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College students' cell phone use and attachment to parents and peers

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ABSTRACT

College students spend hours each day using their cell phones. A common motivation for this behavior is the maintenance of social relations. Yet depending on cell phone use behavior, cell phone use could potentially strengthen or weaken social relations. We investigated this possibility with a survey ($N = 493$) assessing students' perceptions of important social relations (i.e., Inventory of Parent and Peer Attachment) and various cell phone use behaviors. The relationship between cell phone use and Parent Attachment was modeled with three regression equations, one for each Parent Attachment subscale (i.e., communication, trust, alienation). These subscales were the criterion variables. Each regression equation contained the same predictor variables: total daily cell phone use, calling, texting, and problematic use. Anxiety and self-esteem were control variables. The relationship between cell phone use and Peer Attachment was modeled similarly. Regression equations were estimated simultaneously using the Seemingly Unrelated Regression technique. For males: calling, texting and total daily use were not related to parent or peer attachment; problematic use was negatively related to parent and peer attachment. For females: calling was positively related to parental attachment and texting to peer attachment; problematic use was negatively related to parent and peer attachment. Implications are discussed.

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1. Introduction

Traditional telephones, with their singular purpose of making a call, have been popularly considered important for maintaining and strengthening social relations. This has been particularly true of college students and other young adults living away from home for the first time. For example, a 1987 television commercial for AT&T's "reach out and touch someone" advertising campaign suggested that the telephone sustains students' affectional bonds with parents while away at school (CulturalLag, 2014). Reflecting on this, Armsden and Greenberg (1987) suggested that the telephone can effectively maintain and strengthen important social relations during this stage of the life course. Today, the most common telephone among college students is not the singular function "landline" but the multifunction, internet enabled, cellular phone (i.e., smartphone, mobile phone, and henceforth cell phone). Indeed, nearly 70% of young adults in the U.S. aged 18–29 live in wireless only households without a traditional landline phone (Pew Research, 2015a). Likewise, 85% of the same demographic owns an internet enabled cell phone; furthermore, most cell phone owners claim to carry it everywhere and never turn it off (Pew Research, 2015a,b). This constant connectivity may strengthen college students' social relations through increased opportunities for calling, texting, email, and online social networking. However, given the cell phone's many other functions, interpersonal communication may no longer be the device's central purpose. As such, cell phone use may take time away from interpersonal communication. If so, social relations may suffer. Thus, it is not clear what role cell phones play in the maintenance of college students' social relations. The purpose of this study is to investigate the relationship between college students' cell phone use and their social relations as measured by their perceived attachment to parents and peers.

Attachment is defined by Armsden and Greenberg (1987) as a significant and enduring affectional bond to a parent or close peer. Attachment is characterized by good communication, emotional closeness, and trust. Developing and strengthening attachment bonds with parents begins in infancy and depends largely on physical proximity. As adolescents mature into independent adults, physical proximity to parental attachment figures becomes less important. As this occurs, parental attachment may be sustained through phone calls, emails, and similar forms of communication

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which symbolize proximity (Armsden & Greenberg, 1987; Wei & Lo, 2006). Simultaneously, the importance of peer attachment increases. Peer attachment typically complements, rather than replaces, parental attachment (Armsden & Greenberg, 1987). The importance of peer attachment is the development of additional social relations available for support and encouragement in the face of life's transitions and challenges. Indeed, developing and maintaining attachment bonds with parents and peers contributes to psychological adjustment, mental health, and well-being (Kenny & Rice, 1995; Laible, Carlo, & Raffaelli, 2000). For example, research has demonstrated that secure attachment bonds are positively related to self-esteem and life satisfaction (Armsden & Greenberg, 1987; Wilkinson, 2004) and are negatively related to anxiety and depression (Armsden & Greenberg, 1987; Papin & Roggmen, 1992).

The benefits of secure attachment bonds are particularly relevant during college. College is a time of transition away from dependence on parents and towards the independence and increased freedom of adulthood. The ease with which students cope with this transition is influenced by their relationships with attachment figures (Kenny & Rice, 1995; Laible et al., 2000). The focus of the present study is to better understand what role cell phones play in maintaining the attachment bonds proven to be helpful during this life transition. Today's college students are constantly connected to a network of parents and peers through their cell phones (Pew Research, 2015a,b). However, research investigating the relationship between cell phone use and college students' attachment to parents and peers is limited. This is an important area of study as today's college students are heavy media users. A 2010 Kaiser Family Foundation study found that American youth aged 8–18 averaged over seven hours per day of entertainment media multitasking (Kaiser Family Foundation, 2010). Six years later, these are today's college students and the cell phone is the nexus of their media filled lives. Our own research of college students' cell phone use, which includes over 1000 surveys and multiple studies, suggests they spend an average of five hours per day on their cell phones with the heaviest users being on the device almost constantly (i.e., Barkley & Lepp, 2016; Lepp, Barkley, & Karpinski, 2014; 2015; Lepp, Li, Barkley, & Salehi-Esfahani, 2015; Li, Lepp, & Barkley, 2015).

