male-focused questions (e.g., During a typical mealtime that my partner and I spent together, my partner pulls out and check *his* phone or mobile device) to gender-neutral (During a typical mealtime that my partner and I spent together, my partner pulls out and check *his/her/their* phone or mobile device) (B. McDaniel, personal communication, October, 1, 2018). Therefore, I followed previous studies (e.g., McDaniel et al., 2018) in extending the use of TILES to explore male and female subjective perceptions of how often technology interfered with quality time spent together and the correlations to relationship and sexual satisfaction.

Data Analyses

Tambling, Johnson, and Johnson (2011) suggested analyzing the descriptive statistics of the participants to verify meeting criteria for the use of actor-partner

interdependence modeling (APIM) (e.g., nonindependence, distinguishability versus indistinguishability of couples, linearity, and variability of measurement error). Intraclass correlations provided analyses of the descriptive data to obtain the degree of interdependence between the clusters and the appropriateness of using APIM for nonindependence (interdependence) of nested data (Du & Wang, 2016; Kenny, Kashy, Cook, 2006; Rights & Sterba, 2016). Not accounting for the nonindependence of dyadic data inflates the potential for Type I error (i.e., finding significance when there is not) if the test for nonindependence is too liberal (Kenny et al., 2006; van Dulmen & Goncy, 2010). Furthermore, if the nonindependence test is too conservative, an increased chance of Type II error (reporting non-significance when there is significance) occurs. Finally, I used descriptive statistics to obtain information on the distinguishability or indistinguishability of the sample dyads.

I used APIM data analysis to account for the interdependence of responses to assessments between partners (individuals at level-1; dyads (couples) at level-2) (Kenny et al., 2006). In other terms, the responses given on an independent variable by individuals of the dyad predicted the scores on the dependent variable for each individual and how much a partner may influence (i.e., effect) the significant other's dependent variable score (Conradi, Noordhof, Dingemanse, Barelds, & Kamphuis, 2017; Garcia, Kenny, & Ldermann, 2015). Further, the results obtained for an individual's own independent variable scores effect on that individual's own dependent variable score is defined as the *actor effect*, while the partner's independent variable score effects the original individual's dependent variable is known as the *partner effect* (Garcia et al., 2015). Therefore, assessing an individual's technoference on relationship satisfaction

and sexual satisfaction of themselves took into account the influence the partner may also have on the individual's scores and vice versa.

I followed Fallis et al.'s (2016) and Matsuda's (2017) analytical framework by using Hierarchical Linear Modeling (HLM) to analyze the APIM data structure. Montesi et al. (2013) argued for the use of HLM as the foundational analytic format to simultaneous analyze between-subject and within-subject relationships while accounting for individuals being nested in a couple (group) (Raudenbush & Bryk, 2002). Matsuda (2017) argued for the use of APIM as a way to simultaneously analyze the correlations between actor and partner responses to the independent variable (i.e., technoference) and dependent variables (i.e., relationship satisfaction and sexual satisfaction).

When analyzing APIM dyadic data, Cook and Kenny (2005) suggested using *dummy coding* to express which individual to label as the actor and partner, as the analysis addressed both individuals in the dyad as possible actors. Therefore, labeling the individuals in the dyad as partner 1 (PART_A) as 1 and partner 2 (PART_P) as 2 provided information on partner 1's actor status while 2 represented information about partner 2's actor status. The actor effects represented an analysis of the correlation between that individual's own independent variable score/s and their own dependent variable score/s (Kenny, Cashy, & Cook, 2006). To measure partner 2's actor status (i.e., technoference) reversed the *dummy* variable: partner 2 = 1 and partner 1 = 2. Each analysis provided partner 1 and partner 2 correlations between technoference and relationship satisfaction and sexual satisfaction. On the other hand, partner effects represented an analysis of the correlation of an individual's own independent variable score on their significant other's dependent variable score (See Figure 1.2.).

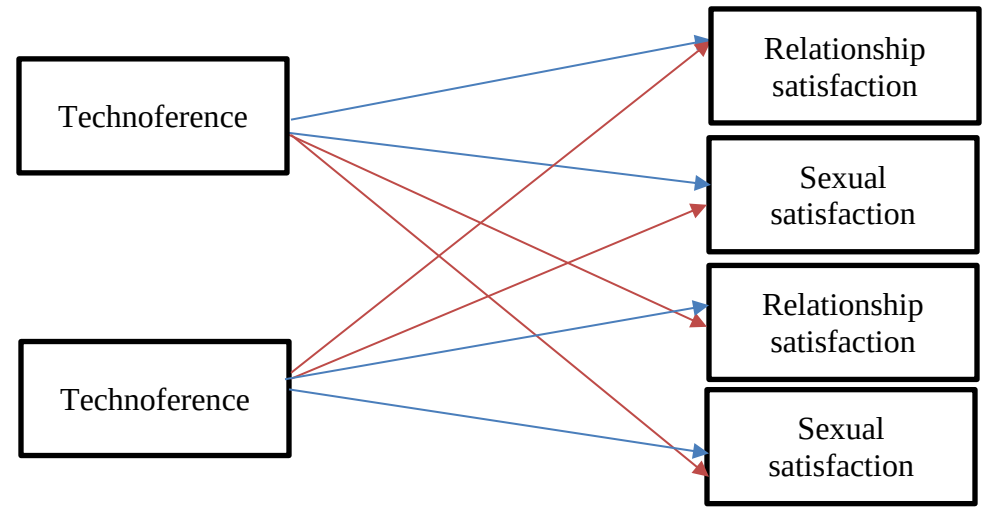

Figure 1.2. Actor-partner interdependence model portraying actor and partner effect paths (blue arrows represent actor effects and red arrows represent partner effects).

By using APIM, Kenny et al. (2006) recommended using a pairwise data structuring to structure the data for easy computation within the data analysis package (APIM). A pairwise data structure produced both partners' assessment scores on one line while signifying one partner as the actor and the other individual as the partner. To reverse the order, the next line consisted of the partner from the first line becoming the actor (first assessment scores on the line), while the actor from the first line becomes the partner on the second line (See Table 1.3).

Table 1.3 Pairwise data structure example

DYADID	PARTID	A1_a	A2_a	I1_a	I2_a	PARTID	A1_p	A2_p	I1_p	I2_p
1	10	1	2	1	2	11	3	4	3	4
1	11	3	4	3	4	10	1	2	1	2
2	12	1	2	1	2	13	5	4	5	4
2	13	5	4	5	4	12	1	2	1	2
3	14	3	5	3	5	15	3	4	3	5
3	15	3	4	3	5	14	3	5	3	5

Definition of Terms

I operationally defined relationship satisfaction as the thoughts, feelings, and behaviors an individual has about their current relationship dynamics (Fallis et al., 2016; Sacher & Fine, 1996). Relationship satisfaction provided a measure of an individual's happiness in the relationship. Therefore, an individual's perceptions of their relationship may significantly affect the length and stability of the relationship (Ohadi, Brown, Trub, & Rosenthal, 2018).

I operationally defined sexual satisfaction as both cognitive and emotional reactions when an individual subjectively assesses the rewards and costs of their sexual relationship (Lawrance & Byers, 1995). The rewards and costs of the sexual relationship aligned with social exchange model tenants of how rewards and costs could influence an individual's perception of satisfaction. Fallis et al. (2016) explained the similarity of sexual satisfaction to relationship satisfaction; however, they found distinguishability between sexual satisfaction and relationship satisfaction by gender.

I operationally defined technoference as an individual's perception of how often technological devices (e.g., computers, tablets, mobile phones) cause interruptions in the amount of time spent together as a couple (McDaniel et al., 2018). Perceptually speaking, technoference encompassed an individual's thoughts about their relevancy in a relationship when compared to technology (Sutcliffe, Binder, & Dunbar, 2018; Wilson, 2018). Previous research substantiated the need to examine other variables that influenced relationship satisfaction in the age of technology (McDaniel et al., 2018). For example, becoming *Facebook official* recently became the gold-standard for pronouncing relationship status in society (Papp, Danielewicz, & Cayemberg, 2012). Participants in

previous research described technology as a *godsend* to some relationships and an *extramarital affair* in others (McDaniel et al., 2018). The impact on the variance of the positive or negative effect of technology on relationships seemed correlate with how the individuals or couples utilized technology within the confines of the relationship (Murray & Campbell, 2015). McDaniel and Coyne (2016a) found that 70% of women surveyed reported some form of technology interfering, in some way, in their relationship.

Limitations

There were several limitations to the current study. First, the age range (i.e., 18-35) did not provide information concerning other populations (i.e., adolescent couples, middle-aged couples, and older couples). Although the study age parameters aligned with previous research on defining the age range of young adult couples (e.g., Johnson et al., 2015; Maleck & Papp, 2015; Mark et al., 2013), generalizations to individuals and couples outside of the age range cannot be made from the results. As such, the age range did not take into account the potential correlations technoference may have on couples' relationship and sexual satisfaction outside of the age range.

Secondly, the study focused on couples in committed relationships; therefore, generalizability to other forms of relationships (i.e., friends with benefits, hookup buddies, open relationships) could not benefit from the research. Other relationship forms, outside of romantic relationships, instituted different characteristics and dynamics (e.g., focused on sex, less intimacy and emotional connection, and non-monogamous) (Wentland & Reissing, 2014) outside the scope of this study. As such, due to the nature of alternative relationships, rules and definitions of what constituted the relationship

differed from monogamous couples (Rodrigue & Fernet, 2016; Weaver, MacKeigan, & MacDonald, 2011).

Third, because I used a quantitative, descriptive correlational study design, I focused on specific variables under study (Heppner et al., 2016). Therefore, I did not account for other variables that could potentially influence relationship and/or sexual satisfaction that may have a higher significance on relationship and/or sexual satisfaction. As a result, the inclusion criteria of the participants focused on specific variables (e.g., sexually-active, relationship status, age) that emphasized the independent variable and dependent variables. With all the constraints and strategies involved in controlling for external factors that may influence assessment scores, there was always a possibility that an external variable caused the effects within the results (Heppner et al., 2016).

Fourth, because of the correlational nature of this study, causation could not be determined from the results. The novelty of the present study addressed the need for a descriptive correlational study. I evaluated correlations between the variables to verify the need for future studies of causal inference by manipulating dyadic variables (e.g., Randomized Controlled Trials, Moderation Studies, Mediation Studies).

Finally, the use of an online survey affected the accessibility of the study. Therefore, the results were not generalizable to individuals without internet access and an email address. Also, the use of normed assessments could affect the generalizability of the research results as the requirements for inclusion in the study may limit other populations' benefit from the study. Further, normed assessments could affect the validity of the research results if the sample did not align with the normed populations used for assessment development or subsequent research.

Summary

The fluid definitions of relationship satisfaction and sexual satisfaction continue to be defined through constructs created from social conceptualization and perceptions of what constitutes satisfaction in the relationship. Researchers explained the importance of continued study of relationship and sexual satisfaction while incorporating new variables within dyadic research (e.g., Fisher et al., 2015; Maas, Vasilenko, & Willoughby, 2018; Yucel, 2018). Along with extensively researched variables (i.e., relationship and sexual satisfaction), I added the novel construct of technoference among young adult couples (e.g., McDaniel et al., 2018; McDaniel & Coyne, 2016a, 2016b).

Individual perceptions of the characteristics that promoted relationship satisfaction created the opportunity for the variability of relationship satisfaction and sexual satisfaction and the effects of technoference. The correlations provided further evidence of constructs counselors need to explore with their clients during therapy sessions to assist couples to develop an understanding of how relationship satisfaction, sexual satisfaction, and technoference correlate within their relationships. Also, the results created a clearer understanding of technoference, relationship satisfaction, and sexual satisfaction among young adult couples that are disseminated by counselor educators and supervisors to student counselors for use in future practice. Finally, the study created a line of research for future studies involving relationship satisfaction, sexual satisfaction, and technoference.

The upcoming chapters (i.e., 2-5) will further elucidate the need for the current study and describe the methodology, results, and implications. Chapter 2 will provide an in-depth exploration of the literature associated with relationship satisfaction, sexual

satisfaction, and technoference and reinforce the need for the current study. Chapter 3 extrapolates the methodology (i.e., quantitative, descriptive correlational survey design) used in the current study. Further, Chapter 3 provides a detailed account of the present study's research method, including the target population, the setting of the study, sampling methodology, descriptions of how I tested the constructs, data analysis procedures, and how the participants' rights remained protected. Chapter 4 covers the results of the implementation of the study. Chapter 5 provides a report on the implications and limitations of this study, and direction for future research.

CHAPTER TWO LITERATURE REVIEW

Organization

The literature review is organized to provide a succinct, yet in-depth overview of how I utilized search engines to gain information on relationship satisfaction, sexual satisfaction, and technoference, the results of those searches, the relevance of the search results to the research topics, and how those results set the stage for the current study. I explain how relationship satisfaction, sexual satisfaction, and technoference research coalesce to provide relevance for my study. As such, I expound on the ambiguity of research associated with relationship satisfaction, sexual satisfaction, and technoference that I hope to clarify through my study.

Search Methods

In this section, I explain the methods used to search previous research associated with relationship satisfaction, sexual satisfaction, and social exchange theory. I initially used relationship satisfaction, sexual satisfaction, and technoference as the search parameters, with PsycINFO, PsycARTICLES, Mental Measurements Yearbook with Tests in Print, Communication Abstracts, Computer Source, Psychology and Behavioral Sciences Collection, Education Full Text (H.W. Wilson), Education Source, PsycTESTS, ERIC, Social Sciences Full Text (H.W. Wilson), and Health and Psychosocial Instruments as the article databases and limited the results to Full Text and Scholarly (Peer Reviewed) Journals. I found one result when I searched all variables under the

current study: *relationship satisfaction, sexual satisfaction, and technoference*. To expand on the constructs under study, I searched *relationship satisfaction* and found 15,726 results. To narrow the results to focus on couples, I added the word *couples* to the search with *relationship satisfaction*. The search resulted in 3,690 articles. Afterward, I utilized *relationship satisfaction* and *sexual satisfaction* as my search criteria using the same search parameters. I obtained 977 search results. I added *couples* to the criteria, and the search produced 400 results.

Further, I searched *sexual satisfaction* and *couples* and obtained 890 results. Using *relationship satisfaction* and *technoference*, I obtained three results. Then, I searched *for sexual satisfaction* and *technoference* and obtained one result. Because I wanted to obtain further information on previous research on technoference, I searched *technoference*, alone. I obtained four results. To expand the examination of research associated with dyadic relationships and technology use, I searched *technology* and *relationship satisfaction* and obtained 679 results. Finally, I searched *social exchange theory*. I obtained 2,862 results. To narrow the search, I added *relationship satisfaction* to social exchange theory. I obtained 96 results. I cross-checked the results by searching *social exchange theory* and *couples.* I found 46 results that contained similar studies as the previously searched *social exchange theory* and *relationship satisfaction*. Then, I searched *social exchange theory* and *sexual satisfaction*. The search resulted in six results.

Further, I began to find information on the Interpersonal Exchange Model of Sexual Satisfaction (IEMSS; Lawrance & Byers, 1992, 1995) and obtained 20 results from the search. I was unable to obtain the original article by Lawrance and Byers

(1995) from the search results; however, I contacted E. Sandra Byers to request the article. Dr. Byers provided two articles (i.e., Lawrance & Byers, 1995; Lawrance, Byers, & Cohen, 2011) associated with the IEMSS which included the Global Measure of Sexual Satisfaction (GMSEX).

The search results provided enough information to reinforce the need for the current study. The searches produced articles of quantitative and qualitative research designs that provided information on the development of relationship satisfaction, sexual satisfaction, and technoference research within the fields of psychology and counseling.

Looking at previously established literature, relationship satisfaction and sexual satisfaction have rich and colored histories. Most dyadic research related the importance of relationship satisfaction and sexual satisfaction to healthy and stable relationships; however, researchers began to recognize the need to analyze the variables that promote and erode satisfaction at the individual and couple levels. Therefore, the current literature review focused on the development of sexual satisfaction, technoference, and relationship satisfaction. I parceled the literature review into examining the knowledge of each construct (i.e., relationship satisfaction, sexual satisfaction, and technoference) separately and a section on research that combined the constructs in different forms. Further, the sections are provided in descending order, according to the article year of published, to establish a line of research that reflects the need for my study.

Relationship Satisfaction

The initial search of relationship satisfaction resulted in a substantial return of studies (N= 15,726). A significant number of studies utilized relationship satisfaction as a dependent variable and explored different independent variables on their effects on

relationship satisfaction. Examples included therapeutic intervention options (e.g., Hawkins & Hertlein, 2013; Kennedy & Gordon, 2017; Wiebe et al., 2017), the influence of parenting on couple relationship satisfaction (e.g., Meyer, Robinson, Cohn, Goldenblatt, & Barkley, 2016; Urbano-Contreras, Martínez-González, & Iglesias-García, 2018), the effects of differential medical diagnoses on relationship satisfaction (e.g., Anderson, Rosen, Price, & Bergeron, 2016; Walker, King, Kwasny, & Robinson, 2017), and relationship education programs' effects on relationship satisfaction (e.g., Carlson, Barden, Daire, & Greene, 2014; Williamson, Altman, Hsueh, & Bradbury, 2016). Further, Falconier, Jackson, Hilpert, and Bodenmann (2015) substantiated the significance of relationship satisfaction as an outcome variable in their meta-analysis of relationship satisfaction and dyadic coping. The overwhelming use of relationship satisfaction as a dependent variable provided a backdrop for the examination of literature associated with relationship satisfaction and its use in research with couples.

Stewart and Rubin (1976) created a hypothesized study that utilized quantitative methodology to explore power motivation as an explanatory variable towards the level of relationship satisfaction of both individuals in heterosexual dating relationships. Stewart and Rubin (1976) argued the study was longitudinal as the researchers planned to follow up with the 63 couples two years after the completion of the initial data collection to ascertain the relationship status of the couple (i.e., married, separated, or still dating) at follow up.

Stewart and Rubin (1976) reported higher levels of dissatisfaction of the relationship when males exhibited high levels of power motivation for males and females. Additionally, men reported a higher probability of foreseeing relationship

problems in the future when they categorized themselves as having high levels of power motivation. Also, Stewart and Rubin's (1976) study provided insight into the relationship variable of power motivation and its impact on relationship satisfaction and future relationship stability as 50% of men who reported high power motivation, at follow up, had broken up with their significant other. Alternatively, 15% of men reporting low levels of power motivation reported breaking up with their partner.

Stewart and Rubin (1976) provided one of the first relationship satisfaction studies utilizing the couple as a basis for data analysis on the impact of individual variables within the relationship context. Although Stewart and Rubin's (1976) study examined relationship satisfaction as the outcome variable, there was only one explanatory variable that provided a small amount of explanation of the variance of relationship dissolution. However, Stewart and Rubin (1976) did propel the theory of relationship satisfaction being a subjective and quantifiable variable forward. Therefore, Stewart and Rubin (1976) encouraged future studies to incorporate the gender differences and predictive nature of variables associated with relationship satisfaction.

Davis and Oathout (1987) created a hypothesized study that used quantitative methodology to examine a theory of relationship satisfaction and their hypothesis that partner behavior and empathy could predict relationship satisfaction ratings of partners. The researchers argued for the inclusion of their theoretical orientation of relationship satisfaction to account for the observed behavior of individuals focusing on performing behaviors that promoted partner satisfaction in the relationship. The theoretical underpinnings of the authors' model promoted the role of personality and empathy as a

conduit for certain behaviors (e.g., empathic interaction) that enhanced relationship satisfaction.

Davis and Oathout (1987) used path analysis to examine the role of positive and negatively perceived partner behaviors on relationship satisfaction. As suspected, Davis and Oathout (1987) found a decrease in relationship satisfaction when partners performed negatively-based behaviors. On the other hand, partner relationship satisfaction increased when their significant other performed perceived positive behaviors. Further, Davis and Oathout (1987) used both positive and negative predictors in the model to examine the unique effects of positive (i.e., warmth, even temper, positive outlook, and good communication) and negative (i.e., insensitivity, untrustworthiness, and possessiveness) behaviors perceived by the partner. The researcher found positive behaviors had a more significant effect on relationship satisfaction than performing negative behaviors. Therefore, the researchers concluded support for the relationship satisfaction model.

Although Davis and Oathout (1987) provided a different perspective of individual behavior and personality in a relationship, the relationship satisfaction model paralleled the social exchange model (Thibaut & Kelley, 1959). Davis and Oathout (1987) focused on the rewards of behavior within the relationship; however, performing negatively-perceived behaviors had a cost (i.e., lowered levels of relationship satisfaction). Also, Davis and Oathout (1987) focused on the interplay of behaviors and empathy within couple relationships, while I expanded on relationship satisfaction and sexual satisfaction and integrate a new concept of behaviors of young adult couples that affected relationship satisfaction: technoference. Davis and Oathout (1987) furthered research on gender differences of relationship satisfaction while encouraging future

studies to examine alternative variables to account for behavioral attributes of relationship satisfaction among dyadic couples.

Miller-Ott, Kelly, and Duran, (2012) developed a hypothesized study that implemented quantitative methodology to analyze cell phone use rules, cell phone use satisfaction, and relationship satisfaction. Further, Miller-Ott et al. (2012) set out to explore if the addition of questions to the Cell Phone Rules Scale (Duran, Kelly, & Rotaru, 2011) increased face validity and alpha reliabilities and constructing the Cell Phone Satisfaction Scale (CPSS; Miller-Ott et al., 2012) to examine participants' satisfaction with cell phone use in a romantic relationship. The sample consisted of 227 undergraduate students. The gender distribution consisted of 173 (76.2%) females and 54 (23.8%) males. The average age of the participants was 20.33.

Miller-Ott et al. (2012) used *t*-tests to examine the importance of cell phones in romantic relationships. Pearson product-moment correlations examined the researcher's hypothesis that cell phone rule satisfaction positively correlated with relationship satisfaction. Stepwise multiple regression analyses explored how cell phone rules affected cell phone satisfaction and how cell phone rules affected relationship satisfaction.

Miller-Ott et al.'s (2012) results suggested the perceived importance of cell phones in the participants' relationships as a means of communication with their partner. Also, the analysis revealed a significant correlation between cell phone usage satisfaction and relationship satisfaction. Two dimensions of the CPRS were significant in predicting cell phone satisfaction, with a combined variance of 9%: Relational Issues (5%) and Contact With Others (4%). Further, Miller-Ott et al. (2012) used relationship satisfaction

as the dependent variable and the dimensions of the CPRS as the independent variables to examine the correlations between the variables. Three out of six dimensions of the CPRS were significantly correlated. The three dimensions represented 11% of the variance: Monitoring Partner Usage (4%), Relational Issues (4%), and Repetitive Contact (3%). Therefore, Miller-Ott et al. (2012) explained cell phone usage as important to relationship satisfaction, along with cell phone usage satisfaction.

