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Humans' attachment to their mobile phones and its relationship with interpersonal attachment style

Veronika Konok [a, b, *], Dóra Gigler [b], Boróka Mária Bereczky [a], Ádám Miklósi [a, b]

[a] MTA-ELTE Comparative Ethology Research Group, Budapest, Hungary
[b] Department of Ethology, Eötvös Loránd University, Pázmány P. s. 1/c, H-1117, Budapest, Hungary

ABSTRACT

Humans have a biological predisposition to form attachment to social partners, and they seem to form attachment even toward non-human and inanimate targets. Attachment styles influence not only interpersonal relationships, but interspecies and object attachment as well.

We hypothesized that young people form attachment toward their mobile phone, and that people with higher attachment anxiety use the mobile phone more likely as a compensatory attachment target. We constructed a scale to observe people's attachment to their mobile and we assessed their interpersonal attachment style.

In this exploratory study we found that young people readily develop attachment toward their phone: they seek the proximity of it and experience distress on separation. People's higher attachment anxiety predicted higher tendency to show attachment-like features regarding their mobile. Specifically, while the proximity of the phone proved to be equally important for people with different attachment styles, the constant contact with others through the phone was more important for anxiously attached people.

We conclude that attachment to recently emerged artificial objects, like the mobile may be the result of cultural co-option of the attachment system. People with anxious attachment style may face challenges as the constant contact and validation the computer-mediated communication offers may deepen their dependence on others.

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1. Introduction

Bowlby (1969) claimed that humans and many animal species are born with an innate attachment system that motivates them to seek and maintain proximity to significant others. In many animal species, the functioning of this system is only observable in the context of parent–offspring attachment, the ultimate function of which is to protect against predators and maintain the supply of resources for the offspring if they remain in proximity to the parent(s). In humans, however, the attachment system plays an important role also in adulthood and in different kinds of relationships, e.g. in romantic relationships (Fraley, Brumbaugh & Marks, 2005) or friendships (Markiewicz, Lawford, Doyle, & Haggart, 2006). It is supposed that in these cases the

attachment system (originally organizing infant-mother attachment) has been co-opted by natural selection to serve other survival/reproduction functions (Fraley, Brumbaugh & Marks, 2005; Shaver & Hazan, 1988). Alternatively, humans' increased tendency to develop attachment relationship in adulthood and to various targets may be a by-product of their prolonged neotenous state (Fraley & Shaver, 2000). According to this theory, the attachment system continues to be sensitive to certain cues and is readily activated in contexts that resemble the infant-parent relationship or elicit similar feelings or behaviours (Fraley & Shaver, 2000). This may explain why people readily develop attachment even toward non-human targets, e.g. companion animals (Archer & Ireland, 2011; Zasloff & Kidd, 1994), places (Hidalgo & Hernandez, 2001; Scannell & Gifford, 2010; Wickler, 1976), material objects (Cipriani & Kreider, 2009; Myers, 1985) or God (Kirkpatrick, 1994; Kirkpatrick & Shaver, 1992). In all forms of attachment, the proximity of the attachment figure provides a sense of security to the individual, and the separation from the attachment figure results in separation stress (Bowlby, 1969; Hazan & Shaver, 1994).

* Corresponding author. Department of Ethology, Eötvös Loránd University, Pázmány P. s. 1/c, H-1117, Budapest, Hungary.
  E-mail address: konokvera@gmail.com (V. Konok).

According to Bowlby (1969), interactions with available and responsive attachment figures facilitate the optimal functioning of the attachment system and promote a sense of attachment security in the child. However, when attachment figures are not reliably available and supportive, the child develops defensive secondary attachment strategies by deactivating or hyperactivating the attachment system. These strategies are called *attachment avoidance* (maximizing autonomy and distance from others, avoiding intimacy) and *attachment anxiety* (compulsively seeking proximity and protection, hypersensitivity to signs of possible rejection or abandonment). Characteristic attachment strategies developed in childhood are supposed to continue into adulthood, forming the typical adult attachment style (*secure, anxious or avoidant*) of the individual that characterizes his/her attitudes and emotions towards close others.

When a primary attachment target is not available, another solution to attain security is to search for alternative attachment targets. People are thought to use compensatory attachment targets descending a hierarchy with the primary attachment figure at the top (Hazan & Shaver, 1994; Trinke & Bartholomew, 1997). The structure of the hierarchy can include non-human targets as well (Bowlby, 1969; Hazan & Shaver, 1994), e.g. material objects.

Many assume that one of the hallmarks of the human species is material culture (e.g. Dant, 1999; Van Schaik, Deaner, & Merrill, 1999). From religious fetishism (Dant, 1999) to the materialism of modern consumer society (Belk, 1985), we have a special interest in objects. However, attachment to objects has been scarcely studied, and its appearance in adulthood has been considered for long as a sign of pathology (Hooley & Wilson-Murphy, 2012; Winnicott, 1971). However, there is evidence which support that healthy, well-functioning adults also report significant emotional attachment to special objects (Myers, 1985; Wapner, Demick, & Redondo, 1990). The possession of these objects seems to be soothing or psychologically helpful in times of stress (George, 2013), contributes to better mood, higher life satisfaction (Sherman, 1991), greater psychological health (Wiseman & Watt, 2004) and facilitates attachment to the living environment (Cipriani & Kreider, 2009; Whitmore, 2001).

