

The Pleasures and Perils of Technology in Intimate Relationships

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Abstract:

Technologies have rapidly become pervasive parts of people's lives and relationships. Within intimate couple relationships, partners may use technologies for many functions, including communicating, sharing affection, planning, and learning about one another. There is growing recognition that these functions can create both positive and negative outcomes for couples. The purpose of this study was to conduct an in-depth examination of the potential positive and negative impacts of technology for intimate couple relationships. Data from an electronic survey of 225 undergraduate and graduate university students were subject to content analysis procedures to identify themes in participants' perspectives toward the impact of technology on their relationships—both beneficial and deleterious. The counseling and research implications of the identified themes are addressed.

Keywords: technology | intimacy | couple relationships | couple therapy | human-computer interaction

Article:

INTRODUCTION

“Couples have the opportunity to stay connected in a way they never have had before.”
—Hertlein, 2010, p. 121

Technology has become an increasingly pervasive part of people's lives, with the potential to touch virtually every area of people's lives, including their careers, personal lives, leisure activities, spiritual development, and intimate and family relationships (Helper & Whitty, 2010). Despite this growing presence of technology in people's lives, research examining the various ways that technology impacts life, and life impacts technology, is lagging behind (Hertlein, 2012). Much of the existing research has been published in the information technology field

(Hertlein), with the mental health professions having paid minimal attention to these impacts until recently. In particular, we currently have minimal research evidence that provides information about how people experience the impact of technology within their intimate relationships (Hertlein & Webster, 2008; Kerkof, Finkenauer, & Muusses, 2011). The purpose of this article is to present the results of a qualitative study examining participants' perspectives on the positive and negative impacts of technology on their intimate relationships.

LITERATURE REVIEW

Technology permeates virtually every area of life in the United States. Data from the Pew Internet and American Life Project (Pew Research Center, 2013) demonstrate just how pervasive technology use is among adults today in the United States. The following statistics from this project provide examples of how many adults use various forms of technology: 85% of all adults use the Internet; 88% use e-mail; 91% own cell phones; 56% own smartphones; 73% send and receive text messages; 67% use social networking sites; and 8% use online dating websites (Pew Research Center, 2013). People use these technologies for a multitude of purposes related to their work and their personal lives.

One area in which people are impacted by technology is in their intimate couple relationships. However, the impact of technology on couple relationships has received minimal research attention thus far, especially in the mental health professions (Hertlein, 2012). According to Helper and Whitty (2010), research is especially limited with regard to how couples negotiate their use of online communications. Among the various aspects of technology's impact on relationships, internet infidelity has received greater research attention than other topics (Hertlein & Webster, 2008). In Hertlein and Webster's literature review of studies examining the negative impact of technology on couples, only eight articles were found. Most of these articles addressed limited aspects of the overall phenomenon, namely online relationships or online sexual activities, and they paid minimal attention to how couples use technology more broadly within their relationships. More recently, Blumer, Hertlein, Smith, and Allen (2013) conducted a content analysis of articles in 17 journals in the couple and family therapy field over a period of approximately 15 years. These researchers found that the aspect of technology's influence on couple relationships that received the most research attention was clinical practice, followed by cybersex and couples, which included infidelity.

Technology therefore has become a new dimension for couple therapists to understand and address in therapy. For example, online infidelity and other online sexual behaviors have been identified as critically important for couple therapists to address (Hertlein & Webster, 2008). In particular, it is essential for therapists to understand the impacts of technology on their clients so they can formulate counseling strategies to promote positive and reduce negative technology behaviors within their clients' relationships. Hertlein (2010) suggested that therapists should integrate technology into therapy with clients as another possible avenue for helping clients improve their intimacy and communication. However, due to the limited research on this topic, therapists may struggle to know how to help clients navigate technology-related issues.

Therefore, additional research is needed to examine the impact of technology on relationships in order to inform therapists' work with couples. Although the impact of technology on social

relationships has been debated, it is likely that technology can serve both positive and negative roles in both facilitating and hindering closeness in relationships (Hertlein & Webster, 2008; Rasanen & Kouvo, 2007).

Potential Benefits of Technology for Intimate Relationships

RELATIONSHIP FORMATION

Adults are increasingly using technology to initiate new intimate relationships (Baker, 2002; Helper & Whitty, 2010; Hertlein, 2012; Sprecher, 2009). In particular, many couples use online dating sites and other Internet-based platforms to meet new prospective partners (Baker). Although online dating sites are often the first to come to mind when considering sources of meeting prospective partners through technology, new couples may meet in other ways, such as through listservs, discussion groups, social media platforms, and chatrooms (Baker; Helper & Whitty; Sprecher). In addition, some relationships in which partners meet in face-to-face settings progress through “Internet-assisted” processes, meaning that the partners use the Internet to facilitate their communication with and learning about one another (Sprecher, p. 768). These platforms can be effective forums for meeting people due to their ability to bring people with common interests together (Baker).

Many people find online forums for meeting new partners appealing due to the access it provides to people outside one’s own social network, the ability to meet people even with time restrictions, and the opportunity to meet and communicate in a lower-pressure, less anxiety-provoking setting (Sprecher, 2009). Although some online relationships never progress to face-to-face contact, this transition is necessary for successful, long-term relationships in the real world (Sprecher). The transition of a relationship from online to face-to-face varies, especially based on the distance between the prospective partners and the availability of other resources (e.g., time and money; Baker, 2002).