Miller-Ott et al.'s (2012) study revealed important information surrounding the use of cell phones within the relationship. Further, couples who set cell phone rules that promote satisfaction within the relationship of cell phone use creates avenues of relationship satisfaction. As such, Miller-Ott and colleagues (2012) promoted the position that the way partners used technology in the relationship affected the perception of technology's benefits or problems. For example, the results suggested the use of cell phones to remain connected as proper behavior. Conversely, addressing serious relationship issues through cell phone use equated to unacceptable behavior, therefore, negatively affecting relationship satisfaction.

I addressed several limitations of Miller-Ott et al.'s (2012) study. First, Miller-Ott and colleagues (2012) recognized the imbalance of gender representation in the sample and encouraged future studies to include both partners in the relationship. I focused on both partners in a relationship; therefore, creating the opportunity for a more balanced representation of gender. Furthermore, the inclusion of same-sex couples expanded the exploration of how technology use correlated with relationship satisfaction and sexual satisfaction. Finally, Miller-Ott et al. (2012) acknowledged the small variance accounted for by the independent variables under study. As a result, I focused on

encompassing the technology interference in a relationship without narrowing down the technology mode to just cell phone usage. As such, I extended the examination of the correlations of technology on relationship and sexual satisfaction in dyadic, romantic relationships.

Hand, Thomas, Buboltz, Deemer, and Buyanjargal (2013) developed a hypothesized study that used quantitative methodology to analyze the effects of time spent on social networking sites on intimacy and relationship satisfaction in romantic relationships. Hand et al. (2013) used 233 (92%) of the original 253 sample. The age range included individuals aged 18 to 57, with an average age of 20.82. The majority of participants were Caucasian (76%), followed by African Americans (18.9%), Hispanics (3.4%), Asian (0.90%), and other identified ethnicities (0.90%). Also, Hand and colleagues (2013) included individuals reporting romantic relationship status of exclusively dating (80.3%), dating not exclusively (12.4%), and married (7.3%). Hand et al. (2013) used data from one individual in the relationship to explore the individuals own social media use and the individual's subjective perception of how their partner used social media networks and their effects on relationship satisfaction and relationship quality.

The data analysis involved intercorrelation analysis and structural equation modeling. As such, Hand et al. (2013) considered the resulting perceptions of social media network usage by the participant and their partner as separate variables. Hand et al. (2013) used structural equation modeling as a predictive model involving standard errors, unstandardized coefficients, and path coefficients of all variables.

The results produced findings consistent with previous research on intimacy and relationship satisfaction (i.e., significantly, positively correlated). Also, the results indicated a significant negative correlation between perceived partner social network use and intimacy, yet no significant correlation connected the participant's own use of social media networks and intimacy. As such, Hand and colleagues (2013) found no significant relationship between participant social media use and intimacy; however, the researchers did find a relationship between partner use of social media use and intimacy. Also, the researchers found a mediating effect of intimacy between social media use of participant or partner and relationship satisfaction.

The results indicated the importance of continued research involving technological variables that either promoted or caused deleterious effects on relationship satisfaction. Hand and colleagues (2013) were open about the limitations of their study. One such limitation involved the use of only one individual in the dyad that provided their subjective perceptions of social media usage of themselves and their partner. As such, this study furthered exploration of technology interference's (i.e., technoference) correlation to relationship satisfaction by obtaining and analyzing data from both partners in the dyad. Second, this study extended Hand and colleague's (2013) study on technology's (i.e., social media) correlation to relationship satisfaction by adding other forms of potential technology interference (e.g., tablets, cell phones, emails, etc.) by using the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a). Finally, I used hierarchical linear modeling to analyze the actor and partner effects of technoference against relationship satisfaction and sexual satisfaction. Further, Hand et al. (2013) encouraged future studies to continue to examine the technology's

correlations to relationship satisfaction while including new variables to explore the reach of technology's correlations to other areas of a romantic relationship.

Yucel (2018) developed a hypothesized study that used quantitative methodology to analyze the effects of different variables upon relationship satisfaction of married and cohabiting couples. Yucel (2018) used data from a 2010 survey that produced a nationally representative sample of 1,075 heterosexual couples. The sample represented 752 married and 323 cohabiting couples ranging in age from 18 to 64. The authors focused on the possible similarities and differences between married and cohabiting couples' experiences of relationship satisfaction when accounting for predictor variables of balance of work and home life, the perceptions of the division of paid work and household work, and history of past relationships. Control variables included the length of the relationship, the presence of young children (6 years old and below), and if the married couples cohabitated before marriage and the subjective likelihood, the cohabiting couples would marry.

Yucel (2018) used actor-partner interdependence modeling to examine the actor and partner effects of individuals in married and cohabiting couples. Mixed effects of independent variables were defined as the variables that were analyzed within and between dyads. The control variables were analyzed between dyads.

The findings suggested that both males and females in married relationships report higher levels of relationship satisfaction and agree that their partner is less likely to cheat on them compared to cohabiting couples. Married males and females both reported higher levels of relationship satisfaction when their perception of household work was unfair to their spouse or equal among the pair compared to their perception of unfair

household work for themselves. Also, males and females reported higher levels of relationship satisfaction when they were better able to resolve conflict involving paid and household work. Further, there were no significant actor effects concerning relationship history among married males and females. Alternatively, cohabiting couples were more likely to report higher inequity of paid and household work. Yucel (2018) found no significant differences between genders among actor effects.

Adding partner effects, Yucel (2018) found statistical significance to the model in understanding the experience of relationship satisfaction. Adding partner effects increased the amount of variance explained of male and female relationship satisfaction by 22% and 29%, respectively. The partners' scores followed the actor scores found in step 1. Males and females reported higher levels of relationship satisfaction when their partner rated household work as equal or unfair to their spouse compared to spouses that reported the equality of household work as unfair to themselves. Husbands rated relationship satisfaction higher when their wives reported minimal conflict concerning household and paid work duties. Conversely, relationship satisfaction was not found to be statistically significant for women when their husbands reported minimal conflict. As with the first step, relationship history was not found to be statistically significant for partner effects by either husbands or wives.

A chi-square difference test found no gender differences between males and females within partner effects. Therefore, the authors preferred the restricted model. The restricted model proposed there were no gender differences accounting for individuals reporting higher relationship satisfaction had spouses that reported equal division of household work for themselves and their spouse or was unfair for their spouse compared

to those spouses that reported unfair household work for themselves. Further, individuals whose spouse reported less conflict between paid work and household work had higher levels of relationship satisfaction. The authors distinguished the partner effects from the actor effects and explained the variance of relationship satisfaction from partner effects of married males and females accounted for 22% and 28%, respectively.

The results indicated Model 4 as the best fit for explaining the variance of relationship satisfaction among cohabiting couples (no gender differences between actor and partner effects). Similar results were found with cohabiting couples concerning perceptions of the division of household work (Higher relationship satisfaction= housework: unfair to their spouse or balanced between partners compared to individuals reporting unfair household work for themselves). Further, partners living with individuals who expressed lower levels of conflict concerning the balancing of work and family produce higher levels of relationship satisfaction. Finally, lower relationship satisfaction correlated with previous cohabiting experience.

Yucel (2018) used multi-group analyses to compare the final models between married and cohabiting couples. Examining the chi-squared changes produced deterioration of the model fit for two models (i.e., relationship history and conflict balancing work and family). Specifically, partner effects of having a history of relationships significantly lowers relationship satisfaction among cohabiting couples compared to married couples. Secondly, the positive partner effects of balancing work and family produced significantly greater relationship satisfaction among cohabiting couples.

The results suggested a mutual contribution to relationship satisfaction. Also, Yucel (2018) furthered the use of social exchange models among research associated with relationship satisfaction among different couple relationship statuses. Further, the use of actor-partner interdependence modeling provided further evidence for its use among cohabiting and married couples.

Yucel (2018) proposed limitations that future studies could address. First, the use of previously obtained data could have affected the usefulness of the data. Secondly, the study only focused on heterosexual couples that narrowed the scope of the results. Third, the specific target population of married and cohabiting couples narrowed the results to those married and cohabiting. Finally, Yucel (2018) acknowledged the specificity of the study's results.

In the current study, I utilized a descriptive correlational survey design to obtain data from couples used directly for analysis. Secondly, I expanded research to include same-sex couples and heterosexual couples. The addition of same-sex couples expanded the generalizability of the findings. Finally, I utilized one independent variable (i.e., technoference) against two dependent variables (i.e., relationship satisfaction and sexual satisfaction) that produced further evidence of how different constructs effect relationship satisfaction among young adult couples. The results of Yucel's (2018) study advanced behavioral components of relationship satisfaction while promoting further research on the correlational nature of alternative variables that have promotional or deleterious effects on relationship satisfaction.

Sexual Satisfaction

Byers (2005) developed a hypothesized study that used quantitative methodology that examined the preestablished, longitudinal correlational research between relationship satisfaction and sexual satisfaction. Byers (2005) sought to further relationship and sexual satisfaction research by focusing on the potential causal attributes between relationship satisfaction and sexual satisfaction. Byers (2005) obtained data from 94 men and 150 women (*N*=244 individuals) at Time 1 and 34 men and 53 women at Time 2.

Byers (2005) used hierarchical multiple regression analyses to explore the changes in sexual and relationship satisfaction over time and the predictive nature of scores at Time 1 for scores of Time 2. Further, Byers (2005) examined the effects of communication on sexual and relationship satisfaction. Byers (2005) used communication and intimate communication to describe the construct of communication without explicitly distinguishing between the terms. Gender was also used to explore the possible similarities or differences between changes to scores over time.

The results included changes in sexual satisfaction between Time 1 and Time 2 paralleled changes in relationship satisfaction between Time 1 and Time 2. Also, Byers (2005) did not find significant contributions to the model when gender was added. Through analysis, Byers (2005) ruled out causality between sexual and relationship satisfaction between time points and suggested a continued acknowledgment of the bidirectional correlation between the two constructs. Also, a parallel process between relationship and sexual satisfaction occurred.

Communication produced significant results for both relationship satisfaction and sexual satisfaction. Better communication within the relationship produced higher

levels of relationship satisfaction and sexual satisfaction. Also, higher levels of communication predicted higher levels of relationship satisfaction and sexual satisfaction through the time series between Time 1 and Time 2.

Byers (2005) suggested future research to examine the influence of different variables that may account for changes to relationship satisfaction and sexual satisfaction within dyadic relationships. My study answered Byers' (2005) call for the examination of other characteristics that may account for variance within relationship and sexual satisfaction. Further, my study used a more complex model of actor-partner interdependence modeling within hierarchical linear modeling as the data analysis to explore correlations between an alternative construct (i.e., technoference) and the relationship satisfaction and sexual satisfaction variation between and within dyads.

Fallis, Rehman, Woody, and Purdon (2016) created a hypothesized study that used longitudinal data collection in quantitative methodology to examine the correlations between relationship satisfaction and sexual satisfaction over time among 113 heterosexual couples (N=226 individuals). Fallis et al., (2016) utilized structural equation modeling to examine the associations between relationship satisfaction and sexual satisfaction over time. The novelty of the study involved the correlation of relationship satisfaction and sexual satisfaction over a 2-year period, which the researchers explained as relatively unstudied.

The researchers found several results worth mentioning. First, path analysis of the structural equation model suggested that men and women's own initial reports of sexual satisfaction predicted the same individual's relationship satisfaction score. Higher scores of sexual satisfaction scores correlated with higher scores on relationship

satisfaction, while lower scores on sexual satisfaction correlated with lower scores of relationship satisfaction. Conversely, initial relationship satisfaction scores did not predict subsequent sexual satisfaction scores. Fallis et al., (2016) suggested the latter results contradicted previous findings of Lawrance and Byers (1995) and Sprecher (2002) that stated relationship satisfaction scores predicted sexual satisfaction.

The only significant gender difference occurred between the strength of sexual satisfaction scores that predicted relationship satisfaction. Men's sexual satisfaction scores were significantly more predictive of subsequent relationship satisfaction scores compared to females. As such, men's sexual satisfaction scores accounted for 14% of the variance of relationship satisfaction at the second wave of data collection, while women's sexual satisfaction scores only accounted for 8% of the variance. Partner scores did not produce any significant results for sexual satisfaction or relationship satisfaction.

Fallis et al., (2016) suggested their study built upon previous research as it produced results of the correlations between relationship satisfaction and sexual satisfaction of heterosexual couples in a longitudinal research design using statistical analysis packages that produced actor and partner effects. As such, the researchers suggested future research involve alternative populations (e.g., same-sex couples) and involve the use of alternative sampling. Also, the researchers suggested using a cross-section of a population to account for differences in initial scores of sexual satisfaction and relationship satisfaction that could produce more abundant evidence of the correlational and predictive nature of relationship satisfaction and sexual satisfaction. Fallis et al., (2016) replicated previous findings of the bidirectional correlation between relationship and sexual satisfaction and encouraged future studies to explore variables

that may contribute novel understanding to the correlation between relationship and sexual satisfaction. As such, my study incorporated technoference to explore its correlations to relationship satisfaction and sexual satisfaction. Therefore, I examined both relationship satisfaction and sexual satisfaction as dependent variables and examined possible differences between technoference's correlations to the two dependent variables.

Maxwell et al. (2017) developed a hypothesized study using quantitative methodology across six studies to examine the effects of two forms of beliefs (i.e., *sexual growth beliefs and sexual destiny beliefs*) about a sexual partner and the sexual satisfaction and relationship satisfaction that followed from those beliefs. Maxwell et al. (2017) defined sexual growth beliefs as an individual's belief that an individual sexual satisfaction with their partner will develop over time and through experience. Alternatively, sexual destiny beliefs equated to an individual's belief that sexual satisfaction should occur automatically without any need for maintenance. According to Maxwell et al. (2017), an individual that adhered to sexual destiny beliefs perceived a relationship with sexual problems to fail.

To further validate their findings, Maxwell et al. (2017) utilized multiple quantitative methodologies to validate a measure of sexual beliefs and their effects on relationship satisfaction and sexual satisfaction. The findings suggested differences between sexual growth beliefs and sexual destiny beliefs concerning the sexual dynamics of their perception of the relationship. First, when sexual destiny belief individuals perceived their sexual relationship to be incompatible, the participants reported reduced relationship satisfaction. Second, individuals purporting sexual growth beliefs experienced reactivity to sexual incompatibility, a finding that countered the researchers'

initial ideas about sexual growth beliefs. Third, Maxwell et al. (2017) validated the constructs of sexual growth beliefs and sexual destiny beliefs within the first two studies.

As a result, Maxwell et al. (2017) exposed a new line of thinking concerning constructs affecting relationship satisfaction and sexual satisfaction that constitute the need for further research. Maxwell et al. (2017) promoted the use of novel variables that correlate with sexual satisfaction (e.g., technoference), exploration of new constructs that show promise in explaining variance in sexual satisfaction (i.e., technoference), and utilization of increasingly complex data analysis models (e.g., actor-partner interdependence model) to examine different target populations and their experience of sexual satisfaction. Finally, Maxwell et al. (2017) encouraged continued research associated with the interaction of characteristics and belief systems (e.g., social exchange theory) that account for relationship satisfaction and sexual satisfaction quality.

Technoference

Murray and Campbell (2015) created a hypothesized study that utilized qualitative methodology to examine the effects of technology within the confines of intimate relationships. Murray and Campbell (2015) used the subjective reports of 225 of the original 319 participants to examine how they perceived technology to benefit and hurt their relationship, how technology has changed society over the past ten years, and any other comments the participants had about the use of technology in romantic relationships. The participants ranged in age from 18 to 78; however, the average age was 28.9. As such, Murray and Campbell (2015) obtained a cross-section of ages that included males and females, with the majority (78.7%) being female.

Murray and Campbell (2015) used content analysis to analyze the resulting themes and subthemes of technology's effects on romantic relationships. The researchers used six steps for data analysis involving a multistep coding process. Finally, Murray and Campbell (2015) used descriptive statistics to examine the frequencies of similar statements given.

The results of Murray and Campbell's (2015) study perpetuated previous findings of the potential positive and negative effects technology produces in romantic relationships. Murray and Campbell (2015) presented a concise list of themes of how technology benefits romantic relationships. Major themes included communication, facilitating long-distance relationships, life management and planning, intimacy and affection, leisure and relaxation, meeting online, learning about one's partner, social support, and maintaining relationship memories. Alternatively, Murray and Campbell (2015) condensed subjective harmful effects of technology into five themes. The themes included impaired communication and intimacy, perpetuating specific relationship problems (e.g., privacy infringement and jealousy), distracts from and infringes on the relationship, problematic usage patterns, and features of technology (e.g., obsessive consumerism [always seeking newer forms of technology], cost, and technological difficulties). As Murray and Campbell (2015) provided tables of descending order of frequency reported benefits and harmfulness of technology to the relationship, an impressive result found that technology's effects on communication were highest in both benefits and harm to the relationship. As such, Murray and Campbell (2015) recognized the *way* technology was being used by participants affected its categorization as a positive or negative influence on the relationship.

Murray and Campbell (2015) suggested that future research further analyze the correlations and effects of technology on romantic relationships as social interaction and relationships evolve with the use of technology. Further, the implications of Murray and Campbell's (2015) study perpetuated the need to examine technology's potential positive and negative influences on relationships within the context of individual and couples counseling. Although Murray and Campbell (2015) encouraged future studies to involve technologically-based theories to explain technology influences in relationships, I chose social exchange theory to account for the examination of costs of technology use in the relationship. Therefore, I furthered Murray and Campbell's (2015) study by examining how technoference specifically correlated with relationship satisfaction and sexual satisfaction.

McDaniel and Coyne (2016a) created a hypothesized study that used quantitative methodology to examine the effects of technology use on romantic relationships among a target population of women. The study measured technology's influence in romantic relationships, conflict over technology use, effects on relationship satisfaction and life satisfaction, and depressive symptoms. McDaniel and Coyne (2016a) used the previously mentioned variables towards explaining a possible pathway of technoference producing increased conflict over technology use which produced increased depressive symptoms which produced decreased relationship satisfaction and life satisfaction. To examine the results of the influence of technology on women's perceptions of their romantic relationship and mental health, McDaniel and Coyne (2016a) used bivariate analysis and structural equation modeling using maximum likelihood estimation to examine model fit. Further, McDaniel and Coyne (2016a)

created an assessment to specifically examine the correlations and effects of technology interference in romantic relationships: Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a).

The results concluded that increased technoference predicted increased levels of conflict over technology use in the relationship and predicted lower levels of relationship satisfaction. Further, lower levels of relationship satisfaction predicted lower levels of life satisfaction. The authors, also, found statistically significant direct paths from technoference to life satisfaction and depressive symptoms. Indirect effects of the amount of technoference produced significant results for relationship satisfaction and life satisfaction; however, did not produce significant indirect effects of depressive symptomology. Further, a principal components analysis found evidence of TILES's significance in examining technology interference in romantic relationships.

A significant finding of the study by McDaniel and Coyne (2016a) uncovered that 70% of the female participants reported technoference occurring in some form in their relationship. Also, the study produced results that verified the need for continued research surrounding the effects of technoference on relationship satisfaction and other constructs involved in relationship development and sustainment. Further, McDaniel and Coyne's (2016a) study provided further evidence for the technoference phenomenon and how individuals noticed and perceived technology to either hindered or promoted their relationships.

Limitations involved the small sample size (N=143), surveying only women, and the majority of the participating women identified as being married. Also, McDaniel and Coyne (2016a) provided direction for future studies that I addresseddy. First, my target

sample size was at least 218 couples (*N*= 436 individuals). In saying this, I involved males and females from heterosexual and same-sex couples. As McDaniel and Coyne's (2016a) study examined technoferences' effects on relationship satisfaction, life satisfaction, conflict over technology use, and depressive symptoms, I advanced McDaniel and Coyne's (2016a) research concerning technoference in collaboration with sexual satisfaction, and relationship satisfaction of young adult couples. McDaniel and Coyne (2016a) acknowledged the significance of exploring technoference in combination with other variables and encouraged future studies to continue the exploration of the validity of technoference within dyadic research.

McDaniel and Coyne (2016b) constructed a hypothesized study that used quantitative methodology to examine the influence of technology of parenting young children. McDaniel and Coyne (2016b) focused their study on 213 mothers in heterosexual relationships with a child 3-years or older. The researchers hoped to expand insight into the frequency of technology interference within the confines of parenting and co-parenting and the effects of technology interference on relationship satisfaction.

McDaniel and Coyne (2016b) utilized simple statistical analysis to report 96% of the women surveyed reported at least one form of technology interference of their co-parenting ability. A Bonferroni-adjusted pairwise comparison uncovered the times technology most interfered with parenting were playtime and free time spent with the child. Another Bonferroni-adjusted pairwise comparison revealed the technological device with the most culpability of frequently interfering as a smartphone/cellphone.

As such, perceptions of co-parenting were also affected by technology interference. Using bivariate correlations, females who reported higher frequencies of

technology interfering with co-parenting also reported lower levels of co-parenting quality, relationship satisfaction, and depressive symptomology. Further, McDaniel and Coyne (2016b) acknowledged the increase in technology interference as the age of the child increased.

Hierarchical linear modeling was used to account for all variables. Level-1 included descriptive variables of the women and the child. Relationship satisfaction and depressive symptomology were entered at Level-2. Level-3 included the scores of overall technology interference. The results of the model accounted for a significant amount of variance of co-parenting quality (54%).

McDaniel and Coyne's (2016b) analysis focused on the perceptions of women in heterosexual relationships concerning the influence of technology interference with parenting and co-parenting. While McDaniel and Coyne's (2016b) study furthered research on the influence of technology with parenting and co-parenting, relationship satisfaction and co-parenting quality, my study expanded the research parameters associated with technology inference (i.e., technoference) by obtaining data from both partners and correlating those technoference scores with relationship satisfaction and sexual satisfaction. Further, the examination of technoference focused on the partners' subjective perceptions of how frequently technology interferes with quality time spent together (McDaniel & Coyne, 2016a). Therefore, McDaniel and Coyne (2016b) acknowledged the need for future replication of findings to substantiate the effects and correlations of technoference and relationship satisfaction.

McDaniel, Galovan, Cravens, and Drouin (2018) created a hypothesized study that used quantitative methodology to examine the effects of technoference on

relationship satisfaction and co-parenting. The authors used two distinct samples to verify previous path research on technoference and the resulting relationship satisfaction reports. The first sample consisted of 183 heterosexual couples with a young child from a longitudinal study in the Northeastern United States. The second sample consisted of 239 couples with children under the age of 18 from the United States (130 couples) and Canada (109 couples) using a research firm that focused on achieving representativeness of age and race/ethnicity.

McDaniel et al., (2018) used hierarchical linear modeling and multilevel structural equation modeling in both studies. The authors used hierarchical linear modeling to examine the nonindependence of the data set as individuals were nested in couples. After confirmation of nonindependence of gender, the researchers used multilevel modeling to explore the pathways between technoference and relationship satisfaction when accounting for anxious attachment style, media use, technoference, couple conflict, and co-parenting quality.

