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"Facetime doesn't count": Video chat as an exception to media restrictions for infants and toddlers



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ABSTRACT

The American Academy of Pediatrics has historically discouraged media exposure for children under two due to the absence of evidence supporting its benefits and the potential for negative effects (AAP, 2011); however, the AAP has begun to recognize that all screen time may not be equal (Brown et al., 2015). For example, many young children today are geographically separated from family members, and video chat in particular may allow them to develop and maintain relationships with remote relatives (Ballagas et al., 2009). Do babies and toddlers use this technology, or have their parents discouraged its use because it is a form of media exposure? An online media usage survey was distributed to 183 parents of children between 6 and 24 months in the D.C. metro area. There were high levels of video chat usage reported across all children, regardless of whether they were exposed to high or low levels of other types of media. Furthermore, some parents explicitly reported viewing video chat as an exception to otherwise restrictive media rules. The changing landscape of traditional and non-traditional media sources and the implications of increased access to video chat technology for family communication are discussed.

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1. Introduction

Many children in the United States are geographically separated from their parents or grandparents today [1–4]. Strong family ties are known to be critical for healthy child development [5], and modern communication technologies have become an important resource for families developing these bonds at a distance. Today, a military parent deployed abroad can still interact and play with his or her infant at home. Indeed, families report using video chat services like Skype and FaceTime to help their children develop and maintain relationships with parents who are separated from them by work [6], divorce [7], immigration [8], or military deployment [9]. Furthermore, it is also used with other remote family

members, such as grandparents [10], and can provide a supportive forum for discussions of family issues and a way for relatives to view the child's developmental progress [11].

The accessibility of video chat technologies is important for the whole family, but it may be especially critical for children under 7 years of age, as they tend to have difficulty using audio-only media like telephones to communicate [12]. Furthermore, because the use of audio-only telephones requires verbal and cognitive skills that they have not yet acquired, infants and toddlers under 2 years of age are especially unlikely to be able to use such media effectively. Video chat may offer an alternative, but little is known about its use by such young children or its potential to support relationships among this age group. Instead, most existing research has focused on older children (e.g. [6]) or on the learning potential afforded by socially interactive screens (e.g. [13]). Preliminary studies have shown that toddlers remain content for longer when they have access to a parent via video chat than when they are completely alone [14] or when they have access to a parent via audioonly telephone [15]. However, there is also evidence that twodimensional media can be difficult for babies to process (see [16], for review). While some studies with older children (24-30 months) suggest that the social contingency cues of video chat may ameliorate this problem [13], it is still unknown whether video

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chat technologies are useful for children under two years. Furthermore, even as the prevalence of smartphone ownership among families with young children has grown in the past 5 years – 75% of families with children between 0 and 8 years of age own smartphones or some other mobile touchscreen device [17] – and has made video chatting more accessible, there is still very little data on the frequency of video chat usage among these young children.

While video chat, as a visual medium, has the potential to offer a more effective communication alternative for toddlers, parents may face a dilemma when deciding whether to use this technology to support their children's long-distance relationships. The American Academy of Pediatrics (AAP) currently recommends that children under 2 years of age avoid screen media exposure entirely, due to the absence of evidence supporting its benefits and the potential for negative effects [18]. While pediatricians and developmental experts have been calling for changes to this recommendation [19,20] and the AAP itself has announced plans to temper the suggestion [21], strict recommendations like these that do not discriminate between types of screen usage may lead parents of infants and toddlers to avoid using video chat, simply because it is a type of media exposure.

Given the AAP's recommendation on the one hand, and the potential benefits of video chat on the other, are families actually using this highly accessible technology with their toddlers at home? Will parents see video chat as a worthwhile exception to current media usage guidelines for their babies, and if so, what can be done to support positive interactions with this technology by its youngest users? While nationally representative surveys report that those infants and toddlers who are exposed to screens spend an average of at least 1.5 h per day with them [22], none of these have yet collected data on video chat usage among such young children. This survey study aims to establish a preliminary understanding of the frequency of video chat usage among children under two years of age.