FACILITATING LONG-DISTANCE RELATIONSHIPS

Technology can help couples sustain long-distance relationships (Baker, 2002; Hertlein, 2010). For example, couples meeting online can communicate from virtually anywhere in the world. Also, couples who begin their relationships in the same area may be more likely to sustain their relationships if one partner moves far away because of the ability to stay connected through technology. Of course, couples can face challenges when transitioning from a long-distance relationship to living nearby, such as when one partner needs to leave behind work and/or social relationships to make this transition happen (Baker). However, couples may find creative ways of using technology to overcome these challenges, such as by searching for new employment online and staying in touch with friends and family members after moving using social networks.

SHARING INFORMATION AND INTERESTS

Partners may use technology to share information and resources, including entertaining materials and news (Hertlein, 2010). In addition, partners may use technology to mutually engage in leisure activities, including watching TV and online gaming (Hertlein; Hertlein, 2012).

Technologies also can be used to coordinate planning around leisure activities with significant others (Lanigan, 2009). Couples also can seek self-help information, such as articles, to help them learn ways to improve their relationships (Hertlein, 2010).

EXPRESSING SEXUALITY AND AFFECTION

Many couples enjoy using technology to send affectionate messages to one another (Hertlein, 2010). Beyond expressing emotional affection, couples may use technology to enhance their physical intimacy. Some couples believe that their sexual relationships are enhanced when they mutually view sexual material together online (Hertlein, 2012). This also may lead couples to a greater level of trying new sexual activities together that they learn about via the Internet (Hertlein, 2012), potentially leading to a broader range of sexual behaviors within their relationships. Other couples also engage in cybersex, some before they meet in person (Baker, 2002).

PROVIDES COMMUNICATION CHANNELS

Technology provides multiple channels through which partners can communicate with one another (Baym, Zhang, Kunkel, Ledbetter, & Lin, 2007; Lanigan, 2009), helping couples stay connected when they cannot be together physically (Perry & Werner-Wilson, 2011). This can be especially helpful for couples who are busy and face multiple demands on their time and attention (e.g., work, school, parenting, and leisure interests; Hertlein, 2010). Couples can use both synchronous (i.e., when they communicate in real-time, such as with instant messaging and chat rooms) and asynchronous (i.e., when there is not necessarily and immediate back-and-forth communication pattern) means of communicating with one another using technology (Hertlein, 2012). Video-based forms of communication (e.g., Skype, Face Time, and other forms of video chat) may especially be valued because they provide partners with ways to see one another even when they are not together in person (Hertlein, 2012).

Technology-facilitated communication can help couples feel more connected and communicate effectively with one another (Perry & Werner-Wilson, 2011). Helper and Whitty (2010) suggested that couples often establish a set of rules regarding the use of technologies impacting their relationships, which they term “online netiquette” (p. 916), defined as “the (unspoken and spoken) rules about acceptable and unacceptable online activities” (p. 919). Partners within couples overall appear to be similar in their approaches to online netiquette, although differences in this area can become areas for conflict (Helper & Whitty).

Potential Challenges of Technology for Intimate Relationships

Technology-based communication may be more superficial and/or confusing. Face-to-face communication and verbal communication (i.e., via the phone) are generally thought to be more effective at facilitating higher-quality relationships compared with text-only forms of communication (e.g., texting, email) (Baym et al., 2007). This view of technology-based communication as being more superficial and of a lower quality than other forms of communication was especially prevalent in earlier research, but increasingly researchers are examining the potential value of these interactions (Helper & Whitty, 2010).

In particular, early researchers focused on the fact that many forms of technology-facilitated communication do not allow people to express or observe nonverbal cues (Helper & Whitty, 2010). Technology-facilitated communication may be more likely to lead to miscommunications, when intonations in one's voice cannot be heard (Hertlein, 2010; Perry & Werner-Wilson, 2011). In addition, non-face-to-face communications provide limited information about social cues that help people to understand the context of communications (Perry & Werner-Wilson; Sprecher, 2009). Research suggests that technology-based communications may be more beneficial in the early stages of relationships but, if they are depended on too heavily in the later stages, they can have detrimental effects (Baym et al., 2007).

Due to the relative anonymity of technology-based communications, people may have less inhibitions in their behaviors when using technology compared with in their real lives and in face-to-face communications (Hertlein, 2010). People may be more likely to be dishonest in technology-based communications (Sprecher, 2009), and certain online behaviors are done in secret and easy to keep hidden from relationship partners (Hertlein & Webster, 2008). Also, it is important to note that dangerous behaviors may arise through technology within relationships, such as harassment, cyberstalking (i.e., "any behavior facilitated through electronic or computerized means that creates a sense of fear in its victim," Hertlein, p. 379), and other forms of aggression (Hertlein).

ACCESS TO OPPORTUNITIES FOR INFIDELITY

A potential drawback to the perceived ease of initiating relationships via the Internet is that people may be quicker to leave relationships at the earliest signs of trouble, in that they view it as easy to find alternative partners (Sprecher, 2009). Technology can provide people with access to opportunities to engage in infidelity, both emotionally and sexually (in-person and virtually). Internet-based technology is unique due to its easy access, affordability, and the anonymous platform it provides (Manning, 2006). Specific behaviors may include developing an emotional connection with another person, sharing private details of one's life and/or relationship with someone, and engaging in cybersex or flirting (Helper & Whitty, 2010). Online affairs may be a byproduct of preexisting relationship problems (Young, Griffin-Shelley, Cooper, O'Mara, & Buchanan, 2000), but they also may present new challenges if there are no major problems prior to the onset of the affair.