The results of both studies obtained similar results that verified pathways between technoference and relationship satisfaction (i.e., technoference → conflict over media use → decreased co-parenting quality and relationship satisfaction). Also, the results of a pathway held for both males and females. Females did report more significant amounts of perceived technoference compared to men.

The findings solidified the importance of continuing research associated with technoference's potential influences on relationship satisfaction. As such, McDaniel et al., (2018) acknowledge the need for continued research of technoference and other factors that may affect relationship satisfaction among young adult couples. Finally, the

authors promoted the use of social exchange theory as a grounding theory to explain the rewards and costs of technoference to account for relationship satisfaction and co-parenting quality. As such, McDaniel et al., (2018) proposed that future studies continue to examine the correlations and paths between technoference and parenting and relationship satisfaction.

McDaniel and Radesky (2018) developed a hypothesized study that used quantitative methodology to examine the effects of parent technological interference and child behavioral problems. McDaniel and Radesky (2018) focused their research on parents who were at least 18 years old, lived with their spouse and child, had a child that was five years old or younger, and both spouses agreed to participate in the study. McDaniel and Radesky (2018) used data from 333 parents (165 fathers and 168 mothers from 170 families) at baseline and utilized one, three, and six-month follow-up data collection to gather data on the interference of technology within the parent-child relationship.

McDaniel and Radesky (2018) used actor-partner interdependence modeling to examine the experience of technoference within the parent-child relationship. The majority of parents (89%) reported at least one form of technology interfered with quality time spent together with their child. Further, 40% of mothers and 32% of fathers reported self-awareness of problematic technology use. Also, findings suggested a more substantial influence of interference of technology during maternal-child interactions on child internalizing and externalizing behavior compared to paternal technoference during father-child interactions. McDaniel and Radesky's (2018) also acknowledged an increase

in technoference on the quality of co-parenting, increased depressive symptomology, and stress in the parenting process.

McDaniel and Radesky's (2018) study promoted the expansion of technoference into the realm of parent-child interactions while exploring the correlations and paths of technology use within the parenting (mother and father) relationship. I utilized the comprehensive nature of McDaniel and Radesky's (2018) study to include a new dependent variable (i.e., sexual satisfaction) with technoference. Further, I expanded understanding of how technoference correlated with relationship satisfaction.

Social Exchange Theory

Thibaut and Kelley (1959) pioneered research surrounding social exchange theory. The main tenants of social exchange theory suggested four areas of analysis that produced positive or negative perceptions of relationship status: 1) rewards obtained, 2) costs incurred, 3) the comparison of alternative relationship options, and 4) comparison of expected rewards and costs and the actual rewards and costs within the relationship. As such, Kelly and Thibaut (1978) extended social exchange theory through the introduction of interdependence theory. Interdependence theory and social exchange theory connected through the longitudinal nature of relationships and the accumulation of rewards and costs scenarios that encouraged individuals to gravitate towards mutually beneficial rewards and costs systems (i.e., equality). As such, Kelley and Thibaut (1978) explained the natural interdependence of romantic relationships as decisions are influenced by an individual's own ideology and their partner's ideology (Sabatelli & Cecil-Pigo, 1985).

Nakonezny and Denton (2008) developed a conceptual article to highlight how social exchange theory related to relationship satisfaction, quality of the relationship, solidarity of marital relationships, social exchange use within marital therapy, and limitations of social exchange theory to marital couples. As such, Nakonezny and Denton (2008) focused on social exchange theory as a relationally-based framework to explain relationship development, sustainment, and deterioration. According to social exchange theory, as relationships develop, mutual rewards and costs become important as couples evaluate relationship stability (Thibaut & Kelley, 1959; Nakonezny & Denton, 2008). Further, couples who experienced levels of mutual rewards and costs as perceived as distributed relatively equally between the partners and the expectation of continued equality of rewards and costs produced further development and sustainment of the relationship. Alternatively, when historical analyses of rewards and costs showed a pattern of inequality, an individual's expectations of continued inequality of rewards and costs, and alternative options of relationships are available (i.e., other potential partners), relationships may begin to erode (Thibaut & Kelley, 1959; Nakonezny & Denton, 2008; Sabatelli & Pearce, 1986; Sprecher, 2001).

Sabatelli and Cecil-Pigo (1985) developed a hypothesized study that used quantitative methodology to examine the effects of relational interdependence and relational commitment among married individuals and couples. The initial return rate produced 142 males and 159 females from an initial sample of 600 individuals. The resulting sample produced 132 dyads (87%). Because the sample was community-based, the reported mean age of females was 36.1 and males was 38 years old. The participants reported an average marital length of 10.8 years for women and 11.2 years for men.

Sabatelli and Cecil-Pigo (1985) utilized commitment as the dependent variable of the study and satisfaction, equity, and barriers as independent variables. Sabatelli and Cecil-Pigo (1985) used intercorrelations to examine demographic variables (e.g., presence/absence of children and the strength of religious beliefs), independent variables, and the dependent variable. Further, Sabatelli and Cecil-Pigo (1985) used multiple regression and backward multiple regression analyses to examine the contributions of the independent variables (i.e., satisfaction, equity, and barriers) on the dependent variable (i.e., commitment) and to examine an independent variable while controlling for the other independent variables to assess unique contributions to commitment, respectively.

Sabatelli and Cecil-Pigo's (1985) results provided unique insight into the roles of different variables on commitment in the relationship of males and females. First, the length of marriage positively correlated with barriers to relationship dissolution for males and females. Also, the strength of religious beliefs positively correlated with barriers of relationship dissolution for males and females. The presence/absence and number of children positively correlated with barriers to relationship dissolution for males, but not for females. The only demographic variable that produced significant correlations to commitment involved males' strength of religious beliefs.

The multiple regression analyses produced several illuminating results. First, equity, satisfaction, and presence/absence of children predicted 53% of the variance in commitment among men. The predicted variables of commitment among women consisted of equity, satisfaction, and barriers to relationship dissolution. The three variables explained 54% of the variance in commitment among women. When the independent variables were controlled, equity accounted for the most variance in

predicting commitment among men and women. Succinctly stated, among the variables studied, equality of relationship outcomes produced the highest predictor of feeling committed within marital relationships among the sample.

Sabatelli and Cecil-Pigo (1985) provided insight into variables associated with relationship commitment. The importance of Sabatelli and Cecil-Pigo's (1985) study promoted the importance of accounting for the interdependence within research on dyadic relationships and the importance of equality of rewards and costs within the outcomes of the relationship. Although Sabatelli and Cecil-Pigo's (1985) study did not require participants to be coupled with dyadic data, the sample produced a significant proportion of dyadic results. As such, Sabatelli and Cecil-Pigo (1985) did not account for the interdependence of the coupled data within their analyses. The results suggested that the researchers separated males and females to explore the independent variables that provided unique contributions to their own levels of marital commitment.

Accounting for the critique mentioned above of Sabatelli and Cecil-Pigo's (1985) study, I plan to utilize the interdependence of dyadic data to my advantage to extrapolate actor and partner effects from scores on the independent (i.e., technoference) and dependent variables (i.e., relationship satisfaction and sexual satisfaction). I furthered Sabatelli and Cecil-Pigo's (1985) correlational research by using APIM to extract correlational components of technoference and relationship satisfaction and technoference and sexual satisfaction. As Sabatelli and Cecil-Pigo (1985) found, satisfaction ranked as the second highest variance component to commitment in marital relationships among the sample. Further, I focused the target sample between the ages of 18 and 35 to align with previous researchers surrounding the establishment and

development of dating, engaged, and married couples and their experience of technoference, relationship satisfaction, and sexual satisfaction.

Sabatelli (1988) created a hypothesized study that used quantitative methodology to examine the role relationship expectations have during premarital couple relationship evaluations. Sabatelli (1988) sampled 55 exclusively dating couples for a longitudinal study on relationship development. Further, Sabatelli (1988) wanted to compare dating and married couples in their relationship expectations. As such, both partners from the samples completed the assessments. The recently married sample consisted of 57 couples.

Sabatelli (1988) used *t*-tests to examine potential sample differences between separate tests of males and females from each group. *T*-tests were also used to explore the differences between gendered differences between groups. From a social exchange perspective, the results provide evidence of rewards and costs within the different types of relationships and the expectations surrounding the relationship.

First, Sabatelli's (1988) study found statistically significant between-group differences concerning expectations of the relationship for males and females. The Expectation Level Index (ELI; Sabatelli & Pearce, 1986) scores produced evidence that 19 of the 26 items were scored significantly different between the never married, dating couples and the married couples. The dating group males and females reported higher levels of relationship expectations compared to the married group. Further, dating males expected higher instances of sexual encounters, partner sexual interest, companionship, conversations about sexual activity, and partner affection compared to married males. Married couples reported gendered differences. Males reported higher expectation levels

of sexual activity and conflict over time spent together. Females reported higher expectation levels of having their needs met by their partner.

Sabatelli (1988) provided further evidence for the use of social exchange theory when examining dating and married couples. Expectations remained an important area of interest in social exchange theory as couples continued to evaluate the rewards and costs of the relationship and compared those to their expectations versus reality. The theoretical foundations of Sabatelli's (1988) study provided a foundation for my study. Previous research (Coyne et al., 2012; McDaniel & Coyne 2016a, 2016b; McDaniel et al., 2018) proposed the potential rewards and costs associated with meeting or not meeting expectations of quality time spent together. Therefore, my study uses social exchange theory as the theoretical foundation to explain the rewards and costs experienced between individuals in a relationship and the correlations between technoference and relationship satisfaction and technoference and sexual satisfaction.

Further, my study extended Sabatelli's (1988) research into dyadic data by implementing APIM to account for the interdependence of data and analyze both partners' scores simultaneously to examine the actor and partner effects. Also, I followed Sabatelli's (1988) sampling by including dating, cohabitating, and married couples. Finally, as stated above, I added depth to studies grounded in social exchange theory by adding sexual satisfaction as a dependent variable.

Sprecher (2001) created a hypothesized study that used quantitative methodology to examine the effects of social exchange characteristics (e.g., equity, rewards, investments, and alternatives) on relationship satisfaction, commitment, and stability over time. Sprecher (2001) obtained a sample of 101 dyads at Time 1. The first

follow up questionnaire occurred six months after the initial questionnaire. After which, subsequent questionnaires provided sample couples the opportunity to report on variables over the next three years. At the end of the study, 38 women and 36 men remained in relationships.

Sprecher (2001) used intercorrelations to examine the independent variables of exchange variables of males and females, separately, at each data collection time point. Sprecher (2001) used multiple regressions to examine equity's unique contributions to relationship satisfaction and commitment. Further, Sprecher (2001) used multiple regression analysis to explore the unique contributions of equity to the prediction of relationship satisfaction and commitment. Finally, Sprecher (2001) used regression analysis to examine the longitudinal data for predictive characteristics of satisfaction and commitment over time.

Several results promoted insight into the roles social exchange variables play within dating couple relationships over a long period. First, under-benefiting and over-benefiting variables remained negatively correlated throughout the study. Under-benefiting perception of the relationship produced negative correlations to rewards, nonsignificance to investment, and positive correlations to alternatives. Further, rewards and investments produced positive correlations. Multiple regression of the role equity played in satisfaction and commitment produced a negative correlation between satisfaction and commitment and under-benefiting inequity. Therefore, the higher satisfaction and commitment scores correlated with lower scores on under-benefiting inequity. Exchange variables produced significant unique contributions to satisfaction and commitment of men and women.

Further, Sprecher (2001) used multiple regression to explore equity, commitment, and satisfaction's predictive nature over time. Time 1 relationship satisfaction predicted relationship satisfaction at time 2. Also, time 1 commitment predicted time 2 commitment. Equity did not produce significant predictive ability of either relationship satisfaction or commitment between time 1 and time 2. Other regression analyses produced significant results for males reporting under-benefiting inequity at time 3 predicted male satisfaction and commitment at time 4. Females reported time 1 perceptions of rewards predicted time 2 satisfaction ($p < .05$) and commitment ($p = .055$). Also, investment (time 1) uniquely contributed to female commitment (time 2). Finally, Sprecher (2001) reported the level of commitment by the female produced the highest predictor of relationship dissolution.

Sprecher (2001) provided further evidence for the inclusion of social exchange theory as a theoretical basis within dyadic research. The influence of perceived equity had correlations with satisfaction and commitment. Also, the predictive characteristics of equity on relationship satisfaction and commitment produced promising findings on the importance of accounting for social exchange characteristics in research on couples. The results suggested that males and females reported relationship satisfaction and commitment to the current relationship negatively correlated with under benefiting inequity and alternatives. Alternatively, relationship satisfaction and commitment were positively correlated with rewards and investment in the relationship. Therefore, my study used the social exchange theoretical foundation of Sprecher (2001). According to Sprecher (2001), maintaining awareness of the equity of relationship dynamics continues to play a role in relationship satisfaction and commitment. The perceived rewards or

costs of equitable quality time spent together using the level of technoference echoed Sprecher's (2001) call for continued research on variables that may produce rewards or costs that partners analyzed as equitable or inequitable. Also, my study built on the data analysis of Sprecher's (2001) study by utilizing APIM as a more rigorous analysis package that affords analysis of data that breaks a cardinal rule of traditional data analysis: nonindependence. Further, my study involved dyadic data from couples ranging in age from 18 to 35 and involved dating, cohabitating, engaged, and married dyads.

Interpersonal Exchange Model of Sexual Satisfaction (IEMSS; Lawrance & Byers, 1995). The IEMSS utilized social exchange theory (Thibaut & Kelley, 1959) as a foundational theory to explain an individual's and couple's experience of sexual satisfaction based on rewards and costs within the sexual relationship. The IEMSS accounted for the perceived rewards and costs of the sexual relationship, the comparison level of expected rewards and costs versus actual rewards and costs, the equality of rewards and costs between partners, and the relationship satisfaction of the couple (Byers, 2001; Lawrance & Byers, 1995). Further, the IEMSS accounted for the historical nature of sexual interactions between partners to assist in the development and perceptions of sexual rewards and costs in the present (Byers & MacNeil, 2006).

Byers (2001) discussed the use of the IEMSS to examine the dyadic nature associated with sexual relationships and the potential sexual satisfaction created through the interactions of four factors consistent with Thibaut and Kelley's (1959) social exchange model and Lawarance and Byers' (1995) IEMSS. As such, Byers (2001) argued for the use of social exchange theory when researching sexual satisfaction of

dyadic couples because of the behavioral, affective, and cognitive components that influenced the perceived rewards and costs within the relationship. Further, Byers (2001) perpetuated the notion that partners utilized historical experiences of sexual rewards and costs to analyze the equality of sexual exchange components. Finally, Byers (2001) recognized the high correlation between relationship satisfaction and sexual satisfaction. As such, Byers (2001) argued for the continued combination of relationship satisfaction and sexual satisfaction when implementing dyadic research. For example, women's perception of relationship satisfaction correlated higher with their sexual satisfaction than sexual rewards and costs (Byers, 2001).

Lawrance and Byers (1995) created a hypothesized study using quantitative methodology to examine the validity of the IEMSS among heterosexual individuals in long-term, sexually active relationships. Lawrance and Byers (1995) used data from one person from the dyad at two time points (initial and 3-month follow-up). The sample consisted of 244 participants (94 men and 150 women) from a medium-sized Canadian university and the surrounding community. Males were significantly older than female participants. The participants reported their current relationship duration between 1 and 40 years with the majority married. Seventy-one percent of the respondents reported children in the home.

Lawrance and Byers (1995) performed two multivariate analyses of variance (MANOVA) to compare the sample characteristics between respondents of Time 1 and Time 2. The results suggested no significant differences between the two time points. Hierarchical regression analysis of sexual exchange characteristics, relationship satisfaction, and sexual satisfaction, between Time 1 and Time 2, produced significant

results. To further explore characteristics associated with sexual exchange and sexual satisfaction and relationship satisfaction, Lawrance and Byers (1995) input gender, relationship variables, and child status into the model and ran separate hierarchical regression analyses. Finally, Lawrance and Byers (1995) used a two-step hierarchical regression to analyze the predictive nature of sexual satisfaction and sexual exchanges on relationship satisfaction.

Lawrance and Byers (1995) found no significant changes to the model when the researchers added gender to the prediction of sexual satisfaction. Further, relationship satisfaction uniquely added to the prediction of sexual satisfaction. Adding relationship satisfaction and sexual exchange characteristics into the model explained 79% of the variance of sexual satisfaction. Further, child status did not significantly improve predicted sexual satisfaction; however, the inequality of childrearing (costs) produced less sexually satisfied responses. Finally, Lawrance and Byers (1995) conducted a two-step hierarchical analysis to examine the contributions of sexual exchange characteristics and sexual satisfaction to relationship satisfaction. Individually, the IEMSS components explained 40% of the variance of relationship satisfaction, while sexual satisfaction added 9% of the explained variance of relationship satisfaction.

Lawrance and Byers (1995) produced unique findings of the components involved in relationship and sexual satisfaction through the theoretical orientation of the IEMSS. Subjective analyses of rewards and costs by the participants provided support for the use of social exchange theory when conducting relationship and sexual satisfaction research. As such, the Lawrance and Byers (1995) extracted the validity of the Global Measure of Relationship Satisfaction and the Global Measure of Sexual

Satisfaction as parts of the IEMSS questionnaire and as independent assessments. By using two separate samples, Lawrance and Byers (1995) justified the use of sexual rewards and costs as explanatory variables of sexual satisfaction and paved the way for future studies to explore alternative variables and their effects on relationship and sexual satisfaction.

I followed Lawrance and Byers' (1995) study by focusing on the rewards and costs of behaviors that correlated with relationship satisfaction and correlated with sexual satisfaction. As such, I explored the potential costs afforded by technoference on relationship satisfaction and sexual satisfaction by young adult couples. Further, I addressed the dyadic nature of romantic relationships (i.e., interdependence) by using both partners' scores on technoference to explore the potential actor and partner effects on relationship and sexual satisfaction scores using APIM to account for the participants' interdependence.

Byers and MacNeil (2006) performed two hypothesized studies using quantitative methodology to validate the IEMSS for long-term couples further. The two studies utilized different populations to conduct analyses related to the perceived rewards and costs within the sexual relationship. The first study used 79 individuals to study the correlations between the history of sexual exchanges and sexual satisfaction over three time points (initial, 3-month, and 18-month follow-up). Further, the first study examined the participants' perceptions of how fluctuations in rewards and costs correlated with the level of perceived sexual satisfaction. The second study used 104 dyads to examine partner effects of rewards and costs on an individuals' own sexual satisfaction and own perception of rewards and costs.

Byers and MacNeil (2006) conducted hierarchical multiple regression analyses to predict sexual satisfaction at the 18-month follow up. Byers and MacNeil (2006) followed two steps: 1) entered Time 3 relationship satisfaction and 2) entered Time 3 sexual exchange characteristics. Secondly, Byers and MacNeil (2006) examined if sexual exchange characteristics correlated with sexual satisfaction and to see if sexual exchange characteristics added any additional variance to the model. Third, Byers and MacNeil (2006) used a 2 (gender) x 3 (time) repeated measures analysis of variance (ANOVA) to examine if a change occurred for sexual satisfaction over the 18 months. Also, Byers and MacNeil (2006) implemented a 2 x 3 MANOVA to examine changes over time of sexual exchanges.

The hierarchical multiple regression produced results suggesting individuals with higher levels of relationship satisfaction also reported higher levels of sexual satisfaction (39% of variance). Further, adding sexual exchange characteristics to the model added 32% of explained variance to the 18-month sexual satisfaction scores. Also, Byers and MacNeil (2006) found that the equality of rewards and costs experienced over the 18 months affected sexual satisfaction. The repeated measures ANOVAs and MANOVAs produced nonsignificant results.

The results of the first study produced further validation of the need to account for perceived rewards and costs within relationship and sexual relationships. The importance of the first study provided evidence for the importance of equality of perceived rewards and costs between partners. Finally, the first study provided evidence of the need for the second study.

Byers and MacNeil's (2006) second study examined how significant partner effects of sexual exchange were to the other partner's own sexual exchanges. The novelty of the second study encompassed information from both couples within the dyad. Byers and MacNeil (2006) used a one-way MANOVA to examine the correlations between female sexual satisfaction and sexual exchanges and their male partner's sexual satisfaction and sexual exchanges. Furthermore, Byers and MacNeil (2006) used hierarchical multiple regression analysis to explore the potential predictive nature of partner sexual exchanges to their own sexual satisfaction.

Byers and MacNeil (2006) found significant correlations between females' sexual satisfaction and sexual exchanges and their male partners' sexual satisfaction and sexual exchanges. Using ANOVAs, Byers and MacNeil (2006) reported females expressing higher levels of sexual satisfaction and lower levels of sexual exchange equality, compared to males. The results of the hierarchical multiple regression analysis produced significant findings for correlations between relationship satisfaction scores and sexual satisfaction scores. Further, when Byers and MacNeil (2006) added sexual exchange characteristics to the model, the characteristics significantly added to the prediction of females' sexual satisfaction, with rewards and costs uniquely contributing to female sexual satisfaction. Further, male sexual exchange added to their female partner's sexual satisfaction. Also, male perceived sexual rewards and costs predicted their partner's sexual satisfaction more than female self-reported rewards and costs predicted their own sexual satisfaction. Finally, Byers and MacNeil (2006) examined partner effects (female) on male sexual satisfaction. Byers and MacNeil (2006) found similar results to when females were the unit of analysis and males were in the partner role.

Byers and MacNeil's (2006) study produced evidence for the inclusion of the theoretical framework of social exchange theories when examining dyadic relationships. Further, the researchers provided a rationale for future studies involving sexual satisfaction to include relationship satisfaction in studies concerning sexual satisfaction through the correlations between the two constructs. Byers and MacNeil's (2006) study provided a springboard for my study. As such, my study extended the results of Byers and MacNeil's (2006) study by examining the correlations between technoference and relationship satisfaction and sexual satisfaction among young adult couples. Further, my study extended Byers and MacNeil's (2006) studies by using both partners of the couple as the level of analysis within actor-partner interdependence modeling (APIM). As such, APIM accounted for the interdependence of couples. Though Byers and MacNeil (2006) used dyadic data, a critique of their study suggested the need to use more rigorous analysis packages to extract further correlational data between partners concerning the constructs under study (i.e., technoference, relationship satisfaction, and sexual satisfaction).

Stephenson and Meston (2011) created a hypothesized study using quantitative methodology to examine the effects of sexual functioning on sexual rewards and costs and sexual satisfaction of a sample of undergraduate women. Further, Stephenson and Meston (2011) studied the potential causal role adult attachment anxiety to the indirect effect of sexual functioning on sexual rewards and costs and sexual satisfaction. Stephenson and Meston (2011) used the IEMSS as a theoretical framework for their exploration of the rewards and costs associated with sexual satisfaction among 200 undergraduate females currently in sexually-active, heterosexual relationships. The

female participants reported an average age of 20.25 years old and were primarily Caucasian (54.5%).

