1. **Abstract**

**Study goals and theoretical framework**

During childhood, children spend significant time with their parents outside the home. Thus, time spent at the playground, a visit to the clinic, or waiting at the train station offer infinite opportunities for enriching and inspiring conversations, play, and interactions. In these spaces, parents have an important role in mediating the space by instilling acceptable behavior patterns and explaining rules of conduct (De Visscher & Bouverne-De Bie, 2008; James, 2014). However, in recent years we are witnessing the massive penetration of mobile media devices into parent-child communication in public spaces. Thus, when the two are together in a public space, situations in which one or both of them are isolated within a “virtual bubble” (Bull, 2014) are becoming more and more prevalent.

 The literature reveals that smartphones blur the distinction between the physical and virtual space, placing the individual within a private-personal-mobile territory disconnected from the physical one (De Souza e Silva & Firth, 2012; Hatuka & Toch, 2014). Thus, using smarphones during social interactions may lead to “phubbing” (from the combination of “phone” and “snubbing,” Chotpitayasunondh & Douglas, 2016), that is, ignoring one’s surroundings and displaying carelessness and indifference towards the other participants in the situation. Thus, those in the presence of people who are using their smartphone describe the latter as being “present-absent.” Their behavior is characterized by delayed responses, a lack of interest, a lack of eye contact, and short and technical verbal responses (Aagaard, 2016).

 This social situation, which takes place during interactions between parents and young children in public spaces, is raising a lot of interest among researchers, educators, and in the popular media. Two pioneering studies conducted in the United States by Hiniker et al. (2015) and Radesky et al. (2014), serve to shed light on the phenomenon. Their findings point to a high presence of mobile phones in public spaces and significant use of them by parents. The findings further revealed that in playgrounds, about half the parents who used their phones were not emotionally available to their children (Hiniker et al., 2015) and that in restaurants they did not respond to their children when the latter tried to get their attention (Radesky et al., 2014).

 Recently, we have been witnessing the expansion of research literature on the matter. While most studies focus on playgrounds, cafés, and restaurants, in other words spaces that are intended for spending time together, the research on waiting areas is limited. However, the interaction between parents and children in public spaces characterized by waiting and discomfort, such as doctor’s clinics, is highly important. In these spaces, parents need to provide their children with “scaffolding” (Vygotsky, 1978) to help them cope with boredom and anxiety. Therefore, parents’ use of smartphones in these spaces may have implication on their children’s ability to cope with similar situations in the future.

 Furthermore, most of the studies focus on one arena, such as playgrounds (Hiniker et al., 2015; Wolfers, Kitzmann, Sauer & Sommer, 2020), restaurants and dining areas (Elias, Lemish & Rovner-Lev, 2021; Radesky et al., 2014), and museums (Kushlev & Dunn, 2019) and did not investigate the phenomenon across different arenas. In addition, while some of the studies used short conversations with parents (Hiniker et al., 2015; Mangen, Leavy & Jancey, 2017; Wolfers, Kitzmann, Sauer & Somner, 2020) they did not include findings from semi-structured in-depth interviews with parents.

 Finally, most of the literature does not address children’s use of mobile media devices in these spaces, nor the way these uses affect the child’s presence in the space and consequently, the interaction with their parent. A preliminary study conducted in the United States reveals that when parents recognize that their child is restless or bored, they give them their smartphones. According to the researchers, these uses may lead to the child being technologically absent from the space and later to being emotionally disconnected from their parents (Floegel, Elias & Lemish, 2021). However, that study focused only on waiting areas (dining areas, laundromats, and airports), while the studies that were conducted in playgrounds did not focus on children’s uses and their implication on the child’s interaction with their parent and environment.

 The theoretical foundations of the study present the connection between communication uses within the family unit and the special relationship between parents and children. Its starting point is rooted in John Bowlby’s attachment theory, according to which emotional closeness between children and parents creates a safe and steady attachment relationship that promotes self-worth in children and the ability to emotionally regulate themselves (Bowlby, 1982, 1988). Later on, psychological models of emotional availability (Biringen, 2000) and reciprocity (Harrist, Pettit, Dodge & Bates, 1994) emphasize that in interactions characterized by high emotional avaibility, reciprocity, and responsiveness, parents and children involve each other in activities and experiences while expressing emotional needs. The joint attention to and mutual expression of emotions increase the child’s ability to communicate with their environment as well as their self-control (Lindsey, Cremeens & Caldera, 2010).

