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## What's the Phubbing Problem? : Attachment, Phone Snubbing, and Couple Satisfaction

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WHAT'S THE PHUBBING PROBLEM?  
ATTACHMENT, PHONE SNUBBING, AND COUPLE SATISFACTION

By

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For my grandmother, Antoinette.  
As your namesake, I hope I made you proud.

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## ABSTRACT

Technology has become commonplace in day-to-day activities, permeating our interactions, relationships, and intimacy. While it allows connectedness to those that are physically far, it also consumes our attention distracting us from being present with friends, family, and loved ones. This can take place in various forms including, but not limited to, texting, social media, video games, and entertainment applications. Phubbing, or phone snubbing, is the extent to which someone uses their phone in the presence of others. Phubbing can look like partners using their phone in the middle of a conversation, ensuring access to their phone at a moment's notice, or using their phone during quality time spent together. Phone use has become expected when people are around each other; however, limited research has been done regarding the impact it has on relationship satisfaction. More specifically, phubbing as it relates to adult attachment and relationship satisfaction. This study explored how perceptions of phubbing behaviors can inform the established relationship between attachment and relationship satisfaction for the individual and the relationship. A sample of 116 couples was recruited through snowball and convenience sampling methods. Participants completed an online survey comprised of measures for demographic information, adult attachment, relationship satisfaction, and partner phubbing behaviors. The data was analyzed using an Actor-Partner Interdependence Moderation Model, or APIMoM, to identify the moderating role of phubbing on the actor and partner effects of attachment and relationship satisfaction. Perceptions of phubbing were found to moderate the relationship between an individual's anxious attachment and avoidant attachment to their partner's reports of couple satisfaction. This supports the interdependent nature of phubbing and the impact it has on the understanding of attachment and couple satisfaction. Future research should explore a larger sample over time to understand long-term impacts of this moderation.

# CHAPTER 1

## INTRODUCTION

### Background of Problem

Technology has become a mainstay in many interpersonal relationships, with couples reporting that it can have both positive and negative effects on their relationships (Pew Research Center, 2014). However, more than half of partners feel smartphone use can serve as a distraction when they are trying to connect with each other (Pew Research Center, 2020). This technology use can occur in various formats, through communication, social media use, and entertainment. Individuals report spending an average of between three to five hours daily on their smartphones (RescueTime, 2019; Statista, 2019; ZD Net, 2019), which can serve as a means of avoidance or disconnection from the world and people around them. Cell phone use may occur during critical time couples could be spending together, connecting and sharing intimacy through communication and attention. This rate of phone use lends the question, how is technology impacting relationships? High technology use can fulfill needs not being met by partners (Ozad & Uygurer, 2014), potentially serving as a deterrent from partners turning towards one another to fulfill these needs, or the relationship being maintained primarily through technology. While people often report they do not necessarily find phone use in the presence of others to be socially acceptable, the majority of phone users do so (Rainie & Zickhur, 2015). The extent to which someone uses their phone in the presence of another is referred to as phone snubbing, or phubbing (McCann & Macquarie Dictionary, 2014).

Preliminary findings indicate phubbing has a relatively negative effect on romantic relationships, contributing to feelings of jealousy and disturbance at the loss of their partner's attention (Krasnova et al., 2016). These feelings of jealousy and lack of attention can be

informed by attachment (Guerrero, 2005; Knobloch et al., 2005), as a result of attachment insecurity leading to difficulty in trusting partners and focusing on trust violations (Mikulincer, 1998). Social media platforms, such as Facebook, can create feelings of jealousy between romantic partners, especially those with higher levels of attachment anxiety (Marshall et al., 2013). Similarly, phubbing may have different effects on relationship satisfaction dependent on partners' attachment. Attachment anxiety and avoidance has been found to guide how partners communicate and turn to each other in times of need (Hazan & Shaver, 1987), playing an important role in relationship satisfaction (Davila & Bradbury, 2001; Hazan & Shaver, 1987; Mohr et al., 2013; Parker et al., 2012). Attachment can even inform how partners are using their technology and its effects on relationship satisfaction (Schade et al., 2013), but it has not yet been explored as how it relates to relationship outcomes and phubbing.

### **Purpose of Study**

The purpose of this study is to explore the impact of phubbing behaviors on the relationship between attachment anxiety and avoidance and relationship satisfaction for partners in a couple. Partner phubbing (PPhubbing) is measured by the perception of a partner's phubbing behaviors by the reporting partner (Roberts & David, 2016). While previous research has been done regarding the role of phubbing for romantic partners and outcomes (Lapierre & Custer, 2020; McDaniel et al., 2020), it has not yet been explored with dyadic data analysis and through an attachment lens. Attachment theory (Bowlby, 1958), more specifically adult attachment (Hazan & Shaver, 1987), offers a relational framework to observe partner's needs, security, communication, and how this plays a role in relationship outcomes. However, as technology continues to develop, it is necessary to explore whether it can impact this existing relationship. By doing so, this study will add to the extant literature, while also furthering clinical assessments

and interventions for cellphone related presentations in couples. With the results of this study, relationship functioning and phubbing behaviors can be further identified and, ultimately, satisfaction can be improved for individuals and couples by understanding boundaries with technology and continuing to utilize technology in healthy ways.

Couples were recruited to complete this study. Both partners completed an online survey measuring their attachment, perceptions of phubbing, and couple satisfaction. Given the strong connection between attachment and relationship outcomes in the literature and the developing area of phubbing research, a moderation model is proposed. In a romantic relationship, it is expected that reports for one partner will influence the other, altering their outcomes (Kenny, 1988; Kenny & Kashy, 1991). An Actor-Partner Interdependence Moderation Model (APIMoM; Garcia et al., 2015) allowed for partners outcomes to be explored independently and interdependently. There is currently a gap in the literature as it pertains to attachment, phubbing, and relationship satisfaction, which was rectified with the following study. Thus, the following research questions and hypotheses were explored. A conceptual model (Figure 1) can be found in Appendix B. The pathways corresponding with the proposed hypotheses are identified in Figure 1.

### **Research Questions and Hypotheses**

- 1) Research Question #1: Does actor's PPhubbing moderate the relationship between actor's adult attachment and actor's satisfaction?
  - a. Hypothesis 1: As actor PPhubbing increases, the negative relationship between actor's attachment anxiety and actor's satisfaction will be significantly stronger (*actor-actor moderated effect*).

- b. Hypothesis 2: As actor PPhubbing increases, the negative relationship between actor's attachment avoidance and actor's satisfaction will be significantly stronger (*actor-actor effect*).
- 2) Research Question #2: Does actor's PPhubbing moderate the relationship between actor's adult attachment and partner's couple satisfaction?
- a. Hypothesis 3: As actor PPhubbing increases, the negative relationship between actor's attachment anxiety and partner's satisfaction will be significantly stronger (*partner-partner moderated effect*).
  - b. Hypothesis 4: As actor PPhubbing increases, the negative relationship between actor's attachment avoidance and partner's satisfaction will be significantly stronger (*partner-partner moderated effect*).

## CHAPTER 2

### LITERATURE REVIEW

Phubbing has been shown to be present in peer relations (Misra et al., 2016; Roberts & David, 2017; Vanden Abeelee et al., 2016) family relations (McDaniel et al., 2018; Moser et al., 2016; Oduor et al., 2016; Radesky et al., 2014;), and romantic relationships (Al-Saggaf & MacCulloch, 2019; David & Roberts, 2017; McDaniel et al., 2020). Existing in various relationships, those being phubbed feel neglected and less connected to those phubbing them (Vanden Abeele et al., 2019), perhaps impacting a partner's willingness to spend time or open up to those more invested in their phones. However, limited research has investigated this from a systemic lens, looking at how relational theories may inform phubbing and relationship outcomes. As Attachment Theory (Bowlby, 1958) can be used to conceptualize how partners connect, communicate, and necessitate needs to feel satisfaction in their relationship, this was the theoretical framework chosen to guide this study.

#### **Theoretical Framework: Attachment Theory**

Attachment theory was originally developed to describe the connection present between infant and caregiver (Bowlby, 1958). The primary caregiver, in earlier days this was predominantly the mother, was dubbed the "attachment figure" for infants to form a sense of trust, dependence, and reliability on, turning to them in times of desired protection and support (Ainsworth, 1991; Hazan & Shaver, 1994; Zeifman & Hazan, 2008). The three basic functions of attachment figures are to fulfill attachment needs by being present for proximity-seeking, being a safe-haven in times of need, and provide a secure base (Ainsworth, 1991; Hazan & Shaver, 1994; Zeifman & Hazan, 2008). Caregivers formed a process of attunement with their children, in which the caregiver matches the affective experience, rather than the behavior, allowing for

empathy and emotional availability to occur (Stern, 1985). In times of distress, infants will utilize proximity seeking from their primary caregiver, to receive protection or support (Bowlby, 1969, 1982). However, variations in responses from caregivers (i.e. a lack of consistency or support) can affect the attachment system and create an internal working model informing future interactions and adjusting proximity seeking attempts (Bowlby, 1973). This becomes the filtering system for which all interactions move through.

The understanding led to the development of identifying patterns of infant attachment dependent on the involvement of the attachment figure (Ainsworth, 1967). These patterns indicated the infants' response to their mother's involvement, or lack thereof, and were based in levels of insecurity and security to the attachment figure (Ainsworth et al., 1978). A "secure" attachment is characterized by working models of successful proximity-seeking; comparatively, "avoidant" attachment and "anxious" attachment experience a deactivation (dismissing) and hyper-activation (stress) of attachment systems, respectively (Ainsworth et al., 1978). Those with insecure attachment do not attain security from their attachment figure, altering their internal working models and proximity seeking behaviors (Ainsworth et al., 1978). A fourth category of attachment was later identified as "disorganized/disoriented," classified by oscillations between anxious and avoidance (Main & Solomon, 1990). While this theory found its origins present in infants, utilizing the parent as the attachment figure, it has been further developed to apply to adult attachment to romantic partners (Hazan & Shaver, 1987).

### **Adult Attachment**

Adult attachment, using the same tenets of attachment theory, posits that romantic partners become the attachment figures, through which attachment needs and security are sought (Hazan & Shaver, 1987). Rather than turning to a caregiver in times of distress, the individual



now turns to their romantic partner. This resulted in individuals functioning on two dimensions of romantic attachment: attachment-related avoidance and attachment-related anxiety. Avoidance is characterized by discomfort with closeness and dependence, and desire for emotional distance and self-reliance (Hazan & Shaver, 1987; Mikulincer & Shaver, 2018). Anxiety is characterized by a desire for closeness and protection, concern about their partner's availability and their ability to be valuable to their partner (Hazan & Shaver, 1987; Mikulincer & Shaver, 2018). Adult attachment governs communication, intimacy, trust, disclosure, and various aspects within a relationship that contribute to overall relationship function.

As internal working models are developed in infancy, several studies have supported the understanding that attachment patterns remain relatively stable over many years, into and during adulthood (Kirkpatrick & Hazan, 1994; Klohnen & Bera, 1998; Steele & Steele, 2007; Zhang & Labouvie-Vief, 2004). However, it has also been found that those with more insecure attachment may become more secure over time with the help of a secure partner and relationship (Hudson et al., 2014), or changing life circumstances and adjusting internal working models (Davila et al., 1997). This consistency of attachment patterns is indicative of how individuals function and communicate within their relationship, but this may be altered with the increasing development of technology. The ease and familiarity with technology has allowed it to find a permanent home within relationships; with technology use dependent on attachment, it may function to fulfill attachment needs and, ultimately, alter the relationship.

## **Key Concepts**

### *Attachment Insecurity and Needs*

Based in adult attachment (Hazan & Shaver, 1987), Bartholomew and Horowitz (1991) proposed attachment functioning within two dimensions: attachment avoidance and attachment

anxiety. While each individual has varying levels of avoidance and anxiety, these operate as independent constructs as they have separate influences on outcomes. Within a romantic relationship, attachment anxiety tends to be characterized as a fear of abandonment by the partner and attachment avoidance tends to be characterized as a discomfort with intimacy with the partner (Hazan & Shaver, 1987). Bartholomew & Horowitz (1991) developed these dimensions into a four-category model, situated dependent on varying levels of anxiety and avoidance: *Secure attachment* (low avoidance, low anxiety), is characterized by comfort with intimacy and autonomy. *Preoccupied attachment* (low avoidance, high anxiety), is characterized by intense concern and preoccupation with the relationship. *Dismissing attachment* (low anxiety, high avoidance) is characterized avoidance of dependency and intimacy. *Fearful attachment* (high anxiety, high avoidance) is characterized by fear of intimacy and social avoidance.

As adult attachment is a function of anxiety and avoidance, these tend to be the primary terms in discussing adult attachment. Attachment inform how one connects with their partner, in terms of communication, intimacy, and support. However, with technology now allowing for the opportunity to provide connection with the push of a button, it begins to fulfill attachment needs previously done so by their partner (Ozad & Uygurer, 2014).

Given what is known about attachment anxiety, technology may alleviate distress for the anxious individual by increasing accessibility to and availability of the partner. Proximity-seeking behaviors may be transformed for anxious individuals with the help of technology, allowing them to track and monitor their partners through location services and through social media (Reed et al., 2016). In times of distress, the anxious partner may utilize texting and calling to alleviate their fear of abandonment.

Attachment avoidant individuals, characterized by a fear of intimacy and interdependence, might use technology to allow them the opportunity to connect with their partners from a more comfortable distance. While technology can be a tool for avoidant partners to connect, it can also be a tool for further avoidant behavior (Morey et al., 2013). Technology could become a distraction, giving the chance for avoidant partners to escape times of intimacy, quality time or conflict, which are times they may prefer to avoid.

#### *Attachment Figure and Attunement*

As adult attachment proposes the romantic partner as the attachment figure, relationships are seeing that technology may be fulfilling this role. In a Pew Research Center survey (2011), partners reported technology use to be a source of support and communication, but also a source of tension. While the relationship with technology might be complex for partners, their attachment type may inform how they're utilizing it in times of distress and seeking support. When partners would normally be turning to each other for support, they now may be turning to technology, forming an attachment to their technology (Hertlein & Twist, 2018). When a partner feels as though they are not being paid attention to, they may turn to their phone to seek support and inclusion (David & Roberts, 2017).

What partners experience, expect, and perceive from one another is based in attachment. Clinical approaches are often connected to, and informed by, attachment as it is the way couples tend to and bond with one another. While attachment theory continues to be explored in its relationship with technology use, research needs to be furthered to understand how anxiety and avoidance can inform technology use and the relationship. The current literature finds discrepancies in technology use and attachment in the function of the relationship. Therefore, it

is imperative that researchers continue to explore this area to adjust to the technological landscape growing and impacting relationships.

### **Couple Satisfaction**

Satisfaction in couples can be measured by a variety of factors, including those that are for the individual and the relationship. These factors include self and partner variables relating to communication, such as disclosure, perspective, conflict tactics, and competence (Meeks et al., 1998). Couple satisfaction can be indicative of stability, success, and commitment over time, making it an important variable to continue to understand and research. Several studies have utilized dyadic data analysis to explore the interdependence of partners, how one partner may affect the other. Specifically, perceptions of partner's responses can affect outcomes for the reporting partner in matters such as coping responses (Donato et al., 2015) and love styles (Gana et al., 2013) as they relate to satisfaction outcomes for the opposite partner. Dyadic research has also been conducted to explore how attachment may affect partners' relationship satisfaction. Specifically, attachment avoidance can negatively impact relationship satisfaction for both self and the respective partner (Conradi et al., 2017). In order to better understand the role of attachment and relationship outcomes, outcomes for the individual must be investigated so as to further expand upon with additional dyadic research.