Young et al. (2000) said, "Seemingly stable long-term relationships have never been faced with the challenge of private, inexpensive, and easily accessible cybersex and/or cyberaffairs" (p. 61). Some of the factors that Young et al. identified as making cyberaffairs especially exciting are the potential for cultural and geographic diversity of partners, the decreased feelings of inhibition that some feel when using electronic communication, the rapid development of intimacy and personal sharing, and the potential engagement in cybersex, or "two online users engaging in private discourse about sexual fantasies" (p. 60). Access to technology can facilitate secrecy that breeds infidelity (Hertlein, 2010). For example, it is typical for people to have passwords on their technology-based accounts and devices, providing them a means of communicating with others without their partners knowing (Hertlein).

People differ in the types of online behaviors they consider to be infidelity and to be unacceptable within intimate relationships (Whitty, 2005). However, many people view online infidelity to be just as damaging to relationships as in person infidelity (Whitty). In fact, some partners perceive online infidelity to be more emotionally connected than face-to-face infidelity (Hertlein, 2010). Even partners within a relationship may differ in their views of what actually constitutes an online infidelity. For example, although Helper and Whitty (2010) found that partners generally agreed that falling in love with another person (90% agreed) and engaging in cybersex (84% agreed) constituted infidelity, the rates were more diverse for other infidelity-related behaviors (e.g., 69% agreed that their partner flirting with someone else would make them unhappy, and 59% agreed that their partner viewing pornography would make them unhappy).

ACCESS TO PORNOGRAPHY

Easy access to pornography through technology presents another potential challenge to couples. Although it is possible that couples may engage in viewing online pornography together, it is thought to be more common for one partner to do so alone, often shrouded in secrecy (Manning, 2006). Many people find it problematic for their partners to engage in viewing pornography, online or otherwise (Manning). Existing research demonstrates that adults may experience a myriad of possible negative impacts from viewing pornography, and their partners, children, and other social relationships may be impacted as well (Manning).

MONITORING ONE ANOTHER

Couples may use various forms of technology to monitor their partners' behaviors (Helper & Whitty, 2010). Forms of monitoring may include reading one's partner's e-mails, text messages, and instant messaging logs; reviewing the history of the partner's Internet browser; and using specially designed monitoring software (Helper & Whitty). Some monitoring may occur accidentally, such as if a partner sees their partner's e-mail if left open on a shared computer, but other forms require more intention and potential invasions of one another's privacy, such as breaking into a password-protected phone to read text messages (Helper & Whitty).

The multiple forms of communication available to couples may lead some partners to feel overly accessible and smothered (Hertlein, 2010). For example, higher amounts of time spent on Facebook may be linked to higher levels of jealousy (Papp, Danielewicz, & Cayemberg, 2012). Couples who monitor one another's behavior may be more likely to encounter negative information, and this behavior can be linked to negative relationship outcomes (Helper & Whitty, 2010). In particular, people may monitor their partners to see if their partners are engaging in infidelity (Helper & Whitty). Most partners within couples appear to be similar in their use of online monitoring behaviors. For example, among the sample studied by Helper and Whitty, nearly three-quarters of the couples had similar rates of monitoring behaviors (i.e., 56% of couples did not show any monitoring, and both partners used these behaviors in 17% of couples). This left approximately one-fourth of couples in which only one partner monitored the other. People whose partners are much more technology-savvy than they are may need to be more cautious to ensure that their partners are not using their technological knowledge to track them if they do not want them to do so (Hertlein).

RELATIONSHIP ABUSE PERPETRATION

Technology can serve as another platform for violent relationship partners to control and abuse their partners (Schnurr, Mahatmya, & Basche, 2013). Some of the abusive tactics that partners can use via technology include sending abusive text messages, spreading rumors through social media channels, and stalking (Schnurr et al., 2013). The role of technology in intimate partner violence is only now beginning to be understood, and therapists and others who work with clients impacted by abuse will need to be forward-thinking in developing ways to address this issue in interventions and prevention programs.

OVERUSE

It is difficult to develop a clear-cut definition of “overuse” of the Internet and other forms of technology for many reasons. For instance, some people are required to use technology heavily for their work and other roles in life. Overuse is likely a subjective concept that will vary based on a person’s views on the ways they use technology and the extent to which technology is integrated into their lives. Internet overuse can lead to cognitive and emotional symptoms, such as loneliness, anxiety, and depression (Kerkof et al., 2011).

One form of technology that appears to be potentially prone to overuse is video gaming (Coyne, Busby, Bushman, Gentile, Ridge, & Stockdale, 2012). Because gaming requires a high level of user engagement and attention, the user is less able to concentrate on anything other than the game—including their relationship—during use (Coyne et al.). Further, the violent content of many video games may predict aggression within users’ intimate relationships (Coyne et al.). Conflicts can arise when couples have disagreements about one or both partners’ overuse of technology in general or specific forms of technology (e.g., gaming or pornography; Hertlein, 2012). Overuse of technology also can lead to financial problems (Hertlein; Hertlein & Webster, 2008), such as from the costs of gaming programs, the expense of using the devices themselves, and if a partner engages in excessive online shopping.