Stephenson and Meston (2011) used simple indirect effects models and simple path analysis modeling to examine correlations between a path model of sexual costs to sexual functioning to sexual satisfaction. Stephenson and Meston (2011) utilized bootstrapped confidence intervals with 5,000 resampling to examine the indirect effects. Also, Stephenson and Meston (2011) used a conditional indirect effects model to examine the moderating role of attachment anxiety on the previously mentioned path model. Simply stated, Stephenson and Meston (2011) added a moderator variable to the path model.

The results of the two models illuminated findings between sexual costs, sexual functioning, attachment anxiety, and sexual satisfaction. The first model examining the indirect effects were significant with 95% confidence; however, the researchers reported an overlap of zero at 99% confidence. Therefore, the indirect path of sexual costs affecting sexual satisfaction through sexual functioning at the $\alpha = .05$ level resulted in significant findings. Secondly, Stephenson and Meston (2011) reported a significant correlation between perceived sexual costs, attachment anxiety, and sexual functioning, yet *moderate significance* ($\alpha = .06$) between sexual functioning, sexual anxiety, and sexual satisfaction. Finally, Stephenson and Meston (2011) used bootstrapping to examine how the levels of attachment anxiety (low, average, and high) affected the path of sexual costs, sexual functioning, and sexual satisfaction. The results suggested that sexual functioning affected the path between sexual costs and sexual satisfaction for low

or average levels of attachment anxiety among females, but not for high levels of attachment anxiety.

Stephenson and Meston (2011) provided further validation of the IEMSS by examining the effects of sexual costs on sexual functioning and sexual satisfaction. The results produced further evidence for the continued need to examine how perceived rewards and costs correlated with sexual satisfaction. My study accounted for the potential sexual costs afforded by technoference (Coyne et al., 2011) while adding novelty to research associated with relationship satisfaction, sexual satisfaction, and technoference.

Comparing View Points

Historically, researchers studied and found relationship satisfaction to be a predictive factor in individual happiness and relationship and marital dissolution. The authors of the studies mentioned above concluded the importance of the continued scholarship to examine relationship satisfaction, sexual satisfaction, and technoference and set the stage for the current study to explore the unique correlations between the constructs. Social exchange theory and previous research on technoference (Coyne et al., 2012; McDaniel et al., 2018; Thibaut & Kelley, 1959) provided the rationale to exam how technoference correlated with relationship satisfaction and sexual satisfaction. Most of the researchers used relationship satisfaction and sexual satisfaction as dependent variables or a primary construct within their research.

Further, technoference showed promise as an independent variable to study its correlations to relationship interaction and potentially deleterious effects on relationship development and sustainment in future studies. Each study promoted the need for further

research on variables associated with relationship satisfaction and sexual satisfaction. While the articles provided insight into the development of relationship satisfaction and sexual satisfaction, the methods and paths used to examine relationship satisfaction, sexual satisfaction, and technoference differed.

Contrasting View Points

Different authors used differing theoretical orientations to explain the role relationship satisfaction, sexual satisfaction, and technoference had in relationships (e.g., investment theory, social exchange theory, similarity theory). Also, researchers used different explanatory variables to examine their effects on and correlations to relationship satisfaction and sexual satisfaction. The methodology (i.e., quantitative and qualitative) differed among the literature associated with relationship satisfaction, sexual satisfaction, and technoference.

Each methodology provided information on differing characteristics to promote understanding of relationship satisfaction, sexual satisfaction, and technoference, yet no *a priori* method established a better understanding of the constructs under study as quantitative and qualitative methodologies each contributed to the development of relationship satisfaction, sexual satisfaction, and technoference theories. Also, researchers used different forms of data analysis to explore the effects of different variables on relationship satisfaction and sexual satisfaction and the correlations and effects of technoference on dependent variables (e.g., actor-partner interdependence modeling, path analysis).

Although the actor-partner interdependence model provided greater depth in data analysis of couples, researchers continued to utilize different analysis packages to

examine different effects (e.g., multivariate analysis and structural equation modeling). Also, research suggested that different age ranges and relationship length may have different correlations and causations to relationship satisfaction. Finally, contrasting opinions on gender differences promoted the need for further analysis of variables associated with relationship satisfaction, sexual satisfaction, and technoference.

Summary

A large portion of the relationship satisfaction literature focused on the examination of variables to expand the understanding of their effects and correlations. Multiple authors encouraged the continued exploration of novel variables and their correlations with relationship satisfaction and sexual satisfaction. Also, authors promoted the use of different samples to obtain a wider breadth of information on perceptions of relationship satisfaction, sexual satisfaction, and technoference, and observe the socially-created cultural dynamics at play within dyadic relationship development.

Therefore, the purpose of this study heeded the call of previous researchers to establish an understanding of the correlations between factors that potentially promote or suppress relationship development and sustainment. Further, the current study specifically focused on young adult heterosexual and same-sex couples in a mutually exclusive romantic relationship between the ages of 18 to 35 who either date, but live separately, cohabitate, are engaged, or are married. The upcoming chapters provide information on the methodology, results of the study, and implications for future research.

CHAPTER THREE METHODOLOGY

In Chapter Three, I supply an in-depth description of the methodology. The current study design is a survey-based quantitative approach to examining the correlations between technoference and relationship and sexual satisfaction of young adult couples. Therefore, the aims of the current chapter are to: (a) provide the rationale for the use of a survey-based, correlational design; (b) explain and justify the setting and target population; (c) discuss and justify the instruments used; (d) describe the data collection procedures; (e) provide descriptive statistics of the sample; and (f) explain the measures I took to maintain the ethical responsibilities of confidentiality and protection of participants' rights (ACA, 2014).

Research Design

In this study, I focused on the correlational nature among relationship satisfaction, sexual satisfaction, and technoference by implementing a descriptive correlational survey research design. By using a descriptive correlational survey design, I investigated quantified variables (i.e., technoference, relationship satisfaction, and sexual satisfaction) within the participants' environments (Heppner et al., 2016). As such, Mustanski (2001) proposed using the participants' natural environments as the survey setting to reduce stress surrounding survey foci, especially sexually-based topics (Seifert, Boulas, Huss, & Scalora, 2017).

Therefore, I followed previous researchers (e.g., Mark et al., 2013; McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018; van den Brink et al., 2018) in developing a descriptive correlational survey design to explore dyadic associations of relationship satisfaction, sexual satisfaction, and technoference. Even with the established research of correlational variables on relationship satisfaction and sexual satisfaction, there were no studies related to the correlations of technoference and relationship satisfaction and sexual satisfaction among young adult couples, with data from both partners.

I used relationship and sexual satisfaction literature to guide the theoretical basis for the use of a quantitative study. Researchers operationally defined relationship satisfaction, sexual satisfaction, and technoference (see below) to quantify the subjective perspectives and experiences of individuals in relationships. As such, quantitative methodology allowed the researcher to establish facts; therefore, the researcher promoted the notion of *known truths* and facts to be measured and quantified (Heppner et al., 2016). Establishment of facts occurred through the use of structured and detailed studies that incorporated large sample sizes with samples randomly selected.

Heppner et al. (2016) discussed several methodological assumptions of quantitative studies. First, I used the literature review to guide methodology development and the constructs under study. The *outside-in* approach provided the necessary guidance for the implementation of a correlational research design to explore the correlations between technoference and relationship and sexual satisfaction. I also used previous researchers' reports of instrument validity to validate the TILES, RDAS, and GMSEX. Finally, I provided reliability statements (i.e., Cronbach's alpha) of the assessments. I

utilized quantitative methodology with the previously mentioned assumptions in mind to answer the research questions and produce reputable and replicable results.

Research Questions and Hypotheses

Based on the literature review and the research design, I proposed the following research questions and hypotheses to guide my research:

1) How does technoference, as measured in dyads by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their own scores of relationship satisfaction, as measured by the Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995)?

Hypothesis: An individual's technoference score will be negatively correlated with their own relationship satisfaction score. (McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018).

2) How does technoference, as measured in dyads by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their partner's score on relationship satisfaction, as measured by the Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995)?

Hypothesis: An individual's technoference score will be negatively correlated with their partner's relationship satisfaction score (McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018).

3) How does technoference, as measured in dyads by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their own sexual satisfaction, as measured by the Global Measure of Sexual Satisfaction score (GMSEX; Lawrance & Byers, 1995)?

Hypothesis: An individual's own technoference score will be negatively correlated with their own sexual satisfaction score.

4) How does technoference, as measured in dyads by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their partner's sexual satisfaction, as measured by the Global Measure of Sexual Satisfaction score (GMSEX; Lawrance & Byers, 1995)?

Hypothesis: An individual's technoference score will be negatively correlated with their partner's sexual satisfaction score (Campbell & Murray, 2015; Hertlein, 2010; Murray & Campbell, 2015).

Setting and Sample

Sample Size

The use of dyadic participant data to examine the correlations among technoference, relationship satisfaction, and sexual satisfaction required an appropriate data analysis package (hierarchical linear modeling) to extrapolate the data for interpretation. Further, the use of individuals nested in dyads to examine the potential effects of partners independent variable scores on dependent variable scores required the use of actor-partner interdependence modeling (Kenny et al., 2006). Raudenbush and Bryk (2002) explained the need for large sample sizes when utilizing HLM analyses for nested data. As such, previous research utilizing dyadic data produced a broad range of sample sizes. For instance, Matsuda (2017) and Matsuda et al. (2014) reported the use of 40 couples as the sample size for Hierarchical Linear Modeling (HLM), while Hromatko, Bajoghli, Rebernajk, Joshaghani, & Tardinac (2015) used 198 couples in their study.

Wendorf (2002) utilized dyadic data from 348 married couples to perform both HLM and structural equation modeling (SEM).

As such, Kenny et al. (2006) recommended a minimum sample size of 200 couples (*N*=400 individuals) when using actor-partner interdependence modeling (APIM). Kenny and Ackerman (n.d., http://robert-ackerman.shinyapps.io/APIMPowerR/), using Beta as the effect size measure, suggested a sample size of 218 couples (436 individuals) for the current study to obtain a desired actor effect size of .25 and partner effect size of .15 and a desired power of 0.8. After the implementation of sampling methods, 158 couples (316 individuals) completed the survey. Therefore, the study results were underpowered.

Power and effect size. Statistical power equated to the likelihood of finding a statistically significant result when one existed (Nelson, Wooditch, & Dario, 2015). Alternatively said, higher statistical power reduced the risk of committing a Type II error. Type II error occurred if the results were deemed nonsignificant when they actually were significant (Heppner et al., 2016; Kenny et al., 2006). Also, higher initial desired power reduced the risk of inflated effect-size estimates (Anderson, Kelley, & Maxwell, 2017).

Effect size provided descriptions of the size of an effect between observations (Fritz, Morris, & Richler, 2012). Concisely stated, the more significant the difference between observations, the larger the effect sizes (Fritz et al., 2012). As such, effect sizes provided information on the change between observations and for future studies concerning sample size (Cafri, Kromrey, & Brannick, 2010).

Sampling Method

After receiving institutional review board (IRB) approval (see Appendix A), I used multiple recruitment strategies to obtain a diverse and representative sample large enough for generalizable results. The sampling strategies included: face-to-face recruitment/advertisement in university classes, snowball sampling as a result of advertisement in university classes, and a web-based pool of participants through MTurk. After implementing the sampling strategies, I obtained a sample of 158 young adult couples.

Religious sampling. I initially advertised to nine religious establishments to gauge interest in allowing advertisement of the current study to couples in small groups. Five religious establishments expressed interest in learning more about the current study and how they may assist in advertisement of the study in their small couples' groups. After I advertised, in person, to three leaders of the religious establishments that showed interest in assisting with recruitment, they declined interest in further assistance. Another religious establishment leader reported interest in allowing advertisement through emailing their congregation, yet I declined that advertisement option as I could not calculate a response rate. The final leader that showed interest in assisting with advertising the current study did not respond to a follow up email to establish a time and date to meet their couples' classes. Three religious establishments did not respond to the initial email. The final religious establishment declined interest in participating in the current study.

Traditional sampling. The traditional sampling method involved face-to-face recruitment/advertisement to university classes. I also used Skype to advertise to two

additional classes at two other Southeastern universities. In-person recruitment included a 5-minute advertisement concerning study eligibility, the constructs under study, and the incentive attached to study completion. The individuals completed a recruitment/advertisement questionnaire with six questions that focused on interest (see Appendix B). The questionnaire asked the participants if they met the listed eligibility requirements and requested the individual to provide their email address if they were interested in participating in the study. Once the individuals completed the questionnaire, they folded their papers in half to protect their confidentiality during the questionnaire collection.

The first sampling source consisted of face-to-face recruitment from 20 undergraduate and graduate courses from three midsize to large Southeastern universities. From those 20 undergraduate and graduate level courses, I advertised to 1,134 potential participants who took the recruitment/interest questionnaire (see Appendix B). Of the 1,134 potential participants, 847 reported ineligibility to participate (i.e., did not meet age requirements, were not in a monogamous relationship, and/or not in a sexually-active relationship). The remaining 363 participants reported eligibility. Of the 363 participants who reported eligibility, 199 individuals expressed interest in participating in the study, while the other 164 eligible individuals declined participation in the study. I sent the 199 individuals who expressed interest in the study an Informed Consent email with the Qualtrics link to the study (see Appendix C). After the completion of the initial participant's survey (see Appendix D), their partner received a referred invitation email (see Appendix E). Forty-eight dyads completed the survey from face-to-face recruitment.

Snowball sampling. Snowball sampling occurred through various means. Previous researchers defined snowball sampling as study participants recruiting other participants from their social networks to take part in the study (Emerson, 2015; Marcus, Weigelt, Hergert, Gurt, & Gelléri, 2017). Furthermore, Biernacki and Waldorf (1981) promoted the use of snowball sampling as a means to obtain information from difficult populations. For example, the subject of couples' sexual satisfaction is often considered a sensitive subject that may be difficult to disclose (Brown & Weigel, 2018).

Snowball sampling *recruiters* consisted of participants who had either shown interest in participating themselves or explained they were ineligible (e.g., not in a monogamous relationship), yet asked if they could provide the information about the study to their social network (e.g., "What if we aren't in a relationship, but we have friends who are, can we give them this questionnaire?"). The *recruiters* reported the number of people they advertised the study (for response purposes). Also, the participants provided a link to an electronic recruitment/advertisement questionnaire identical to the in-person recruitment form. Furthermore, the link to the electronic recruitment/advertisement questionnaire provided a confidential route for potential participants to complete the recruitment/advertisement questionnaire.

By using snowball sampling, I obtained 102 additional potential participant dyads. Of the 102 potential participant dyads, 63 "dyads" reported eligibility in the study. Thirty-nine individuals did not meet the eligibility requirements. The 63 "dyads" were emailed Informed Consent emails, along with emails sent to their partners if the initial participant completed the survey. Through snowball sampling, I added 14 dyads The resulting sample from snowball sampling created 14 more dyads for inclusion in the

data analysis. Therefore, the total response rate for face-to-face (46 dyads) and snowball sampling (14 dyads) is 14.1%. I did not include MTurk sampling to calculate response rate because I was unable to calculate the number of MTurk *workers* that saw the advertisement for the study and met eligibility versus the number of *workers* and partners who actually completed the survey.

Web-based sampling. Utilizing web-based sampling methods from online participant pools became popular with the advent of crowdsourcing internet platforms (Lovett, Bajaba, Lovett, & Simmering, 2017). Researchers defined crowdsourcing as a business approach to solve problems or obtain answers to a problem from other people (Sheehan, 2018). For example, MTurk comprised upwards of 500,000 *workers* (individuals who complete surveys or tasks) that researchers utilized to complete studies on a wide range of topics (Buhrmester, Talaifar, & Gosling, 2018). As such, Buhrmester et al. (2018) reported over 500 peer-reviewed counseling research articles that the authors used MTurk to gather their samples. However, dyadic research using web-sourced sampling pools is low because of the difficulty in obtaining valid results of couples from MTurk due to MTurk being an individually-based workforce. I used a crowdsourcing dyadic research guide (e.g., Krumholtz, Moss, & Litman, 2018) to set up the dyadic study through MTurk.

I used similar recruitment strategies for MTurk recruitment as the face-to-face recruitment strategy with obvious changes to account for the web-based platform. The change to recruitment occurred within the advertisement of the study on the MTurk website (see Appendix F). MTurk participants consisted of MTurk *workers* and their partners. Two hundred twenty-one MTurk *workers* reported interest in the study and

took study survey A with the *worker* demographic questionnaire for MTurk *workers* (Appendix G). After MTurk *workers* completed the survey, their partners completed the partner survey and demographic questionnaire (survey B) (see Appendix H). As a result, 56 *workers* and their partners did not complete the survey as the *worker* answered *yes* to the first question ("Were you referred to take this survey by your partner?") and caused them to be ineligible to complete the survey. Eleven participant *workers* did not complete the survey. Furthermore, 56 *worker* partners did not complete the *partner* survey. Therefore, 98 MTurk couples completed the study.

Eligibility Criteria of Participants

As previously mentioned in Chapter 1, I followed previous researchers when studying young adult couples by focusing on the age range 18 to 35 (Canu et al., 2014; Johnson et al., 2015; Schade et al., 2013; van Dulmen & Goncy, 2010; Wong, 2017). Although individuals under 18 and over 35 may provide further understanding and generalizability of the study (Pew Research Center, 2018), the purpose of this study focused on the correlational nature of technoference, relationship satisfaction, and sexual satisfaction among young adult couples, aged 18 to 35. Tuval-Mashiach and Shulman (2006) found higher levels of interdependence among young adult couples as opposed to adolescence in dating relationships. Tuval-Mashiach and Shulman (2006) suggested the need to differentiate from adolescent relationships and young adult couples as their ability to examine problems in the relationship differed based on the age of the couple.

I excluded individuals below 18 from the current study as models of relationship development suggest young adults begin seeking relationships in preparation for the potential of long-term relationships (e.g., cohabitating, engagement, and marriage)

(Tuval-Mashiach & Shulman, 2006). Erikson (1963) considered 18-year-olds to be transitioning to the developmental stage of Intimacy versus Insolation. Therefore, individuals have a clearer understanding of relationship satisfaction from the frame of seeking long-term relationships that cultivate greater relationship and sexual satisfaction over time while incorporating awareness of the development of interdependence.

Secondly, I excluded individuals not in a current relationship. In future studies, non-coupled individuals may provide a comparison group to couples; however, for this study, coupled Millennials provided information on relationship priorities and their influence on current relationship satisfaction and sexual satisfaction. Furthermore, several reseachers (e.g., Canu et al., 2014; Johnson et al., 2015; Schade et al., 2013; van Dulmen & Goncy, 2010; Wong, 2017) found variability in young adult couples' perceptions of relationship satisfaction.

Finally, I examined the potential influences of technoference on sexual satisfaction. Therefore, I excluded couples not in a sexually active relationship. As such, if a couple reported a nonsexually-active relationship, they could not answer the GMSEX (Lawrance & Byers, 1995).

Full Sample Descriptive Statistics

Response rate. The response rate for face-to-face and snowball sampling computed to 14.1%. Response rate accounted for the number of eligible participants versus the eligible participants who completed the assessments (Heppner et al., 2016). Combined, face-to-face and snowball sampling captured responses from 60 dyads against 426 eligible dyads. As such, Andrews, Nonnecke and Peece (2003) reported a 10-20% common response rate for correlational survey design studies.

To increase sample size, I used MTurk as a platform to advertise my study to a pool of potential participants. MTurk participants consisted of MTurk *workers* and their partners. 221 MTurk *workers* reported interest in the study and took study survey A for MTurk *workers* (Appendix F). Ninety-eight *workers* and their partners completed the study.

Relationship status. The participants reported their relationship status from four options: dating, cohabitating, engaged, or married. The breakdown of relationship status consisted of 143 (45.3%) dating individuals, 97 (30.7%) married individuals, 47 (14.9%) cohabitating individuals, and 29 (9.2%) engaged individuals (see Table 3.1). Figure 3.1 provided a visual representation of the distribution of relationship statuses.

Sexually-active status. An eligibility requirement for participation in the study involved being sexually-active. To avoid setting too strict of parameters surrounding the definition of sexual activity, the participants defined sexual activity in their own terms, because previous researchers suggested the definitions of what constituted sexual activity

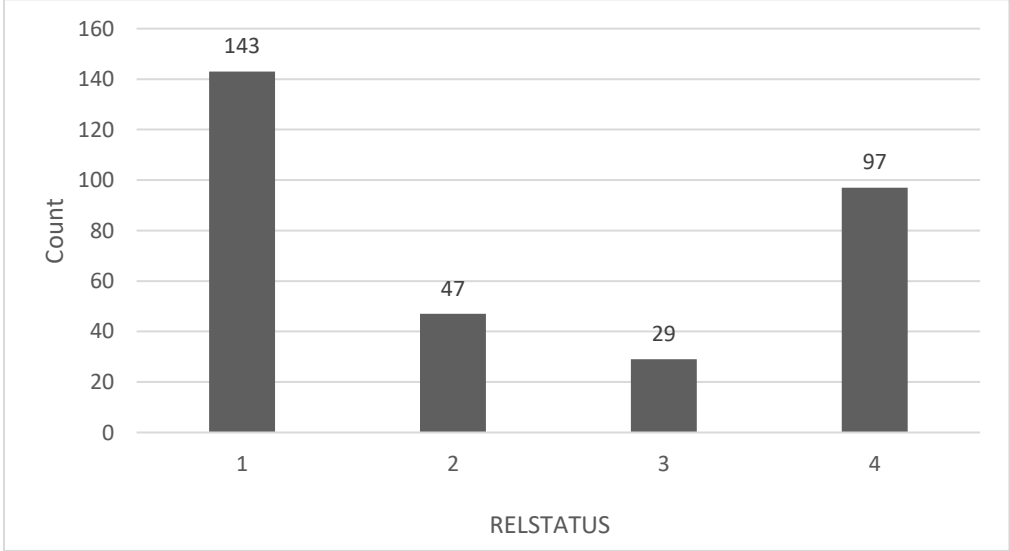

Figure 3.1 Bar graph of the number of participants per relationship statuses

were ambiguous and sometimes multiplicative definitions for different people (Hamill & Chepko, 2005; Horowitz & Spicer, 2013; Sewell, McGarrity, & Strassberg, 2017). Furthermore, the GMSEX did not explicitly define sexual activity and instead, asked participants their subjective perceptions of their *sexual relationship* without defining what the sexual relationship meant (Lawrance & Byers, 1995; Lawrance, Byers, & Cohen, 2011). All 316 participants reported being sexually active.