### **Adult Attachment & Relationship Satisfaction**

Attachment, specifically insecure attachment (anxiety and avoidance), has been found to predict presenting problems in mental health (Mikulincer & Shaver, 2012) and poor relationship outcomes (Davila & Bradbury, 2001; Mohr et al., 2013). As attachment develops from infancy, it forms an internal working model (Bowlby, 1973) which informs the way individuals interact with those around them, including romantic partners. Attachment has been found to impact

relational quality cross-culturally (Yum & Li, 2007). Attachment anxiety and attachment avoidance differ in their interactions with their partners, resulting in a variety of relationship outcomes (Li & Chan, 2012). However, the consistent finding in the research is that low relationship satisfaction is associated with attachment insecurity, due to the difficulty in meeting attachment needs (Kobak et al., 1994; Mikulincer & Shaver, 2018). Compared with their secure counterparts, insecure partners have lower rates of marital satisfaction (Alexandrov et al., 2005; Mikulincer & Shaver, 2018; Roisman et al., 2005; Treboux et al., 2004). Although, research is beginning to support the belief that one's individual attachment can impact both partners in the dyad, amplifying secure effects or minimizing insecure effects dependent on the responding partner's attachment (Banse, 2004). While secure individuals tend to choose secure partners resulting in greater relationship satisfaction, mixed couples (with one secure partner) and doubly insecure couples have lower relationship satisfaction (Berman et al., 1994; Dickstein et al., 2001; Kilmann et al., 2013; Senchack & Leonard, 1992; Strauss et al., 2012).

### *Attachment Anxiety*

Individuals with attachment anxiety utilize their romantic partners to meet their attachment needs through proximity seeking, avoiding rejection, and exerting a sense of control, (Mikulincer & Shaver, 2018). When this is not happening, the anxiously attached partner feels intense fear, working to alleviate this anxiety by initiating proximity-seeking methods to achieve their perceived closeness (Cassidy, 1994). Inevitably, this puts pressure on the romantic partner to fulfill their anxious partner's needs and, ultimately, strains the relationship (Lemay & Dudley, 2011).

Due to their high focus on fulfilling their own attachment needs and alleviating anxiety, the anxious partner has difficulty being attentive to their partner's needs and signals (Rholes et

al., 2008). It is interesting that the very same support-seeking behavior from their partner, has resulted in the anxious individual being a poor support-giver to their partner (Collins & Feeney, 2000). One study found that attachment anxiety resulted in higher, more severe levels of conflict in the relationship, which negatively impacted satisfaction and closeness (Campbell et al., 2005). This could be a result of the hyperawareness present for the anxious partner, in terms of their own needs and on their partner fulfilling them, leading to heightened conflict when their partner fails to do so.

Dyadic studies have been used to understand that one partner's attachment can influence the other partner's relationship satisfaction. Women's anxiety in the relationship results in negative relationship satisfaction for their male partners, with men reporting more conflict and less trust (Collins & Read, 1990; Simpson, 1990). This exemplifies the impact of attachment anxiety for one partner in the relationship, leading to more negative relationship outcomes.

#### *Attachment Avoidance*

While individuals with avoidant attachment also experience poor relationship outcomes, how these are portrayed in the context of the relationship is different than the anxious individual. Individuals with attachment avoidance are characterized by a discomfort with closeness and work to avoid interdependence with a romantic partner (Cassidy, 1994). This results in the avoidant individual being less involved and interested in their partner's emotional state and experiences (Rholes et al., 2007). The partner of an avoidant individual may then feel their partner does not care about them or is not committed to the relationship, leading to a decrease in relationship satisfaction (Tidwell et al., 1996).

Due to their discomfort with closeness, the avoidant partner tends to be ineffective in support seeking behaviors (Collins & Feeney, 2000). This strong urge for independence and

discomfort with closeness, does not give the partner of the avoidant individual the opportunity to fulfill their attachment needs. An individual with an avoidant attachment operates from an internal working model that has limited trust and expects little from partners (Cassidy, 1994). This results in positive relational interactions being met with indifference and detachment, and negative relational interactions being met with suppressed anger, withdrawal, and resentment (Mikulincer & Shaver, 2018). This can have deleterious effects on relationship satisfaction and reported partner satisfaction.

Dyadic research has found men's comfort with closeness is predictive of positive relationship satisfaction for women, meaning when men have avoidant attachment this negatively impacts their spouses' reports of satisfaction (Collins and Read, 1990; Simpson, 1990). This can be a result of the loneliness that spouses may feel due to their partner's attachment avoidance, portrayed by a perceived lack of commitment, dedication, and trust in the relationship (Givertz et al., 2013).

### **Technology Use in Relationships**

As technology use is common to the individual, it is inevitable that it is also being used in romantic relationships. Smartphone use has been found to be used by romantic partners to express affection (Coyne et al., 2011; Subrahmanyam & Greenfield, 2008), but also to discuss arguments (Draucker & Martsolf, 2010). While the complexity of technology is evident in how it's being used, it is important to explore how it plays a role in the complexity of romantic relationships. Smartphone users in relationships report benefits to technology use, such as communication, planning, intimacy, connection, and relationship maintenance; however, negative impacts include impairment of communication and intimacy, jealousy and trust, and distraction (Murray & Campbell, 2015). For those in long-distance relationships, technology use

such as texting, calling, and video chatting tends to be higher in order to maintain the relationship and satisfaction (Holtzman et al., 2020). Specific social networking sites and usage may also impact couples. Facebook can have negative effects on intimacy as it is viewed from the partner's perspective; contrastingly, high levels of intimacy can serve as a protective factor in partners' reports of phone usage and relationship satisfaction (Hand et al., 2013). To further explore the role of technology use, it is necessary to incorporate a relational theory, such as attachment theory, to investigate what may be prompting technology use in relationships.

Previous research has found connections between technology use as it relates to adult attachment. In order to fulfill attachment needs, individuals may utilize technology to bridge the gaps in the partners' failing attempts to do so. The use of texting to express affection, and to hurt a partner, was predicted by attachment and affected relationship satisfaction (Schade et al., 2013). The anxiously attached partner, when unable to get close to their partner in times of desired soothing, may turn to technology to provide a sense of support and attention not currently received in the relationship. The avoidant attached partner, experiencing discomfort with closeness, may use their phones to connect from a more comfortable distance. This is informative to researchers and clinicians to account for the role of technology in the romantic relationship from an attachment lens.

Research has found that the use of technology within romantic relationships is associated with attachment. Attachment anxiety and attachment avoidance have been found to moderate the relationship between frequency of technology use and relationship satisfaction (Morey et al., 2013). Studies have consistently found that attachment avoidance is associated with low cell phone use (Jin & Pena, 2010; Morey et al., 2013). This may be a result of the avoidant partner maintaining their distance even through virtual means, leading to a lack of involvement with



their cell phones, negatively impacting relationship satisfaction. While attachment anxiety has not been found to be a significant predictor of technology-based communication (Chopik & Peterson, 2014; Jin & Pena, 2010), it has been found to be linked with higher rates of monitoring and surveillance of partners on social media (Fox & Warber, 2014; Reed et al., 2016). By being able to exert a perceived sense of control via social media, the anxious partner can alleviate their fear of abandonment. Essentially, their partner is constantly available to them with the easy accessibility of social media, fulfilling their attachment need by a perceived sense of closeness. When romantic partners have higher levels of attachment insecurity, this can lead to lower levels of relationship satisfaction; however, the quality and quantity of social networking communication can alleviate this relationship (Candel et al., 2020).

More modern types of technology use, such as sexting, have also been found to be predictive from attachment, with anxious partners engaging in sexting more frequently (Weisskirch & Delevi, 2011). It can also inform relationships initiated online and dissolving through technological means. Attachment anxiety was associated with higher levels of communication via technological means within relationships initiated online, as well as lower relationship satisfaction (Goodcase et al., 2018). This may be the reason why those with higher attachment anxiety are more likely to experience break-ups via technology (Weisskirch & Delevi, 2012). While technology may alleviate the stress felt by the anxious partner when not together, the continued proximity-seeking behaviors may negatively impact the partner, leading to low relationship satisfaction and, ultimately, dissolution.

While attachment avoidance did not impact technology-based communication, it did increase the likelihood of technology use in ending a relationship (Weisskirch & Delevi, 2012). Partners with higher levels of avoidance may not necessarily engage more frequently with their

partner; however, it may provide them with a comfortable distance to end the relationship, out of sight of their partner's emotional response. Evidently, technology use can be involved in all stages of the relationship; however, informed by the attachment of partners. Higher anxiety partners may use technology as an additional, novel tool for continued proximity-seeking behaviors and higher avoidance partners may use technology as an emotional buffer.

Phubbing, a recent term developed from the phrase "phone snubbing," is "the act of snubbing someone in a social setting, by looking at your phone instead of paying attention," (McCann & Macquarie Dictionary, 2014). Furthermore, Partner Phubbing (Pphubbing) is when this takes place in the company of the romantic partner (Roberts & David, 2016). This can lead to conflict within a relationship; however, attachment has been found to moderate the relationship between Pphubbing and cell phone conflict (Roberts & David, 2016). Phubbed individuals experience feelings such as social exclusion, heightening a need for attention (David & Roberts, 2017). Relational research could be strengthened by looking at this relationship from an attachment-lens to better inform this perceived need for attention. While attachment has been found to impact both technology use and relationship satisfaction, it has not been extensively explored in the context of phubbing behaviors in couples.

### **Phubbing**

Phubbing has been presented as the amalgamation of multiple digital addictions (Karadag, 2015). Therefore, the behavior goes beyond the basic glance at a phone and is characterized as being more disruptive based on the level of phone absorption by the phubber (Aagard, 2020), which may be dependent on the level of digital addiction. Addiction to digital devices is proposed as being similar to other behavioral addictions, consisting of levels of overuse, non-restraint, inhibiting the flow of life, emotional modification, and dependence

(Kesici & Tunc, 2018). Digital addiction and phubbing can cause similar outcomes for individuals in the matter of lowered social skills, emotional intelligence, empathy, and increased conflict with others and mental health symptoms (Scott et al., 2017). However, it is important to distinguish between digital addiction and phubbing behaviors.

Phubbing is a unique experience that takes place when unprompted phone use is occurring during potential moments of intimacy and connection for individuals. It differs from other distracting activities, such as newspaper gazing, because phubbing leads to more negative evaluations of connection (Vanden Abeele & Postma-Nilsenova, 2018). The difference in experiences may be a result of the higher potential to become absorbed in phone use, due to the interactive qualities, as compared with a static reference of a book or newspaper. When comparing cellphone with other digital devices, such as tablets and laptops, nearly 20% of all cellphone users go online primarily on their phones due to convenience and availability, as compared with a computer or tablet (Pew Research Center, 2012). Individuals may be actively engaging in phubbing with the expectation of maintaining attentiveness and availability to their partner during face-to-face conversations (Burgoon & Hale, 1987), guided by the myth of media multitasking (Wang & Tchernev, 2012). That is, to be able to maintain communication practices and etiquette while engaging in media use.

Phubbing, specifically, can lead to negatively affecting communication quality and relationship satisfaction (Chotpitayasunondh & Douglas, 2018). Communication and relationship quality may be altered due to feelings of inattentiveness and perceived distance by the partner being phubbed (Miller-Ott & Kelly, 2015; Vanden Abeele et al., 2016; Vanden Abeele & Postma-Nilsenova, 2018), ultimately reducing emotional connection (Nakamura, 2015). Patterns of communication, and subsequent relationship satisfaction, can be informed by varying levels of

attachment anxiety and avoidance (Ebrahimi & Kimiaei, 2014). Communication patterns between partners can be present in forms of constructive communication, demand-withdraw, and criticize-defend (Christensen & Heavey, 1990). Attachment anxiety has been found to negatively impact times of constructive communication (Ebrahimi & Kimiaei, 2014), while avoidance has been found to be associated with demand-withdraw patterns (Ebrahimi & Kimiaei, 2014; Givertz & Safford, 2011).

### **Partner Phubbing**

Partner phubbing is commonplace in time spent between couples, becoming a behavior that occurs readily and distracts from conversation and connection. Vanden Abele and colleagues (2019) observed in their sample that phubbing occurred in nearly 62% of conversations, as frequently as three times and as extensively as nearly two minutes per phub. Partners who perceived they were being phubbed, reported lower levels of intimacy in their conversations (Vanden Abele et al., 2019). This indicates that phubbing takes place at high rates, and when it does, this perception and report from the phubbed partner can have detrimental outcomes for the relationship. Beyond the partner's perception of being phubbed, the phubber themselves also reports lower levels of affectionate communication. As phubbing affects outcomes for both the phubber and phubbed, it may be a result of technology use causing conflict and dissatisfaction during time spent together (McDaniel et al., 2020). Ultimately, phubbing negatively impacts relationship satisfaction (Lapierre & Custer, 2020; McDaniel et al., 2020), but research has not yet explored this from an attachment lens with dyadic data.

Using our phones in the presence of others we would otherwise be spending time with, has quickly become an expected experience. Phubbing has become such a normative experience in the time people spend with each other, that being phubbed by the person they are with

predicted phubbing behaviors, and vice versa (Chotpitayasunondh & Douglas, 2016). In several studies, roughly 60% of smartphone users report looking at their phone while having a conversation with others (Al-Saggaf & MacCulloch, 2019; Chotpitayasunondh & Douglas, 2016; McDaniel & Coyne, 2016; Roberts & David, 2016; Wang et al., 2017) It appears to be an endless cycle that works to infiltrate almost all relationships where a cell phone is permitted. Phubbing has been mainly studied in the context of family dynamics (Moser et al., 2016; Oduor et al., 2016; Radesky et al., 2014; McDaniel et al., 2018) and peer relations (Vanden Abeelee et al., 2016; Misra et al., 2016; Roberts & David, 2017); however, individuals are more likely to phub partners compared with other family members and peer relations (Al-Saggaf & MacCulloch, 2019).

Phubbing can cause conflict between couples, leading to lack of intimacy and, ultimately, low relationship satisfaction (Halpern & Katz, 2017; McDaniel & Coyne, 2016; Wang et al., 2017). Phubbing appears to have made its place in the couple dynamic, potentially damaging as it may be, it is a persistent issue that continues to emerge for partners. The impact of phubbing on relationship satisfaction has been found to be moderated by relationship status, with it affecting married couples most significantly (Wang et al., 2019). This may be a result of the amount of time married couples spend together and high levels of comfort and familiarity, compared to their dating counterparts. Relationship expectations may be different dependent on the level of commitment (Brown, 2004; Waller & McLanahan, 2005), allowing partners to have more flexible or rigid boundaries with their cell phone use.

Cell phones and phubbing have even found their way into the bedroom causing problems in sexual satisfaction. Partner phubbing was found to negatively affect sexual satisfaction, with the male partners' reports of their partner's phubbing behaviors, negatively impacting the female

partners' sexual satisfaction (Spencer et al., 2019). It appears that even though a partner may be phubbing, it is affecting the sexual satisfaction in the relationship. This exhibits the importance of dyadic data analysis in understanding how phubbing affects the individual and the couple.