It is likely that the degree to which partners are similar in their views of their own and their partners’ potential overuse of technology is where potentially problematic dynamics arise (Helper & Whitty, 2010). In Helper and Whitty’s survey of 2,401 adults in the United Kingdom, 57% of the participants viewed themselves and their partners as similar (i.e., they said that either they both had unproblematic use or neither did). The remaining 43% of participants indicated dissimilar usage of the Internet (i.e., they said that one partner’s use was not problematic, but the other one’s was). Kerkof et al. (2011) studied the impact of compulsive Internet use on marital satisfaction among a sample of newlywed couples in the Netherlands. The findings demonstrated the negative impacts that compulsive Internet use can have on couple relationships. More compulsive Internet use was associated with lower levels of intimacy and passion and higher levels of feeling excluded. In addition, people who compulsively used the Internet were more likely to conceal their behaviors from their partners. They concluded that “our results suggest that compulsive Internet use has deleterious effects on relationship quality” (p. 164).

DISTRACTION

Technology can present a significant demand upon partners' time and attention that can detract from the availability of these resources for their relationships (Hertlein, 2010, 2012). Many people feel compelled to address the intrusions of technology (e.g., a ringing phone or a text message) even when they are engaged in other activities and a response is not truly urgent (Hertlein, 2010). Some partners even intentionally engage in technology use to avoid interacting with their partners (Hertlein, 2010). The Internet is a complicated technology, in that many people use it for essential tasks and information (e.g., related to work), but they can easily be led to pursue other activities and uses that are non-essential and carry potentially negative consequences (Kerkof et al., 2011). Overall, technology can serve to divert people's time, energy, and attention from their intimate relationships.

The literature reviewed in this section supports the notion that technology has profoundly impacted the way that couples relate to one another, and couples may experience both positive and negative impacts of technology on the quality of their relationships. Nonetheless, a need remains for additional research that comprehensively examines the impact of technology on couple relationships. Therefore, the researchers examined qualitative data to determine the various ways that technology provided both intimacy-enhancing and intimacy-hindering influences on participants' relationships.

METHODOLOGY

Two research questions guided this study. The first question was, "What are the perceived benefits of technology within the context of people's intimate relationships?" The second question was, "What are the perceived negative impacts of technology within the context of people's intimate relationships?" To answer those questions, this study involved an electronic survey of undergraduate and graduate students at a mid-sized public university in the southeastern United States. The survey combined two main sections. First, the researchers created an assessment instrument to measure the impact of technology use on couple relationship intimacy and the development of that assessment instrument will be described in a separate article elsewhere. Second, the survey contained open-ended questions asking participants to describe their perspectives on the impacts of technology on their relationships. This article presents only the results of the qualitative data collected in response to these questions.

Sample Recruitment

Participants were recruited via e-mail, and all were undergraduate or graduate students at a mid-sized (i.e., approximately 18,000 students) public university in the southeastern United States. The researchers obtained a list of 3,000 randomly selected student e-mail addresses from the University Office of Institutional Research. The number of 3,000 students was selected in order to obtain a sample that would have sufficient statistical power for the quantitative components of the study (reported elsewhere) and yet also obtain a manageable amount of data for the qualitative components of the study. The final sample should be considered a convenience sample, in that it is not possible to determine how many of the original 3,000 students contacted actually were eligible to participate in the study. To participate, students had to report being involved in a committed, monogamous relationship, and this information is not tracked by the

university. Each prospective participant was e-mailed weekly for up to 3 weeks with invitations to participate. Participants had the option to enter a drawing for one of two \$50 store gift cards as an incentive for participation.

Participants

Although 319 people completed at least some part of the survey, 225 participants completed the full survey and were included in the final data analyses. Participants ranged in age from 18 to 78 years old ($M = 27.9$, $SD = 10.67$). Their partners' reported ages ranged from 17 to 76 years old ($M = 28.9$, $SD = 10.87$). The mean length of participants' relationships was 5.4 years ($SD = 7.1$). The geographical distance between participants and their partners varied, with the distance of partners not living together ranging from 1 mile to 3,000 miles ($M = 215.5$, $SD = 521.9$). Other demographic characteristics are summarized in Table 1.

Survey Procedures and Questions

The survey was hosted on a secure Internet-based survey-hosting platform, Qualtrics. Participants were required to indicate agreement with the informed consent document before they could enter the remainder of the survey. Survey responses were anonymous. Participants could enter the drawing for the gift cards in a manner that kept their identifying information completely separate from their survey responses. The survey contained a demographic questionnaire, the quantitative assessment components that are being reported elsewhere, and a series of open-ended questions. Although the survey contained a series of open-ended questions, only the following questions were selected for inclusion in the data analyses: "Please list the top three ways that you believe that technology BENEFITS your relationship with your partner"; "Please list the top three ways that you believe that technology HURTS your relationship with your partner"; "Please describe the top three ways that you think relationships in society are different today than ten years ago based on technology advances that have happened during that time"; and "Please list any other thoughts you have related to how you think technology impacts romantic relationships in society today." The other open-ended questions did not specifically address this study's guiding research questions and therefore were excluded from further analyses. Participants had unlimited space in which to respond to these questions. However, most participants provided responses in a list format, which influenced the decisions made for the data analyses, as described next.