Age. The eligible age range of both members of the couple fell between 18 and 35. The age range remained consistent with previous research surrounding young adult couples (e.g., Canu, Tabor, Michael, Bazzini, & Elmore, 2014; Johnson, Nguyen, Anderson, Liu, & Vennum, 2015; Schade et al., 2013; van Dulmen & Goncy, 2010; Wong, 2017). The mean and standard deviation of age were 26.29 and 5.15, respectively (see Table 3.1).

Table 3.1 Study sample descriptive statistics

Characteristic	N (%)	M	SD	Range
Relationship Status				
Dating	143 (45.3)			
Cohabitating	47 (14.9)			
Engaged	29 (9.2)			
Married	97(30.7)			
Race				
White	226 (71.5)			
Black	14 (4.4)			
Hispanic (Non-White)	17 (5.4)			
Asian	42 (13.3)			
Native Hawaiian/Pacific Islander	3 (0.9)			
Other	17 (4.3)			
Sexual Orientation				
Heterosexual	308 (97.5)			
Same-sex	8 (2.5)			
Gender				

Male	160 (50.6)			
Female	155 (49.1)			
Transgender	1 (0.3)			
Age	316	26.29	5.15	18 - 35
Relationship Length	316	48.36	45.34	1 - 216

Race. The participants had the option to choose one or more racial descriptions. The racial makeup of the sample consisted of 226 (71.5%) Caucasian, 42 (13.3%) Asian, 17 (5.4%) Hispanic, 14 (4.4%) African American, 3 (0.9%) Native American/Pacific Islander, and 17 (5.4%) described themselves as *Other* and provided their racial description or marked more than one racial descriptor.

Relationship sexual orientation. Both heterosexual and same-sex couples were invited to participate in the study. Of the 158 dyads, 154 dyads (304 individuals) described their relationship as heterosexual, and 4 couples (8 individuals) reported same-sex relationships (see Table 3.1). Same-sex relationships comprised 1 female and 3 male couples.

Gender. Incorporating same-sex couples in the study produced unequal proportions of men and women. Furthermore, I included an option to identify as transgender. 160 (50.6%) males, 155 (49.1%) females, and 1 (.3%) transgender male completed the survey (see Table 3.1).

Length of relationship in months. The participants answered the length of relationship question by delineating the length in either months or years. I converted participant responses in years to months (12 x number of years of participant response) to create a consolidated measure of length of relationship. Furthermore, the participants who reported dating for less than one year required the use of months as the length of relationship value.

The length of relationship ranged from 1 month to 216 months. The mean and standard deviation of relationship length was 48.36 and 45.34 (see Table 3.1). Therefore, a large proportion of sample participants reported shorter relationship lengths. For example, 57.6% (182) participants reported being in a relationship of 1 to 36 months (see Figure 3.2).

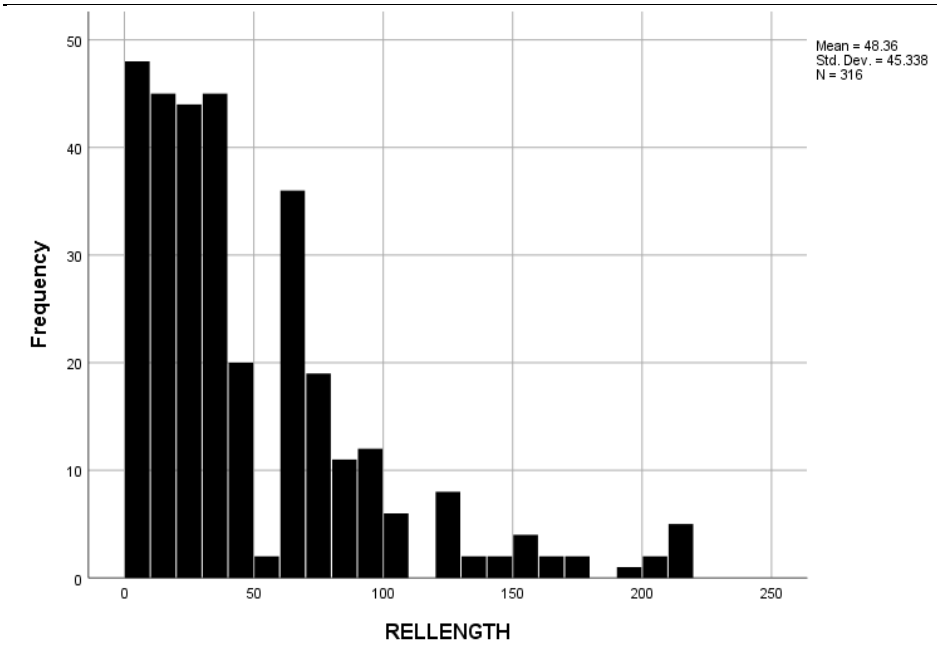

Figure 3.2 Histogram of dyad relationship lengths

Face-to-Face and Snowball Sample Descriptive Statistics

The face-to-face and snowball sampling participants consisted of 60 dyads (120 individuals). The majority of face-to-face and snowball participants consisted of dating (79), White (102), and heterosexual (118) individuals (see Table 3.2). The mean and standard deviation of age were 22.67 and 4.73, respectively. The low age mean coincided with further statistical analysis of the face-to-face and snowball sample, as 50% of the participants reported being between 18 and 20. The mean and standard

deviation of the face-to-face and snowball sample length of relationship were 33.63, or a little less than three years and 36.13 months, respectively.

Table 3.2 Descriptive statistics of the face-to-face and snowball sample

Characteristic	N (%)	M	SD	Range
Relationship Status				
Dating	79 (65.8)			
Cohabitating	6 (5.0)			
Engaged	9 (7.5)			
Married	26 (21.7)			
Race				
White	102 (85.0)			
Black	5 (4.2)			
Hispanic (Non-White)	2 (1.7)			
Asian	5 (4.2)			
Native Hawaiian/Pacific Islander	1 (0.8)			
Other	5 (4.2)			
Sexual Orientation				
Heterosexual	118 (98.3)			
Same-sex	2 (1.7)			
Gender				
Male	58 (48.3)			
Female	62 (51.7)			
Transgender	0 (0)			
Age	120	22.67	4.73	18-35
Relationship Length	120	33.63	36.13	1-216

MTurk Sample Descriptive Statistics

I incorporated an MTurk sample to increase the sample size and increase the age representation of the total sample. I obtained 98 dyads (196 individuals) from advertising from three batches, with a parameter of age range (i.e., 18-25 [45 participants], 25-30 [50 participants], and 30-35 [45 participants]). The majority of MTurk participants were White (124) and heterosexual (190). Married participants represented the highest proportion of respondents on relationship status (see Table 3.3).

Table 3.3 Descriptive statistics of MTurk sample

Characteristic	N (%)	M	SD	Range
Relationship Status				
Dating	64 (32.7)			
Cohabitating	41 (20.9)			
Engaged	20 (10.2)			
Married	71 (36.2)			
Race				
White	124 (63.3)			
Black	9 (4.6)			
Hispanic (Non-White)	15 (7.7)			
Asian	37 (18.9)			
Native Hawaiian/Pacific Islander	2 (1.0)			
Other	9 (4.6)			
Sexual Orientation				
Heterosexual	190 (96.9)			
Same-sex	6 (3.1)			
Gender				
Male	102 (52.0)			
Female	93 (47.4)			
Transgender	1 (0.5)			
Age	196	28.5	4.03	19-35
Relationship Length	196	57.4	48.04	5-216

Furthermore, compared to the face-to-face and snowball sample, the relationship status distribution of the MTurk participants were more evenly distributed. The mean and standard deviation of the age of the MTurk sample were 28.5 and 4.03, respectively. The ages of the participants were relatively evenly distributed between 23 and 35; however, no participants reported being 18 years old, while participants between 19 and 22 had the lowest representation. The mean and standard deviation of the MTurk sample were 57.38 and 48.04 months, respectively. The age and relationship length of the MTurk sample averaged higher compared to the face-to-face and snowball sample. As

such, I can infer the MTurk participants were, on average, older and in their relationships for longer than the face-to-face and snowball participants.

Instrumentation and Materials

Instrumentation

Demographic Questionnaire. The demographic questionnaire provided substance to the sample participants. As part of the demographic form, I incorporated inclusion information. The demographic form included questions about participants' relationship status with the partner who also performed the study, gender, and age, race/ethnicity, sexual orientation, length of the relationship (in months), and a question of if the couple is sexually-active.

Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a). TILES is a 5-item, 8-point Likert scale. Participants rate each item as: 0 (never), 1 (*less than once a* week), 2 (*once a* week), 3 (*once every few* days), 4 (*once a* day), 5 (*2 to 5 times a* day), 6 (*6 to 9 times a* day), 7 (*10 or more times a* day). McDaniel and Coyne (2016a) suggested TILES assessed an individual's subjective perspective of how often technology interferes with time spent with their significant other (e.g., "*My partner sends texts or emails to others during our face-to-face conversations*"). As such, McDaniel and Coyne (2016a) used a principal component analysis (PCA) to examine the factor loadings of the five questions produced by the authors (See Table 1.2.). The PCA produced one factor explaining 63% of the variance. The initial alpha coefficient equaled .85. Higher scores indicated higher perceived interference of technology in the relationship.

I chose TILES because it was the only scale in existence explicitly created to examine the effects of technoference on relationships. Secondly, previous research using TILES involved similar target populations and correlations of technoference to relationship satisfaction (e.g., Galovan, Drouin, & McDaniel, 2018; McDaniel et al., 2018). Third, McDaniel and Coyne (2016a) created TILES to be a subjective perspective of how technology effected time spent together and the subsequent correlations to relationship satisfaction. Finally, the scale brevity (5-items) meant it could be taken and scored quickly.

TILES had several limitations. The normed population consisted of 143 cohabitating or married women. The women were mainly Caucasian (89%), completed at least some college (82%), a mean age of 30, and middle class with a mean household income of $68,000. As such, generalizability to other ethnicities and women in relationships at different stages required further research. Finally, the wording of TILES required small changes to account for dyadic research. The original form focused on a female's perceptions of how often their male partner's use of technology interfered with their perception of quality time spent together. As such, I followed previous researchers (McDaniel et al., 2018) and changed the male-focused questions (e.g., During a typical mealtime that my partner and I spent together, my partner pulls out and checks *his* phone or mobile device) to gender neutral (During a typical mealtime that my partner and I spent together, my partner pulls out and checks *his/her/their* phone or mobile device) (B. McDaniel, personal communication, October, 1, 2018). Therefore, I followed previous studies (e.g., McDaniel et al., 2018) to explore male and female subjective perceptions of

how often technology interfered with time spent together and the potential correlations to relationship satisfaction sexual satisfaction.

TILES study results. The scores from the current study ranged from 0 to 35. The TILES mean and standard deviation were 16.43 and 16, respectively (see Table 3.4). The majority (96.8%) of participants (306) reported experiencing some form of technoference at some point in their relationships, while 10 participants (3.2%) reported experiencing no technoference. I summed and averaged TILES scores with higher scores indicating higher perceptions of technoference (actor cronbach's $\alpha = .87$ and partner cronbach's $\alpha = .85$).

Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995). As part of the Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS; Lawrance & Byers, 1992), Lawrance and Byers (1995) reported the GMSEX aligned with social exchange theory as a means of assessing an individual's cognitive and affective perceptions of costs and rewards to their sexual satisfaction within the relationship. Previous researchers provided evidence for the independent use of GMSEX being from the IEMSS as a unidimensional measure of sexual satisfaction (e.g., Byers, personal communication, 2018; Lawrance & Byers, 1995, 1998; Lawrance, Byers, & Cohen, 2011; McNicoll et al., 2017; Rancourt, Flynn, Bergeron, & Rosen 2017; Vannier & Rosen, 2017). The normed population included university students, alumni, and staff, and a community-based sample. Also, Sánchez-Fuentes, Santos-Iglesias, Byers, and Sierra (2015) produced a Spanish version of the IEMSS that included the GMSEX, while Sánchez-Fuentes & Sierra (2015) utilized the Spanish version of the GMSEX on their sample of heterosexual and same-sex couples.

Lawrance and Byers (1995) developed the GMSEX to measure an individual's level of sexual satisfaction within a relationship (i.e., "In general, how would you describe your sexual relationship with your partner?") by using five bipolar dimensions (i.e., *Very Bad-Very Good*, *Very Unpleasant-Very Pleasant*, *Very Negative-Very Positive*, *Very Unsatisfying-Very Satisfying*, and *Worthless-Very Valuable*) (Lawrance & Byers, 1992, 1995). Further, the individual answered the bipolar dimensions on a 7-point Likert scale format (1 to 7) (Lawrance & Byers, 1992, 1995). The scores ranged from 5 to 35, with higher scores representing higher levels of sexual satisfaction. Lawrance and Byers (1995) and Byers (2005) found high internal reliability among long-term relationships and student samples.

Lawrance and Byers (1995) found test-retest reliability of .84 at two-weeks, while Byers and MacNeil (2006) reported longitudinal test-retest reliability of .78 at three months and .73 at 18 months. Further, Mark et al. (2014) found test-retest reliability for the GMSEX at two-month follow up (initial $\alpha = .95$, two-month follow-up $\alpha = .96$). Mark et al. (2014) found the GMSEX to have the highest test-retest reliability compared to the Index of Sexual Satisfaction (ISS; Hudson, Harrison, & Crosscup, 1981), the New Sexual Satisfaction Scale-Short Form (NSSS-S; Štulhofer, Buško, & Brouillard, 2010), and a single-item assessment (Mark et al., 2014).

Lawrance and Byers (1995) reported construct validity with the ISS (Hudson, Harrison, & Crosscup, 1981) as the correlation produced $r = .65$, $p < .001$. Mark et al. (2014) furthered construct validity for the GMSEX with the NSSS-S, ISS, and a single-item assessment. Byers and MacNeil (2006) furthered GMSEX's validation with long-term heterosexual couples (dating and married).

I chose the GMSEX for the current study because of the excellent psychometric properties (Byers & MacNeil, 2006; Lawrance & Byers, 1995; Mark et al., 2014). Second, the brevity (5 items) coincided with the other assessments (i.e., 5-item TILES and 14-item RDAS). Third, the normed samples (i.e., college students, staff, alumni, and community participants) coincided with the current study's target population age range. Finally, previous researchers utilized the GMSEX within dyadic studies (e.g., Lykins et al., 2012; MacNeil & Byers, 2005; Rosen, Mooney, & Muise, 2017).

GMSEX study results. The scores in the current study ranged from 8 to 35. The mean and standard deviation of GMSEX scores were 31.46 and 4.77, respectively (see Table 3.4). The majority (44.9%) of participants (142) reported a score of 35. The GMSEX scores were summed and averaged with higher scores indicating higher levels of sexual satisfaction (actor cronbach's $\alpha = .94$ and partner cronbach's $\alpha = .89$).

Table 3.4 Instrument means, standard deviations, ranges, and Cronbach's alphas.

Instrument	*N* (%)	*M*	*SD*	Range	Actor Cronbach's α	Partner Cronbach's α
TILES	316	16.43	8.06	0 - 35	.87	.85
GMSEX	316	31.46	4.77	8 - 35	.94	.89
RDAS	316	49.96	8.88	18 - 67	.85	.85

Revised Dyadic Adjustment Scale (RDAS; Busby, Crane, Larson, & Christensen, 1995). Busby et al. (1995) developed the RDAS to assess the level of adjustment an individual has to their current relationship. The RDAS used 14 items on a Likert scale ranging from 0 to 5, except question 11 (i.e., "Do you and your mate engage in outside interests together?") which utilized a 0 to 4 scale. Busby et al. (1995) created the RDAS as a revised version of the Dyadic Adjustment Scale (Spanier, 1976) with

construct validity of $r = .97$ ($p < .01$), criterion validity, and discriminant validity during RDAS development.

The RDAS consisted of three subscales: the dyadic consensus scale, the dyadic satisfaction scale, and the dyadic cohesion scale. The dyadic consensus subscale measured the degree an individual perceives themselves and their partner to agree or disagree on a particular topic (e.g., "*Religious matters*"; "*Making major decisions*"). The dyadic satisfaction subscale consisted of questions aimed at obtaining an individual's perception of satisfaction in their current relationship (e.g., "*How often do you discuss terminating your relationship?*"). The dyadic cohesion subscale consisted of questions concerning an individual's perception of collaborative interaction with their partner (e.g., "*Do you and your mate engage in outside interests together?*").

Busby et al. (1995) reported a split-half reliability of .94 and discriminated between distressed and non-distressed individuals in relationships with a cut-off score of 48. Individual scores may range from 0-69. Scores of 48 and above indicated better levels of adjustment, while scores of 47 and below equated to lower levels of adjustment in the relationship. Due to the split-half reliability coefficient (.94), Busby et al. (1995) suggested the scale could be split into two forms. The population used in the development of the RDAS consisted of mainly Caucasian, middle class, first-time married, and well-educated couples.

I chose the RDAS due to the brevity and acceptable levels of psychometrics (Anderson et al., 2014; Busby et al., 1995). Busby et al. (1995) used clinical and nonclinical couples in the creation of the RDAS. Finally, the RDAS provided a cutoff

score to discern between distressed and non-distressed couples (Crane, Middleton, & Bean, 2000).

RDAS study results. Total scores in the current study ranged from 18 to 67. The study sample mean and standard deviation of the RDAS were 49.96 and 8.88, respectively (see Table 3.4). Using the mean (49.96) and cutoff scores of 47.31 (Anderson et al., 2014) and 48 (Busby et al., 1995), I found the majority of the sample participants to be clinically non-distressed. I summed and averaged the RDAS scores with higher scores representing higher dyadic adjustment (Anderson et al., 2014; Busby et al., 1995) (actor and partner cronbach's $\alpha = .85$).

Procedures

Setting and Materials

Because the descriptive correlational survey design promoted the use of the most natural setting for the survey to take place (due to the nature of the constructs under study [i.e., sexual satisfaction]), participants completed the web-based survey in the comfort of the participant's home or location of choice (e.g., library, computer lab, coffee shop, or any location that supported the use of a computer and provides internet access) (Heppner et al., 2016; Mark et al., 2013; Mustanski, 2001). Because of the potential sensitive material surveyed in the study, participants were reminded to remain wary of the location they chose to take the survey. Completion of the survey required access to an internet medium device (e.g., computer, tablet, or cell phone) and internet connectivity which reduced the generalizability of the results to those only with an internet medium device and internet access (Best, Krueger, Hubbard, & Smith, 2001). As such, the

abundance of internet access reduced the concern against the generalizability of internet-based studies (Pew Research Center, 2018).

Participant Survey Development

Traditional and snowball sampling processes. I used a computer-based program using the *Qualtrics* website to distribute the assessments in a streamlined approach. When the participants input the appropriate log-in information, directions were provided to complete the survey. I used the directions from the GMSEX, RDAS, and TILES to assist the participants in answering the questions appropriately. Therefore, I separated the inventories into four screens. The participants read the directions to each inventory and completed one inventory before moving on to the next questionnaire.

Further, I enacted a forced response rule to reduce the likelihood of missing data. Forced response required the participant to answer a question before being able to move to the next question. At the end of the survey assessments, I asked traditional and snowball sampling participants if they wanted an invitation to an incentive drawing for one of twenty $20 gift cards to Amazon, Walmart, or a restaurant of the participant's choosing if both partners completed the survey (Mark et al., 2013). MTurk restricted the possibility of providing the incentive drawing option as no identifying information of the MTurk workers or their partners could be asked. Therefore, once both partners completed the survey, the workers were approved, and payment submitted ($5 per couple's completion of the survey).

Data Collection Protocol

Traditional and snowball data collection. Because of the difficulty in obtaining a sample of dyadic data within the age range (18-35), Luo's (2009) and Mark et

al.'s (2013) sampling methods guided steps taken to ensure dyadic participation. After an individual reported interest in the study by providing their email address, I sent an email follow-up with a link to the study, further information about the study, and directions to complete the assessments independent of their partner (see Appendix C). After clicking the link to the study from the invitation email, the first page of the website provided further information about the study and a question if the participant is the first of the dyad to complete the assessment (i.e., *Were you referred to take this survey by your partner?*). If the participant answered *no*, they were provided a computer-generated, random number as their identification code for use in tracking and linking partners. Also, a prompt box appeared with a message encouraging the partner to write that number down. Another prompt box would appear requesting the participant's partner's *first name only* (for personalized email invitation only) (Muñoz-Leiva, Sánchez-Fernández, Montoro-Ríos, & Ibáñez-Zapata, 2010), their partner's email address to send the personalized study invitation email, and the participant's email address. I used the email addresses as a means of communication if an issue occurred that required clarification (i.e., participant entered their email when asked to input their partner's email) and as a point of contact if the participant entered the incentive drawing to send the winning gift cards. The participant then completed the survey assessments including the demographic form, TILES, GMSEX, RDAS, and incentive questions (see Appendix C).

The second participant received a personalized email invitation (see Appendix E) based on the results of their partner's referral information. I provided identical invitation emails to the initial and partner participants, except for two additions: (1) the partner's email explained the individual's *referred* status to the study to clarify how to

answer the first question of the survey (i.e., *Were you referred to take this survey by your partner*?) and (2) at the bottom of the referred invitation email, I provided the referred participant with their referred identification number (number generated by the computer for the initial participant plus -P) to link their responses to their partner's survey and the link to the survey (Huber, 2018). If the participant answered yes to the first question (i.e., *Were you referred to take this survey by your partner?*), they input their couple identification code provided to them in the invitation email (partner's identification code plus -P) to link the partners together (Huber, 2018). After which, the referred participant completed the survey.

MTurk data collection. The data collection procedures for MTurk dyads consisted of several steps to account for valid dyadic responses. The MTurk platform provided a fluid process to create and implement the dyadic survey. MTurk allowed parameters to be set surrounding the criteria for inclusion in the study. Also, the parameters provided a filter so only workers who met criteria could view the study. One shortcoming of the parameters surmounted to only being able to choose two *premium* criteria at a time (e.g., married and 18-24).