2. Material and methods

2.1. Procedure and participants

An online survey was distributed to families in the DC metro area who had at least one child between the ages of 6 and 24 months. These families were recruited at community events, through parenting listservs, flyers, and through word of mouth. Responses from 183 eligible families were collected, and participants were predominantly middle to upper-class (median household income between \$100,000 and \$150,000 per year), well-educated (79% master's degree or higher), Caucasian (93% White) mothers (3% fathers) with a mean age of 34 years (SD=4.6). Children from each month between 6 and 24 months were represented in the sample (M=13 months, SD=5.5), 51% of them were female, and 33% had an older sibling.

2.2. Materials

The 38-item survey contained 16 questions regarding the family's income and parental education, race and ethnicity, the age of person completing the survey, the child's number of siblings, and other questions about the child's development; and 13 questions on the family's and child's general media usage (questions modeled on Rideout [17]). An additional 9 items regarding the child's use of video chat were asked only to those who had ever used this specific technology. All questions about the child's media usage were asked regarding the day prior to taking the survey in order to minimize memory biases, and participants were instructed to complete the survey with their 6- to 24-month-old child in mind.

3. Results

3.1. Video chat and phone use

Families in this sample reported using video chat with their infants often. In fact, 85% of survey participants reported that their infant had ever used it, while 60% used it at least several times a month and 37% used it regularly *at least* once a week. Thus, most of these infants and toddlers use video chat, and those who do use it do so quite often. Video chat usage also remained equally high across both the younger and older infants (84% of 6- to 16-montholds, and 88% of 17- to 24-month-olds).

Video chat was used far more often to communicate with individuals living 30 or more miles away (91%) than with those nearby (9%), ($\chi^2 = 104.06$, p < 0.001). In approximately three out of four cases (76%), mothers were reported as being physically present most often with the child during these interactions. Children interacted typically with two individuals on the screen at a time (55%, the mode), usually with grandparents (85%).

Nearly all participants reported using either FaceTime (48%) or Skype (41%) most often to conduct the video calls, and the most popular devices to use were mobile phones (39%), tablets (32%), and laptops (26%). Twenty-six percent of the families who used video chat reported that they had ever used an open video connection — when the video link is left open for an extended period with no particular pressure to talk or remain in view on camera. Video chat was the preferred method of remote communication among the sample: Of those children who used video chat, only 43% had ever used voice-only telephone calls to communicate with others. As might be expected, the extent of this preference differed significantly by the child's age, such that only 34% of 6- to 16-month-old video chat users had ever used audio-only phone calls, while 63% of 17- to 24-month-olds did ($\chi^2=12.64$, p=0.001).

3.2. General media exposure

To understand the social significance of early video chat usage more clearly, it is important to view it in the context of these children's general media exposure. It may be, for example, that all the video chat users came from a special subsample of children who are already high media users overall. To explore this further, the general media exposure of the sample was examined.

Among the whole sample of families, 100% owned a mobile phone of some kind and 97% owned a smartphone with both a touchscreen and internet access. Only one family in the sample did not own any devices that could potentially connect to the internet, including a smartphone, tablet, or a laptop or desktop computer. Because free video chat software like Skype and FaceTime is available for all smartphones and internet-enabled tablets or computers, all families but one in this sample could potentially access video chat technologies.

The media exposure data for this sample are reported in Table 1. Statistics from previous nationally representative media usage surveys for children 2 years and under are presented for purposes of comparison. While both this survey and previous ones asked about the child's media use on the day prior to taking the survey, comparisons across surveys should be made with caution: the current sample was not nationally representative, and important methodological differences exist between this study and those. However, the percentage of children who had ever watched television was similar in our sample to national estimates. The estimated time spent viewing TV and DVDs daily was much lower for our sample; however, the children in the current sample are much more likely to have been exposed to computers (18% in this sample versus 10% nationally) and mobile devices (56% in this sample versus 38% nationally; Rideout [17]). Additionally, 29% of

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