Data Analyses

Because of the nature of the data used in this study (i.e., a large set of responses that were typically provided in a list format), the data analyses followed a basic content analysis procedure (Stemler, 2001). Stemler described content analysis as a "systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding" (para. 1). Content analysis is useful for identifying categories in a large dataset, and its flexible research design can be adapted to fit a variety of research questions (Elo & Kyngas, 2008). All of the data from participants' responses to the four questions listed above were entered into a database. In sum, a total of 803 responses were entered into the database. To facilitate the coding of the data, the researchers decided that the coding unit would be each list item or sentence

within each response. Therefore, most responses contained more than one coding unit. We used a multistep process to identify the major themes in participants' responses. These themes then became the codes and subcodes to use for the content analysis. First, we read through the entire dataset to notice general impressions. Second, we went through each statement and created a list of the main ideas contained in each of the statements, and all new ideas were added to this list. Third, we reviewed the list of main ideas and consolidated similar themes to create the draft of the final set of categories and codes. Fourth, we applied this draft coding scheme to a smaller portion of the data to ensure a good fit with the data. Fifth, we coded each statement to record the code that best reflected each coding unit. Finally, we used descriptive statistics to calculate the frequency that each code and subcode was mentioned. Although it is typical to use two or more coders for content analysis (Stemler), only one coder coded all of the coding units, in that we determined that the format of participants' responses (i.e., listed items or brief sentences) would facilitate easy identification of the most appropriate codes. To support the validity of our codings, we provide illustrative participant quotes for each category in the Results section.

TABLE 1 Participants' Demographic Characteristics

Characteristic	n	%
Participants' gender		
Male	45	20.0
Female	177	78.7
Other (e.g., transgender)	3	1.3
Partners' gender		
Among male participants		
Male	7	15.6
Female	38	84.4
Among female participants		
Male	165	93.2
Female	12	6.8
Participants' racial/ethnic backgrounds*		
African American	32	14.2
Asian	7	3.1
Caucasian	176	78.2
Latino/Hispanic	12	5.3
Native American	3	1.3
Other	9	4.0
Partners' ethnic backgrounds*		
African American	37	16.4
Asian	5	2.2
Caucasian	174	77.3
Latino/Hispanic	6	2.7
Native American	4	1.8
Pacific Islander	2	0.9
Other	6	2.7
Participants' highest level of completed education		
High school degree	79	35.1
Associate's degree	26	11.6
Bachelor's degree	59	26.2
Master's degree	45	20.0
Doctoral degree	4	1.8
Other	12	5.3
Relationship status		
Casual dating	7	3.1
Exclusive dating	107	47.6
Engaged	25	11.1
Married	73	32.4
Domestic partnership	11	4.9
Other	2	0.9
Living arrangements		
Live with partner	105	46.7
Do not live with partner	99	44.0
Other living arrangements	20	8.9
Participation in couple counseling with current partner		
Currently in couple counseling	5	2.2
Any past experience in couple counseling	30	13.3

Note. *Participants could select more than one option for ethnic background.

RESULTS

This section describes the themes in participants' responses regarding the perceived benefits and negative impacts of technology on their intimate relationships. A total of 1,455 units were coded, with 723 reflecting perceived benefits of technology and 732 reflecting perceived negative impacts of technology for intimate relationships.

Perceived Benefits of Technology for Intimate Relationships

Table 2 lists the categories and subcategories of perceived benefits of technology, including the frequency of each category being mentioned in the participants' responses. Additional information about each category is presented after Table 2, including a description of each category and sub-category, along with selected illustrative participant quotes.

TABLE 2 Frequencies of Perceived Benefits of Technology Category Code

Category; subcategories, if applicable	Frequency
Communication	324
<i>Keeping in contact (not long-distance relationships)</i>	185
<i>Sharing news and information</i>	52
<i>Provides multiple communication channels</i>	48
<i>Other communication benefits</i>	39
Facilitates long-distance relationships	98
Life management and planning	83
<i>Within relationship</i>	76
<i>Other life management</i>	7
Intimacy and affection	67
Leisure and relaxation	53
Meeting online	40
Learning about one's partner	32
Connections to social support	20
Preserving relationship memories	6
Total Perceived Benefits Codes	723

Note. Primary codes are in regular text; subcodes, when applicable, are in italicized text.

COMMUNICATION BENEFITS

These are the most frequently cited benefits related to various ways that technology helps couples communicate with one another.

Keeping in contact. This subcategory related to the benefits that technology offers couples to help them keep in touch and stay in contact when not physically together (e.g., “Easy to communicate when we are at work and school”). Participants noted that technology is useful for making their partners accessible to them (e.g., “It is easy to reach him quickly”). This category did not include statements related to keeping in contact within long-distance relationships, as those statements were separated out for a unique category, described next.

Sharing news and information. Participants noted that technology provides channels for them to share news and discussion topics with one another (e.g., “Helps us discover new topics for discussion, lets us share ideas instantly”). In addition, some participants said that technology provides a means of helping them stay connected to their interests outside of their relationships, which they can then discuss with their partners.

Provides multiple communication channels. This category included statements about technology providing multiple modes of communication with one another, including both public and private forms of communication. For example, participants mentioned the benefits of using “texting when unable to talk” and “Skype so we can see each other.” This category was differentiated from the *keeping in contact* category because statements coded into the *multiple communication channels* category reflected the numerous types of technology platforms that partners can use to communicate, whereas the *keeping in contact* category reflected the more general use of technology to stay in touch.

Other communication benefits. This subcategory included the communication benefits-related statements that did not fall directly into one of the other subcategories (e.g., “communication” and “It’s a form of communication—I would think most ways of communicating are beneficial”).

FACILITATES LONG-DISTANCE RELATIONSHIPS

Long-distance relationships emerged as a distinct category of benefits, although the benefits for long-distance relationships overlapped with other categories of benefits. To keep the categories distinct, only statements that specifically addressed the use of technology when partners are at a geographical distance from one another were coded into this category. Example statements included the following: “Since we are currently in a long distance relationship, any form of technology that keeps us in touch is beneficial” and “Allows us to communicate from a distance, we miss each other more, we look forward to seeing each other in person”). This category addressed short-term geographical separations as well (e.g., “Keeping in touch when traveling apart”).

