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Parents' perspective of the use of mobile by their children (0-8 years): A case study in an educated Bhutanese home in Trashigang with access to mobile devices.

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Abstract

Worrying media reports on young child's use of mobile have led to this study of children under eight years in educated Bhutanese homes in Trashigang, Bhutan. This study examines parents' perspective on their children's exposure to and use of mobile devices at home. This case study is based on qualitative and quantitative research. The findings reveal that all the children had access to various mobile technologies and parents' perspective on the use of mobile technology by their children is positive. Further studies are required to check the specific screen time and content watched by the children with future recommendations for families on the use of mobile use by the young children.

Key words: mobile technology, mobile use, young children, parents

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Introduction

Bhutan has progressed since the introduction of television and internet in 1999 (McQueen, 2013; Pek-Dorji, 2008). Today, children around the globe are growing in an environment filled with technology and this has become an accepted part of a child's world (Genc,2014; Mantilla & Edwards, 2019). The use of the internet and technology by children of all ages has become a global trend, and Bhutan is not far behind. The use of mobile devices, particularly, smartphones with access to internet and touchscreen tablets are observed as an emerging trend picking up amongst toddlers and pre-schoolers in many Bhutanese homes which is a growing concern for many parents (Dahal, 2016). However, there is little or no specific empirical research study to show the usage of mobile technology by Bhutanese children in the early years compared to other countries although a report by Sherab et al. (2017) have found the use of smartphones by students in the Bhutanese schools necessary for learning and communication. This study also mentions that smartphone is banned in the schools by Ministry of Education. Given the ubiquitous nature of mobile technology in today's age, the banning of smartphones in schools do not support the promotion of ICT as mandated by the school curriculum. Thus, this case study examined how the children of an educated parent with access to mobile devices are using the mobile technology and their parents' perspectives on this trend. The study investigated the kinds of mobile devices accessible to these children with or without internet. The study further explored the various applications used by the children. Since children are not involved directly in this study, parents' observation of their children and perspective will be the primary data for this study. The parents who took part in this study were all educated with minimum degree qualification and working in a school organization.

Further research on significant impacts and implications on children's mobile usage can be developed or undertaken based on this study. At present, the primary goal of this study was to determine the specific group of children's exposure to mobile technology based on the parents' report and explore the questions given below.

When and how children adopt mobile devices at home? Are they overusing (screentime) mobile technology? What are parents' perspectives on this trend?

Literature Review

In this era of the digital world, the pervasive nature of technology has led to public speculation about its role in the lives of children. The use of mobile technology is seen to be increasing amongst the children (Genc, 2014; Mantilla & Edwards, 2019; Tahir & Arif, 2015). According to Tahir and Arif (2015) a mobile technology is defined as "different tools, devices, applications, virtual environments" that connects all aspects of our lives

creating educational opportunities 24/7 at learner's preference. The IBM webpage rightly puts in as "technology that goes where the user goes" and currently it is identified by internet-enabled devices like smartphones, tablets, and smart watches (Genc, 2014). Given the convenience and high portability, the study reveals that increasing number of children worldwide have access to mobile technology from an early age (Kabali et al., 2015; Tahir & Arif, 2015). For instance, in the cross-sectional research undertaken by Kabali et al. (2015) for 350 children aged six months to 4 years in Philadelphia, Pennsylvania found out that nearly all the children (96.6%) used mobile devices at an early age of one. In another research undertaken by EU Kids Online for the European Union countries, the children between the age of zero to eight had increased patterns of internet use, thereby creating a "digital footprint" at a very young age (Holloway et al., 2013). The study also presented that child under nine enjoyed online activities such as watching videos and playing games (Holloway et al., 2013). Additionally, young children use the internet-connected mobile devices to communicate, take pictures, and access applications [apps] (Kabali et al., 2015). Downes (2002) describes mobile devices as 'child's play' for its easy use and mobility.

Meanwhile, the relationship between technology and children is a much-debated topic in the media with both positive and negative technological perspectives. Similarly, 35 caregivers' perspective in a semistructured study expressed a high degree of tension such as "fear of missing out on the benefits of mobile devices vs concerns about its effects on child thinking and behaviour" (Radesky et al., 2016, p.504). On the other hand, some study (Linda et al., 2019; Plowman et al., 2010) focused more on the risks of new technology on children and they contend that children's cognitive, emotional, and social development are under threat from the technology. Today, digital devices have become part of everyday lives and the rapid adoption of mobile devices by children at very young age has changed the dynamics of childhood (Kabali et al., 2015) and Plowman et al. (2010) describes it as the "death of childhood."

On the contrary, Plowman et al. (2010) also admits that early interaction with technology in children supports added knowledge of the world and early literacy development. Danby (2019) supports that technology can draw on new possibilities to amplify opportunities for children to communicate, build relationships and gain technological awareness. These opportunities have resulted in range of digital texts that are multimodal and often interactive through online games and apps (Dezuanni, 2019). Furthermore, in a study conducted for 104 parents in a mid-sized Canadian city to understand their perceptions towards introduction of mobile technology to children of two to six years old revealed that majority of parents supported early exposure for their children's learning and as a platform to achieve educational and entertainment goals with positive experiences (Wood et al., 2016). Similarly, a study conducted for 293 Greek

parents whose children were enrolled in kindergartens found the use of mobile technology to be useful and indispensable for their children to learn and seeking to strengthen the digital learning environment at home and in the school (Papadakis et al., 2019). However, the perceived benefits of using mobile technology by children are not without concerns as parents expressed their limited knowledge over the choice of age-appropriate mobile apps with educational values (Papadakis et al., 2019).