### **Research Questions and Hypotheses**

This study aimed to address the following research questions and hypotheses:

- 1) Research Question #1: Does actor's PPhubbing moderate the relationship between actor's adult attachment and actor's satisfaction?
  - a. Hypothesis 1: As actor PPhubbing increases, the negative relationship between actor's attachment anxiety and actor's satisfaction will be significantly stronger (*actor-actor moderated effect*).
  - b. Hypothesis 2: As actor PPhubbing increases, the negative relationship between actor's attachment avoidance and actor's satisfaction will be significantly stronger (*actor-actor effect*).
- 2) Research Question #2: Does actor's PPhubbing moderate the relationship between actor's adult attachment and partner's couple satisfaction?
  - a. Hypothesis 3: As actor PPhubbing increases, the negative relationship between actor's attachment anxiety and partner's satisfaction will be significantly stronger (*partner-partner moderated effect*).
  - b. Hypothesis 4: As actor PPhubbing increases, the negative relationship between actor's attachment avoidance and partner's satisfaction will be significantly stronger (*partner-partner moderated effect*).

## **CHAPTER 3**

### **METHODS**

#### **Purpose of Study**

Given the gap in the extant literature regarding adult attachment, phubbing, and relationship satisfaction, the following study was proposed. Results from this study can inform clinical interventions, the couple's relationship, and the effects of their phone use for themselves and for each other. Due to the interdependence of a couple, dyadic data analysis determines the role of phubbing as it impacts the relationship between attachment for both partners in relationship satisfaction for the individual and their respective partner.

#### **Overview of Approach**

The Actor-Partner Interdependence Model (APIM; Kenny et al., 2006) allows researchers to explore partners' influence on their own outcomes, as well as that of their partner (Kenny et al., 2006). By taking a more systemic approach to exploring couples, research moves beyond focusing on the individual and their outcomes and looks at how partners may be influencing the outcomes for each other. The APIM presents actor effects focusing on intrapersonal effects for each member of the couple and partner effects focusing on interpersonal effects between members of the couple (Kenny, 2018; Ledermann & Bodenmann, 2006; Ledermann et al., 2011). In order to research the influence of partner phubbing on the established relationship of attachment and relationship outcomes (Davila & Bradbury, 2001; Kobak et al., 1994; Mikulincer & Shaver, 2018; Mohr et al., 2013; Yum & Li, 2007), a moderation model was run within the APIM. Additionally, the study utilized indistinguishable dyads, as this is the first step in this research and the aim was to gather as much information as possible as it pertains to the proposed variables. This study utilized quantitative research methods, including structural equation modeling in order to run the Actor-Partner Interdependence Moderation Model (APIMoM;

Garcia et al., 2015). Structural equation modeling is considered the simplest analytic method to use for an APIM with indistinguishable dyads, as its methods are well-established (Kenny et al., 2006). The human subject's approval letter can be found in Appendix A.

### **Research Questions and Hypotheses**

This study aimed to address the following research questions and hypotheses:

- 1) Research Question #1: Does actor's PPhubbing moderate the relationship between actor's adult attachment and actor's satisfaction?
  - a. Hypothesis 1: As actor PPhubbing increases, the negative relationship between actor's attachment anxiety and actor's satisfaction will be significantly stronger (*actor-actor moderated effect*).
  - b. Hypothesis 2: As actor PPhubbing increases, the negative relationship between actor's attachment avoidance and actor's satisfaction will be significantly stronger (*actor-actor effect*).
- 2) Research Question #2: Does actor's PPhubbing moderate the relationship between actor's adult attachment and partner's couple satisfaction?
  - a. Hypothesis 3: As actor PPhubbing increases, the negative relationship between actor's attachment anxiety and partner's satisfaction will be significantly stronger (*partner-partner moderated effect*).
  - b. Hypothesis 4: As actor PPhubbing increases, the negative relationship between actor's attachment avoidance and partner's satisfaction will be significantly stronger (*partner-partner moderated effect*).



## **Recruitment**

Recruitment took place from April 2021 to November 2021. Originally, recruitment took place through convenience and snowball sampling, primarily through social media platforms (Facebook, Twitter, Instagram, etc.), and through extra credit opportunities in classes taught at Florida State University. Social media, such as Facebook, has been found to be a viable platform for conducting research, in its ability to provide a heterogeneous sample with valid generalizability (Rife et al., 2016). Recruitment taking place through word of mouth and emails sent to COAMFTE-accredited programs.

## **Eligibility**

Inclusion criteria included being between the ages of 18-64, the use of a smartphone as their primary mobile phone, and being currently involved in a romantic relationship. Both partners had to complete the survey in order to be included in the final analyses. Couples were able to be living together, or long distance, regardless of relationship status. If couples were not living together, questions were answered dependent on phubbing when time was spent together. Exclusion criteria included not being involved in a romantic relationship.

## **Incentives**

The researcher secured two funding opportunities through the FSU Graduate School Dissertation Research Grant and the American Association of Marriage and Family Therapy Graduate Student Research Award. These awards offered the opportunity to provide incentives during the recruitment process. Upon completion of the survey, the couple was entered into a lottery to receive one of ten, \$100 Visa gift cards. Both members had to complete the survey to qualify and were assigned a number based on order of completion. Winning couples were then selected by the undergraduate research assistants through a random number generator.

## Power

An a priori power analysis was conducted via G\*Power (Erdfelder, Faul, & Buchner, 1996) to provide an adequate sample size to achieve a desired power of .8, based on Cohen's (1988) recommendation to minimize the risk of a Type II error. There is limited information regarding conducting a power analysis in an APIMoM (Chow et al., 2015; Garcia et al., 2015). A previous dyadic study, using a basic APIM, explored phubbing utilized power of .80 to detect a small to medium effect size (Beukeboom & Pollmann, 2021).

Given the proposed study was conducted without pilot data and research in the exploration of phubbing is still growing, there was not enough prior information to perform a conclusive power simulation. Therefore, utilizing the existing strong relationship between attachment and relationship satisfaction, a small to medium effect size should be expected. Acceptable effect sizes are estimated based on moderation effects tested at varying levels of power with twelve predictors per model, based on the dyadic nature of the analysis. For the interaction effect to accomplish a small effect size of .02 (Cohen, 1988), a sample size of 822 individuals was required, resulting in approximately 411 couples. For the interaction effect to accomplish a medium effect size of .15 (Cohen, 1988), a sample size of 118 individuals was required, resulting in approximately 59 couples. For the interaction effect to accomplish a large effect size of .35 (Cohen, 1988), a sample size of 47 individuals was required, resulting in approximately 24 couples. Thus, an estimated target sample of 100 couples was needed in order to achieve adequate power.

Post hoc analyses were conducted based on the 232 individuals, 116 couples, that completed the survey. There were six predictors for each partner and six control variables, totaling 12 predictors, including attachment, phubbing, the interaction effect of phubbing and

attachment, relationship length, communication pattern total demand-withdraw, and non-restraint. A medium effect size (.15), with this sample found a power value of .99, indicating adequate power to detect moderation effects. The lack of consensus for the power analysis in an APIMoM are discussed further in the limitations section.

### **Sample and Procedures**

As smartphones have such a high prevalence and are a common factor in everyday life across age groups (Pew Research Center, 2019), the results of this study can be applicable for smartphone users in relationships. In order to be involved in the study, participants needed to be currently involved in a romantic relationship. This was to ensure that both members of the couple were eligible to participate in the study, obtaining the data necessary to run dyadic analysis. Participants were screened in order to eliminate data that is completed by individuals not in a relationship, or only completed by one partner.

Upon recruitment to the study, participants were directed to an online survey link. The survey was completed through Qualtrics, a secure online platform used for survey distribution and completion. The survey led participants to an informed consent, which needed to be affirmed before continuing to the measures pertaining to demographic information, attachment anxiety and avoidance, relationship satisfaction, and phubbing behaviors. The informed consent provided information about the study and its purpose, procedures, risks and benefits of participation, confidentiality, ability to leave the study at any time, contact information, incentive information, and statement of consent (See Appendix C). Participants had to consent for participation and all data was stored on a secure OneDrive account on a password protected account and computer only accessible to the researcher. Several validity checks were added on the consent form and

throughout the survey to confirm legitimacy of completion. If these were not completed correctly, participants were removed from the sample.

In order to match partners with one another to run the APIMoM, couples created a Couple Case ID consisting of first and last initials for both partners (e.g., Marissa Mosley and John Doe=MMJD). Both partners used this Couple Case ID to complete the survey, with additional questions about the relationship, such as partner's email to match couples and confirm completion of survey by both partners. Each partner of the couple had to complete the survey in order to qualify for the incentive. Incentives were awarded at the end of the recruitment period.

Upon reviewing the completed dataset, removing those not in a relationship, those who did not complete the validity checks correctly, and those with only one partner completing the survey, the final sample yielded 232 individuals, 116 couples. The sample comprised of 109 men (47%), 121 women (52.2%), and one transgender male (.4%) and one non-binary individual (.4%), with the average age of participants being 25 years old ( $SD=9.11$ ). While all couples were in a committed relationship, 60 individuals were living together (25.9%) and 37 individuals were married (15.9%), with the remainder of participants living apart ( $N=135$ , 58.2%). There were extreme variations of relationship length, with couples being together on average for 2-3 years ( $SD=2.11$ ). The majority of participants identified as Heterosexual ( $N=183$ , 78.9%), with 14 individuals (6%) and 13 individuals (5.6%) identifying as Bisexual and Gay/Lesbian, respectively. Participants were able to select multiple racial-ethnic identities, in order to encompass as much diversity as possible. This resulted in 169 people (72.8%) identifying as White, 33 people (14.2%) identifying as Black, 17 people (7.3%) identifying as Asian, and 33 people (14.2%) identifying as Hispanic/Latinx. The sample was highly educated and had high incomes, with the average participant having a Bachelor's Degree ( $SD=0.64$ ) and earning

roughly \$70,000-\$80,000 ( $SD=3.61$ ). Lastly, all participants owned and used a smartphone, and a large amount of the sample owned a tablet ( $N=101$ , 43.5%) and a smartwatch ( $N=107$ , 46.1%).

More detailed information on sample demographics can be found in Table 1 in Appendix B. Relationship length was the only demographic variable found to significantly predict couple satisfaction for both partners, thus it was included as a control variable in subsequent analyses.

## **Measures**

Participants completed an anonymous, confidential online survey via Qualtrics, a data collection software provided by Florida State University. The survey consisted of demographic questions, the Experiences in Close Relationships-Revised (ECR-R; Fraley et al., 2000) Scale, the Couples Satisfaction Index (CSI-16; Funk & Rogge, 2007), the Partner Phubbing (Pphubbing) Scale (Roberts & David, 2016), and two control measures assessing digital addiction (Digital Addiction Scale; Kesici & Tunc, 2018) and communication patterns (Communication Patterns Questionnaire-Short Form; Christensen & Heavey, 1990).

### *Adult Attachment*

Each partner's adult attachment anxiety and avoidance were measured using the Experiences in Close Relationships-Revised Scale (Fraley et al., 2000), or ECR-R. Originally developed from the Experiences in Close Relationships Scale (Brennan et al., 1998), the ECR-R asks participants 36 questions regarding their self-report measure of attachment anxiety and attachment avoidance in romantic relationships.

The ECR-R consists of questions such as, "I prefer not to show a partner how I feel deep down," and "I'm afraid that I will lose my partner's love." Responses are scored on a Likert scale ranging from 1 (Disagree Strongly) to 7 (Agree Strongly). Attachment anxiety scores are computed by averaging the 18 "Anxiety Items," with higher scores reflecting greater anxiety.

Attachment avoidance scores are computed by averaging the 18 “Avoidance Items,” with higher scores reflecting greater avoidance. Both scales showed high internal reliability, attachment anxiety had a Cronbach’s  $\alpha$  of .92 and attachment avoidance had a Cronbach’s  $\alpha$  of .91.

The ECR creates two distinct scores for an individual on the dimensions of anxiety and avoidance, it is encouraged to maintain the continuous variable based on these dimensions rather than shifting to categories in order to maintain precision and power of the scale (Fraley & Waller, 1998; Fraley & Spieker, 2003a, 2003b; Roisman et al., 2007). The ECR-R Scale can be found in Appendix D.

### *Relationship Satisfaction*

Each partner’s relationship satisfaction was measured using the Couples Satisfaction Index (Funk & Rogge, 2007), or CSI-16. The CSI-16 asks participants 16 questions regarding the individual’s satisfaction in their romantic relationship.

Relationship satisfaction is assessed by a variety of questions, including the degree of happiness, conflict experience, general satisfaction, and feelings about the relationship. Responses are scored on a Likert-scale, ranging from six (0-5) to seven (0-6) points depending on the questions. Scores are then summed, resulting in a continuous variable ranging from 0 to 81. Higher scores indicate greater levels of relationship satisfaction, with scores below 51.5 indicating dissatisfaction. Within this study, the scale showed high internal reliability ( $\alpha=.94$ ). The Couples Satisfaction Index can be found in Appendix D.

### *Partner Phubbing*

Phubbing behaviors was measured using the Partner Phubbing (Pphubbing) Scale (Roberts & David, 2016). The scale had acceptable internal reliability ( $\alpha=.85$ ) in this study. The nine-question scale is used to ask each member of the couple their perception of their partner’s

phubbing behaviors. The scale consists of questions such as, “My partner places his or her cell phone where they can see it when we are together,” and “My partner glances at his/her cell phone when talking to me.” Responses are scored on a Likert scale ranging from 1 (Never) to 5 (All the time). Responses are then averaged, resulting in a continuous variable, with higher scores indicating higher levels of perceived partner phubbing. The Partner Phubbing Scale can be found in Appendix D.

Self-phubbing behaviors were also reported as a means to validate the partner phubbing measure. Significant correlations were found between each individual’s self-phubbing scores, and their partner’s perception of being phubbed. Partner 1’s PPhubbing score was significantly correlated with Partner 2’s self-phubbing score ( $r = .473, p < .001$ ) and Partner 2’s PPhubbing score was significant correlated with Partner 1’s self-phubbing score ( $r = .405, p < .001$ ). These results support the construct validity of the measure.

*Control: Digital Addiction*

The Digital Addiction Scale (DAS; Kesici & Tunc, 2018) is a 19-question measure gauging the extent of an individual’s digital device usage. Digital devices include mobile phones, tablets, and computers. The scale includes five dimensions of addiction including overuse ( $\alpha=.73$ ), non-restraint ( $\alpha=.79$ ), inhibiting the flow of life ( $\alpha=.64$ ), emotional modification ( $\alpha=.71$ ), and dependence ( $\alpha=.68$ ). Examples of questions on this scale include, “I am unaware of what happens around me when I am on my digital device,” and “I cannot reduce the time I spend with my digital devices.” Answers range from “Totally Agree” to “Totally Disagree” on a Likert-style scale of five to one respectively. While some subscales had only moderate reliability, the total scale demonstrated strong reliability with a Cronbach’s Alpha of .86 with

higher scores indicating higher levels of addiction. The Digital Addiction Scale can be found in Appendix D.

The non-restraint scale was the one subscale found to be a significant predictor of satisfaction for both partners, thus it was included as a control variable for subsequent analyses.