One of the most prevalent material objects of modern society is the mobile phone. The number of active mobile subscriptions exceeds the total world population (Ericsson, 2014; Kemp, 2014). The amount of time spent on mobile use also increases, especially with the spreading of smartphones and with the much more functions they can offer. In the USA people use their smartphones 3.3 h a day in average, and in young adults aged between 18 and 24 this number is 5.2 h a day (Salesforce Marketing Cloud, 2014). Many authors assume that mobile phone or smartphone use can become an addiction as it is accompanied by addictive features like withdrawal, tolerance, etc (e.g. Walsh, 2014). However, mobile phone addiction is not an accepted diagnostic category (it has not been included in the DSM-5; American Psychiatric Association, 2013). Additionally, there is no standard measure for this type of addiction and there is no consensus about terminology: many terms are used for the phenomena such as mobile phone addiction, mobile phone dependence, excessive mobile use or problematic mobile use (e.g. Bianchi & Phillips, 2005; Hong, Chiu, & Huang, 2012; Toda, Monden, Kubo, & Morimoto, 2006).

Besides these concerns, it seems that some degree of dependence on the mobile phone is a general and increasingly prevalent phenomenon. For example, according to a survey in 2013, 79% of smartphone owners keep their phone with them for all but 2 h of their waking hours, and one quarter of smartphone users cannot even recall the last time their phone was not within ear shot (Levitas, 2013). About two thirds of mobile users report distress on being separated from the phone (left at home, run out of buttery, etc.) which phenomenon is called „nomophobia" (Bivin, Mathew, Thulasi, & Philip, 2013; King et al., 2013; SecureEnvoy, 2012) and this proportion is even higher in young adults (Sharma, Sharma, Sharma, & Wavare, 2015). These proportions suggest that dependence on mobile phones is not an extremity or a disorder but a normative phenomenon which may have biological basis and function.

Vincent (2006) claimed that investment into the phone (e.g. personalization like adjusting individual background picture, ringtone, etc.) leads to attachment to the phone (although she uses the term 'attachment' not in a Bowlbian but in a broader sense). The phone can be considered as a store of memories and social connections (in the forms of phone numbers, photos, messages, etc.). Thus, the phone does not simply enhance our social life but also embodies it (Vincent, 2006). In line with this, Srivastava (2005) regarded the mobile phone as a social object which gives users the impression that they are constantly connected to the world and therefore feel less alone. Ribak (2009) considered the mobile phone as a transitional object which is especially important in the teenager-parent relationship by providing a way of negotiating between dependence and independence. Cheever, Rosen, Carrier, and Chavez (2014) and Clayton, Leshner, and Almond (2015) demonstrated that separation from the phone resulted in increased anxiety; however, they did not interpret this result in an attachment framework.

As mentioned above, attachment to objects can be interpreted as compensatory attachment strategies when primary attachment targets are not available (Bowlby, 1969; Hazan & Shaver, 1994). In line with this assumption, attachment to objects has been reported mainly in cases when important social relationships (primary attachment targets) are diminished (e.g. in nursery home: Wapner et al., 1990; Cipriani & Kreider, 2009), momentarily not available (e.g. in war: George, 2013) or lost (photos and reminiscences of dead loved ones, e.g. Cipriani & Kreider, 2009). The perceived unreliability of primary attachment figures also triggers compensatory attachment to objects in general, and to the mobile phone as well: participants primed with uncertainty about their relationships reported increased attachment to their belongings, greater separation stress from their absent phone and increased motivation to reunite with it (Keefer, Landau, Rothschild, & Sullivan; 2012). Thus, the mobile phone may also function as a compensatory attachment target providing a sense of security and substituting for the person's social connections. At the same time, it has a relationship-facilitating function with which primary attachment relationships can be maintained and fostered. Perhaps the latter facilitates the former: as the mobile phone represents a relationship-maintaining tool and a store of social connections and memories, it may become more easily a target of compensatory attachment than other material objects.

As uncertainty about the primary attachment figure's availability seems to contribute to the use of compensatory attachment strategies (e.g. attachment to objects), we expect that those who are permanently uncertain about closely related people's responsiveness are especially susceptible to form attachment to objects. People with anxious attachment style are hypersensitive to signs of possible rejection or abandonment, and they constantly perceive others as being unavailable and unresponsive. In line with our expectation, it was found that those who have higher level of attachment anxiety show an increased attachment to objects (Hooley & Wilson-Murphy, 2012; Keefer et al., 2012) and brands (Proksch, Orth, & Bethge, 2013), and that hoarders