LIFE MANAGEMENT AND PLANNING

Participants mentioned that technology can help people manage responsibilities and make plans within their intimate relationships.

Within the relationship. Most of the life management and planning benefits statements related to direct planning and logistical benefits between partners within their relationships. The following quotes reflected some of the ways that participants used technology to manage pragmatic details: “Communications when phone call is not possible for daily scheduling,” “Quick texts to see where he is to meet up with him,” and “Can send grocery lists via smart phone/text.”

Other life management. A small number of statements addressed ways participants used technology to manage other parts of their lives to create more time and energy for their relationships (e.g., “Internet courses have freed up time for me to spend with my husband”).

INTIMACY AND AFFECTION

This category included statements regarding participants’ use of technology to promote sexuality, intimacy, affection, and flirtation within their relationships. Sample participant quotes are as follows: “He can surprise me with sweet messages,” “We e-mail love letters,” and “Use it to make each other feel special, I love you’s and miss you’s”).

LEISURE AND RELAXATION

Participants noted that they enjoyed that technology promotes entertainment, leisure, relaxation, laughter, and fun within their relationships. As examples, participants said, “Helps us spend time together (watching movies on laptop),” “Bonding through games,” and “We entertain each other with funny things online.”

MEETING ONLINE

These statements addressed ways that technology provides new avenues for partners to meet one another. Several participants said that they met their partners online. Another example quote in this category was that technology “has also allowed for extending the pool of possible mates.”

LEARNING ABOUT ONE’S PARTNER

Reflecting the statements in this category, some people use information derived from technology to learn more about their partners. For example, one participant said, “We know more about each other by our social media networking profiles.” Another participant indicated using technology for “keeping small tabs on them, seeing what they are really interested in, and seeing how they really feel.”

CONNECTIONS TO SOCIAL SUPPORT

Statements in this category indicated that partners may use technology to maintain social support with others, such as friends and family members (e.g., “keeping us in touch with our families of origin” and “keeps us connected with each other’s friends and families”).

PRESERVING RELATIONSHIP MEMORIES

Although only mentioned by a small number of participants, technology may benefit couples by helping to preserve their relationship memories (e.g., “Can save past conversations” and “Looking at pictures from trips we have taken”) was a unique way that participants suggested that technology can help enhance couple relationships.

Perceived Negative Impacts of Technology on Intimate Relationships

Table 3 presents a list and the frequencies of the categories and subcategories of the participants’ perceptions about the negative impacts of technology on their relationships.

TABLE 3 Frequencies of Perceived Negative Impacts of Technology Category Codes

Category; subcategories, if applicable	Frequency
Impairs communication and intimacy	284
Compromised communication	149
More superficial and inauthentic communication	135
Specific relationship problems	222
Privacy infringements	69
Creates gossip and drama	61
Jealousy and trust issues	59
Online pornography and infidelity	33
Distracts from and infringes on the relationship	155
Usage patterns	57
Overuse and addiction	46
Pet peeves with partner’s use	11
Features of technology	14
Total perceived negative impacts codes	732

Note. Primary codes are in regular text; subcodes, when applicable, are in italicized text.

IMPAIRS COMMUNICATION AND INTIMACY

The most frequently mentioned negative impacts related to problems related to communication and intimacy.

Compromised communication. This category included statements reflecting technology use that leads to miscommunications and providing ways for partners to ignore, avoid, and delay communications. One participant said, “Sometime we misunderstand each other in text and it causes one of us to think the other person is upset when they aren’t.” Another said, “Can’t always sense exactly what he’s trying to say, can’t always understand his points.”

More superficial and inauthentic communication. Statements in this subcategory reflected participants feeling that communication through technology-based channels was not equal to face-to-face communication in that it was more superficial and inauthentic, thereby reducing intimacy in the couples’ relationships. For example, participants said technology provides a “superficial connection through Facebook or texting,” leads to “less personal interactions,” and can be “impersonal.”

SPECIFIC RELATIONSHIP PROBLEMS

This category included statements about specific problems that can arise from technology within couple relationships.

Privacy infringements. First, some participants stated that technology can be used to infringe on their privacy, such as by snooping in accounts and devices and by using technology to check up on them (e.g., “Checking email without knowing” and “There have been times we’ve gone through each other’s accounts, just for peace of mind/reassurance”). Some participants admitted to engaging in these behaviors themselves (e.g., “I stalked his actions” and “I snoop”).

Creates gossip and drama. Second, number of participants said that technology opens new avenues for problems, gossip, and “drama” to arise related to their relationships. One specific issue that was mentioned in this category was the risk of partners over-sharing the private details of their relationships with others. Some examples of this are as follows: “Ex girlfriends/boyfriends use social media as a way to reach out a lot,” “Communication with the ‘wrong’ people,” and “When others invade our relationship on social networks.”

Jealousy and trust issues. Third, this subcategory included statements reflecting feelings of jealousy and distrust that can arise based on partners’ use of technology. For example, participants said, “Jealously over Facebook, not trusting the other person when it comes to the privacy of their inbox” and “He keeps his voicemail code private and I don’t like that. Makes me feel like he has something to hide”).

Online pornography and infidelity. The access that technology provides to online pornography and infidelity was addressed in this category. Some representative comments included the following: “Access to pornography can create insecurities for me;” “I am offended when he looks at videos that show other women half-naked or the like;” and “Easier to cheat.”