#### *Control: Communication Patterns*

The Communication Patterns Questionnaire-Short Form (CPQ-SF; Christensen & Heavey, 1990) is an 11-item measure assessing patterns of communication for romantic partners, including individual and mutual patterns. These include partners who engage in constructive communication ( $\alpha=.31$ ), self-demand/partner withdraw ( $\alpha=.71$ ), partner demand/self withdraw ( $\alpha=.67$ ). While individual subscales demonstrate poor internal consistency, the total demand-withdraw pattern showed acceptable internal reliability ( $\alpha =.70$ ). Some examples of questions from the scale include, “When this issue or problem arises, both my partner and I avoid discussing the problem,” and “During a discussion of this issue or problem, I nag and demand while my partner withdraws, becomes silent, or refuses to discuss the matter further.” Responses range from “Very Unlikely,” to “Very Likely,” scored on a Likert-style scale of one to nine respectively. Higher scores indicate greater likelihood of engaging in a communication pattern during times of conflict. The Communication Patterns Questionnaire-Short Form can be found in Appendix D.

The total demand-withdraw pattern was found to significantly predict satisfaction for both partners, thus it was included as a control variable in subsequent analyses.

### **Analysis**

Bivariate correlations were run between the measured variables: attachment, relationship satisfaction, and phubbing. For moderation in the APIM, it is not necessary for variables to be



correlated (Garcia et al., 2015). However, correlations indicate the independent and interdependent nature of the relationships across variables.

In order to conduct the dyadic data analysis, an Actor-Partner Interdependence Model (APIM; Kenny, 1996; Kenny & Cook, 1999) was used. This type of analysis operates under the assumption that scores of both partners in a couple are likely to be related (Kenny, 1988; Kenny & Kashy, 1991). The “actor” effect is intrapersonal, and the “partner” effect is interpersonal (Kenny, 2018). The APIM is utilized to investigate how actor and partner scores are interdependent. This means, the scores of each actor (partner one and partner two) in the couple affects the partner. This model offers researchers the opportunity to explore how the independent variable of the actor may influence the outcome for their partner, how the outcomes for actor and partner influence each other, and that both independent variables and outcome variables may be dependent on the couple (Kenny, 1996).

For this specific study, the Actor-Partner Interdependence Moderation Model, or APIMoM (Garcia et al., 2015) was used to test moderation in the APIM (Figure 1). There are three measured variables (attachment anxiety/attachment avoidance, relationship satisfaction, phubbing) and error terms that occur in the moderators and outcome variables. The predictor variable (attachment anxiety/attachment avoidance) is tested as it relates directly to the outcome variable (relationship satisfaction), and how the moderator (phubbing) impacts that relationship for the actor and partner paths. This model is run for each partner individually (horizontal arrows), as well as how it affects their partner (diagonal arrows). The double-headed arrows indicate that the variables are related to one another due to unforeseen causes. The present study aims to understand the moderating effect of phubbing on the relationship between attachment and relationship satisfaction. As phubbing is a relational variable, it affects both the one

phubbing and the one being phubbed. Therefore, it is necessary to utilize the APIMoM to understand how these variables influence the actor, but also the partner. A moderation analysis was conducted to identify the influence of phubbing on the well-established association between adult attachment and relationship satisfaction.

The APIMoM was conducted with structural equation modeling (Kenny et al., 2006). This model utilized a mixed moderator, as there are different reports of phubbing present for the actor and partner (Garcia et al., 2015). It is recommended that a mixed moderator should be maintained as a continuous variable to retain as much information as possible and maintain power (MacCallum et al., 2002; Maxwell & Delaney, 1993). A significant moderation will occur if the path of the interaction between attachment and reports of pphubbing behaviors to couple satisfaction is significant. This model answered research questions in terms of identifying the moderating effect of pphubbing for each actor, the effects of pphubbing on the partner, and attachment as it affects pphubbing and couple satisfaction independently and interdependently.

Prior to analysis, missing data were identified and given the value of -99. There were no significant gender differences between men and women found in preliminary analyses. The use of indistinguishable dyads was justified in this study as no meaningful differences were found in preliminary analyses, supporting the theoretical indistinguishability between partners (Garcia et al., 2015). Indistinguishable dyadic analyses allow partners to be assigned randomly (Partner 1 or Partner 2) and assume equal influence across partners (DeLay et al., 2021). All predictors were grand mean centered to control for collinearity (Aiken & West, 1991) and to improve interpretability (Broning & Wartberg, 2022). An interaction variable was created from the mean centered predictors by multiplying partner one's attachment and pphubbing scores, and partner two's attachment and pphubbing scores to create two moderation variables.

As this is an exploratory study, a model with indistinguishable couple interaction effects was tested via Maximum Likelihood Method (Garcia et al., 2015; Kenny et al., 2006) in Mplus (Muthen & Muthen, 1998). Separate models were run, one for attachment anxiety and one for attachment avoidance, given the independent nature of these constructs and the lack of influence on one another. Initially, simple APIMs were tested to explore the most parsimonious model, which was then compared to the APIMoM models. To explore the moderation effect, the predictor variables (attachment and pphubbing) and the covariates (relationship length, total demand-withdraw, and non-restraint) were controlled for. After running the APIMoM models, interaction effects were then plotted at varying levels (one standard deviation below, mean, and one standard deviation above) to interpret the significance of the moderation more accurately (Rogosa, 1980).

When determining a good-fitting model, various fit indices are utilized to inform the level of fit. These include an insignificant chi-square value ( $p$  greater than .05), an RMSEA value less than or equal to .08 or .10, a CFI and TLI value close to 1.0 with higher values indicating better fit, and an SRMR value between 0 and .10 with smaller values indicating better fit (Kline, 2016). When examining specific pathways, significance is determined based on a  $p$ -value less than or equal to .05.

### **Summary**

The relationship between attachment and relationship outcomes is consistent in the literature; however, technology use in the presence of a partner has not explored how this can impact that relationship for partners. Phubbing, the extent to which one uses their phone in the presence of another (McCann & Macquarie Dictionary, 2014), may be taking partners away from one another, negatively impacting their relationship and intimacy (Lapierre & Custer, 2020;

McDaniel et al., 2020). Therefore, this study aimed to gauge whether or not partner's reports of phubbing may be impacting the relationship between attachment and satisfaction. Information was gathered through the completion of an online survey via Qualtrics for couples to complete assessing their attachment, relationship satisfaction, and phubbing behaviors. This study explored the role of phubbing for partners' attachment and their relationship outcomes by using dyadic data analysis. More specifically, an Actor-Partner Interdependence Moderation Model (APIMoM; Garcia et al., 2015) was used to explore the moderating role of partner's reports of phubbing on their own relationship outcomes (actor effect) and their partner's relationship outcomes (partner effect).

## CHAPTER 4

### RESULTS

#### Preliminary Results

Preliminary analyses were conducted to gather information regarding correlations between study variables and descriptive statistics.

Descriptive statistics provided the mean, standard deviation, skewness, and kurtosis for all variables of interest. Anxious attachment scores were similar between partner one ( $M=2.8807$ ;  $SD=1.13549$ ) and partner two ( $M=2.8343$ ,  $SD=1.17817$ ). However, avoidant attachment scores differed more greatly between partner one ( $M=2.1657$ ,  $SD=0.77967$ ) and partner two ( $M=1.8985$ ;  $SD=0.73846$ ). Couple satisfaction scores were similar between both partner 1 ( $M=69.8707$ ;  $SD=10.51337$ ) and partner 2 ( $M=69.1207$ ;  $SD=10.94504$ ). Phubbing scores, each individual's perception of their partner phubbing them, were also similar between partner 1 ( $M=3.0546$ ;  $SD=0.65341$ ) and partner 2 ( $M=2.9588$ ;  $SD=0.62228$ ). Skewness and kurtosis values fell within the accepted range of -1 to 1 and -3 to 3 (George and Mallery, 2010), respectively, indicating a normal distribution of values.

Correlation analyses were performed to identify actor and partner effects. These analyses indicated significant correlations for both actor, and partner effects. More specifically, it was determined that there were significant relationships between avoidant and anxious attachment and satisfaction for both partners. Attachment scores were also significantly correlated with phubbing scores but varied dependent on partner and type of attachment. Additionally, phubbing scores for partner two were significantly correlated to couple satisfaction for both partners. Table 2 provides more detailed information regarding these values.

Variables that were significant to couple satisfaction scores were included in the APIMoM models as control variables. These included, relationship length, couple's total communication patterns of demand-withdrawal, and the digital addiction non-restraint subscale. The means and standard deviations can be seen in Table 2.

### **Simple APIM**

#### **Anxious Attachment**

The chi-square value for overall model fit was not significant,  $\chi^2(12)=9.905$   $p=0.6243$ , with an RMSEA value of 0.000, CFI=1.000 and TLI=1.000, and SRMR=0.033. These fit indices indicate a great-fitting model. When examining specific pathways, actor effects were significant for partner two in anxious attachment predicting partner two couple satisfaction ( $\beta = -0.280$ ,  $SE = 0.082$ ,  $p < .001$ ). Partner effects were found with Partner 1's anxious attachment negatively predicting Partner 2's satisfaction ( $\beta = -0.156$ ,  $SE = 0.079$ ,  $p < .05$ ). Partner effects were present in partner two's phubbing negatively and significantly predicting partner one's couple satisfaction ( $\beta = -0.025$ ,  $SE = 0.005$ ,  $p < .001$ ) and partner one's phubbing scores negatively and significantly predicting partner two's couple satisfaction ( $\beta = -0.025$ ,  $SE = 0.006$ ,  $p < .001$ ). Table 3 provides further information.

#### **Avoidant Attachment**

The chi-square value for overall model fit was not significant,  $\chi^2(12)=16.226$   $p=0.1811$ , with an RMSEA value of 0.055, CFI=0.969 and TLI=0.946, and SRMR=0.035. These fit indices indicate a great-fitting model. When examining specific pathways, actor effects were significant for both partner one's avoidant attachment predicting their couple satisfaction ( $\beta = -0.404$ ,  $SE = 0.073$ ,  $p < .001$ ) and partner two's avoidant attachment predicting partner two couple satisfaction ( $\beta = -0.412$ ,  $SE = 0.069$ ,  $p < .001$ ). Partner effects were present in partner two's avoidant

attachment ( $\beta = -0.175$ ,  $SE = 0.074$ ,  $p < .05$ ) and partner two's phubbing negatively and significantly predicting partner one's couple satisfaction ( $\beta = -0.018$ ,  $SE = 0.005$ ,  $p < .001$ ). Additionally, partner one's avoidant attachment ( $\beta = -0.193$ ,  $SE = 0.072$ ,  $p < .01$ ) and partner one's phubbing scores negatively and significantly predicting partner two couple satisfaction ( $\beta = -0.023$ ,  $SE = 0.005$ ,  $p < .001$ ). Table 4 provides further information.

Table 7 provides model fit comparisons between the Simple APIM and the Moderated APIM for both attachment anxiety and attachment avoidance.

### **Moderated APIM**

#### **Anxious Attachment**

The chi-square value for overall model fit was not significant,  $\chi^2(32) = 42.149$ ,  $p = 0.1082$ , with an RMSEA value of 0.052, CFI = 0.892 and TLI = 0.915, and SRMR = 0.059. These fit indices indicate a good-fitting model. When examining specific pathways, actor effects were significant for partner two in anxious attachment predicting partner two couple satisfaction ( $\beta = -0.270$ ,  $SE = 0.083$ ,  $p < .01$ ). There were significant partner effects for partner one's anxious attachment predicting partner two's couple satisfaction negatively ( $\beta = -0.167$ ,  $SE = 0.083$ ,  $p < .05$ ).

Interaction (anxious attachment x phubbing) partner effects were found for both partner one and partner two. The relationship from partner two's anxious attachment to partner one's couple satisfaction was significantly and negatively moderated by partner two's phubbing ( $\beta = -0.029$ ,  $SE = 0.006$ ,  $p < .001$ ). Further, the relationship from partner one's anxious attachment to partner two's couple satisfaction was significantly and negatively moderated by partner one's phubbing ( $\beta = -0.035$ ,  $SE = 0.008$ ,  $p < .001$ ). Table 5 provides additional information and Figure 2 provides a visual representation of the APIMoM.

Interaction effects were explored further to determine significance at low phubbing (-1SD), medium phubbing (mean), and high phubbing (+1SD). When further investigating the partner moderation present from partner two's phubbing to partner one's satisfaction was not significant at low phubbing ( $b = -0.490$ ,  $SE = 7.96$ ,  $p = 0.538$ ), medium phubbing ( $b = -0.903$ ,  $SE = 0.786$ ,  $p = 0.250$ ), nor high phubbing ( $b = -1.317$ ,  $SE = 0.786$ ,  $p = 0.094$ ). Further, partner moderation from partner one's phubbing to partner two's satisfaction was significant at both medium phubbing ( $b = -1.582$ ,  $SE = 0.786$ ,  $p < .05$ ) and high phubbing ( $b = -1.993$ ,  $SE = 0.802$ ,  $p < .05$ ), but not for low phubbing ( $b = -1.170$ ,  $SE = 0.782$ ,  $p = .134$ ). This can be seen in Figure 4. This indicates that as partner one's anxiety increases combined with average to higher levels of phubbing, can negatively impact partner two's couple satisfaction.

### **Avoidant Attachment**

The chi-square value for overall model fit was not significant,  $\chi^2(32) = 40.360$ ,  $p = 0.1474$ , with an RMSEA value of 0.047, CFI = 0.942 and TLI = 0.955, and SRMR = 0.056. These fit indices indicate a great-fitting model. When examining specific pathways, actor effects were significant for partner one in avoidant attachment predicting partner one couple satisfaction ( $\beta = -0.406$ ,  $SE = 0.075$ ,  $p < .001$ ) and partner two avoidant attachment predicting partner two couple satisfaction ( $b = -0.406$ ,  $SE = 0.070$ ,  $p < .001$ ). There were significant partner effects for both partner two's avoidant attachment predicting partner one's couple satisfaction ( $\beta = -0.161$ ,  $SE = .075$ ,  $p < .05$ ) and partner one's avoidant attachment predicting partner two's couple satisfaction ( $\beta = -0.191$ ,  $SE = 0.073$ ,  $p < .01$ ). Interaction (avoidant attachment x phubbing) partner effects were found for both partner one and partner two. The relationship from partner two's avoidant attachment to partner one's couple satisfaction was significantly and negatively moderated by partner two's phubbing ( $\beta = -0.014$ ,  $SE = 0.004$ ,  $p < .001$ ). Further, the relationship from partner one's avoidant



attachment to partner two's couple satisfaction was significantly and negatively moderated by partner one's phubbing ( $\beta = -0.023$ ,  $SE = 0.005$ ,  $p < .001$ ). Table 6 provides additional information and Figure 3 provides a visual representation of the APIMoM.

Interaction effects were explored further to determine significance at low phubbing (-1SD), medium phubbing (mean), and high phubbing (+1SD). When further investigating the partner moderation present from partner two's phubbing to partner one's satisfaction was significant at medium phubbing ( $b = -2.261$ ,  $SE = 1.068$ ,  $p < .05$ ) and high phubbing ( $b = -2.544$ ,  $SE = 1.068$ ,  $p < .05$ ), but not low phubbing ( $b = -1.978$ ,  $SE = 1.068$ ,  $p = 0.064$ ). This indicates that as partner two's avoidance increases combined with average to higher levels of phubbing, can negatively impact partner one's couple satisfaction. This can be seen in Figure 5. Partner moderation from partner one's phubbing to partner two's satisfaction was significant at all levels of phubbing, including low ( $b = 2.264$ ,  $SE = 1.036$ ,  $p < .05$ ) medium ( $b = -2.655$ ,  $SE = 1.017$ ,  $p < .01$ ) and high ( $b = -3.046$ ,  $SE = 1.005$ ,  $p < .01$ ). This indicates that as partner one's avoidance increases and is combined with low, average, and higher levels of phubbing, this negatively impacts partner two's couple satisfaction. This can be seen in Figure 6.