 A second theoretical affinity is rooted in the uses and gratifications approach (Katz, Blumler & Gurevitch, 1974) and specifically James Lull’s (1980) social uses model. An examination of the uses of mobile media devices in family relationships points to needs and uses characteristic of the parent-child dynamic. Thus, parents allow their children various uses while they themselves are busy with housework, and alternatively, use media devices to manage the family schedule (Bar lev& Elias, 2020; Eichen et al., 2021; Kabali et al., 2015; Wartella, Rideout, Lauricella & Connell, 2014; Seo & Lee, 2017). Hence, using a mobile media device helps parents fulfill various parenting needs, either by using it themselves or by encouraging their children to use it (Nabi & Krcmar, 2016). Finally, media devices play an important role in shaping the relationship between family members in the private sphere (D’heer & Courtois, 2014; Ley at al., 2014). Therefore, it is worth investigating how the presence of mobile media devices in public spaces affects the dynamics between parents and children as they spend time together in public spaces.

 In light of the above, the current study seeks to expand the literature developing in the field regarding parents and children’s uses of mobile media and the interaction between them in public spaces in different arenas. The study is innovative in that it seeks to examine the phenomenon in two different arenas in terms of the child and parent’s level of interest and boredom. The phenomenon will be investigated under the constructivist interpretive paradigm (Guba & Lincoln, 2005) using passive participant observation (Shkedi, 2003) and semi-structured in-depth interviews. In addition, the phenomenon will be examined in light of the parents’ gender and socioeconomic status as well as the children’s uses. Furthermore, the current study examines reciprocity in the interaction between parent and child, beyond the level of parental sensitivity, when each of them uses or refrains from using a mobile device.

**Research goal and questions**

The current study’s goal is to present a rich picture of usage patterns and reasons why parents and young children use smartphones in public spaces. In addition, the study expands the current literature in regard to the implications these uses have on the interaction between parents and children, while emphasizing elements of reciprocity in the relationship. In other words, the study examines reciprocity and emotional avaibility characteristics of parents toward their children and those of children toward their parents when they use or refrain from using smartphones.

 Moreover, there is a major lack of data on “phubbing” between parents and children through the lens of gender (Braune-Krickau et al., 2021) and differences based on socioeconomic status (McDaniel & Radesky, 2018a). The current study seeks to fill this gap based on the understanding that various social expectations of mothers and fathers (Kaplan et al., 2020) can be carried over from the private sphere to public spaces and that socioeconomic status has implications on parents’ attitudes toward their own use of smartphones in the presence of their children (Garg & Sengupta, 2019).

 In conclusion, this study joins a series of previous studies that used qualitative observation to identify phubbing in interactions between parents and young children in public spaces (Lemish, Elias & Floegel, 2019; Elias & Lemish, 2021). It expands the research field and investigates the phenomenon in different arenas where parents and children cope with various social demands, while combining findings based on observations and semi-structured in-depth interviews with fathers and mothers with various occupational and educational backgrounds. Thus, the study seeks to answer the following research questions:

1. **Parents’ use of smartphones[[1]](#footnote-1) in public spaces in different arenas**

1a. Why do parents use or refrain from using their smartphones in public spaces?

2a. What types of parents exist based on their reasons for using or refraining from using smartphones in public spaces?

3a. How does the parents’ smartphone use impact the interaction with their children in public spaces?

1d. How are arena, gender, and geographic region characteristics expressed in these issues?

1. **Children’s use of mobile media devices in public spaces in different arenas**

2a. Why do children use or refrain from using mobile media devices in public spaces?

2b. Which types of children can be identified in public spaces and how does children’s use of mobile media devices impact the interactions with their parents in public spaces?

**Methodology**

As this research examines the behavior of parents and children in their natural environment, the research method is based on the basic assumptions of the constructivist interpretive paradigm, according to which the social environment is a wholeness through which and within which the complexity of human behavior can be understood (Guba & Lincoln, 2005). The study was based on observations in playgrounds and waiting areas in health clinics as well as semi-structured in-depth interviews with parents. This combination allowed the researcher to witness a rich tapestry of natural behaviors and relationships in a spontaneous and holistic way (Corsaro, 2011). At a later stage, the interviews allowed the researcher to understand the personal, couple, and broad familial context in which the investigated phenomenon took place from the parent’s perspective (Seidman, 1991).

 **Research field:** Two arenas were chosen for this study – public playgrounds in urban centers and waiting areas in health clinics. The arenas are distinguished by the child and parent’s level of interest, physical characteristics, and the reason for the family’s visit. Observations were held in several Jewish cities. Half of them were conducted in neighborhoods defined as the middle to high socioeconomic cluster and half defined as the middle to low socioeconomic cluster (Central Bureau of Statistics, 2019a).