The role played by cell phones and similar computer media in college students' social relations is a matter of debate. One idea is that cell phones enhance feelings of belonging and relatedness by augmenting traditional methods of developing and maintaining social relations. This is the augmentation hypothesis (Ahn & Shin, 2013). College students would most likely agree with this hypothesis as recent research, assessing a sample of college students, found that both low and high frequency cell phone users identify strengthening and maintaining social relations as a primary motivation for their cell phone use (Lepp, Barkley, & Li, 2016). However, few studies have tested whether this motivation leads to cell phone behaviors which produce the expected benefit. In support of augmentation, Jin and Park (2010) found that college students who engage in more face to face communication are more likely to use the cell phone for calling and texting. Additional support comes from Ahn and Shin (2013) who found that the social use of computers (i.e., online social networking) can maintain and extend social networks. In contrast to augmentation is the displacement hypothesis which suggests that cell phones and similar computer media take time away from face to face interactions and thereby diminish social relations (Ahn & Shin, 2013). Ahn and Shin found support for this as well. Their research suggests that by displacing face to face communication, the social use of computers does not adequately develop the emotional bonds necessary for overcoming feelings of isolation. Thus, the social use of computers may be paradoxical in that it expands social networks (i.e., augmentation)

while simultaneously increasing feelings of isolation (i.e., displacement). With this important insight, they concluded "social isolation can motivate lonely individuals to find media use as a proxy for face to face interactions, but media use cannot completely gratify their needs, which motivates them to increase their media use and thus induce problematic use" (Ahn & Shin, 2013, p. 2459). This insight suggests a cycle of problematic use may develop when socially isolated individuals turn to social media in search of interpersonal gratifications. As an illustration of this cycle of problematic use, research by Yao and Zhong (2014) found that excessive internet use increased feelings of loneliness over time. Furthermore, increased online social interaction diminished the positive effects of offline social interaction, leading the user back to the internet in a desperate search for gratification.

To date, there is some evidence that calling and texting augments existing social relations (Blais, Craig, Pepler, & Connolly, 2008; Jin & Park, 2010; Wei & Lo, 2006). Likewise, studies have found that internet use (i.e., social networking sites, Skype) may increase feelings of family connectedness (Synder, Li, O'Brian, & Howard, 2015; Williams & Merten, 2011). However, the same study by Snyder et al. also found that problematic internet use can displace family time leading to feelings of disconnection. Additional research has found some support for the displacement hypothesis. For example, adolescents' problematic internet use, computer gaming, and total screen time (television, video, internet, and computer gaming) have been shown to be negatively related to parental and peer attachment as well as other measures of social relations (Blais et al., 2008; Lei & Wu, 2007; Rasmussen et al., 2015; Richards, McGee, Williams, Welch, & Hancox, 2010). Importantly, all of these behaviors (e.g., calling, texting, internet use, video, gaming, etc.) are now possible with a single, internet-connected cell phone. Yet no studies that we are aware of have investigated the relationship between cell phone use and parent and peer attachment. There is a need for this research among college students. Firstly, college is a challenging transitional time in the life of many young people and strong parent and peer attachment can assist with this transition (Kenny & Rice, 1995; Laible et al., 2000). Secondly, college students are avid cell phone users and believe that the device contributes meaningfully to their social lives (i.e., Lepp et al., 2016; Walsh, White, & Young, 2009; Wei & Lo, 2006). Considering the existing research, it is likely that the cell phone may simultaneously augment and displace college students' social interactions. If so then different forms of cell phone use (e.g., texting, calling, total daily use) will have different relationships (i.e., positive and negative) with college students' social relations. Therefore the following general hypotheses were tested:

1. calling via cell phone will be positively related to parent and peer attachment (i.e., augmentation),
2. texting via cell phone will be positively related to parent and peer attachment (i.e., augmentation),
3. total cell phone use will not be related to parent and peer attachment, as it includes multiple functions which might augment and displace social relations,
4. problematic cell phone use will be negatively related to parent and peer attachment (i.e., displacement).

2. Methods

2.1. Participants and procedures

As the population of interest, participants in this study were undergraduate college students from a large, public university in the Midwestern United States. Participants were recruited during