## CHAPTER 5

### DISCUSSION

This study investigated the role of perceived partner phubbing as it pertains to attachment and couple satisfaction for individuals and partners in romantic relationships. A sample of 116 couples were recruited and participated in an online survey answering questions regarding their demographics, attachment, perceived partner phubbing, and couple satisfaction. Dyadic analyses, specifically Actor-Partner Interdependence Moderation Models, were then run to examine actor effects (independent effects) and partner effects (interdependent effects). The purpose of this study was to assess perceived phubbing as a moderator in the relationship from attachment to couple satisfaction. This chapter addresses the research questions and the hypotheses posed and integrates findings as it pertains to the current literature, as well as, strengths and limitations, future directions for research, and clinical implications for marriage and family therapists.

#### **Attachment, Phubbing, and Couple Satisfaction: Actor Effects**

In regard to actor effects, phubbing was not found to significantly predict satisfaction, nor moderate the relationship for either partner, not supporting the proposed hypotheses. Actor effects were only found to be significant in this study for attachment anxiety and attachment avoidance predicting couple satisfaction. Specifically, attachment anxiety negatively predicted couple satisfaction for partner two only and attachment avoidance negatively predicted couple satisfaction for each partner. This is consistent with previous research findings supporting an individual's attachment anxiety and attachment avoidance predicting their satisfaction (Davila & Bradbury, 2001; Kobak et al., 1994; Mikulincer & Shaver, 2018; Mohr et al., 2013; Yum & Li, 2007). However, no actor interaction effects were found to be significant, counter to previous literature. Partner phubbing has been found to predict relationship satisfaction (David and

Roberts, 2021) and is negatively correlated with marital quality (Khodabakhsh & Ong, 2021). Actor effects might not have been present for the phubbing moderation due to the strength of the existing relationship between attachment and satisfaction, or other factors that were not explored in this study.

The assessment of perceived partner phubbing, as opposed to self-phubbing, may be contributing to the lack of actor effects in this study. More insecurely attached individuals self-reported phubbing more, thus lowering their relationship satisfaction (Shams et al., 2019). The partner-phubbing scale used in this study may only result in partner effects due to the reporting partner acting in response to being phubbed. The lack of actor effects runs counter to dyadic analyses performed that found the interfering nature of technology in a relationship to negatively impact relationship and sexual satisfaction (Hipp & Carlson, 2021). Additionally, varying presentations of phubbing, relationship outcomes, and attachment have been found to exist in previous research. Actor effects have been found in attachment anxiety predicting partner phubbing (Broning & Wartberg, 2022), a relationship that was not tested in this study, but may support testing of mediation with these variables in the future. Some additional factors that were not explored in this research but have been found to relate to the tested variables include jealousy (David & Roberts, 2021), feelings of exclusion and lower intimacy (Beukeboom & Pollmann, 2021; Gomes et al., 2021), and lack of partner responsiveness (Beukeboom & Pollmann, 2021; Booth et al., 2021). While actor effects were not significant in this study, significant partner effects may be indicative of the importance of the interpersonal dynamic on relationship outcomes.

### **Attachment, Phubbing, and Couple Satisfaction: Partner Effects**

The results of the study found significant partner effects in attachment and satisfaction, as well as moderation effects. Consistent with previous research exploring attachment anxiety and attachment avoidance and couple satisfaction outcomes (Collins & Read, 1990; Simpson, 1990), this study found partner effects for anxiety from partner one to partner two, and avoidance for both partners. As attachment anxiety and avoidance cause difficulty for a partner to fulfill attachment needs of an individual (Kobak et al., 1994; Mikulincer & Shaver, 2018), it is common to see this negatively impact a partner's satisfaction scores. It is necessary to explore the interpersonal effects of phubbing in romantic relationships as this can negatively impact couples' satisfaction.

Research has proposed attachment security, thus insecurity, results in varying levels of phubbing and can impact relationship satisfaction dependent on attachment (Shams et al., 2019). Findings of this study have supported this proposal, finding that higher attachment combined with average to higher reports of phubbing has a negative effect on couple satisfaction. The partner moderation effect present in this study indicates that perceived phubbing can have a larger impact on satisfaction for a partner, as an individual may respond and interpret it as such based on their levels of attachment anxiety and avoidance. This naturally follows as being phubbed can lead to feelings of exclusion and a heightened need for attention (David & Roberts, 2017), factors that may be related to one's attachment anxiety and avoidance. Attachment insecurity can change how partners interpret and respond to phubbing effects in their relationship, and how their attachment may inform their perceptions.

Qualities consistent with both anxiety and avoidance, when combined with varying levels of phubbing perceptions, may cause responses that negatively impact partners' satisfaction. Those

with high attachment anxiety may interpret medium to high levels of phubbing perception this as a level of rejection (Mikulincer & Shaver, 2018) due to the interference in time spent together as being phubbed may heighten this need for attention (Roberts & David, 2017). This may cause the individual to respond with proximity-seeking to alleviate their anxiety (Cassidy, 1994), thus putting pressure on their partner to alleviate this anxiety (Lemay & Dudley, 2011) or being too focused on alleviating their own anxiety (Rholes et al., 2008), ultimately, resulting in the partner's lowered satisfaction. Those with higher attachment anxiety may also experience higher levels of jealousy (Guerrero, 2005), causing conflict in the relationship (Campbell et al., 2005), which have been found to be connected with phubbing (Beukeboom & Pollmann, 2021; David & Roberts, 2021). The findings from this study support that this persists when combining higher levels of attachment anxiety and medium to higher levels of phubbing and the resulting actions lower partner's satisfaction in the relationship.

Further, those with higher levels of attachment avoidance, when combined with all levels of phubbing, had deleterious effects on partner's satisfaction reports. An individual with higher attachment avoidance may interpret partner phubbing as fulfilling the belief that their partner cannot be trusted or depended on, resulting in further pulling away from their partner due to a desire for lack of interdependence (Cassidy, 1994). Attachment avoidance leads the individual to have difficulty seeking support from their partner (Collins & Feeney, 2000), and attempts to meet needs may be met with anger, withdrawal, and resentment (Mikulincer & Shaver, 2018). Being phubbed may confirm for the already distant attachment avoidant individual that they should maintain a level of disconnection to protect themselves from potential hurt (Rholes et al., 2007), and being phubbed contributes to that feeling of exclusion (Roberts & David, 2017). This may explain the finding of high attachment avoidance interacting with varying levels of

phubbing to negatively impact a partner's satisfaction because the partner may feel they are not cared about and commitment to the relationship is low (Tidwell et al., 1996). Previous dyadic research has found partner effects in attachment avoidance negatively impacting satisfaction (Collins & Reed, 1990; Simpson, 1990) and attachment avoidance can predict phubbing perceptions for partners (Broning & Wartberg, 2022). Attachment avoidance plays a significant role in phubbing perception and satisfaction, supporting the study findings of interaction effects of avoidance and phubbing on partner satisfaction.

### **Strengths and Limitations**

The biggest strength of this study is the use of dyadic data to explore phubbing from a relational theoretical perspective, resulting in greater understanding of how phubbing affects the relationships. A similar previous study was conducted a dyadic analysis; however, it only incorporated attachment and partner phubbing (Broning & Wartberg, 2022). Using an Actor-Partner Interdependence Moderation Model allowed for the study variables to be explored together, from a dyadic perspective with phubbing as a moderator, which had not been done previously in the field. Additionally, the study was relatively diverse, hosting a sample of participants from varying backgrounds, ages, education, and income levels. This allows for higher levels of generalizability as compared with a homogenous sample.

While this study provides an important contribution to the literature, there are several limitations to be considered. The sample size achieved is small, which can result in smaller effect sizes due to inadequate power. Medium to large effect sizes of at least .5 to .8 can be beneficial in substantiating study findings (Cohen, 1988), whereas this study may have had small to medium effect sizes. However, given that this is a moderation APIM, effective power analyses have not yet been solidified in the literature and can only be established based on a pilot study.

Given the lack of consensus on APIMoM power analysis and the field of phubbing being in infancy stages, the power analysis was based on interaction effects in a moderation with the proposed variables. A convenience sample through word of mouth and emails sent to COAMFTE approved MFT programs, rather than posting on social media platforms. The biggest limitation in this recruitment method was that participation may not have been taken seriously due to the dependence on personal interest in the topic or familiarity with the researcher (Casler et al., 2013). This may have altered the number of those who chose to participate, and those who did not answer the survey in its entirety. Potential familiarity with the researcher and probing intimate topics may have caused participants to complete the surveys inaccurately due to the social desirability bias resulting in potentially skewed results (Salkind, 2010).

In order to preserve a sample size large enough to have adequate power, all couples that completed the study were maintained regardless of gender identity. There were no gender differences identified in preliminary analyses and all predictors were grand mean-centered to improve interpretability (Broning & Wartberg, 2022). This prompted the researcher to use indistinguishable dyads, which is still acceptable for moderation analyses in the APIM (Garcia et al., 2015); however, gender differences were not able to be determined. By using indistinguishable dyads, more generalizable information was able to be gathered from this study to individuals regardless of gender identity and those existing in heterosexual relationships. Previous dyadic research has been conducted with same-sex individuals (DeLay et al., 2021), demonstrating the effectiveness of the statistical approaches utilizing indistinguishable dyads (Olsen & Kenny, 2006). As gender differences in attachment and satisfaction (Collins & Read, 1990; Conradi et al., 2017; Simpson 1990) and phubbing (Chen et al., 2021; Khodabakhsh & Ong, 2021) have been found previously, it may be more beneficial to conduct these analyses

with distinguishable dyads on the basis of gender. However, a larger sample of heterosexual couples must be gathered in order to determine gender differences in the moderation effects.

Self-report measures inherently contain biases as they may be inaccurately completed, due to the more intimate nature of the topics relating to relationships, attachment, and phubbing perception. For example, the sample reported having high levels of couple satisfaction, which may impact how partners are functioning and how secure they feel in their relationships. This may potentially mitigate more negative outcomes; however, a moderation effect was still present. Additionally, the use of the Partner Phubbing Scale assessing perceptions of phubbing (Roberts & David, 2016), had an acceptable value for internal reliability, but only presents each individual's views of their partner phubbing them. This was meant to control for potential difficulties in being able to self-report one's own phubbing behaviors. A difference score, measured between self-report of phubbing and being phubbed by partner, may have more accurately measured phubbing impacting the couple and been a more appropriate, between-dyads moderator (Garcia et al., 2015). Also, the analyses were conducted based on a cross-sectional sample, making it difficult to establish causal relationships and temporal order. Given the development of adult attachment from infant attachment (Bartholomew & Horowitz, 1991), attachment as a predictor and phubbing as a moderator was more supported in the literature. All of the identified limitations impact generalizability of the findings and must be considered when interpreting results.

### **Future Directions**

Given the limitations of this study, future research should aim to conduct the analyses with a larger sample size. This should be accomplished by expanding recruitment methods beyond convenience sampling to accomplish a more diverse sample to make findings more



generalizable. Recruitment methods could include social media platforms, campus clinics, and varying university campuses. Expanding recruitment would allow for a larger, more inclusive sample to be accomplished to increase both internal and external validity. By increasing the number of dyads used for analysis, effect sizes would be increased and more strongly support findings. Additionally, conducting analyses with distinguishable dyads could be beneficial in determining gender differences that may be present and were not accounted for in this study.

While the results of this study support phubbing as moderator, the analyses were conducted with a cross-sectional sample at one time point. This was a necessary, and important first step in exploring these relationships; however, future research could benefit from identifying other factors that may be involved in determining satisfaction, such as trust, exclusion, or conflict. Longitudinal analyses could also benefit this area to identify causal relationships that may exist between attachment, phubbing, and couple satisfaction to determine best-fitting models. Temporal order may be beneficial when utilizing these results to inform clinical approaches and treatment methods. Longitudinal findings can be used to also further understanding of dyadic effects of phubbing in relationships over time, to determine if significance translates over an extended period of time.

The use of self-report measures presents issues with accuracy and reliability, especially considering the topics explored related to relationship functioning and overuse of technology. Future research should consider utilizing interviews, observation, and potential cell phone applications to receive more robust and accurate information regarding technology use. For example, using a daily diary or a clinical interview to gauge the extent of phubbing when it occurs and the events that may precede and follow the phubbing, taking communication patterns and conflict into account. Additionally, the use of perceived partner phubbing only gives one

perspective of phubbing in the relationship. This can be expanded upon by the use of a self-report of one's own phubbing to see if this is correlated with phubbing perceptions, which may also be indicative of attention paid during time spent together as a couple. It may also be important to gauge how time is spent together as a couple, to assess whether or not issues may be present with or without partner phubbing taking place to be controlled for.

The field of research could also benefit from utilizing a clinical sample to determine potential impacts of therapeutic intervention that may alleviate or mitigate potential relational effects. For example, conducting the analyses incorporating group comparison between those in couple's therapy and those who are not to see potential influences of therapeutic intervention. This could provide additional information regarding the effects of phubbing on the couple and what may happen when treating the phubbing compared with control groups. Clinical research can inform theoretical developments, such as further development Attachment Theory to become more modernized, resulting in developments of therapeutic interventions that may accommodate phubbing.

### **Clinical Implications**

Results from this study can be used to inform assessment, intervention, and prevention efforts for marriage and family therapists. Taking a systemic approach helps clinicians identify the individual effects of phubbing, but also partner effects. Phubbing within the romantic relationship, may also impact family members, as negative couple outcomes can negatively impact children (Linville et al., 2010). Given the relational effects phubbing has on partner satisfaction, it is important for therapists to assess for perceptions of phubbing by each partner. This can be done in sessions with therapists gauging partner's perceptions of phubbing and how they feel they may respond as a result of phubbing. Potential questionnaires could also be

developed to assess attachment, varying levels of phubbing, and couple satisfaction. For example, expanding the Partner Phubbing scale (Roberts & David, 2016) to include attachment-informed questions and couple outcome questions as they relate to phubbing perception. Additionally, assessing for general technology use for each individual partner, how it impacts connection, and how it impacts the relationship. As technology is an expected part in daily life, standardized questionnaires could improve awareness of this presenting problem that may negatively impact couple outcomes.

Prevention efforts could focus on identifying individuals and partner's attachment, aiming to encourage secure attachments. As attachment develops from parental figures (Bartholomew & Horowitz, 1991), it may be beneficial to work towards building secure attachment from younger ages. Previous research has found individuals may turn to their phones, instead of partners when they have more insecure attachments (Ozad & Uygurer, 2014). By identifying this link and potential negative relationship outcomes, therapists could aim to encourage partners to build trust in their romantic relationships to feel more secure and turn toward one another, rather than their phones (Hertlein & Twist, 2018), alleviating any potential for phubbing or perceived phubbing in the future. Additionally, assessing for technology use in the family which may be creating intergenerational transmissions between generations of acceptable and normalized technology use in the presence of others.