 **Participants:** The study focused on families with children aged 2–6. This age range was chosen due to the importance of the interaction between parents and children at a young age (Harrist & Waugh, 2001) and because around the age of two, toddlers display motor skills suitable for using touchscreen mobile media devices (Lemish, 2015; Nikken & Schols, 2015).

 Various types of families were observed, each including at least one parent, a father or a mother, and one child aged 2–6. The interviewees were recruited using snowball sampling (Noy, 2008) after the researcher had initially approached parents she was personally acquainted with. All of the parents were Jewish, native Israelis, living in urban or community settlements either in the center or south of Israel. Half the parents were freelancers or self-employed professionals and the other half were employed in blue-collar jobs.

 **Data collection:** The data from playgrounds and health clinics was collected using non-interventional observation; the researcher was present in the space without intervening in the events or making contact with others present in it (Shkedi, 2003). The observations included the systematic recording of events, behaviors, conversations, and objects in the space, using an observation protocol. Once the observation was over, a rich and detailed description of the spaces and events that had taken place was written in a field log. After writing the field log and rereading it, the researcher prepared an observation report, organizing each observation into preliminary analysis categories.

 The interviews were semi-structured and based on a guide sheet developed specifically for the study. The guide sheet consisted of questions related to media device usage at home and in public spaces and parents’ attitude toward their own and their children’s use of media devices in various public spaces. In addition, the parents were asked questions related to their parenting styles, with an emphasis on how they conducted themselves with their children in public spaces. The order of the questions was flexible and informal, which enabled the researcher to obtain information on topics that were not included in the interview guide sheet (Hermanowicz, 2002).

 **Finding analysis:** The information collected through the observations and interviews was categorized according to themes based on a coding process. The researcher’s subjectivity was used as a resource in the coding and meaning production process (Braun & Clark, 2021; Clark & Braun, 2006).

The analysis included four stages:

1. Rereading all the data that was collected, which is vital for strengthening the reflective aspect of qualitative research in general, and particularly in thematic analysis.
2. Identifying recurring components in relation to each of the sub-questions and grouping them into units of meaning that were relevant to the study’s goal. The coding process, which made it possible to integrate the findings, enabled the formation of categories representing issues that emerged from the observations and interviews.
3. Connecting and merging several categories of meaning with similar content into main organizing themes. The themes are based on anchoring meaning patterns that emerged from the field that were related to the research question.
4. Ongoing analysis, intended to clarify the distinction between each of the themes and their connection to the master narrative.

**Main findings**

**1a. Usage characteristics and the reasons for parents’ smartphone use in public spaces in the different arenas in relation to the parents’ gender and geographical place of residence.**

In both arenas and both geographical regions, mothers were found to be more present than fathers, mainly in the middle to low socioeconomic cluster, and used their phones less than fathers. Regarding the scope of use, differences based on socioeconomic status were not observed and the parent distribution across non-use, little, and extensive use was similar in both regions. In addition, parents were found to use their phones in public spaces due to boredom and a desire to occupy themselves with an activity other than childcare. To a lesser extent, phones put parents in a constant state of tension, evoking the need to check them. Finally, fathers and mothers from the middle to high socioeconomic cluster said they continued working from their phones even when they were out of the home.

**1b. Types of parents in public spaces based on their reasons for using or refraining from using their phones.**

Similarly to Lemish, Elias, and Floegel’s (2019) findings, most of the parents shifted along the “presence-absence” axis, although it was possible to characterize them based on the behavior they frequently demonstrated. In addition, while smartphones were not the only distractions interfering with the parents’ interaction with their children, “present-absent” parents were mainly distracted by their phones. Between the poles of presence and absence were the “split” parents, whose behavior at times could be characterized as present and involved and at other times as detached due to phone use or because they were doing other things. In addition, the mothers’ attention was divided and they were distracted by several elements, including their phones. However, most of them were not “present-absent.” Unlike the mothers, phone use was the main cause of distraction and technological absence among fathers in both regions.