Furthermore, the only relationship parameter that met inclusion criteria for the study was "married." I chose the MTurk *premium* criteria age parameters of 18 to 25, 25 to 30, and 30 to 35. I evenly distributed the survey into three separate *batches* among the age ranges. A batch consisted of the number of workers that could take the survey set by the researcher. I set one batch of dyads to range in age from 18 to 25 (45 workers); the second batch consisted of couples 25-30 (50 workers); the third batch consisted of couples 30 to 35 (45 workers). I did not include any other *premium* criteria as no other

options were consistent with data inclusion. I created identical instructions for each batch that included a brief description of the study, the eligibility requirements to be accepted for the completion of the survey and be paid (HIT), and the instructions for the workers on how to complete the survey. The instructions consisted of the voluntary status of the survey and provided a separate link for their partner to complete the survey, while also providing the MTurk worker their own link for survey completion (Krumholtz et al., 2018). I also asked the MTurk *workers* to provide their partner with their MTurk identification code in order to link the separate surveys into dyadic form. The links to the Qualtrics surveys provided different skip logic per recommendations of Krumholtz et al. (2018) to account for potential invalid responses of workers taking both surveys. The Qualtrics skip logic surrounded the first question (i.e., *Were you referred to take this survey by your partner?*). I considered the *worker's* survey to be the initial participant; therefore, if the worker answered yes, their survey would end. If they answered no, they were asked to input their MTurk worker identification code and begin the survey. The partner's survey had the same skip logic, except it was reversed. If the partner answered yes (referred), they would be asked to input the identification code provided by their partner. If they answered no (not referred), their survey ended. I implemented the skip logic and separate Qualtrics surveys to improve the validity of the dyadic results (Krumholtz et al., 2018) for data analysis.

Data Analysis

Before data analysis began, the data required "cleaning" based on the formatting of the surveys in *Qualtrics*. I cross-checked the individual participants' raw scores against the scoring procedures of TILES (McDaniel & Coyne, 2016a) and RDAS (Busby

et al., 1995) and recognized the need to adjust the scores to account for the possibility of participants choosing zero. For example, in *Qualtrics*, TILES scores ranged from 1 to 8, while McDaniel and Coyne (2016a) set the scoring range from 0 to 7. Furthermore, in *Qualtrics*, RDAS scores ranged from 1 to 5 or 6, when Busby et al. (1995) set the scoring range between 0 and 4 or 5. For the TILES scores, I used the *find and replace* feature in Excel to find the scores of 1 and replace those with zero, find the 2s and replace them with 1s, and so on.

For the RDAS scores, I reverse scored questions 1-6 to account for *Qualtrics*' linear scale of scoring (i.e., 1, 2, 3, 4, 5, 6) instead of reversed scoring (i.e., 5, 4, 3, 2, 1, 0). Secondly, I utilized the *find and replace* feature in Excel for questions 7-10 and 12-14 to account for participants who chose the first option on the Likert scale (0) to which Qualtrics assigned a score of 1. I replaced the 1s with 0s, 2s with 1s, and so on. The TILES and RDAS raw data adjustments aligned with the scoring instructions of the assessments. Once I made the changes, descriptive and primary data analyses took place.

I used the Hierarchical Linear Modeling data analysis package (HLM; Raudenbush, Bryk, & Congdon, 2017) to construct the actor-partner interdependence models (Kenny et al., 2006) for correlational statistical analyses associated with the resulting dyadic scores on the independent and dependent variables. As such, Kenny et al. (2006) recommended steps to verify nonindependence and explore distinguishability versus indistinguishability before APIM data analysis occurred. Finally, the analyses output of actor and partner effects elucidated the correlational nature of actor and partner scores from technoference on relationship satisfaction and sexual satisfaction.

Step 1. Several researchers explained the importance of testing for distinguishability/indistinguishability as the results affected the particular data analysis used to examine actor and partner effects (Campbell & Kashy, 2002; Kenny et al., 2006). As such, Kenny et al. (2006) defined distinguishability as a variable that distinguishes the members of the dyad from each other. Kenny et al. (2006) recommended using theoretical and empirical information to identify potential distinguishing variables; however, to add novelty to the current study, I incorporated heterosexual and same-sex couples' dyadic data. As such, I treated the dyads as indistinguishable during dyadic analysis. Based on the research questions, no theoretically or empirically-supported distinguishing variable separated the two members of the dyad from each other.

Step 2. The next step involved structuring the data to account for the individuals being nested in dyads. Ledermann and Kenny (2015) recommended the use of pairwise data structure when using HLM for data analysis of APIM. Pairwise data structure accounted for individual and partner responses (Kenny & Ledermann, 2010; Ledermann & Kenny, 2017) by placing both partners on one line and distinguishing their scores as the first participant on the line as the *actor* and the second participant as the *partner*. The second line had the *partner* from the first line as the *actor* and the *actor* from the first line as the *partner* on the second line (see Table 1.3).

Step 3. I used the intraclass correlation coefficient to test sample nonindependence. I used the ICCs to analyze the degree to which individuals in dyads correlated with each other (Du & Wang, 2016) and as verification for the use of actor-partner interdependence modeling (Kenny et al., 2006). To do this, Kenny et al. (2006) recommended using individual or pairwise data structure for an analysis of variance

(ANOVA). The individual data structure provided a simple way to analyze the ICCs of the independent and dependent variables. I used the Statistical Package for Social Sciences (SPSS; IBM Corp., 2017) to calculate the ICCs. I input the total scores of actor and partner scores for TILES, GMSEX, and RDAS as the ANOVA components in a two-way mixed model that computed the ICCs (see Table 3.5, Kenny, Kashy, & Cook, 2006).

Table 3.5 Intraclass correlations matrix for technoference, relationship satisfaction, and sexual satisfaction

	TECH_A	RDAS_A	SEXSAT_A
TECH_P	.534*		
RDAS_P		.732*	
SEXSAT_P			.476*

Note * $p < .001$

Step 4. The aim of the present study focused on the correlations between technoference and relationship satisfaction and technoference and sexual satisfaction when incorporating data from both individuals in a romantic relationship. I considered technoference a mixed variable as previous research (i.e., Galovan et al., 2018; McDaniel et al., 2018) reported variations of scores within and between dyads. Ledermann and Kenny (2017) and Raudenbush et al. (2017) described HLM as a *univariate method* to examine one dependent variable at a time against one or more independent variables. Therefore, I ran actor and partner technoference scores as independent variables and relationship satisfaction and sexual satisfaction as two separate dependent variables. As such, I ran two separate analyses to examine technoference's contributions to relationship satisfaction and sexual satisfaction as the dependent variables.

Step 5. To run the separate analyses of the mixed independent variable, I followed Kenny et al.'s (2006) recommendations of adding the mixed independent variables to level 1 (e.g., actor and partner technoference) and the mixed dependent

variable at level two (e.g., relationship satisfaction). The analyses of the resulting data structure (see Figure 3.3.) suggested, at level 1, the dependent variable (e.g., relationship satisfaction) resulted from an individual's own perception of technoference in the relationship and their partner's perception of technoference in the relationship. At level 2, the first model consisted of the fixed component (γ_{00}) and a random component (μ_0).

The fixed component represented a dyad's relationship satisfaction if both partners' technoference scores equaled zero. The random component represented the degree relationship satisfaction scores differed between dyads after controlling for the effects of technoference (Kenny et al., 2006). Due to the large sample size and following Kenny et al.'s (2006) example, I set level-2 models 2 (actor) and 3 (partner) to remain constant across dyads. Fixing random effects of models 2 and 3 at level 2 followed Kenny et al.'s (2006) explanation that dyadic data analysis within HLM did not have the appropriate number of participants in a "group" to account for random components.

Level 1 model	$RELSAT = \beta_0 + \beta_1(ACT\_TECH) + \beta_2(PART\_TECH) + r$
Level 2 model	$\beta_0 = \gamma_{00} + \mu_0$
	$\beta_1 = \gamma_{10}$
	$\beta_2 = \gamma_{20}$

Figure 3.3 Hypothesized basic model of actor and partner effects of technoference on a relationship satisfaction (Kenny et al., 2006)

Step 6. As stated above, HLM is a univariate outcome (dependent) variable model (Ledermann & Kenny, 2017). Therefore, running an analysis on sexual satisfaction as the dependent variable required a new HLM model. As such, I repeated steps 1 through 5, except, I replaced relationship satisfaction as the dependent variable

with sexual satisfaction. In doing so, I examined the correlations between technoference (independent variable) and sexual satisfaction (dependent variable).

Step 7. I used the HLM data output to interpret the actor and partner correlational effects of technoference on relationship satisfaction and sexual satisfaction. Each data output consisted of the average partner's (actor) score on either relationship satisfaction or sexual satisfaction and the actor and partner effects of technoference on relationship satisfaction and sexual satisfaction, separately.

Hypotheses

I proposed a negative correlation between an actor's own technoference score and their own relationship satisfaction (Campbell & Murray, 2015; McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018; Murray & Campbell, 2015) as the first research question hypothesis. Murray and Campbell (2015) supported the notion of the potential deleterious correlations between technology use and relationship satisfaction. Murray and Campbell (2015) explained the dichotomous role (i.e., promote or hinder) technology might take in dyadic relationships. Further, Murray and Campbell (2015) conceptualized *how* technology use occured within the confines of a relationship correlated with the level of relationship satisfaction experienced by the partners. Therefore, I focused on technoference and relationship satisfaction of both partners in the relationship and the influence of their scores of technoference on both their own and their partner's relationship satisfaction. As such, I chose APIM data analysis to examine the first hypothesis through actor effects.

According to the second hypothesis, I proposed a partner's technfoerence score negatively correlated with the actor's relationship satisfaction score. McDaniel et al.,

(2018) proposed a path model of technoference to relationship quality and parenting quality that reinforced the inclusion of the partner effects hypothesis, in the current study. As stated by McDaniel and Coyne (2016a), technoference occurred as an individual acknowledged their perception that technology is interfering with quality time spent together with their partner. As such, technoference may affect, not only the individual's experience of relationship satisfaction but also, their partner. Therefore, I used APIM to explore one partner's score on technoference to their partner's score on a relationship satisfaction (Kenny et al., 2006).

According to the third hypothesis, I postulated a negative correlation between an individual's score on technoference and their own sexual satisfaction score. As such, previous researchers (e.g., Hertlein, 2010; Murray & Campbell, 2015) suggested potentially negative correlations between technology interference and sexual satisfaction. As Hertlein (2010) and Murray and Campbell (2015) pointed out, certain forms of technology use correlated to problems with sexual satisfaction and consequently, relationship satisfaction. I used APIM to examine the correlational nature of actors' technoference scores and their own sexual satisfaction within dyadic couples.

According to the fourth hypothesis, I proposed negative correlations between a *partner's* own technoference score and the *actor's* sexual satisfaction. Again, Hertlein (2010) and Murray and Campbell (2015) provided evidence for the potential negative correlation between an individual's technoference score and their partner's sexual satisfaction score. The potential adverse effects of technoference on sexual satisfaction may be the result of a reduction in the number of opportunities for sexual encounters (Coyne et al., 2012). Because the hypothesis involved an individual's own technoference

score correlating negatively with the sexual satisfaction score of their partner, I used APIM to account for the effects of partners' technoference scores on their significant other's sexual satisfaction.

Protection Measures

The first protective measure I pursued for participants consisted of obtaining institutional review board (IRB) approval to run the current study (see Appendix A). As such, as the study progressed, I obtained guidance from IRB when I required additions to the methodology (i.e., MTurk advertisement). There were minimal risks associated with participation in the current study and received exempt status from IRB.

Participation in the current study may illuminate participant awareness of the past and/or present potential deleterious effects technology use has on their relationship. After participation, couples may discuss their technology use within the relationship, because neither partner received their results of the surveys. By doing so, the participants may require alterations to their use of technology when together. As collaboration and compromise may be difficult for some couples, relationship distress may have occurred.

To account for the risks of distress, I added several referral resources at the end of each invitation email to face-to-face and snowball sampling participants. Because I used three universities to gather the sample, I customized the referral list based on the location of the participants. MTurk workers and their partners did not receive referral resources due to restrictions surrounding confidentiality within the MTurk platform. Also, I provided a statement associated with the voluntary nature of the study and that participants could withdraw at any time to every potential participant.

Second, I used several protection protocols during data collection and analyses. First, I kept completed surveys on password protected software and devices. The individuals received identification codes to match their scores with their partner's scores, which served as the identifying code for the individual and couple after completion of the surveys. The only potentially recognizable information stemmed from participant email addresses and the request for the first name and email address of the participant's partner who received an email from the lead investigator for invitation to the study. I stored emails on a password protected computer with a password protected email account. I used a password protected computer and password protected survey platform (*Qualtrics*) to transport finished surveys. Finally, I explained the results of the study would be expressed in aggregate format to protect the rights of the individual participants.

Summary

Chapter Three provided an overview of the methodology used in the study and the resulting descriptive statistics of the 158 sample dyads. Chapter 4 provides the results of implementing the analytical methodology (i.e., APIM using HLM). Chapter 5 builds on Chapter 4 as a conduit for discussing the implications, future directions, and limitations found from the results of the study.

CHAPTER FOUR RESULTS

Chapter Four presents the results of actor-partner interdependence modeling on technoference and relationship and sexual satisfaction of young adult couples within monogamous, sexually-active relationships and addresses each research question individually. The purpose of this investigation focused on understanding the relationships between technoference and relationship and sexual satisfaction among young adult couples. I used the *Technology Interference in Life Examples Scale* (TILES; McDaniel & Coyne, 2016a), *Global Measure of Sexual Satisfaction* (GMSEX; Lawrance & Byers, 1995), and the *Revised Dyadic Adjustment Scale* (RDAS; Busby et al., 1995), respectively, to explore the correlations between technoference, sexual satisfaction, and relationship satisfaction.

Hierarchical linear modeling (HLM; Raudenbush, Bryk, & Congdon, 2017) data analysis for actor-partner interdependence modeling (APIM; Kenny et al., 2006) ascertained correlational statistics associated with the resulting dyadic scores on the independent and dependent variables from the formal assessments. As such, the data analysis required steps to verify nonindependence and explore distinguishability versus indistinguishability before APIM data analysis occurred. I used Statistical Package for the Social Sciences (SPSS; IBM Corp., 2017) to calculate the nonindependence of individuals nested in couples. Finally, the models used to obtain actor and partner effects

elucidated the correlational nature of actor and partner scores from technoference on relationship satisfaction and sexual satisfaction.

Preliminary Analyses

Distinguishable Versus Indistinguishable

Kenny et al. (2006) recommended theoretical and empirical evidence surrounding decisions of treating the dyads as distinguishable or indistinguishable. Also, labeling the dyads as distinguishable versus indistinguishable required different statistical analyses for the following steps. Several authors defined distinguishable dyads as those that had a theoretically and empirically-based distinguishing variable that may be used to separate the dyad members (Kenny et al., 2006; Ledermann & Kenny, 2015, 2017). For example, in heterosexual dyads, gender could be used as a distinguishing variable. Previous researchers defined indistinguishable dyads as those without a distinguishing variable (e.g., same-sex couples or same-sex roommates) (Kenny et al., 2006). For the purposes of this study, dyads were treated as indistinguishable for the following reasons: (a) previous studies (e.g., Whitton, Weitbrecht, Kuryluk, & Hutsell, 2016) considered same-sex couples as indistinguishable because of the inability to distinguish partners based on gender; (b) the research questions focused purely on the potential correlations between technoference and relationship sexual satisfaction and did not include descriptive variables as a means of distinguishing partners; and (c) there was no theoretical justification to treat the dyads as distinguishable, based on the second justification for treating the couples as indistinguishable.

Test of Nonindependence

The next step focused on obtaining the intraclass correlation of technoference, relationship satisfaction, and sexual satisfaction scores. I used SPSS to calculate the intraclass correlation coefficients (ICC) of technoference, relationship satisfaction, and sexual satisfaction, separately. The ICC measured how similar the participants' technoference scores were to each other, based on the assumption that dyads interacted with each other and tended to influence each other's answers.

To compute the ICCs for indistinguishable dyads, I utilized SPSS to calculate an analysis of variance (ANOVA) for technoference, relationship satisfaction, and sexual satisfaction scores (Kenny et al., 2006). The data structure provided a simple way to analyze the ICCs. For example, dyad 1 had partner 1's technoference, relationship satisfaction, and sexual satisfaction scores in three columns and partner 2's technoference, relationship satisfaction, and sexual satisfaction scores in the next three columns (Kenny et al., 2006). The resulting ICCs for technoference, relationship satisfaction, and sexual satisfaction were .543, .732, and .476, respectively (see Table 3.4). Furthermore, the resulting significance of the ICCs verified the need for the use of the actor-partner interdependence model to explore actor and partner correlations (Kenny et al., 2006; Newman, 2010).

Primary Analyses

Research Question Analyses

Research question number one. The first research question focused on the potential correlations between the actors' TILES scores on the actor's own RDAS scores: How does technoference, as measured in males and females by the Technology

Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their own scores of relationship satisfaction, as measured by the Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995)? I used Hierarchical Linear Modeling (HLM) software (Raudenbush et al., 2017) to compute the multi-level model to answer the first research question.

I used HLM's (Raudenbush et al., 2017) *final estimation of fixed effects* to answer research question one (see Table 4.1). The intercept of RDAS, when all predictors (*Tech_A* and *Tech_B*) equaled zero was 49.96, $SE = 0.60$, $t = 83.07$, ($p < .001$). The actor effect of RDAS scores also reached statistical significance, (-0.28, $SE = 0.05$, $t = -5.11$, $p < .001$) (see Figure 4.1). Alternatively stated, for the average participant, every 0.28-point decrease in an actor's technoference score correlated to a one-point increase in the average actor's own relationship satisfaction score.

Table 4.1 Hierarchical linear modeling output of technoference and relationship satisfaction

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The maximum number of level-1 units = 316
The maximum number of level-2 units = 158
The maximum number of iterations = 100

Method of estimation: restricted maximum likelihood

The outcome variable is RELSAT

Summary of the model specified

Level-1 Model

$$RELSAT_{ij} = \beta_{0j} + \beta_{1j}*(TECH\_A_{ij}) + \beta_{2j}*(TECH\_P_{ij}) + r_{ij}$$

Level-2 Model

$$\beta_{0j} = \gamma_{00} + u_{0j}$$
$$\beta_{1j} = \gamma_{10}$$
$$\beta_{2j} = \gamma_{20}$$

TECH_A TECH_P have been centered around the grand mean.

Mixed Model

$RELSAT_{ij} = \gamma_{00}$
$+ \gamma_{10}*TECH\_A_{ij}$
$+ \gamma_{20}*TECH\_P_{ij} + u_{0j} + r_{ij}$

Final Results – Iteration 5

Iterations stopped due to small change in likelihood function

$\sigma^2 = 21.23166$

τ

INTRCPT1,β_0	46.52802

Random level-1 coefficient	Reliability estimate
INTRCPT1,β_0	0.814

The value of the log-likelihood function at iteration 5 = -1.065331E+003

Final estimation of fixed effects:

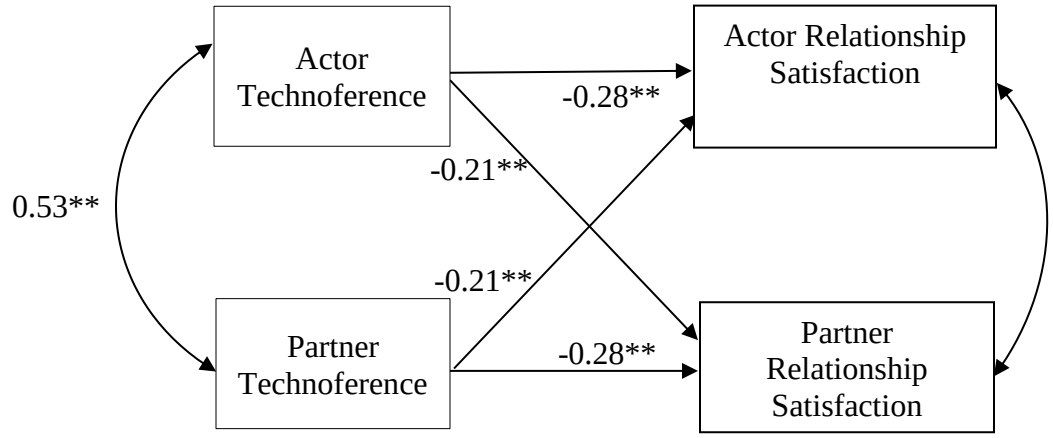
Fixed Effect	Coefficient	Standard error	*t*-ratio	Approx. *d.f.*	*p*-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	49.958861	0.601429	83.067	157	<0.001
For TECH_A slope, β_1					
INTRCPT2, γ_{10}	-0.276676	0.054105	-5.114	156	<0.001
For TECH_P slope, β_2					
INTRCPT2, γ_{20}	-0.204988	0.054105	-3.789	156	<0.001

Final estimation of variance components:

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	6.82115	46.52802	157	839.69484	<0.001
level-1, r	4.60778	21.23166			

Statistics for current covariance components model

Deviance = 2130.662311
Number of estimated parameters = 2



Note ** ($p \leq .001$)

Figure 4.1 Actor-partner interdependence modeling correlations for technoference and relationship satisfaction

Research question number two. The second research question focused on the potential correlations between the partner's TILES scores on the actor's RDAS scores: How does technoference, as measured in dyads by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their partner's score on relationship satisfaction, as measured by the Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995)? I also used the same data output from research question one to answer research question two.

Table 4.1 provided statistical information on the correlations between a partner's technoference score and the actor's relationship satisfaction score. The partner effect was -0.21, SE = 0.05, t = -3.79, $p < .001$. The results suggest a statistically significant correlation between partners' technoference score on the actors' relationship satisfaction score. Alternatively stated, for the average participant, every 0.21-point decrease in the

partner's technoference score correlated to a one-point increase in the actor's relationship satisfaction score.

Research question number three. The third research question focused on the potential correlations between actor's TILES scores on the actor's own GMSEX scores: How does technoference, as measured in males and females by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their own sexual satisfaction, as measured by the Global Measure of Sexual Satisfaction score (GMSEX; Lawrance & Byers, 1995)? I used HLM software (Raudenbush et al., 2017) to explore the correlations between technoference and sexual satisfaction.

I created a new model using HLM software (Raudenbush et al., 2017) to examine the correlations between an actor's technoference scores and their own sexual satisfaction scores (see Table 4.2). Again, the *final estimation of fixed effects* provided information to answer research question three. The first line of information provided evidence for the average sexual satisfaction score of the sample when the predictors were zero (31.46, $SE = 0.32$, $t = 99.33$, $p < .001$). The actor effects of technoference on one's own actor sexual satisfaction was statistically significant (-0.095, $SE = 0.03$, $t = -2.83$, $p = .005$). Alternatively stated, for the average participant, every 0.095 decrease in an actor's technoference score correlated to a one-point increase in their own sexual satisfaction score.

Table 4.2 Hierarchical linear modeling output of technoference and sexual satisfaction

The maximum number of level-1 units = 316
The maximum number of level-2 units = 158
The maximum number of iterations = 100

Method of estimation: restricted maximum likelihood

The outcome variable is SEXSAT

Summary of model specified

Level-1 Model

$SEXSAT_{ij} = \beta_{0j} + \beta_{1j}*(TECH\_A_{ij}) + \beta_{2j}*(TECH\_P_{ij}) + r_{ij}$

Level-2 Model

$\beta_{0j} = \gamma_{00} + u_{0j}$
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$

TECH_A TECH_P have been centered around the grand mean.