Utilizing attachment-informed therapeutic models, such as Emotionally Focused Therapy (Johnson & Greenberg, 1985) with couples, therapists can make appropriate changes to incorporate the role of technology. For example, assessing for attachment injuries that may be caused from phubbing and working with partners to repair them. This may be done by therapists encouraging individuals, families, and couples to create healthy boundaries and expectations

about phone use during time spent together. An example of expectations and boundaries that may be appropriate for couples is designating time spent without using technology to encourage feeling secure with one another. In regards to phubbing, assessment and prevention measures should be incorporated into sessions to make partners aware of phubbing, the relationship to attachment, and how it can impact outcomes. This will encourage partners to allow for the identification of phubbing in their relationship to try and counteract these effects. Therapists may guide partners to acknowledge potential triggers for phubbing, the effects it has when they are being phubbed, and how to effectively respond to it. Exercises for partners could include engaging in enactments and guiding communication (Johnson, 2012) on how to identify and respond to phubbing in the relationship so both partners may feel secure and supported, to counteract potential negative impacts on satisfaction.

### **Conclusion**

The current study explored both individual and dyadic interactions between adult attachment, phubbing, and couple satisfaction. The findings from this study contribute to the gap in the previous literature that explored varying relationships between these variables; however, this is the first study to explore the moderating effects of phubbing as it pertains to the relationship between attachment and satisfaction from a dyadic perspective. While it is evident an interaction effect is present in this study, future research should continue to explore the relationships between these studies with aims to expand understanding of phubbing and its effects on couples. These results can be used to inform clinicians working with individuals and couples that are experiencing phubbing in their relationships, specifically looking to improve assessment, prevention, and intervention methods.

**APPENDIX A**  
**HUMAN SUBJECTS APPROVAL LETTER**

FLORIDA STATE UNIVERSITY  
OFFICE *of the* VICE PRESIDENT *for* RESEARCH



APPROVAL

September 28, 2020

Marissa Mosley  
[REDACTED]

Dear Marissa Mosley:

On 9/28/2020, the IRB reviewed the following submission:

Type of Review:	Expedited (6) Voice, video, digital, or image recordings; (7)(a) Behavioral research; (7)(b) Social science methods
Title:	Exploring Technology Use in Romantic Relationships
Investigator:	Marissa Mosley
Submission ID:	STUDY00001685
Study ID:	STUDY00001685
Funding:	None
IND, IDE, or HDE:	None
Documents Reviewed:	<ul style="list-style-type: none"> <li>• Mosley_IRB_Dissertation Questionnaires.pdf, Category: Survey/Questionnaire;</li> <li>• Mosley_IRB_Phone App Screenshots.pdf, Category: Other;</li> <li>• Mosley_Consent, Category: Consent Form;</li> <li>• Mosley_Protocol, Category: IRB Protocol;</li> <li>• Mosley_Recruitment Email, Category: Recruitment Materials;</li> <li>• Mosley_Social Media Ad, Category: Recruitment Materials;</li> </ul>

The IRB approved the protocol, effective from 9/26/2020.

You are advised that any modification(s) to the protocol for this project must be reviewed and approved by the IRB prior to implementation of the proposed modification(s).

Federal regulations require that the Principal Investigator promptly report any new information related to this protocol (see Investigator Manual (HRP-103)).

In conducting this protocol, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system.

Sincerely,

Human Subjects Research Office  
humansubjects@fsu.edu

**APPENDIX B**  
**TABLES AND FIGURES**

**Table 1.** *Sample Information*

	<i>N (%)</i>	<i>M (SD)</i>
<i>Gender Identity</i>		
Male	109 (47)	
Male-Transgender	1 (.4)	
Female	121 (52.2)	
Non-Binary	1 (.4)	
<i>Sexual Identity</i>		
Asexual	11 (4.7)	
Bisexual	14 (6.0)	
Gay/Lesbian	13 (5.6)	
Heterosexual	183 (78.9)	
Pansexual	9 (3.9)	
Other	2 (.9)	
<i>Age</i>		25.04 (9.11)
<i>Race Ethnicity</i>		
Black	33 (14.2)	
White	169 (72.8)	
Asian	17 (7.3)	
Hispanic/Latinx	33 (14.2)	
<i>Education</i>		
GED/High School Diploma	27 (11.6)	3.89 (0.90)
Associate's Degree/Vocational School	26 (11.2)	
Bachelor's Degree	125 (53.9)	
Graduate/Professional Degree	54 (23.3)	

Table 1 continued

	<i>N (%)</i>	<i>M (SD)</i>
<i>Income (\$)</i>		8.28 (3.61)
Less than 10,000	5 (2.2)	
10,000-19,999	11 (4.7)	
20,000-29,999	18 (7.8)	
30,000-39,999	18 (7.8)	
40,000-49,999	15 (6.5)	
50,000-59,999	14 (6.0)	
60,000-69,999	12 (5.2)	
70,000-79,999	8 (3.4)	
80,000-89,999	13 (5.6)	
90,000-99,999	14 (6.0)	
100,000-149,999	41 (17.7)	
More than 150,000	63 (27.2)	
<i>Relationship Status</i>		3.90 (0.64)
Committed Relationship (Living Together)	60 (25.9)	
Committed Relationship (Living Apart)	135 (58.2)	
Married	37 (15.9)	
<i>Relationship Length</i>		4.06 (2.11)
Less than 6 months	23 (9.9)	
6 months-1 year	33 (14.2)	
1 year-2 years	52 (22.4)	
2 years-3 years	43 (18.5)	
3 years-4 years	20 (8.6)	
4 years- 5 years	24 (10.3)	
5 years-10 years	27 (11.6)	
11 years-15 years	4 (1.7)	
20 years or more	6 (2.6)	
<i>Technology Devices Used</i>		
Smartphone	232 (100)	
Tablet	101 (43.5)	
Smartwatch	107 (46.1)	



**Table 2.** *Correlations and Descriptive Statistics of Main Study Variables & Control Variables*

	CSI (1)	CSI (2)	PPhub (1)	PPhub (2)	Anx (1)	Anx (2)	Avo (1)	Avo (2)	Rel. (1)	Rel. (2)	CPQ (1)	CPQ (2)	DAS (1)	DAS (2)
CSI (1)	-													
CSI (2)	.57***	-												
PPhub (1)	-.16	-.16	-											
PPhub (2)	-.23*	-.26**	.31***	-										
Anx (1)	-.21*	-.22*	.27**	-.003	-									
Anx (2)	-.23*	-.43***	.19*	.29***	.27**	-								
Avo (1)	-.53***	-.33***	.16	.04	.45***	.20*	-							
Avo (2)	-.29**	-.51***	.15	.25**	.19*	.45***	.17	-						
Rel. (1)	-.27**	-.19*	.10	.21*	-.21*	-.10	-.07	-.03	-					
Rel (2)	-.28**	-.20*	.12	.22*	-.20*	-.08	-.06	-.00	-.99***	-				
CPQ (1)	-.43***	-.37**	.28**	.28**	.28**	.24**	.41***	.17	.24**	.26**	-			
CPQ (2)	-.33***	-.47***	.20*	.38***	.01	.34***	.21*	.23*	.20***	.31***	.54***	-		
DAS (1)	.25**	-.20*	.21*	.22*	.21*	.13	.25**	.02	-.09	-.08	.18	.11	-	
DAS (2)	-.03	-.15	.00	.06	.07	.17	.14	-.01	-.08	-.08	.22*	.26**	.05	-
<i>M</i>	69.87	69.12	3.05	2.96	2.88	2.83	2.17	1.90	4.06	4.06	19.81	17.04	2.33	2.24
<i>SD</i>	10.51	10.95	0.65	0.62	1.14	1.18	0.78	0.74	2.11	2.12	8.51	8.06	0.90	0.81

*Note.* \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two tailed). CSI=Total Couple Satisfaction, PPhub=Partner Phubbing, Anx=Anxious Attachment, Avo=Avoidant Attachment, Rel=Relationship Length; CPQ=Communication Patterns Questionnaire-Total Demand-Withdrawal Subscale; DAS=Digital Addiction Scale-Non-Restraint Subscale; (1)=Partner 1, (2)=Partner

**Table 3.** Simple Actor-Partner Interdependence Model: Anxious Attachment

	Estimate	SE	<i>p</i>
<i>Partner 1: Actor</i>			
<i>Effects</i>			
Anx(1)→CSI(1)	-0.09	0.09	0.31
PPhub(1)→CSI(1)	-0.02	0.08	0.85
<i>Partner 2: Actor</i>			
<i>Effects</i>			
Anx(2)→CSI(2)	-0.28	0.08	0.001***
PPhub(2)→CSI(2)	-0.02	0.08	0.84
<i>Partner 1: Partner</i>			
<i>Effects</i>			
Anx(2)→CSI(1)	-0.12	0.09	0.16
PPhub(2)→CSI(1)	-0.03	0.01	0.000***
<i>Partner 2: Partner</i>			
<i>Effects</i>			
Anx(1)→CSI(2)	-0.16	0.08	0.049*
PPhub(1)→CSI(2)	-0.03	0.01	0.000***

Note. \**p* < .05; \*\**p* < .01; \*\*\**p* < .001. CSI=Total Couple Satisfaction, PPhub=Partner Phubbing, Anx=Anxious Attachment, (1)=Partner 1, (2)=Partner 2.

**Table 4.** *Simple Actor-Partner Interdependence Model: Avoidant Attachment*

	Estimate	SE	<i>p</i>
<i>Partner 1: Actor</i>			
<i>Effects</i>			
Avo(1)→CSI(1)	-0.40	0.07	0.000***
PPhub(1)→CSI(1)	0.004	0.07	0.95
<i>Partner 2: Actor</i>			
<i>Effects</i>			
Avo(2)→CSI(2)	-0.41	0.07	0.000***
PPhub(2)→CSI(2)	0.01	0.07	0.92
<i>Partner 1: Partner</i>			
<i>Effects</i>			
Avo(2)→CSI(1)	-0.18	0.07	0.02*
PPhub(2)→CSI(1)	-0.02	0.01	0.000***
<i>Partner 2: Partner</i>			
<i>Effects</i>			
Avo(1)→CSI(2)	-0.19	0.07	0.01**
PPhub(1)→CSI(2)	-0.02	0.01	0.000***

*Note.* \**p* < .05; \*\**p* < .01; \*\*\**p* < .001. CSI=Total Couple Satisfaction, PPhub=Partner Phubbing, Avo=Avoidant Attachment, (1)=Partner 1, (2)=Partner 2.

**Table 5. Moderated Actor-Partner Interdependence Model: Anxious Attachment**

	Estimate	SE	<i>p</i>
<i>Partner 1: Actor</i>			
<i>Effects</i>			
Anx(1)→CSI(1)	-0.10	0.09	0.25
PPhub(1)→CSI(1)	0.02	0.09	0.81
Anx(1) x			
PPhub(1)→CSI(1)	-0.02	0.08	0.83
<i>Partner 2: Actor</i>			
<i>Effects</i>			
Anx(2)→CSI(2)	-0.27	0.08	0.001**
PPhub(2)→CSI(2)	-0.06	0.09	0.48
Anx(2) x PPhub			
(2)→CSI(2)	-0.04	0.07	0.55
<i>Partner 1: Partner</i>			
<i>Effects</i>			
Anx(2)→CSI(1)	-0.10	0.09	0.25
PPhub(2)→CSI(1)	-0.09	0.01	0.32
Anx(2) x			
PPhub(2)→CSI(1)	-0.03	0.01	0.000***
<i>Partner 2: Partner</i>			
<i>Effects</i>			
Anx(1)→CSI(2)	-0.17	0.08	0.04*
PPhub(1)→CSI(2)	0.03	0.09	0.74
Anx(1) x			
PPhub(1)→CSI(2)	-0.04	0.01	0.000***

*Note.* \**p* < .05; \*\**p* < .01; \*\*\**p* < .001. CSI=Total Couple Satisfaction, PPhub=Partner Phubbing, Anx=Anxious Attachment, (1)=Partner 1, (2)=Partner 2.

**Table 6. Moderated Actor-Partner Interdependence Model: Avoidant Attachment**

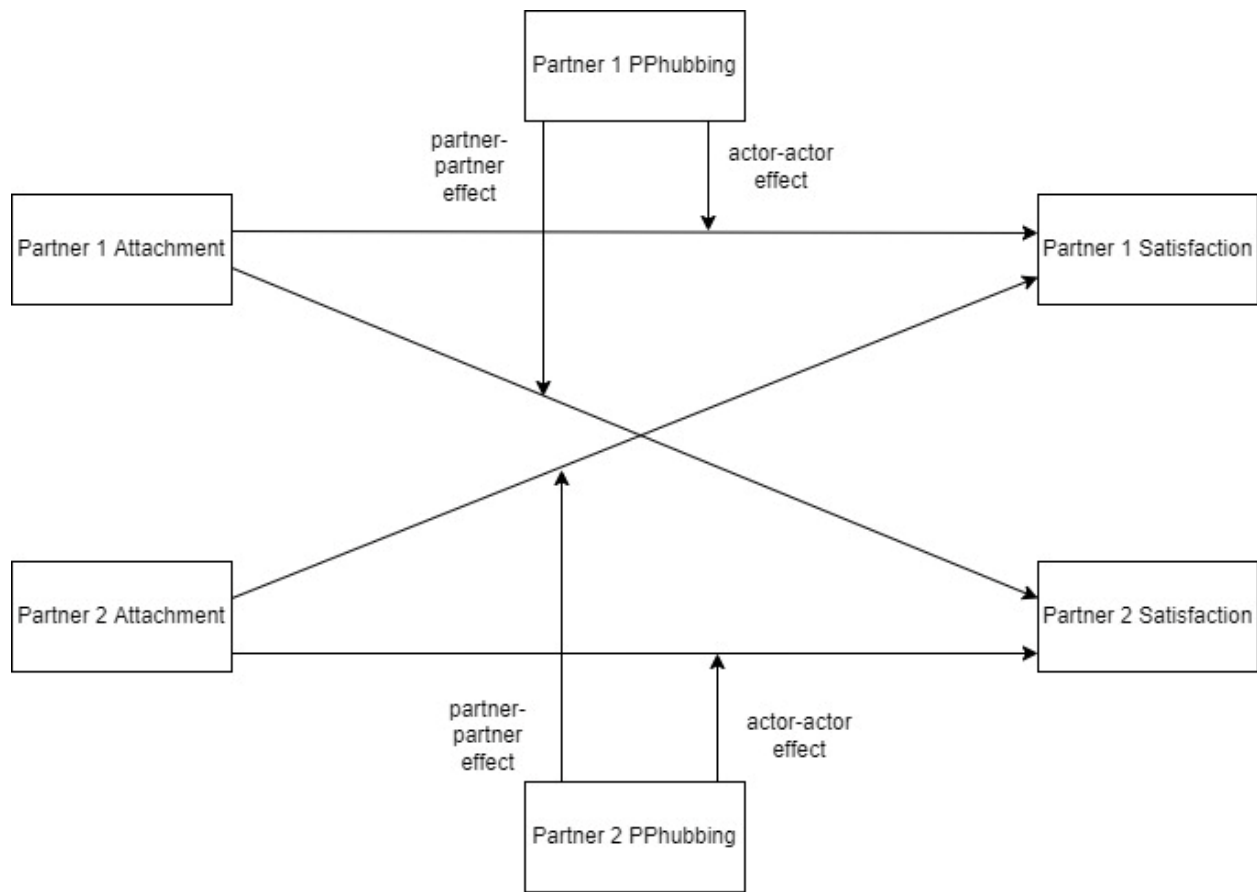
	Estimate	SE	<i>p</i>
<i>Partner 1: Actor</i>			
<i>Effects</i>			
Avo(1)→CSI(1)	-0.41	0.08	0.000***
PPhub(1)→CSI(1)	0.04	0.08	0.62
Avo(1) x			
PPhub(1)→CSI(1)	-0.05	0.07	0.52
<i>Partner 2: Actor</i>			
<i>Effects</i>			
Avo(2)→CSI(2)	-0.41	0.07	0.000***
PPhub(2)→CSI(2)	-0.03	0.08	0.75
Avo(2) x PPhub			
(2)→CSI(2)	-0.03	0.07	0.66
<i>Partner 1: Partner</i>			
<i>Effects</i>			
Avo(2)→CSI(1)	-0.16	0.08	0.03*
PPhub(2)→CSI(1)	-0.11	0.08	0.19
Avo(2) x			
PPhub(2)→CSI(1)	-0.01	0.004	0.001***
<i>Partner 2: Partner</i>			
<i>Effects</i>			
Avo(1)→CSI(2)	-0.19	0.07	0.01**
PPhub(1)→CSI(2)	0.004	0.08	0.95
Avo(1) x			
PPhub(1)→CSI(2)	-0.02	0.01	0.000***

*Note.* \**p* < .05; \*\**p* < .01; \*\*\**p* < .001. CSI=Total Couple Satisfaction, PPhub=Partner Phubbing, Avo=Avoidant Attachment, (1)=Partner 1, (2)=Partner 2.