**1c. How does parents’ phone use impact the interaction with their children in public spaces?**

The findings reveal that the parents and children’s phone use in public spaces interferes with their relationship and time together and thus weakens the unique reciprocity that exists in the parent-child dyad. An examination of the reciprocity and emotional availability characteristics present in the interaction made it possible to understand the phenomenon of phubbing resulting from parents’ phone use in the presence of their children. Thus, the relationship between children and “present” parents could be identified as positive reciprocity characterized by full partnership that included the child’s repeated responsiveness to their parent. On the other hand, in “present-absent” situations, a change for the worse was observed in all the emotional components and reciprocity characteristics. Finally, the interaction between children and distracted parents whose attention is divided could be defined as positive non-reciprocity, as the parents were attempting to use their phone while responding to their child in a positive and sensitive way.

 However, parents are not constantly “present-absent” (Aagaard, 2016) and the study points to their ability to shift along the axis between presence and absence. Therefore, while the presence of smartphones created a technoference in the interaction (McDaniel & Radesky, 2017), parents’ “presence-absence” characteristics changed between arenas. Thus, in waiting areas such as health clinics that are not perceived as spaces for learning, parents allowed themselves and their children extensive use of mobile media devices. On the other hand, as playgrounds are perceived as spaces where children have fun and parents get bored, parents let themselves use their phone and allow themselves a certain level of technological “absence.”

**2a. Usage characteristics and reasons why children use smartphones in public spaces in the different arenas.**

The findings reveal that most children mainly used mobile media devices while waiting at health clinics, and that they tended to be from the middle to low socioeconomic cluster. A few children arrived at the arena with a tablet or personal smartphone, however most asked their parents for their smartphones. In all cases, parents allowed their children to use the phone and the children seemed relaxed and independent. Based on the observations and interviews, children’s phone use relieved parents of the need to keep them occupied and children expected to receive the phone after arriving at the clinic. In the interviews, parents claimed that giving their child their phone while they were waiting was a positive thing, as it allowed the child to cope in the arena.

**2b. What types of children can be identified in public spaces and how does children’s use of mobile media devices impact the interaction with their parents in public spaces?**

When using mobile media devices the children were not observed to be distant from their social environment or display a total lack of interest in their surroundings. Furthermore, while their use of media devices limited the interaction with their parent, they were attentive to the latter and their demands. Finally, some of the children asked the parents to join them in using the phone or welcomed their siblings’ presence. These children used the phone as a social resource, created interactions around it, and demonstrated positive emotional availability through the use of media devices.

**Conclusions**

The current study investigated the implications of the technoference created by smartphones on reciprocity, involvement, and emotional availability characteristics in the interaction between parents and children in Israel, while examining responsiveness between parent and child in relation to the dynamic nature of the term “present-absent.” Its contribution lies in that it examines the implications of phubbing stemming from mobile device use in public spaces on the reciprocal interaction between parents and children. Finally, the study fills a gap in the literature by investigating the phenomenon in light of gender based differences (Braune-Krickau et al., 2021) and socioeconomic differences (McDaniel & Radesky, 2018a).

 The study findings indicate that despite the multiple tasks parents deal with in public spaces, phone use is a major distractor that creates a technoference and diminishes the quality of the parent-child interaction, as well as being a safety hazard. Moreover, one of the main conclusions of this study is that while “present-absent” situations adversely affect parents’ emotional availability and their responsiveness to their child’s needs, this does not necessarily render the interaction a negative one. Thus, while parents may display behaviors that fit the term phubbing, their children’s responses change from one arena to the other. In playgrounds, children responded with restraint and indifference when phubbed by their parents, whereas in clinics they appeared impatient and angry. Furthermore, when children used mobile media devices, although they seemed immersed in their use and limited the interaction with their parent, they were attentive to the latter and their demands. In addition, and contrary to the finding of Hiniker et al. (2015), parents recognized the implications and dangers involved in using their phone. Thus, the conclusions of this study challenge the claim that phubbing has become automatic and socially ingrained and that it takes place without people being aware of it (Aagaard, 2019). Thus, the study makes a central contribution by presenting parents’ motivation to limit their phone use when with their children, as they recognize the implications this has on their child’s behavior.

 In conclusion, this study is important as it presents a current picture of phubbing between parents and children in public spaces. It is unique in that it examines the phenomenon in two different arenas while observing a range of situations and behaviours displayed by parents and children. Furthermore, the use of semi-structured in-depth interviews to understand the significance of the phenomenon from the parents’ perspective allows for trends of change to be identified.

**Key words:** Technoference, phubbing, public spaces, smartphone, parent-child reciprocity; ethnography

1. Parents were observed using smartphones exclusively whereas children were observed using smartphones as well as other media devices. From this chapter onward the term “phone(s)” will be used to refer to smartphone(s). [↑](#footnote-ref-1)