DISTRACTS FROM AND INFRINGES ON THE RELATIONSHIP

This category included statements that indicated that technology can distract from one's intimate relationship. This included partners using technology as an escape mechanism (e.g., "Escape mechanism for both, distracting"), having other areas of their lives infringe upon their time for their relationships (e.g., "Distraction during conversation from texting other ppl"), feeling neglected because of their partners being distracted by technology (e.g., "If one of us has something to do online when the other does not that person might feel neglected"), and having less "down time" for their relationships (e.g., "We sometimes get distracted by technology and don't spend time together as we have planned").

USAGE PATTERNS

The statements in this category addressed specific ways that participants or their partners used technology and relationship problems that resulted from them.

Overuse and addiction. First, some participants described that one or both partners use technology excessively, sometimes even describing this as an addiction. Some of these participants noted the impact of overuse on one's mood and anxiety levels. Example quotes included the following: "I do have to pry him away from the Play Station at times;" "Causes anxiety/causes depression;" and "Preoccupation with technology while apart from it."

Pet peeves with partner's use. Second, a relatively small number of participant statements expressed irritation or annoyance with some of the ways that partners used technology, although these did not reach the level of overuse or addiction (e.g., "Pet peeve alert: Phone use in restaurant" and "Fights over forgetting to carry my phone").

FEATURES OF TECHNOLOGY

Finally, this category reflected participants' sentiments that the features of technologies themselves could contribute to relationship problems. These features related to specific characteristics of technology that could lead to frustrations and stress. The features mentioned included the desirability of ever-emerging new technologies, technology failures, and the high cost of many technologies. For example, one participant said, "Desire for new technology can cause financial stress." Another said, "It is frustrating when we have to settle an argument through Skype and the connection is weak."

DISCUSSION

This study's findings demonstrate the complexity of the impact of technology on intimate relationships. There were notable parallels between the categories that emerged within the categories of perceived benefits of technology and those within the categories of perceived negative impacts. First, the largest category of perceived benefits addressed ways that technology can enhance the communication in relationships. These benefits provided ways for couples to keep in contact when they are apart, to share information and news with one another, and to offer diverse ways to communicate so that communications can be maintained in virtually any

circumstance. However, the largest category of perceived negative impacts also related to communication, specifically the ways that technology can compromise communication and lead to more superficial and inauthentic forms of communication. Therefore, depending on the context, technology can be viewed as both helping and hindering communication within intimate relationships.

A second parallel can be found in the ways that the practical uses of technology can help couples with accessing information, leisure and relaxation, planning, and managing their lives, but technology also can be a major distraction that takes away time and energy from one's relationship and from the enjoyment it can offer. Many participants noted that they enjoy the pleasure they and their partners derive from entertaining or humorous uses of technology. They also noted that they can use technology to help with planning events and completing tasks so that they will be able to enjoy time with their partners. On the other hand, participants also mentioned that technology can significantly distract from their relationships, especially by allowing other areas of their lives to infringe upon their time together. Further, even potentially enjoyable uses of technology (e.g., watching television or gaming) can become negative influences on intimate relationships when they are overused or abused.

Third, participants noted that technology can help them to share intimacy and affection with one another, learn about each other, and stay connected to friends and family members for additional social support. These perceived benefits correspond to some of the specific relationship problems that the participants mentioned could develop through technology. For example, it is likely that there is a fine line between partners learning about each other through technology and infringing on each other's privacy. In addition, technology can be used to help partners send flirtatious, affectionate, and sexual messages to one another. At the same time, these uses can be part of infidelity with others outside of the relationship. Likewise, technology used for sexual purposes (e.g., accessing online pornography) can enhance relationships when it is viewed as mutually pleasurable, but it can potentially contribute to relational problems as well. Finally, technology can provide partners with greater access to other people outside of their relationships, and this access can either support their relationships, such as when the social support is viewed as positive, or hinder them, such as when they contribute to gossip or jealousy and trust issues.

The remaining categories suggest that technology can serve very specific functions in intimate relationships. On the positive side, technology can help couples develop and maintain long-distance relationships, meet prospective partners, and preserve relationship memories. However, specific features of technology also can contribute to relationship stress, such as when technological glitches happen or over the expenses associated with some technologies.

The fact that the number of positive and negative statements (i.e., 723 and 732) regarding the potential impact of technology on intimate relationships was nearly equal demonstrates the complexity of this issue. Our findings support the need for more of a "both/and" view of the impact of technology, rather than an "either/or." In other words, technology can be both positive and negative, and understanding this more inclusive perspective appears to be a more beneficial direction for future research and practice compared with trying to determine whether the net effect of technology is *good* or *bad* for couple relationships.

Limitations

The findings of this study must be considered in light of the study's methodological limitations. First, participants were drawn from one university, and it is possible that university-specific or geographic influences biased participants toward certain uses or perceptions of technology. In addition, college students may be a unique population with regard to technology use (Baym et al., 2007; Hertlein & Webster, 2008). Younger and more highly educated people are thought to be more frequent users of technology (Rasanen & Kouvo, 2007). In particular, most university students, whether in undergraduate or graduate studies, are required to use technology on a daily basis as part of their studies (e.g., for completing assignments, communicating with faculty and classmates). This fact, combined with the relatively younger age of the sample, may mean that this study's sample was more technology-savvy and reliant than the general population.