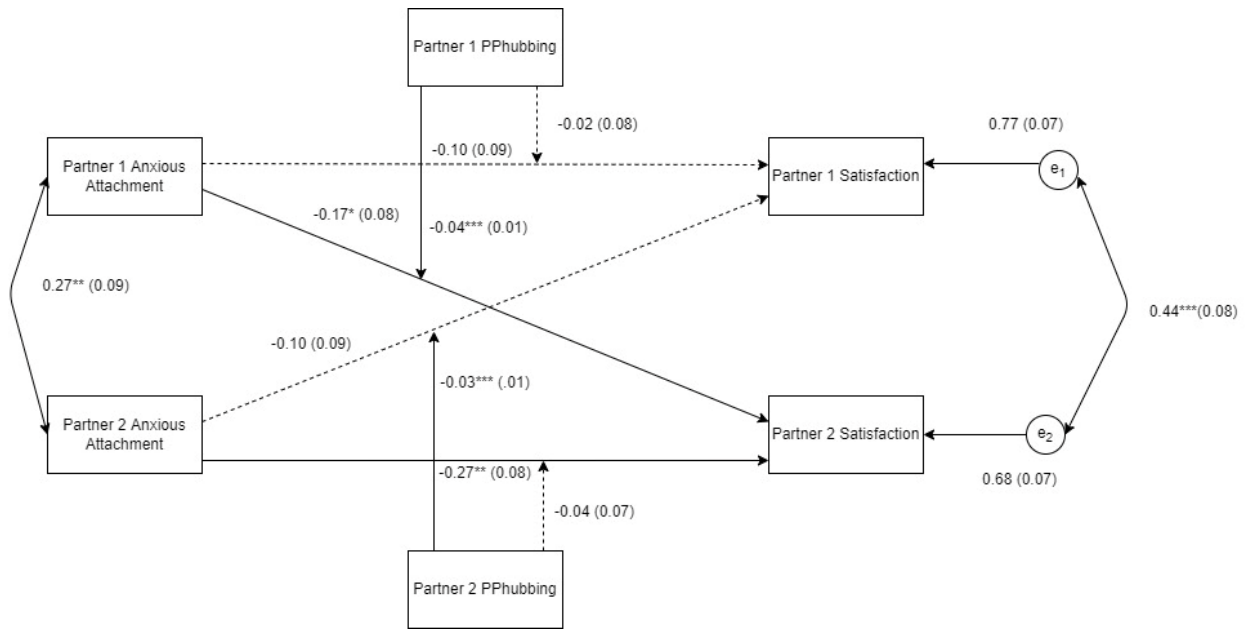
**Table 7.** *Model Fit Comparisons: Simple APIM vs. Moderated APIM*

Model	$\chi^2$	df	<i>p</i>	RMSEA	CFI	TLI	SRMR
Simple:	9.91	12	0.62	0.00	1.00	1.00	0.03
Anx							
Simple:	16.23	12	0.18	0.06	0.97	0.95	0.04
Avo							
APIMoM:	42.15	32	0.11	0.05	0.89	0.92	0.06
Anx							
APIMoM:	40.36	32	0.15	0.05	0.94	0.96	0.06
Avo							

*Note.* Anx=Anxious Attachment; Avo=Avoidant Attachment.



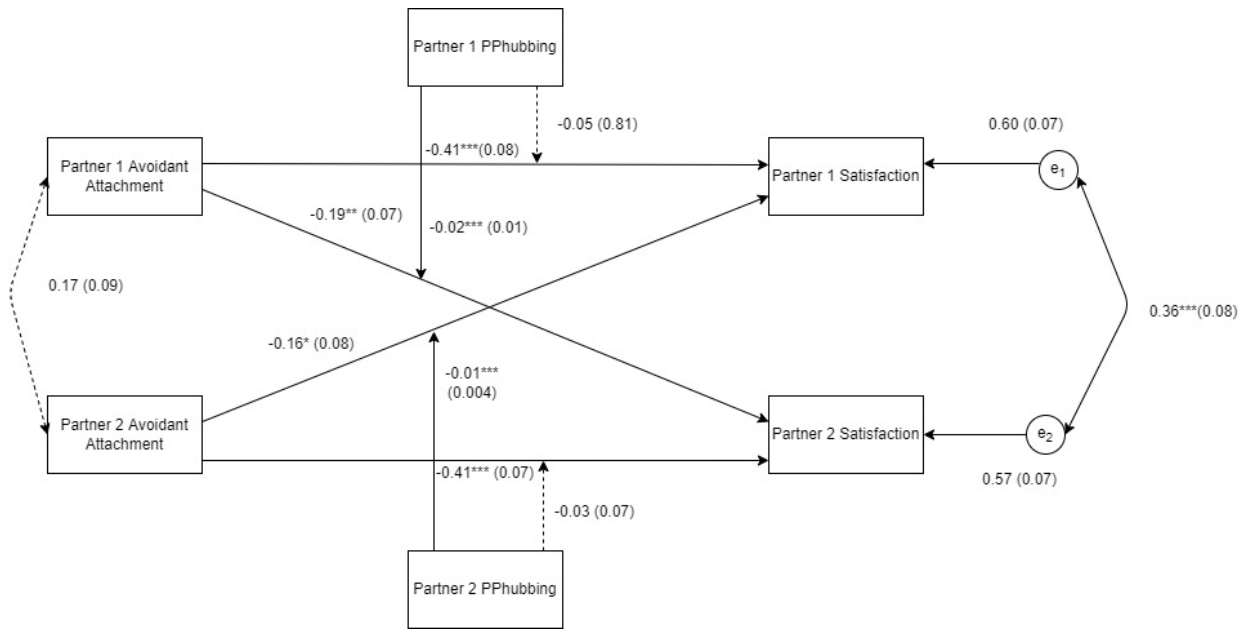
**Figure 1.** *Conceptual Model*



**Figure 2.** APIMoM: Attachment Anxiety

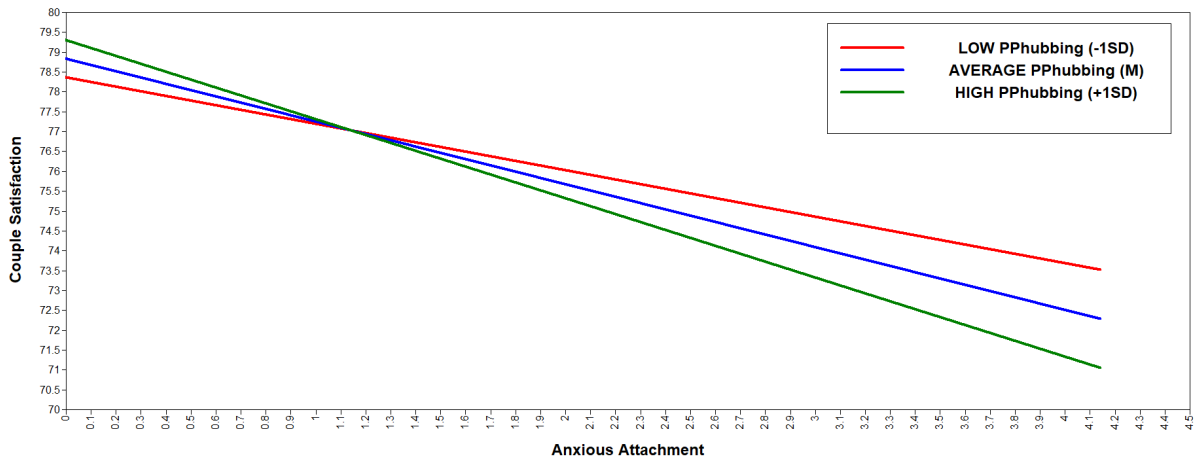
Note. Standardized coefficients provided. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . Solid lines are significant paths, dotted lines are insignificant paths.



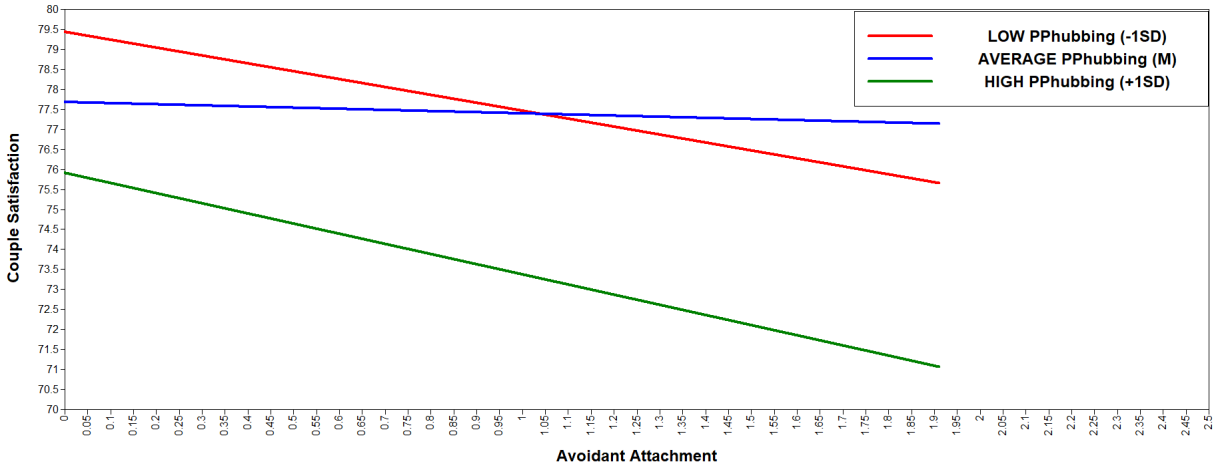


**Figure 3.** APIMoM: Attachment Avoidance

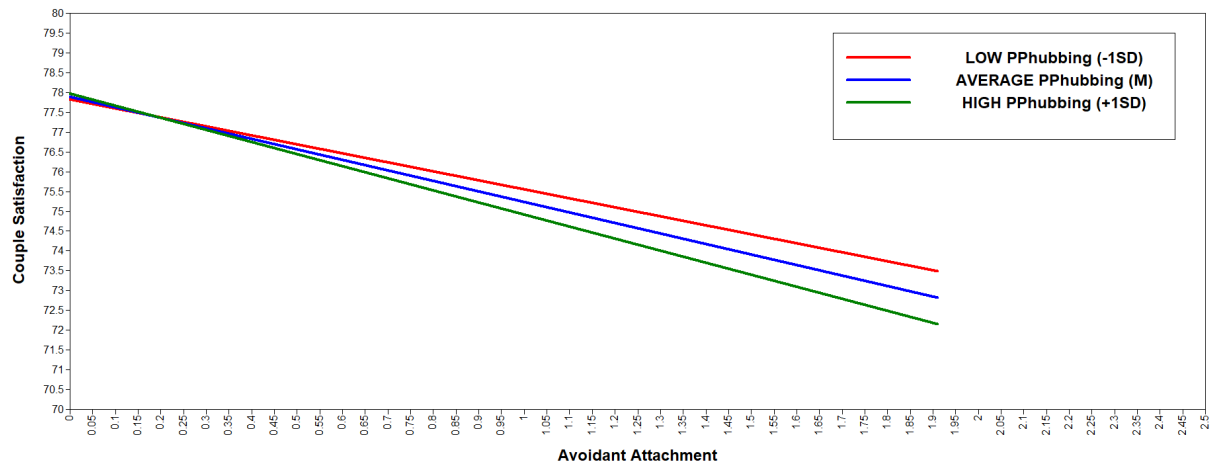
Note. Standardized coefficients provided. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . Solid lines are significant paths, dotted lines are insignificant paths.



**Figure 4.** Moderating Role of Partner One's Phubbing on Partner One's Attachment Anxiety to Partner Two's Satisfaction at -1SD, Mean, +1SD



**Figure 5.** Moderating Role of Partner One's Phubbing on Partner One's Attachment Avoidance to Partner Two's Satisfaction at -1SD, Mean, +1SD



**Figure 6.** Moderating Role of Partner Two's Phubbing on Partner Two's Attachment Avoidance to Partner One's Satisfaction at -1SD, Mean, +1SD

## APPENDIX C

### INFORMED CONSENTS

#### Title of the Study: Technology Use in Romantic Relationships

**Principal Investigator:** Marissa Mosley, M. A.; Family and Child Sciences

**Faculty Advisor** Michele Parker, Ph. D., LMFT; Family and Child Sciences

You are being invited to take part in a research study. Please find below information about this research for you to think about before you decide to take part. Ask us if you have any questions about this information or the research before you decide to take part.

#### Key Information for You to Consider

**Statement of the Research Study.** You are being invited to volunteer to take part in our research study. It is up to you whether you choose to take part or not. There will be no penalty or loss of benefits to you if you choose not to take part or decide later not to take part.

**Purpose.** The reason that we are doing this research is to help gather information about the influence of technology use on romantic relationship outcomes.

**Duration.** An online survey will be completed one time lasting approximately 30-45 minutes.

**Research Activities.** You will be asked to complete several questionnaires in an online survey.

**Risks:** The risks or discomforts to you of taking part in this study include discomfort caused by answering questions about your personal relationships; however, risk is minimal.

**Benefits:** There are no direct benefits to study subjects.

#### What is this study about?

Researchers at Florida State University are studying the role of technology use in relationship outcomes for couples. Researchers are interested in finding out how time spent on your cell phone may affect relationship satisfaction. You are invited to take part in the study because you are currently in a romantic relationship in which you and your partner spend a significant amount of time physically together. You are one of 400 expected persons to take part in this study.

**What will happen during this research?**

If you agree to be in this research, your participation will include completing questionnaires in an online survey. You and your partner will complete questionnaires that will ask you about demographic information, your function in a relationship, your current relationship outcomes, your partner's phone usage.

We will tell you about any new information that may affect your willingness to continue to take part in this research.

**What will you do to protect my privacy?**

The results of the study may be published or presented, but no information that may identify you will ever be provided or released in publications or presentations. We will take steps to protect your privacy and confidentiality. These steps include securing all survey results on a secure, OneDrive database and only giving access to the data to the researchers listed above. The identifying information (Couple ID created from you and your partners' initials) will be used to match your data with your partner to run statistical analyses only. No identifying information will be released to anyone outside of the researchers listed above. Information will be retained until study completion. Despite taking steps to protect your privacy or the confidentiality of your identifiable information, we cannot guarantee that your privacy or confidentiality will be protected. For example, if you tell us something that makes us believe that you or others have been or may be physically harmed, we may need to report that information to the appropriate agencies.