Mixed Model

$SEXSAT_{ij} = \gamma_{00}$
$+ \gamma_{10}*TECH\_A_{ij}$
$+ \gamma_{20}*TECH\_P_{ij} + u_{0j} + r_{ij}$

Final Results – Iteration 5

Iterations stopped due to small change in likelihood function

$\sigma^2 = 12.00627$

τ

INTRCPT1,β_0	9.84866

Random level-1 coefficient	Reliability estimate
INTRCPT1,β_0	0.621

The value of the log-likelihood function at iteration 5 = -9.205567E+002

Final estimation of fixed effects:

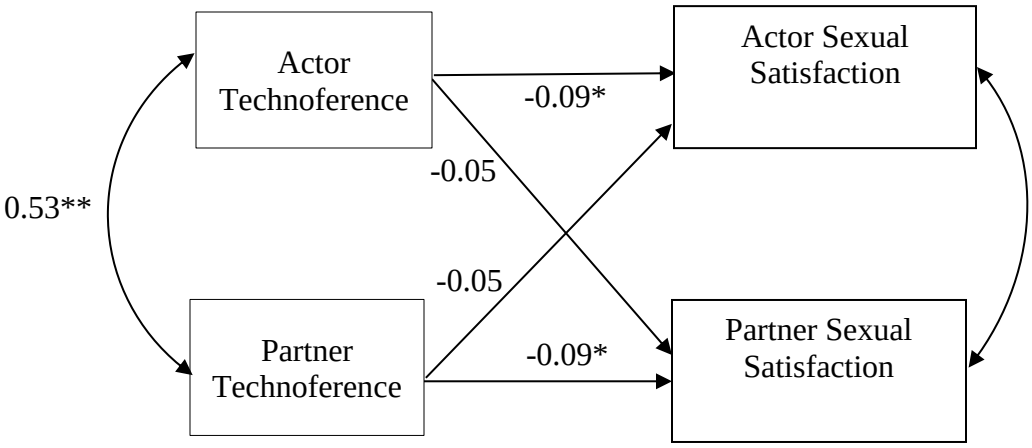
Fixed Effect	Coefficient	Standard error	*t*-ratio	Approx. *d.f.*	*p*-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	31.462025	0.316738	99.331	157	<0.001
For TECH_A slope, β_1					
INTRCPT2, γ_{10}	-0.095053	0.033611	-2.828	156	0.005
For TECH_P slope, β_2					
INTRCPT2, γ_{20}	-0.051521	0.033611	-1.533	156	0.127

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	3.13826	9.84866	157	411.95472	<0.001
level-1, *r*	3.46501	12.00627			

Statistics for current covariance components model

Deviance = 1841.113304
Number of estimated parameters = 2



Note * ($p < .05$)
** ($p < .001$)

Figure 4.2 Actor-partner interdependence modeling correlations for technoference and sexual satisfaction

Research question number four. The fourth research question focused on the potential correlations between partners' TILES scores on the actor's GMSEX scores: How does technoference, as measured in males and females by the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) correlate with their partner's sexual satisfaction, as measured by the Global Measure of Sexual Satisfaction score (GMSEX; Lawrance & Byers, 1995)? I used the data from the HLM output for research question number three to examine the potential correlations between a

partner's technoference score on the actor's sexual satisfaction score (see Table 4.2). The resulting partner effect (-0.51, *SE* = .34, *t* = -1.533) was not statistically significant (*p* = .127). Therefore, the partner's perception of technoference did not correlate to the actor's sexual satisfaction score, statistically speaking.

Summary

Chapter Four presented the results for the individual research questions. As such, I found statistically significant, negative correlations between actor and partner effects of technoference and relationship satisfaction. Furthermore, I found a statistically significant, negative correlation between actors' technoference scores and their own sexual satisfaction scores (see Figures 4.1 and 4.2). Finally, I did not find a statistically significant correlation between partners' technoference and actors' sexual satisfaction score.

Chapter Five provides a summary of the study. Chapter Five also extrapolates the statistical results and explains how the results add to the literature on technoference, relationship satisfaction, and sexual satisfaction from Chapter Two. Furthermore, Chapter Five includes implications for the counseling and counselor education settings, recommendations for future research, and limitations of the study.

CHAPTER FIVE DISCUSSION

In Chapter Five, I include a summary of the investigation of the correlations between technoference, relationship satisfaction and sexual satisfaction, including the purpose, research methodology, and results. In Chapter Five, I further elaborate on the statistical results from Chapter Four to advance research on technoference, relationship satisfaction, and sexual satisfaction of young adult couples. Also, in Chapter Five I connect the results from Chapter Four and how the results expand to previous studies on the constructs of technoference, relationship satisfaction, and sexual satisfaction. Finally, in Chapter Five, I describe the limitations and future directions of research on technoference, relationship satisfaction, and sexual satisfaction.

I examined the correlations between technoference, as measured by the Technology in Life Examples Scale (TILES; McDaniel & Coyne, 2016a), and relationship satisfaction, as measured by the Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995), and technoference and sexual satisfaction, as measured by the Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995), among young adult couples. More specifically, I utilized two separate, two-level actor-partner interdependence models (APIM) to analyze the correlations of an individual's technoference (independent variable) score against their own relationship satisfaction and sexual satisfaction scores (dependent variables). Also, I explored the correlations between an individual's own technoference score and their partner's outcome

scores on relationship satisfaction and sexual satisfaction. Furthermore, I focused on adding to the growing literature surrounding how technology interference may negate relationship satisfaction. Finally, I expanded on Campbell and Murray's (2015) and Murray and Campbell's (2015) theoretical literature surrounding the potential of technoference to negatively correlate with sexual satisfaction within couples' romantic relationships.

Summary of the Study

Participants

The use of three sampling strategies produced 158 couples. Face-to-face advertising occurred from November to February to 1,134 potential participants and produced 48 couples. Snowball sampling occurred from January to February to 102 potential participants and produced 14 additional couples. Finally, MTurk advertising occurred in early February and obtained a potential participant pool of 221 individuals. The 221 initial MTurk individuals produced 98 couples who completed the survey.

The participants chose from four relationship status choices: dating, cohabitating, engaged, or married. The distribution of relationship type consisted of 143 (45.3%) dating, 97 (30.7%) married, 47 (14.9%) cohabitating, and 29 (9.2%) married individuals. Race distribution consisted of 226 (71.5%) Caucasian, 42 (13.3%) Asian, 17 (5.4%) Hispanic, 14 (4.4%) African American, 3 (0.9%) Native American/Pacific Islander, and 17 (5.4%) described themselves as *Other* or marked more than one racial descriptor. Couples reported their relationship length between 1 and 216 months with the average relationship length of 48.36 months, or a little over four years. The average participant was 26 years old. The majority (154 couples) reported heterosexual

relationship statuses. Four couples reported same-sex relationship statuses. All participants reported a sexually-active relationship. 160 (50.6%) males, 155 (49.1%) females, and 1 (.3%) transgender male completed the survey.

Discussion of Results

The purpose of the current study examined the correlations between technoference and relationship and sexual satisfaction among young adult couples in heterosexual or same-sex, monogamous, sexually-active relationships. Previous studies (e.g., McDaniel & Coyne, 2016a; 2016b; McDaniel et al., 2018) found significant correlations between technoference and perceptions of relationship satisfaction. I added three novel aspects to the current study to extend knowledge of technoference, relationship satisfaction, and sexual satisfaction: (a) the inclusion of both same-sex and heterosexual couples; (b) the use of four types of relationship status: dating, cohabitating, engaged, and married; and (c) the inclusion of sexual satisfaction as a dependent variable. Based on an exhaustive literature search, no other researchers examined the dyadic relationship between technoference and relationship and sexual satisfaction.

Technoference

For this study, I defined technoference as an individual's subjective perception of the number of times an individual perceives their partner's technology use interferes with quality time spent together (McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018). The number of participants who reported at least one form of technoference in their relationship (96.8%) coincided with previous studies (McDaniel & Coyne, 2016a; McDaniel et al., 2018; McDaniel & Radesky, 2018). The fact that the proportion of technoference occurrence portrayed similar results across studies makes sense

considering the high connectivity the population has to each other through social networking and technology (Lenhart & Duggen, 2014; Pew Research Center, 2018) and the potential for interference to quality time spent together.

The technoference intraclass correlation (ICC) (.534). According to Cohen (1988), the reported technoference ICC signified couples influenced each other's scores. In other words, a higher ICC meant one partner's technoference score is influenced by their partner's technoference score (Du & Wang, 2016).

Technoference and Sexual Satisfaction

I explored the correlations between technoference and sexual satisfaction using APIM as an advanced statistical analysis to examine the actor and partner effects at the same time. As such, Byers and MacNeil (2006) examined the correlations of technoference and sexual satisfaction due, in part, to the high intercorrelation between relationship and sexual satisfaction (Sprecher, 1998a, 2002). Their results suggested a statistically significant, negative correlation between an actor's technoference score and their own sexual satisfaction score. Sexual satisfaction accounted for the balancing of rewards and costs (Sprecher, 2002; Thibaut & Kelley, 1959) within the sexual relationship that produced either positive or negative perceptions of satisfaction in the sexual relationship. Murray and Kelly (2015) postulated quality time spent together produced opportunities for sexual engagement and intimacy. Therefore, without quality time spent together, sexual satisfaction decreased, due to the reduction of possible opportunities to experience sexual activities.

According to the results of this study, an individual's perception of their partner's technology use negatively correlated with their own sexual satisfaction score.

Alternatively stated, every .095-point decrease in an actor's technoference score correlated to a one-point increase in their own sexual satisfaction score. Therefore, the study sample reached correlational statistical significance in explaining the relationship between an individual's own perception of their partner's technoference and their own sexual satisfaction.

Conversely, a partner's technoference score did not reach a statistically significant correlation to their partner's sexual satisfaction score. The subjective questioning of the technoference scale as it related to their partner's technology use and the GMSEX's (Lawrance & Byers, 1995) subjective perception of one's own sexual satisfaction may explain the nonsignificant correlation. For example, if partner 1 perceived partner 2's technology use as interfering with quality time spent together that may lead to sexual activity, partner 1's sexual satisfaction may be negatively influenced. If partner 2 perceives partner 1's technology use as interfering with quality time spent together, partner 1 may not perceive their own technology use as interfering with sexual satisfaction.

There are several potential reasons for nonsignificant association of *partner* technoference and *actor* sexual satisfaction. First, the *actor* may not be aware of their partner's perception that technology use is interfering with quality time spent together. Moreover, the *actor* may not associate quality time spent together with sexual activity and sexual satisfaction. Furthermore, the *actor* may obtain another form of satisfaction from their technology use that replaces sexual satisfaction (e.g., winning a computer or video game scenario). Finally, the resulting non-significance of *partner* technoference

and *actor* sexual satisfaction may suggest technoference's association with sexual satisfaction is a result of the person reporting technoference.

Technoference and Relationship Satisfaction

According to previous researchers (Fitzpatrick & Sollie, 1999; Vanderbleek, Robinson, Casado-Kehoe, & Young, 2011), relationship satisfaction may be influenced by technoference as perceptions of quality time spent together influenced an individual's perception of relationship satisfaction. Sabatelli (1988) and Thibaut and Kelley (1959) considered reduced quality time spent together as a potential cost to the relationship. With enough costs (i.e., no quality time spent together), relationship satisfaction decreased (Thibaut & Kelley, 1959; Lawrance & Byers, 1995).

The results suggested a significant actor and partner effect correlations between technoference and relationship satisfaction. The actor and partner effect correlations denoted a .28 and .21 decrease, respectively, in technoference correlated to a one-point increase in relationship satisfaction. Alternatively stated, the actor and partner effect correlations denoted a .28 and .21 increase, respectively, in technoference correlated to a one-point decrease in relationship satisfaction. The results correlated with Davis and Oathout's (1987) assumption that an individual's perceived negatively-based behaviors (technoference) reduced relationship satisfaction. On the other hand, a decrease in negatively-based behaviors (technoference) increased relationship satisfaction.

Miller-Ott et al.'s (2012) study promoted the notion that rules surrounding cell phone use enhanced or negated relationship satisfaction. Their study provided awareness of the potential influence technology had within the relationship and how couples set rules and boundaries around technology to direct the use of technology to enhance their

relationship. The results of this study aligned with Miller-Ott et al.'s (2012) study as expectations of technology use correlated with relationship satisfaction. As such, technoference denoted an individual's unmet expectations of quality time spent together by their partner's technology use (McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018). Therefore, cell phone use (one form of technoference) negated relationship satisfaction. Furthermore, the results coincided with Hand and colleagues' (2013) results that an individual's perception of their partner's technology use indicated a significant negative correlation to their own relationship satisfaction.

Implications

Social significance. Couples have multiple factors that influence their relationship satisfaction and quality time spent together. When interruptions of quality time occur, partners may perceive those interruptions as costs to the relationship (McDaniel et al., 2018; Murray & Campbell, 2015; Sprecher, 2002; Thibaut & Kelley, 1959). The results verified the negative actor and partner associations between technoference and relationship satisfaction. Furthermore, the results signified a new area of technoference influence: sexual satisfaction. Once research results disseminate to the public, couples may begin to discuss their perceptions of technology use in the relationship (Duran, Kelly, & Rotaru, 2011; Hertlein & Ancheta, 2014; Miller-Ott et al., 2012). With the knowledge of how technology interference with quality time spent together influences an individual's own and their partner's relationship satisfaction and how and individual's own perceptions of technoference influences an individual's own sexual satisfaction, couples can start building communication surrounding their thoughts and feelings about technoference and setting boundaries for quality time spent together to

grow and develop relationship and sexual satisfaction without the involvement of technology. For example, couples can use the knowledge of technoference's dyadic associations of relationship satisfaction and their own sexual satisfaction to collaboratively set rules about when technology is used when the couple is together.

Professional significance. The results affect the counselor education and supervision realm. For example, CACREP programs require marriage, couples, and family counseling students to take a human sexuality course. I found a statistically significant negative correlation between an individual's own technoference score and their own sexual satisfaction. As human sexuality coursework encompasses the influences of internal (e.g., anxiety around sex and physical dysfunction) and external (e.g., work and pornography use) factors on sexual activities and satisfaction, technoference may provide new avenues of discussion during class as another external factor on sexual relationships. For example, participants from previous research (i.e., Campbell & Murray, 2015; Murray & Campbell, 2015) compared the increased use of technology to an extramarital affair. Therefore, counselor educators may open discussions of technoference through the lens of an extramarital affair and the negative influences on sexual satisfaction. Alternatively, counselor educators, using constructivist-developmental pedagogy could expand on their students' perceptions of technology use in their own life and within their own relationships to construct their own meanings of how technology could interfere or promote the relationship (Eriksen & McAuliffe, 2011).

Marriage and family courses focus on the internal and external influences that affect relationship and sexual satisfaction and how couples navigate those variables from

a systems perspective. As such, previous researchers explained the potential negative influences technology could have on relationship dynamics (e.g., *an affair* or *other relationship*) (Campbell & Murray, 2015; Murray & Campbell, 2015). The negative influence of technoference on relationship and sexual satisfaction promotes professor and student expansion of knowledge surrounding novel variables that correlate with relationship dynamics. As such, counselor educators and supervisors could begin a dialogue with their students and supervisees on ways to address technoference as a counselor. Malott, Hall, Sheely-Moore, Krell, and Cardociotto (2014) suggested counselor educators encourage students to use their own knowledge of constructs (i.e., technology use) to develop understanding in different contexts (i.e., relationship development and sustainment). As student knowledge expands to the positives and negatives of technology use in relationships (Campbell & Murray, 2015; Murray & Campbell, 2015), counselor educators and students may collaborate on what theoretical orientations provide the most benefit in setting rules and boundaries (Miller-Ott et al. (2012) of technology use to create the most rewards for the couple (Sabatelli, 1988; Thibaut & Kelley, 1959).

Furthermore, the results of the current study provided further evidence for the importance of including questions and the development of interventions surrounding technology use within relationships. As seen in the results of the current study, there is a negative dyadic association between an individual's and their partner's technology use and their own and their partner's relationship satisfaction. Additionally, an individual's technoference score negatively influenced their own sexual satisfaction score. Also, 96.8% of the sample reported at least one form of technoference in their current

relationship, which suggests a high awareness of individual recognition that technology interferes with their perception of quality time spent together.

Counseling. Counselors could benefit from the current study's results as counselors are on the front line in experiencing novel constructs couples bring to them in the form of areas of growth. Furthermore, if counselors know of the correlations between technoference and relationship and sexual satisfaction, they can address those areas during the initial assessment of couples and marriage counseling. Researchers (e.g., Miller-Ott et al., 2012; Murray & Campbell, 2015) suggested further exploration of how counselors could moderate conversations of couples surrounding rules and boundaries of technology use during relationship interaction.

Premarital counselors may benefit from the results of the current study. With the knowledge of the statistically significant, negatively correlated results from the actor and partner effects of technoference on relationship satisfaction and the statistically significant, negatively correlated results from actor effects of technoference on sexual satisfaction, premarital counselors can incorporate those constructs into their sessions. As premarital counseling focuses on the potential of future issues (Goldenberg, Stanton, & Goldenberg, 2017), premarital counselors assist couples to develop a dialogue to collaborate on the role they would like technology to play in their relationship and set boundaries around technology's influence during quality time spent together.

Marriage and relationship education programs could also benefit from the results of this study. The significant, negative correlations of technoference on actor and partner relationship satisfaction and significant, negative correlations of technoference on actor sexual satisfaction highlighted the need for their integration as topics within marriage and

relationship curriculum. Relationship education programs may benefit from discussing the potential problems within relationship and sexual satisfaction when technology use interferes with quality time spent together.

Counselors, premarital counselors (PCs), and marriage and relationship programs (MRPs) all provide avenues for couples to discuss what role each person wants technology to play in their relationship. Each specialization can bring awareness to their clients on the dyadic associations between technoference and relationship and sexual satisfaction. Counselors, PCs, and facilitators of MRPs, for example, may engage in dialogue surrounding technology use in the relationship during the initial assessment by asking clients questions about their perceptions of their own and their partner's technology use; how technology plays a role in the relationship (positive and/or negative); and what rules and boundaries the couples created or want to create around technology use. Furthermore, some couples may experience difficulty with establishing boundaries for quality time because of the demands on their time from external sources (e.g., job, children, connection to others through technology). Therefore, counselors can help the couple collaborate and compromise on setting boundaries and rules around technology. For example, when the couple goes out to eat, both partners may decide to leave their cell phones at home.

Counselors, PCs, and facilitators of MPRs can provide psychoeducation on how each member's perception of higher levels technoference negatively influence their own and their partner's relationship satisfaction. Furthermore, counseling professionals can use psychoeducation to explain the influence technoference has on each individual's own sexual satisfaction. Also, counselors, PCs, and facilitators of MPRs can provide

preventative interventions by helping the couple collaborate on their rules and boundaries surrounding technology use during quality time spent together. Finally, counselors, PCs, and facilitators of MPRs can incorporate intervention measures by building the couples' communication skills surrounding perceived technoference to maintain open dialogue about needed adjustments if technoference begins to occur within the relationship. For example, if one partner begins using their cell phone during dinners, their partner can utilize the agreed upon statements about their thoughts and feelings of their partner's technoference without creating arguments or misunderstandings about the statements (e.g., "I really enjoy our time together without technology; I feel distant from you when technology gets in the way of our time together.").

Limitations

Sampling/population. Face to face recruitment occurred with one individual from the couple. Without advertising to both individuals, one participant received the presentation and the opportunity to ask questions, while I invited the partner through an invitation email. Although I attempted to parallel the face-to-face invitation material and email invitation email as much as possible, face-to-face advertisement to both partners may have increased response rate (Roghanizad & Bohns, 2017).

Because the sample consisted of young adult couples (18-35), generalizations outside the age range require subsequent studies. Young adults are the most likely to engage with multiple forms of technology (Pew Research Study, 2018); however, this study did not account for how technology interfered in relationship and sexual satisfaction of adolescent and middle-aged and older adult couples. Furthermore, same-

sex couples were underrepresented in this sample. Therefore, readers require caution surrounding the generalizability of the correlational results to the LGBTQ community.

Response bias. Another limitation of this study was the potential for response bias within self-report, survey research (Heppner et al., 2016). The definition of response bias is the tendency of an individual to respond dishonestly (Furnham, 1986). Among sexual-behavior surveys, response bias may occur more frequently based on social desirability (Boyer, Pukall, & Holden, 2012). Researchers defined social desirability as a participant answering questions dishonestly because of the sensitive nature of the topics under study (e.g., sexuality) (Seifert, Boulas, Huss, & Scalora, 2017). Therefore, participants of the current study may have responded in a socially acceptable manner to reduce stigmatization or distress (Seifert et al., 2017).

MTurk sample. A third limitation of the current study concerned the use of Amazon Mechanical Turk as a resource for participant recruitment. Previous researchers (e.g., Kan & Drummey, 2018; Kees, Berry, Burton, & Sheehan, 2017; Sheehan, 2018) suggested the advantages of MTurk within survey research. On the other hand, the same researchers discussed the weaknesses of MTurk that required attention. MTurk consisted of *workers* who completed surveys for pay. As such, the *workers* are individuals. Minimal literature existed concerning the use of MTurk for dyadic studies; however, MTurk and MTurk *Prime* guided the use of MTurk for dyadic studies. Even with the validity guidance by Krumholtz, Moss, and Litman (2018), there was no way to verify that the *worker's* partner took the participant survey and not the *worker* themselves. Furthermore, there was no way to definitively verify that the *worker* and their partner were actually in a sexually-active, monogamous, romantic relationship.

Instruments. The authors of the Technology Interference in Life Examples Scale (TILES; McDaniel & Coyne, 2016a) used a principle component analysis (PCA) to validate the items in TILES, but McDaniel and Coyne (2016) did not provide any other validity measures (i.e., construct or divergent validity). Furthermore, the normed sample consisted of 143, mainly Caucasian (89%), averaged age of 30, middle-class, cohabitating or married, and completed at least some college (82%) women. The normed sample did not include same-sex, dating or engaged couples as descriptive options. Because I included populations that McDaniel and Coyne (2016a) did not use in their normed sample of TILES, there are threats to the internal validity of the current study's results. Furthermore, there are threats to the generalizability of the results to those populations that were used in the current study that McDaniel and Coyne (2016a) did not use in their normed sample.

The Revised Dyadic Adjustment Scale (Busby et al., 1995) examined the overall adjustment a couple had in their relationship. More recent studies used the RDAS to examine relationship satisfaction, specifically (Rogak & Connor, 2018; Diamond, Brimhall, & Elliot, 2018). The normed sample consisted of 271 non-distressed and 183 distressed individuals. The normed sample consisted predominantly Caucasian (95%), first married, and middle-class males and females. The normed sample did not include same-sex couples and focused on marital couples. Although researchers used the RDAS to examine multiple types of relationships, the normed sample did not include populations represented in the current study. Therefore, threats to the internal validity and generalizability of the populations used in the current study that Busby et al. (1995) did not include in the normed require scrutiny.

