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Review

Impact of parents mobile device use on parent-child interaction: A literature review

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ABSTRACT

This review attempts to provide an overview of parents' mobile device distractions while caring for their children and the implications of this distraction on parent-child relationships. This review was conducted on literature published through November 2016, 27 sources were identified. Overall the continual connection provided by phones combined with the social pressure to respond quickly to calls/messages is leading to increased use and reliance on mobile devices. This increases the potential for parents' mobile device use to disrupt parent-child interactions. Parents who use their phones during parent-child interactions are less sensitive and responsive both verbally and nonverbally to their children's bids for attention, potentially leading to lower quality parent-child interactions. Children engage in risky attention seeking behaviors, which may be connected to the increase in childhood injuries. Parents and children express concern over device use as well as its contribution to family conflicts. This review also discusses gaps in the existing literature and proposes directions for future research.

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1. Introduction

Mobile devices, like smartphones, cellphones and tablets have become an integral part of our everyday lives. While ownership rates of technological devices such as desktops, e-book readers, MP3 players and gaming consoles have decreased in ownership, mobile device ownership continues to increase among American adults (Anderson, 2015). Adoption of mobile devices has steadily increased since ownership of each device type was first tracked. Based on available reports, currently, 95% of American adults own a cellphone, up from 53% in 2000; 77% own a smartphone, up from 35% in 2011, and 51% own a tablet, up from 3% in 2010 (Anderson, 2015; Smith, 2017).

Smartphones and tablets differ from cellphones in that they combine the capabilities of a traditional cellphone with a portable

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personal computer and Internet accessibility (Ames, 2013). Growth in ownership over the last five years has contributed to "smartphone only" adults (13% in 2015) who own a smartphone but have no other resource for an Internet connection in their home (Horrigan & Duggan, 2015). Having an Internet connection via a smartphone or tablet allows owners to continually engage with their device and be perpetually available through their device (Hertlein, 2012; Oulasvirta, Rattenbury, Ma, & Raita, 2012).

Through this persistent connection and perceived availability, mobile devices provide endless opportunities for distractions (Harmon & Mazmanian, 2013; McDaniel & Coyne, 2016; Oulasvirta et al., 2012). According to the displacement hypothesis (Coyne, Padilla-Walker, Fraser, Fellows, & Day, 2014), time spent with technology or media may displace and decrease meaningful parent-child connections. A primary area of concern regarding parental screen distractions is what effect these displaced parent-child interactions could have on child development (Anderson & Hanson, 2017).

It has been well-established that parenting behavior and the quality of parent-child interactions critically shapes child development (Fay-Stammbach, Hawes, & Meredith, 2014; Zimmer-Gembeck et al., 2017). Parent-child interactions marked by high parental sensitivity and responsiveness contribute to the likelihood of an infant identifying their caregiver as a secure base and aids in the development of secure attachment styles and later optimal developmental trajectories (Ainsworth, 1979; Lyons-Ruth, 1996). Although several studies in the review identify device use as potentially indirectly compromising the development of a secure attachment relationship and child development (Ante-Contreras, 2016; Blackman, 2015; Kushlev, 2015; Radesky & Christakis, 2016; Radesky, Silverstein, Zuckerman, & Christakis, 2014; Stupica, 2016) longitudinal research has yet to explore and verify these concerns.

Although little research has investigated the role of parent's mobile device distractions on child development and parent-child interactions, insight can be gleaned from research on children's screen time and television use. Prior work suggests that children's television use reflects their parent's use (Jago et al., 2012; Lauricella, Wartella, & Rideout, 2015; Xu, Wen, & Rissel, 2015), and that children's television use disrupts and displaces parent-child interactions (Kirkorian, Pempek, Murphy, Schmidt, & Anderson, 2009). Some parents are less responsive to their children when the television is on in the background and that the noise of background television can be a barrier to parent-child communication (Napier, 2014) resulting in fewer spoken words between parents and children, and poorer language development (Anderson & Hanson, 2017). However, when parents co-view television with their children, parent-child interaction can increase and have a positive impact on children's social development (Connell, Lauricella, & Wartella, 2015; Demers, Hanson, Kirkorian, Pempek, & Anderson, 2013). Similar relationships, like those found between screen time, child development and parent-child interaction may also exist with mobile devices, but for a comprehensive understanding of the relationship between mobile device distractions and parent-child interactions, future study is essential.

Currently, much of the research on mobile distractions focuses on distracted driving and motor vehicle accidents (Benden, Smith, Henry, & Congleton, 2012), as well as perceptions of device use during face-to-face social interactions (McDaniel & Coyne, 2016; Przybylski & Weinstein, 2013). However, a growing body of research has begun exploring parents' mobile device use as a possible disruptor to parent-child interactions. The occurrence and concern of parents plugging into their devices instead of attending to their children has received a great deal of media attention (AVG Technologies, 2016; Filucci, 2013; Hetter, 2011; Highlights Magazine, 2014; Parents on Phones, 2016; Scelfo, 2012; Winters, 2011). This concern for parents' technological distractions has begun to be addressed empirically as well. To further our understanding of how increased access to mobile devices could affect the parent-child relationship this systematic review will examine empirical research on parents mobile device use as related to parent-child interactions and the implications for parent-child relationships. This review will add to current understandings based on previous reviews related to technology and families, which have focused on how parents use the Internet (Dworkin, Connell, & Doty, 2013) and how families use older technology and the Internet before the ubiquitous use of smartphones and tablets (Hughes & Hans, 2001).

To better understand the relationship between parent-child interactions and parents' mobile device distractions, this review attempts to answer the following questions:

RQ1: How are parents using their mobile devices around their children?
RQ2: How do parents feel about their mobile device use during parent-child interactions?
RQ3: How do children respond to parents mobile device use during parent-child interactions?
RQ4: How do parents' mobile device distractions during parent-child interactions affect the parent-child relationship?

2. Methods

To guarantee a comprehensive search of articles on this complex topic, a combination of parent, child, mobile device, and interaction search terms were used (Table 1).

A search for articles in English, published between January 2000 and December 2016 was conducted using both academic databases (Academic Search Complete, ProQuest, Science Direct, and Web of Science) and broad search engines (Google Scholar and Google). Due to the novelty of this topic and the comprehensive nature of the literature search, conference presentations, master's theses, and doctoral dissertation research sources were included in the search (Moher et al., 2015). To be included in this review articles relating to parents' mobile device use during parent-child interaction, parent supervision of children and the possible implications of parent's mobile device distractions on parent-child relationships. Articles exploring children's and adolescents' use of mobile devices, using devices to distract children during medical procedures and using devices to monitor children's medical conditions/medication are not included in this review. Articles that met the inclusion criteria were selected based on a reading of the abstract. If relevant to the present review, an analysis of the full text was conducted. Through initial searches, a total of 18 articles meeting the inclusion criteria were found using combinations of the key terms (Table 1). Through reference list and citation searches of these 18 articles, nine additional, unduplicated articles were retained based on the inclusion criteria, providing a total of 27 articles for review (see Fig. 1; Moher et al., 2015).

Of the total 27 articles included, 16 are published research papers, 5 are conference presentations, 4 are unpublished doctoral dissertations, and 2 are unpublished master's theses. Of the 27 articles addressing mobile device distractions during parent-child interactions, 22 were conducted within the United States, 2 in multiple English-speaking countries 1 in Canada and one in New Zealand. These studies include both qualitative (11), quantitative (11) and mixed methods (5) designs. A detailed summary of these articles is provided in Table 2 (located at the end of the manuscript).