Individuals and organizations responsible for conducting or monitoring this research may be permitted access to and inspect the research records. This includes the Florida State University Institutional Review Board (FSU IRB), which reviewed this study.

If identifiers are removed from your identifiable private information that are collected during this research, that de-identified information could be used for future research studies or distributed to another investigator for future research studies without your additional informed consent.

**What are the risks of harms or discomforts associated with this research?**

The risks of harms or discomforts associated with the research are feelings of discomfort due to answering questions about your personal relationships; however, that risk is minimal.

In addition to the risks of these harms or discomforts, this research may have risks of harms or discomforts that are unknown at this time. If in the future we become aware of any additional harms or discomforts that may affect you, we will tell you. Should these feelings persist, please contact the researchers to receive referrals to mental health professionals.

**How might I benefit from this research?**

There may be no personal benefit from your participation but the knowledge received may be of value to society.

**What is the compensation for the research?**

You will receive a chance to enter a raffle for one of five, \$100 gift cards for participating in this study. If you wish to participate, you will receive this ticket upon completion of the survey after providing your email address. Each couple can only enter one time. The winner will be contacted approximately three-six months after gathering data.

**What will happen if I choose not to participate?**

It is your choice to participate or not to participate in this research. Participation is voluntary.

**Is my participation voluntary, and can I withdraw?**

Taking part in this research study is your decision. Your participation in this study is voluntary. You do not have to take part in this study, but if you do, you can stop at any time. Your decision whether to participate will not affect your relationship with the researchers or FSU. There are no penalty/consequences/loss of benefits to which you are otherwise entitled, if you do not participate.

You have the right to choose not to participate in any study activity or completely withdraw from continued participation at any point in this study without penalty/consequences/loss of benefits to which you are otherwise entitled.

If you withdraw from the study, the data collected to the point of withdrawal will not be used.

**Can I be removed from the research without my OK?**

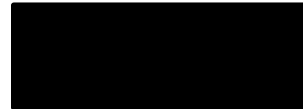
We may remove you from the research study without your approval. Reasons we would do this include not completing the survey in its entirety or answering with inaccurate information (i.e. giving the same response to all questions).

**Who do I talk to if I have questions?**

If you have questions, concerns, or have experienced a research-related injury, contact the research team at:

Marissa A. Mosley, M. A.

Faculty Advisor: Michele Parker, Ph.D. LMFT



The Florida State University Institutional Review Board (“IRB”) is overseeing this research. The FSU IRB is a group of people who perform official independent review of research studies before studies begin to ensure that the rights and welfare of participants are protected. If you have questions about your rights or wish to speak with someone other than the research team, you may contact:

Florida State University IRB  
2010 Levy Drive, Suite 276  
Tallahassee, Florida 32306  
850-644-7900  
humansubjects@fsu.edu



## **STATEMENT OF CONSENT**

I have read and considered the information presented in this form. I confirm that I understand the purpose of the research and the study procedures. I understand that I may ask questions at any time and can withdraw my participation without prejudice. I have read this consent form.

Clicking the box below indicates my willingness to participate in this study.

I consent to participate in this study.

## APPENDIX D

### MEASURES

#### Demographic Information

1. Email (if you wish to be entered into raffle for incentive)
2. Current Relationship Status
  - a. Single—Never married
  - b. Single—Divorced/Separated/Widowed
  - c. Committed Relationship—Living together
  - d. Committed Relationship—Not living together
  - e. Married
  - f. Other (fill in the blank)
3. Couple Case ID comprised of first and last initials of both partners (e.g. Marissa Mosley & John Doe=MMJD)
4. Do you have children?
  - a. Yes
  - b. No
5. If you answer yes, what are the ages of your children?
  - a. Fill in the blank
6. Do these children live in the home?
  - a. Yes
  - b. No
7. Which best describes your gender identity?
  - a. Male-Cisgender
  - b. Male-Transgender
  - c. Female-Cisgender
  - d. Female-Transgender
  - e. Gender fluid/Non-binary
  - f. Other (fill-in blank)
8. Has partner already taken this survey?
  - a. Yes
  - b. No
9. How long have you been in your current romantic relationship?
  - a. Less than 6 months
  - b. 6 months- 1 year
  - c. 1-2 years
  - d. 2-3 years
  - e. 3-4 years
  - f. 5 or more years
10. In an average week, I am physically with my partner at the following times: (Please check all that apply)

MONDAY-FRIDAY

SATURDAY & SUNDAY

- a. 12AM-4AM                      12AM-4AM
  - b. 4AM-8AM                        4AM-8AM
  - c. 8AM-12PM                      8AM-12PM
  - d. 12PM-4PM                      12PM-4PM
  - e. 4PM-8PM                        4PM-8PM
  - f. 8PM-12AM                      8PM-12AM
11. Please select all racial-ethnic identities that apply to you:
- a. Black/African American/West Indie
  - b. White/European American
  - c. Indigenous/Alaskan Native
  - d. Asian
  - e. Native Hawaiian or Pacific Islander
  - f. Hispanic, Latinx, or Spanish origin
  - g. Other (fill in blank)
12. Please move the slider to indicate your age
- a. (Slider for “age in years” from 18 to 64)
13. Which of the following best describes your sexual orientation?
- a. Asexual
  - b. Bisexual
  - c. Gay/Lesbian
  - d. Heterosexual
  - e. Other (fill in blank)
14. Please indicate the answer that is the best estimate of your family’s entire household income before taxes
- a. Less than \$10,000
  - b. \$10,000-\$19,999
  - c. \$20,000-\$29,999
  - d. \$30,000-\$39,999
  - e. \$40,000-\$49,999
  - f. \$50,000-\$59,999
  - g. \$70,000-\$79,999
  - h. \$80,000-\$89,999
  - i. \$90,000-\$99,999
  - j. \$100,000-\$149,999
  - k. More than \$150,000
15. What is your highest level of education that you have achieved (or are currently in the process of completing)?
- a. Below High School Diploma
  - b. GED/High School Diploma
  - c. 2-year College Degree/Vocational School
  - d. Bachelor’s Degree
  - e. Graduate/Professional Degree
16. Do you currently own a smartphone?

- a. Yes
  - b. No
17. Do you currently own a tablet?
- a. Yes
  - b. No
18. Do you currently own a smart watch?
- a. Yes
  - b. No

### **Experiences in Close Relationships-Revised Scale** (Fraley et al., 2000)

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

1=Disagree Strongly; 2=Disagree; 3=Disagree Slightly; 4=Neutral/Mixed; 5=Agree Slightly;  
6=Agree; 7=Agree Strongly

1. I'm afraid that I will lose my partner's love.
2. I often worry that my partner will not want to stay with me.
3. I often worry that my partner doesn't really love me.
4. I worry that romantic partners won't care about me as much as I care about them.
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
6. I worry a lot about my relationships
7. When my partner is out of sight, I worry that he or she might become interested in someone else.
8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me they will not feel the same about me.
9. I rarely worry about my partner leaving me.
10. My romantic partner makes me doubt myself.
11. I do not often worry about being abandoned.
12. I find that my partner(s) don't want to get as close as I would like.
13. Sometimes romantic partners change their feelings about me for no apparent reason.
14. My desire to be very close sometimes scares people away.
15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
16. It makes me mad that I don't get the affection and support I need from my partner.
17. I worry that I won't measure up to other people.
18. My partner only seems to notice me when I'm angry.
19. I prefer not to show a partner how I feel deep down.
20. I feel comfortable sharing my private thoughts and feelings with my partner.
21. I find it difficult to allow myself to depend on romantic partners.
22. I am very comfortable being close to romantic partners.
23. I don't feel comfortable opening up to romantic partners.
24. I prefer not to be too close to romantic partners.
25. I get uncomfortable when a romantic partner wants to be very close.
26. I find it relatively easy to get close to my partner.
27. It's not difficult for me to get close to my partner.
28. I usually discuss my problems and concerns with my partner.
29. It helps to turn to my romantic partner in times of need.

- 30. I tell my partner just about everything
- 31. I talk things over with my partner.
- 32. I am nervous when partners get too close to me.
- 33. I feel comfortable depending on romantic partners.
- 34. I find it easy to depend on romantic partners.
- 35. It's easy for me to be affectionate with my partner.
- 36. My partner really understands me and my needs.

*Note.* The following items are reverse scored: 9, 11, 20, 22, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36.

*Anxiety Items:* 1-18

*Avoidance Items:* 19-36

## Couples Satisfaction Index (CSI-16) (Funk & Rogge, 2007)

Please indicate the degree of happiness, all things considered, of your relationship.

<b>Extremel y Unhappy 0</b>	<b>Fairly Unhappy 1</b>	<b>A Little Unhappy 2</b>	<b>Happy 3</b>	<b>Very Happy 4</b>	<b>Extremel y Happy 5</b>	<b>Perfect 6</b>
---	---------------------------------	-----------------------------------	--------------------	-----------------------------	-----------------------------------	----------------------

	<b>All the time</b>	<b>Most of the time</b>	<b>More often than not</b>	<b>Occa- sional ly</b>	<b>Rarel y</b>	<b>Neve r</b>
In general, how often do you think that things between you and your partner are going well?	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>

	<b>Not at all TRU E</b>	<b>A littl e TRU E</b>	<b>Som e- what TRU E</b>	<b>Most ly TRU E</b>	<b>Almost Complete ly TRUE</b>	<b>Complete ly TRUE</b>
Our relationship is strong	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
My relationship with my partner makes me happy	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
I have a warm and comfortable relationship with my partner	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
I really feel like <u>part of a team</u> with my partner	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

	<b>Not at all</b>	<b>A littl e</b>	<b>Som e- what</b>	<b>Most ly</b>	<b>Almost Complete ly</b>	<b>Complete ly</b>
How rewarding is your relationship with your partner?	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

How well does your partner meet your needs?      **0      1      2      3      4      5**

To what extent has your relationship met your original expectations?      **0      1      2      3      4      5**

In general, how satisfied are you with your relationship?      **0      1      2      3      4      5**

For each of the following items, select the answer that best describes *how you feel about your relationship*. Base your responses on your first impressions and immediate feelings about the item.

<b>INTERESTING</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>BORING</b>
<b>BAD</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>GOOD</b>
<b>FULL</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>EMPTY</b>
<b>STURDY</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>FRAGILE</b>
<b>DISCOURAGING</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>HOPEFUL</b>
<b>ENJOYABLE</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>MISERABLE</b>



**Partner Phubbing Scale** (Roberts & David, 2016)

Considering your current relationship, how frequently does **YOUR PARTNER** engage in each of the following behaviors as it relates to his/her cell phone use?

1=Never 2=Rarely 3=Sometimes 4=Often 5=All the time

1. During a typical mealtime that my partner and I spend together, my partner pulls out and checks his/her cell phone.
2. My partner places his or her cell phone where they can see it when we are together.
3. My partner keeps his or her cell phone in their hand when he or she is with me.
4. When my partner's cell phone rings or beeps, he/she pulls it out even if we are in the middle of a conversation.
5. My partner glances at his/her cell phone when talking to me.
6. During leisure time that my partner and I are able to spend together, my partner uses his/her cell phone.
7. My partner does not use his or her phone when we are talking.
8. My partner uses his or her cell phone when we are out together.
9. If there is a lull in our conversation, my partner will check his or her cell phone.

*Note.* Recode question 9.

### **The Digital Addiction Scale (Kesici, 2018)**

Read each item below. If the item is always true for you, mark “Totally Agree.” If generally true for you, mark “Agree.” If you are not sure, mark “Neither Agree nor Disagree.” If it is not generally true for you, mark “Disagree.” If never true for you, mark “Totally Disagree.” Digital devices include smartphones, tablets, or computers.

5=Totally Agree      4=Agree      3=Neither Agree nor Disagree      2=Disagree  
1=Totally Disagree

1. While eating my meal, I am occupied with my mobile phone, tablet, or computer.
2. I continuously look at the digital devices (mobile phone or tablet) on a trip, picnic, or social environments where I am with my friend.
3. I overuse the digital devices beyond their necessary purposes.
4. I find myself checking my digital devices during work hours.
5. I use my digital devices even when I’m doing demanding things.
6. I cannot control the amount of time I spend using digital devices.
7. I make unsuccessful attempts to reduce the time I spend on my digital devices.
8. I cannot reduce the time I spend with my digital devices.
9. Digital devices prevent me from completing my responsibilities related to home, school, or work.
10. I have missed opportunities or social engagements because of the amount of time I spend on my digital devices.
11. I am unaware of what happens around me when I am on my digital device.
12. I feel that I am less creative as a result of using digital devices.
13. I am annoyed when I am assigned a job that takes time away from my digital devices.
14. I am bored when I have to be in an environment where I cannot use my digital devices.
15. I feel very unhappy and angry when I do not use my digital devices for an extended period of time.
16. I feel very happy When I spend time with my digital devices.
17. I get anxious when my digital devices are lost or broken.
18. Even if I leave my house for a short amount of time, I want to take my digital devices with me.
19. I keep digital devices around when I go to sleep.

## COMMUNICATION PATTERNS QUESTIONNAIRE – SHORT FORM

Andrew Christensen and Megan Sullaway

Directions: We are interested in how you and your partner typically deal with problems in your relationship. Please rate each item on a scale of 1 (= very unlikely) to 9 (= very likely).

- | <b>A. WHEN THIS ISSUE OR PROBLEM ARISES,</b>  | Very<br>Unlikely  | Very<br>Likely    |
|---|-------------------|-------------------|
| 1. <u>Mutual Avoidance</u> . Both my partner and I avoid discussing the problem.                          | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| 2. <u>Mutual Discussion</u> . Both my partner and I try to discuss the problem.                           | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| <u>Discussion/Avoidance.</u>  |                   |                   |
| 3. I try to start a discussion while my partner tries to avoid a discussion.                              | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| 4. My partner tries to start a discussion while I try to avoid a discussion.                              | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| <b>B. DURING A DISCUSSION OF THIS ISSUE OR PROBLEM,</b>   |                   |                   |
| 5. <u>Mutual Expression</u> . Both my partner and I express our feelings to each other.                   | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| 6. <u>Mutual Blame</u> . Both my partner and I blame, accuse, and criticize one another.                  | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| 7. <u>Mutual Negotiation</u> . Both my partner and I suggest possible solutions and compromises.          | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| <u>Demand/Withdraw.</u>   |                   |                   |
| 8. I nag and demand while my partner withdraws, becomes silent, or refuses to discuss the matter further. | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| 9. My partner nags and demands while I withdraw, become silent, or refuse to discuss the matter further.  | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| <u>Criticize/Defend.</u>  |                   |                   |
| 10. I criticize while my partner defends himself or herself.  | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |
| 11. My partner criticizes while I defend myself.  | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 |

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## **BIOGRAPHICAL SKETCH**

Marissa Mosley completed her Bachelor of Arts degree in 2013 from Syracuse University. Following the completion of this degree, she completed her Master of Arts degree at the University of San Diego in 2016. She began her Doctor of Philosophy degree in Marriage and Family Therapy at Florida State University in the Fall of 2018. She is expected to graduate in Spring 2022. Her research focuses on the role of technology use in romantic relationships and how this may impact clinical interventions and couple outcomes.