The Global Measure of Sexual Satisfaction (Lawrance & Byers, 1995) examined an individual's overall sexual satisfaction within their relationship. The normed population consisted of 244 participants (94 men and 150 women) in heterosexual relationships, an average age of 37, married (85%), and had children (71%). The normed population did not include same-sex couples and only involved one individual in the dyad. Finally, the average age of men in the normed sample was higher than the cut-off score for this study (i.e., 41.4). As with TILES and RDAS, I used populations that were not represented in the normed sample Lawrance and Byers (1995) used to develop the GMSEX. As such, there are threats to the internal and external validity of the results in the current study.

Future Studies

Correlations found between three of the four APIM models require the addition of descriptive variables to explain further variance within the models. For example, previous researchers (e.g., Montesi, Fauber, Gordon, & Heimberg, 2010; Thibaut & Kelley, 1959; Trillingsgaard, Baucom, & Heyman, 2014; Whitton & Kuryluk, 2012) found relationship length and type differences within relationship and sexual satisfaction. Using interdependence theory, Kelley and Thibaut (1978) hypothesized changes to relationship and sexual satisfaction occurred as relationships develop over time and through different relationship titles (e.g., dating, cohabitating, engaged, and married). Therefore, it is imperative to incorporate relationship length and type in future analyses of technoference, relationship satisfaction, and sexual satisfaction. Furthermore, future data analyses need to incorporate all demographic variables of the sample to enhance the

understanding of how different variables are associated with the level of influence between technoference and relationship and sexual satisfaction.

Future studies need to expand the population age range. As stated earlier, the Pew Research Study (2018) reported that populations outside the age range of this study also utilize technology. Therefore, I plan to incorporate older adults in a future study to explore the correlations between technoference and relationship and sexual satisfaction. Follow up comparison studies between older and younger adult couples could illuminate similarities and differences of technoference experience with different age groups.

Furthermore, other constructs (e.g., communication styles [McDaniel & Coyne, 2016a; Byers, 2005], conflict resolution styles [McDaniel et al., 2018], personality characteristics [McDaniel et al., 2018], and/or decision-making skills [Braithwaite, Delevi, & Fincham, 2010; Johnson et al., 2015]) add potential explanatory variance to relationship and sexual satisfaction of young adult couples. Also, previous researchers (e.g., Maxwell et al., 2017; Stephenson & Meston, 2011) encouraged the incorporation of the full Interpersonal Exchange Model of Sexual Satisfaction (IEMSS; Lawrance & Byers, 1995) to provide further understanding of the rewards and costs associated with technoference among young adult couples and the potential mediating effects of rewards and costs to relationship and sexual satisfaction. Future studies need to incorporate path models (structural equation modeling) with moderating or mediating effects between technoference and relationship and sexual satisfaction would add or subtract from relationship and sexual satisfaction when technoference is present.

Finally, scale development that measures an individual's perception of their technology use during quality time spent together may shed light on an individual's own

awareness of technoference. Furthermore, technoference (partner and self) could be developed for clinical use and contribute to couple awareness of technoference on relationship and sexual satisfaction. If the person is unaware of the degree to which their own technoference occurs, how would they know the impact technoference has on relationship and sexual satisfaction?

Conclusion

The inundation of technology into couples' lives and potential for technology to create costs (Sabatelli, 1988; Thibaut & Kelley, 1959) within the relationship and negatively influence individuals' perceptions of relationship dynamics (McDaniel et al., 2018; Murray & Campbell, 2015) provided a foundation for this study. To this end, this study focused on further validating previous studies on technoference and relationship satisfaction (McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018); however, this study was the first of its kind to incorporate dating, cohabitating, engaged, and married couples into one sample to explore the correlations of technoference and relationship satisfaction. Furthermore, this study was the first of its kind to examine the correlations between technoference and sexual satisfaction among young adult couples.

The results suggested validation of previous studies that found correlations between technoference and relationship satisfaction (e.g., González-Rivera et al., 2018; McDaniel & Coyne, 2016a, 2016b; McDaniel et al., 2018). The results further validated the negative correlational direction between technoference and relationship satisfaction of both the actor and partner within the relationship. Also, the correlational analysis of technoference on sexual satisfaction provided novel information about the negatively-correlated actor effects of the sample's technoference scores on their own scores of

sexual satisfaction. Further study is needed to examine the potential reasons partner effects were not statistically significant.

Although this study has multiple limitations and future studies are needed to validate the findings, the correlations between technfoerence and relationship and sexual satisfaction among young adult couples provide support for technoference's inclusion in discussion topics with counselor education and supervision, counseling settings, and marriage and couples education programs. As this study focused on the correlational analysis of technoference, relationship satisfaction, and sexual satisfaction, future investigations are needed to elucidate further correlations and causations between technoference, relationship satisfaction, sexual satisfaction, and other variables that may play a role in explaining pathways between constructs.

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APPENDIX A

IRB APPROVAL LETTER

OFFICE OF RESEARCH COMPLIANCE

INSTITUTIONAL REVIEW BOARD FOR HUMAN RESEARCH
APPROVAL LETTER for EXEMPT REVIEW

Christopher Hipp
College of Education
Educational Studies / Counselor Education
Wardlaw
Columbia, SC 29208

Re: **Pro00082906**

Dear Mr. Christopher Hipp:

This is to certify that the research study ***Examining The* Influence of Technoference on Sexual Satisfaction and Relationship Satisfaction Using Actor-Partner Interdependence Modeling Among Young Adult Couples** was reviewed in accordance with 45 CFR 46.101(b)(2), the study received an exemption from Human Research Subject Regulations on **10/18/2018**. No further action or Institutional Review Board (IRB) oversight is required, as long as the study remains the same. However, the Principal Investigator must inform the Office of Research Compliance of any changes in procedures involving human subjects. Changes to the current research study could result in a reclassification of the study and further review by the IRB.

Because this study was determined to be exempt from further IRB oversight, consent document(s), if applicable, are not stamped with an expiration date.

All research related records are to be retained for at least three (3) years after termination of the study.The Office of Research Compliance is an administrative office that supports the

University of South Carolina Institutional Review Board (USC IRB). If you have questions, contact Lisa Johnson at lisaj@mailbox.sc.edu or (803) 777-6670.

Sincerely,

Lisa M. Johnson
ORC Assistant Director and IRB Manager

APPENDIX B

RECRUITMENT/INTEREST QUESTIONNAIRE

Examining the Effects of Technoference on Relationship and Sexual Satisfaction Among Young Adult Couples

My name is Christopher Hipp. I am a doctoral candidate in the Department of Education at the University of South Carolina. I am conducting a research study as part of the requirements of my degree in Counselor Education and Supervision, and I would like to invite you to participate.

The purpose of this study is to explore the potential relationships between a relatively new term, *technoference*, relationship satisfaction, and sexual satisfaction among young adult couples, between the ages of 18 and 35. Technoference is defined as an individual's perception of how often their partner's technology use negatively influences quality time spent together.

If you decide to participate, your answers to questions on the demographic form (e.g., age, race/ethnicity, length of relationship, etc.) and the technoference, relationship satisfaction, and sexual satisfaction assessments would greatly enhance the counseling profession's understanding of the constructs under study and assist in better equipping counselors and future counselors in addressing these constructs in counseling practice. You and your partner will only take the assessments once. Combined, the survey will take **5 to 10 minutes to complete**.

Recruitment Questionnaire (for response rate purposes)

1. Are you in a monogamous relationship (dating, cohabitating, engaged, or married)?
2. Are you between the ages of 18 and 35?
3. Are you in a sexually-active relationship?

4. Did you answer yes to all three of the above questions?

- ☐ Yes
- ☐ No

If you answered yes to question #4, are interested in participating in the above-mentioned study?

- ☐ Yes
- ☐ No

If you are interested in participating, what is an email address you use that I can send you the informed consent and invitation email with a link to the survey?

_____.

APPENDIX C

EMAIL TO POTENTIAL PARTICIPANTS

Hello,
My name is Christopher Hipp. I am a doctoral candidate in the Department of Education at the University of South Carolina. I am conducting a research study as part of the requirements of my degree in Counselor Education and Supervision, and I would like to invite you to participate.

The purpose of this study is to explore the potential relationships between a relatively new term, *technoference*, relationship satisfaction, and sexual satisfaction among young adult couples, between the ages of 18 and 35. Technoference is defined as an individual's perception of how often their partner's technology use negatively influences quality time spent together.

If you decide to participate, your answers to questions on the demographic form (e.g., age, race/ethnicity, length of relationship, etc.) and the technoference, relationship satisfaction, and sexual satisfaction assessments would greatly enhance the counseling profession's understanding of the constructs under study and assist in better equipping counselors and future counselors in addressing these constructs in counseling practice. You will only take the assessments once. Combined, the assessments will take **5 to 10 minutes to complete**.

Participation survey responses are confidential. Study information will be kept in a secure location at the University of South Carolina, on a password protected private researcher computer, and encrypted flash drives. The results of the study may be published or presented at professional meetings, but your identity will not be revealed.

As an incentive for your participation, at the end of the completed assessment, you will be offered an opportunity to enter a drawing for **one of twenty $20 gift cards** to your choice of either Walmart, Amazon, or a restaurant of your choosing.

Eligibility requirements include:

- You are in a romantic relationship (i.e., exclusively dating, cohabitating, engaged, or married)
- You are between the ages of 18 and 35
- You are in a sexually-active relationship with your partner

Steps for participating in this study:

1) Click the below link to begin the survey.
2) The first participant will be provided an identification code at the beginning of the survey.
3) In the process, you provide your email and your partner's email and your partner's first name *only*. (These are only used for this study, and we remove them from our records upon study completion).
4) In the meantime, we will send your partner an invitation to take the same survey.
5) If you receive an email for study participation, based on your partner's recommendation, you will not need to provide your partner's email and first name.
6) If you are the second person to complete the survey, you will be provided your identification code plus (-P) at the end of this email (**Please write this down and use this as your identification code (plus -P) throughout the completion of your survey)**. Example: Your identification code is 123456789-P.

If you have any questions about the study, please contact Christopher Hipp (hippcj@email.sc.edu). If you have any questions about your rights as a research subject contact, Lisa Marie Johnson, IRB Manager, Office of Research Compliance, University of South Carolina, 901 Sumter Street, Byrnes 515, Columbia, SC 29208, Phone: (803) 777-7095 or LisaJ@mailbox.sc.edu. The Office of Research Compliance is an administrative office that supports the USC Institutional Review Board. The Institutional Review Board (IRB) consists of representatives from a variety of scientific disciplines, non-scientists, and community members for the primary purpose of protecting the rights and welfare of human subjects enrolled in research studies.

If you are interested in participating in this study, please click on the below link to begin the survey. **By clicking the below link, you consent to participate in the study.**

[Example: 123456789]

Below, you will find options for counseling assistance.

Referral Resources

[Referral list based on location of advertisement]

Best regards,
Christopher Hipp, Ed.S., LPC, NCC
Doctoral Candidate, Counselor Education and Supervision
University of South Carolina

APPENDIX D

TRADITIONAL AND SNOWBALL SAMPLING PARTICIPANT SURVEY

EXAMINING THE INFLUENCE OF TECHNOFERENCE ON SEXUAL SATISFACTION AND RELATIONSHIP SATISFACTION USING

Start of Block: Demographic Questionnaire

Q1 Were you referred to take this survey by your partner?

- Yes (1)
- No (2)

Display This Question:

If Were you referred to take this survey by your partner? = No

Q2 Your identification code is: ${rand://int/10:9999999999}

Please write this identification code down.

Display This Question:

If Were you referred to take this survey by your partner? = No

Q3 What is your partner's first name *only* (for personalized email only) and a good email address I can use to invite them to this study?

- First name only (1) _____
- Email address (2) _____

Display This Question:

If Were you referred to take this survey by your partner? = Yes

Q4 What is your identification code provided to you in the invitation and consent email?

_____

Q5 What is your email address?

_____

Q6 Please indicate your relationship status.

- ○ Dating (1)
- ○ Cohabitating (2)
- ○ Engaged (3)
- ○ Married (4)

Q7 Please indicate your relationship sexual status.

- ○ sexually-active (1)
- ○ not sexually-active (2)

Q8 Please indicate your age.

_____

Q9 Choose one or more races that you consider yourself to be:

- ☐ White (1)
- ☐ Black or African American (2)
- ☐ Hispanic (non-White) (3)
- ☐ Asian (4)
- ☐ Native Hawaiian or Pacific Islander (5)
- ☐ Other (6) _____

Q10 Please indicate your relationship sexual orientation.

- ○ Heterosexual (1)
- ○ Same-sex (2)

Q11 Please indicate your gender.

- ○ Male (1)
- ○ Female (2)
- ○ Transgender (3)

Q12 Please indicate your relationship length (in either months or years).

- ○ Months (1) _____
- ○ Years (2) _____

End of Block: Demographic Questionnaire

Start of Block: Technology in Life Examples Scale

Q13

	Never (1)	Less than once a week (2)	Once a week (3)	Once every few days (4)	Once a day (5)	2 to 5 times a day (6)	6 to 9 times a day (7)	10 or more times a day (9)
(1) During a typical mealtime that my partner and I spend together, my partner pulls out and checks their phone or mobile device.	○	○	○	○	○	○	○	○
(2) My partner sends texts or emails to others during our face-to-face conversations.	○	○	○	○	○	○	○	○

(3) When my partner's phone or mobile device rings or beeps, they pull it out even if we are in the middle of a conversation.	○	○	○	○	○	○	○	○
(4) During leisure time that my partner and I are able to spend together, my partner gets on their phone, mobile device, or tablet.	○	○	○	○	○	○	○	○
(5) My partner gets distracted from our conversation by the TV.	○	○	○	○	○	○	○	○

End of Block: Technology in Life Examples Scale

Start of Block: Global Measure of Sexual Satisfaction

Q14 Overall, how would you describe your sexual relationship with your partner?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Very Bad	○	○	○	○	○	○	○	Very Good
Very Unpleasant	○	○	○	○	○	○	○	Very pleasant
Very Negative	○	○	○	○	○	○	○	Very Positive
Very Unsatisfying	○	○	○	○	○	○	○	Very Satisfying
Worthless	○	○	○	○	○	○	○	Very Valuable

End of Block: Global Measure of Sexual Satisfaction

Start of Block: Revised Dyadic Adjustment Scale

Q15 Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

	Always Agree (1)	Almost Always Agree (2)	Occasionally Agree (3)	Frequently Disagree (4)	Almost Always Disagree (5)	Always Disagree (6)
(1) Religious matters	○	○	○	○	○	○
(2) Demonstrations of affection	○	○	○	○	○	○
(3) Making major decisions	○	○	○	○	○	○
(4) Sex relations	○	○	○	○	○	○

(5) Conventionality (correct or proper behavior)	○	○	○	○	○	○
(6) Career decisions	○	○	○	○	○	○

Q16

	All the time (1)	Most of the time (2)	More often than not (3)	Occasionally (4)	Rarely (5)	Never (6)
(7) How often do you discuss or have you considered divorce, separation, or terminating your relationship?	○	○	○	○	○	○
(8) How often do you and your partner quarrel?	○	○	○	○	○	○
(9) Do you ever regret that you married (or lived together or began dating)?	○	○	○	○	○	○

(10) How often do you and your mate "get on each other's nerves"?	○	○	○	○	○	○

Q17

	Every Day (1)	Almost Every Day (2)	Occasionally (3)	Rarely (4)	Never (5)
(11) Do you and your mate engage in outside interests together?	○	○	○	○	○

Q18 How often would you say the following events occur between you and your mate?

	Never (1)	Less than once a month (2)	Once or twice a month (3)	Once or twice a week (4)	Once a day (5)	More often (6)
(12) Have a stimulating exchange of ideas	○	○	○	○	○	○
(13) Work together on a project	○	○	○	○	○	○
(14) Calmly discuss something	○	○	○	○	○	○

End of Block: Revised Dyadic Adjustment Scale

Start of Block: Block 4

Q19 Would you like to be entered into a lottery for one of twenty $20 gift cards to your choice of Walmart, Amazon, or a restaurant of your choice?

- Yes (1)
- No (2)

Display This Question:

If Would you like to be entered into a lottery for one of twenty $20 gift cards to your choice of Wa... = Yes

Q20 If drawn, what gift card choice would you like? Walmart, Amazon, or a restaurant of your choice?

- Walmart (1)
- Amazon (2)
- Restaurant (3)

Display This Question:

If If drawn, what gift card choice would you like? Walmart, Amazon, or a restaurant of your choice? = Restaurant

Q21 What restaurant would you like the gift card to be made to?

_____

End of Block: Block 4

APPENDIX E

EMAIL TO REFERRED PARTICIPANT

Hello [*first name only*]
My name is Christopher Hipp. I am a doctoral candidate in the Department of Education at the University of South Carolina. I am conducting a research study as part of the requirements of my degree in Counselor Education and Supervision, and I would like to invite you to participate as a **referred participant**.

The purpose of this study is to explore the potential relationships between a relatively new term, *technoference*, relationship satisfaction, and sexual satisfaction among young adult couples, between the ages of 18 and 35. Technoference is defined as an individual's perception of how often their partner's technology use negatively influences quality time spent together.

If you decide to participate, your answers to questions on the demographic form (e.g., age, race/ethnicity, length of relationship, etc.) and the technoference, relationship satisfaction, and sexual satisfaction assessments would greatly enhance the counseling profession's understanding of the constructs under study and assist in better equipping counselors and future counselors in addressing these constructs in counseling practice. You will only take the assessments once. Combined, the assessments will take **5 to 10 minutes to complete**.

Participation survey responses are confidential. Study information will be kept in a secure location at the University of South Carolina, on a password protected private researcher computer, and encrypted flash drives. The results of the study may be published or presented at professional meetings, but your identity will not be revealed.

As an incentive for your participation, at the end of the completed assessment, you will be offered an opportunity to enter a drawing for **one of twenty $20 gift cards** to your choice of either Walmart, Amazon, or a restaurant of your choosing.

Eligibility requirements include:

- You are in a romantic relationship (i.e., exclusively dating, cohabitating, engaged, or married)
- You are between the ages of 18 and 35
- You are in a sexually-active relationship with your partner

Steps for participating in this study:

1) Click the below link to begin the survey.
2) The first participant will be provided an identification code at the beginning of the survey.
3) In the process, you provide your email and your partner's email and your partner's first name *only*. (These are only used for this study, and we remove them from our records upon study completion).
4) In the meantime, we will send your partner an invitation to take the same survey.
5) If you receive an email for study participation, based on your partner's recommendation, you will not need to provide your partner's email and first name.
6) If you are the second person to complete the survey, you will be provided your identification code plus (-P) at the end of this email (**Please write this down and use this as your identification code (plus -P) throughout the completion of your survey)**. Example: Your identification code is 123456789-P.

If you have any questions about the study, please contact Christopher Hipp (hippcj@email.sc.edu). If you have any questions about your rights as a research subject contact, Lisa Marie Johnson, IRB Manager, Office of Research Compliance, University of South Carolina, 901 Sumter Street, Byrnes 515, Columbia, SC 29208, Phone: (803) 777-7095 or LisaJ@mailbox.sc.edu. The Office of Research Compliance is an administrative office that supports the USC Institutional Review Board. The Institutional Review Board (IRB) consists of representatives from a variety of scientific disciplines, non-scientists, and community members for the primary purpose of protecting the rights and welfare of human subjects enrolled in research studies.

Your referred identification code is (please write this down and use when prompted in the survey):

[Example: 123456789-P]

If you are interested in participating in this study, please click on the below link to begin the survey. **By clicking the below link, you consent to participate in the study.**

[*link to survey on Qualtrics]*

Below, you will find options for counseling assistance.

Referral Resources

[Referral Resources listed based on initial participants location]

APPENDIX F

DIRECTIONS FOR MTURK PARTICIPANTS

Examining the Influence of Technoference on Relationship and Sexual Satisfaction of Young Adult Couples Study – Please carefully read the instructions to this HIT (study completion <8 minutes)

***This is a dyadic (couples) study. As such, both, you and your partner will need to complete the survey involving demographic information, technology interference, relationship satisfaction, and sexual satisfaction, independently and confidentially, in order to be paid and approved for this HIT. Your participation is completely voluntary, and you may withdraw at any time.

In order to get credit for the study, we will need your thoughtful answers as well as your partners'.***

You will need to send the survey link to your partner in order for them to take the survey.

The link is: (*Study link*)

As the MTurk worker accepting this HIT, you may follow the below mentioned link address to the survey. Only your partner needs to follow the above-mentioned link (please write that down and provide it to you partner).
I
n addition to sending your partner the survey link, I will need you to send your partner your MTurk ID, because the survey will ask for a MTurk ID. We need this in order to link your responses up and review them.

Please note that you will not be approved for this HIT unless both you and your partner complete the survey.

Thank you for your participation.

APPENDIX G

MTURK DEMOGRAPHIC QUESTIONNAIRE FOR WORKER

1) Were you referred to take this survey by your partner?

- ☐ Yes (If the first-person answers *yes*, the person is thanked for their participation and the survey ends to help differentiate between partners)
- ☐ No (The person continues the survey)

2) Please indicate your relationship status.

- o Dating
- o Cohabitating
- o Engaged
- o Married

2) Please indicate your relationship sexual-status.

- o Sexually-active
- o Not sexually-active

3) Please indicate your age.

4) Please indicate your ethnicity (check all boxes that apply).

- ☐ Caucasian (White)
- ☐ African American (Black)
- ☐ Hispanic (non-White)
- ☐ Asian
- ☐ Hawaiian/Pacific Islander
- ☐ Other

5) Please indicate your sexual orientation.

- o Heterosexual
- o Same-sex relationship

6) Please indicate your gender.

- Male
- Female
- Transgender

7) Please indicate your relationship length (select either number of years or number of months).

APPENDIX H

MTURK DEMOGRAPHIC QUESTIONNAIRE FOR PARTNER

1) Were you referred to take this survey by your partner?

- o Yes
- o No (If the first-person answers *no*, the person is thanked for their participation and the survey ends to differentiate between partners)

2) Please indicate your relationship status.

- o Dating
- o Cohabitating
- o Engaged
- o Married

2) Please indicate your relationship sexual-status.

- o Sexually-active
- o Not sexually-active

3) Please indicate your age.

4) Please indicate your ethnicity (check all boxes that apply).

- □ Caucasian (White)
- □ African American (Black)
- □ Hispanic (non-White)
- □ Asian
- □ Hawaiian/Pacific Islander
- □ Other

5) Please indicate your sexual orientation.

- o Heterosexual
- o Same-sex relationship

6) Please indicate your gender. Male

- Female
- Transgender

7) Please indicate your relationship length (select either number of years or number of months).