Second, people participated in this study individually, and it is possible that partners within the same relationship hold different views about how technology impacts their relationships. The lack of dyadic data means that we interpreted the findings outside of the unique relationship context for each participant. Third, the majority of participants' responses were relatively brief statements, and additional details might have provided a richer understanding of the ways that technology impacts their relationships. By collecting qualitative data via an electronic survey, compared with if data collection occurred in person through an interview or focus groups, we were unable to ask participants for clarification about their statements. Finally, although the brevity of the participants' statements were appropriate for being coded by only one coder for each statement, we are unable to report on any interrater reliability of the coding system. This limitation can be addressed by including multiple coders in similar future research.

Implications for Theory

Hertlein (2012) and Hertlein and Blumer (2013) outlined a multitheoretical model for understanding the impact of technology in relationships, which integrated (a) the family ecology model, (b) the structural–functional model, and (c) the interaction–constructionist perspective. This model suggests that technology impacts relationships because (a) technology has impacted the ecological environment surrounding couple and family life, (b) families experience structural shifts resulting from their integration with technology, and (c) communication and other relational processes change due to influences of technology. In all, technology fundamentally shifts how intimate relationships are formed and maintained over time, and it also introduces new potential areas of problems and vulnerabilities that couples may experience. The findings of the current study support Hertlein's model of the significant impact that technology has on all aspects of couples' relationships, particularly related to how people express their roles, boundaries, and communication patterns through the use of various forms of technology.

A stronger theoretical basis for understanding the impact of technology on intimate relationships will be important for both future research and practice. We encourage future researchers to consider drawing from theories developed in the information technology field to inform therapy-focused theoretical conceptualizations. For example, the Unified Theory of Acceptance and Use of Technology (Venkatesh, Morris, Davis, & Davis, 2003) is a model that conceptualizes how people consider whether and how they will use specific technologies, and

this theory may provide a framework for understanding the relational impacts of more specific technologies. Of course, increasingly different types of technological devices perform similar functions. For example, messaging, video chatting, Internet browsing, and e-mailing all can be done on most computers, tablets, and smartphones. Therefore, future researchers should consider the best strategies for studying the impact of both specific technological devices and specific technological functions on couple relationships. In addition, the findings of this study underscore the importance of future theoretical developments encompassing a view that technology can simultaneously support and hinder intimacy, even within the same relationships.

Implications for Couple Therapy

Despite the proliferation of technology use (Pew Research Center, 2013), it appears that this important aspect of relationship functioning is only beginning to be addressed by couple therapists (Hertlein, 2012). The findings of this study suggest possible areas for clinical assessment to determine whether partners' technology use is creating any problems within their relationships, such as jealousy and trust issues, privacy infringements, communication impairments, and online infidelity. The latter issue of online infidelity has received perhaps the most attention in prior research. Counselors working with clients who have experienced online infidelity can be helped to improve their communication, and the counselor also should assess for other problems in the couple's relationship, such as sex addiction (Young et al., 2000). Other important strategies include helping the couple rebuild trust and commitment (Young et al.), establishing clear goals for treatment, maintaining a nonjudgmental stance, helping clients process their feelings of shame, determining the best approach for treatment (e.g., individual versus couples), and establishing clear rules regarding the use of technology associated with the affair (Young et al.).

Despite all of the potential negative impacts, the numerous positive impacts of technology suggest that therapists can help couples identify useful strategies for applying technology to enhancing their intimacy. Therapists can help couples negotiate the rules and processes related to technology that may be negatively impacting their relationship functioning (Hertlein, 2012). Potentially useful interventions include having couples experiment with new communication channels and using electronic communication to write out their thoughts about conflict-ridden topics (Hertlein, 2010). In addition, Hertlein and Webster (2008) suggested that counselors should help their couples negotiate agreements about which online behaviors (e.g., communications with others outside of the relationship and viewing pornography online) are acceptable and agreeable to both partners and which behaviors are not.

Implications for Future Research

Previously identified needs for future research include developing more standardized definitions, ensuring appropriate inclusion of all genders in study samples, controlling for potentially confounding variables, and studying this topic more broadly and comprehensively (Hertlein & Webster, 2008). In addition, a need remains for studying the impact of specific technologies (e.g., text messaging, smartphones, and the Internet) on relationships rather than focusing more broadly on technology overall (Hertlein, 2012; Hertlein

& Webster, 2008). This area is likely to continue to grow and change as new technologies emerge. Further research also is needed to identify the role of technology in various stages of relationships, from the start to finish (Sprecher, 2009).

The current study's findings raise the important question of what factors determine whether a couple will be negatively or positively impacted by technology, and this question encompasses several subquestions. First, future research can address the personal characteristics of partners that influence their views of technology as beneficial or harmful to their relationships. Second, research can examine the relationship dynamics that precede and result from both positive and negative uses of technology. A third important area for future research is to examine the extent to which partners' uses of technology reflect their relationship dynamics in face-to-face interactions. Finally, we encourage future researchers to identify specific strategies that couples can use within their relationships to engage technology for enhancing their relationships, and then test whether these strategies can be taught through therapy or educational interventions.

CONCLUSION

Technology has become an integral part of people's lives and relationships in modern life. Technology can offer many pleasurable and useful functions for couples looking to strengthen and build their relationships. At the same time, technology can contribute to dysfunctional dynamics within couple relationships. The findings of this study illustrate the complex role of technology in intimate relationships. This area of research and practice is likely to continue to grow to be increasingly important for both research and clinical work as new technologies continue to emerge and change the way that people live their lives and interact in relationships.

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