Although children today are getting more exposure to technological devices, it has raised concern over the screen time. The American Academy of Paediatricians Council on Communications and Media [AAPCCM] (2016) recommended time limitations for the children between two to five to spend no more than an hour per day on digital use and to avoid screen exposure for children under two years. The policy was formulated due to increased use of digital technology by children but studies by Wood et al. (2016) and Papadakis et al. (2019) clearly challenges the guidelines on screen exposure for children. That is why, Wood et al. (2016) suggests the need to examine early exposure with mobile technologies for parental support and child learning outcomes. Thus, some organization like Early Childhood Australia (ECA) provides and advocates research-informed advice or practices about young children's use of digital technologies to families and educators (Early Childhood Australia, 2018) while developing countries like Bhutan can also work towards such programs.

Despite the arguments presented by various research, a "balanced view" of perspectives as posited by Linda et al. (2019) needs to be explored as digital technology is ubiquitous and essential in today's world. This "balanced view" refers to both benefits and problems, and often acknowledges the implications for parents and educators to guide children in using the technology (Linda et al., 2019). The report from Erikson Institute (2016) further emphasises that balanced use of technology promotes healthy technology to support the joy of learning- to engage, empower, and in inspiring the child. Additionally, a mixed method study conducted with 190 schools across Bhutan by Sherab et al. (2017) reports that use of mobile devices by school children is critical for accessing knowledge and information.

Bhutan has seen a rapid growth in the use of mobile technology over the years (McQueen, 2013; Pek-Dorji, 2008). Sherab et al. (2017) argue that the use of ICT and internet connectivity is critical for learning in the 21st century world. They recommend the Ministry of Education to review the policy on ban of mobile phones and gadgets in the school as digital technology is deemed necessary for learning and communication. This go on to show that digital technology is an important tool for learning. However, there are concerns over the use of mobile technology by children and has raised this question, "Are

Bhutanese children under eight overusing the mobile technology? And what does parents think of this emerging practice. Thus, this research project aimed to investigate the young children's use of mobile devices in the homes of educated parents where access to mobile devices were available. Additionally, the study also examined parental views on this practice and implications for the future use.

While studying parents' perspective towards their child's pattern of mobile usage, the research can also determine parents' attitude towards this practice. The reasons for using the technology might include education, entertainment, or non-educational purpose like getting things done while keeping the child busy or to soothe the child (Levine et al., 2019). The study did not intend to investigate the impact of mobile technology on children. Nevertheless, it can be useful in providing a snapshot of children's mobile technology experiences and contexts (Linda et al., 2019) to study future implications for parents, educators, and policymakers. The findings may be worthwhile in exploring the nature and extent of the children's current behavior and provide as a useful guide to more in-depth research (Bhattacharjee, 2012).

Methodology

This research is a case study that employed mixed method approach that is inductive and exploratory in nature (Creswell, 2018). The research questionnaire adopted items and questions to employ both quantitative and qualitative approach of research (Appendix 1). Although, Howitt (2016) states that qualitative approach presents the richness of description in the data, capturing the individual's perspective and lives but mixing both quantitative and qualitative research gives a better understanding of the research problem (Creswell, 2018). The questionnaire was adapted from Common Sense Media's (2013) nationwide survey. The data were collected through survey design in the form of "mailed questionnaire" due to the geographical location of the researcher and the participants. The quantitative data were analysed using frequency and percentage that is presented in the form of tables and figures for comparison (Boeije, 2002) whereas qualitative data were analysed using thematic analysis and presented in a narrative form (Howitt, 2016). The findings are discussed concurrently although quantitative data are presented separately in tables and charts.

Participants

Since this research was a small case study, the participants were selected as per the purposive sampling attributing to its low cost, least time consumption and ideal for exploratory case study (Taherdoost, 2016). All the parent participants worked in the same organization. The participants were all Bhutanese parents from a semi-urban area,

Trashigang (eastern part of Bhutan) with access to mobile devices and internet. All these parents had bachelor's degree as the minimum qualification. A total of 15 parents of at least one child aged between one and eight years took part in this research. The children in this research were six male and nine females. Out of 15 participants, five were fathers and rest all mothers. The parents provided information based on the observation of their child's use of mobile technology.

Measurement:

The survey questions included four sections. The first section outlined a brief demographic details that included child's age, gender, and participant's relation to the child. The second one had seven closed questions with some binary items to investigate child's use of mobile technology at home. To measure the frequency of mobile device use with internet, the parents were asked, "How often do you let your child use internet on the device? Response options were "never," "hardly ever," "at least monthly," "at least weekly," "almost daily," "several times a day," and "almost all the time." The responses were combined into "daily (almost daily, several times a day, and almost all the time) and less than daily (never, hardly ever, at least monthly, and at least weekly).

Third section asked parents to share their feelings about their child's mobile use by responding to nine items on a five-point scale (1-strongly agree, 5-strongly disagree). The final section asked parents three open-ended questions: What are some of the benefits that you have noticed in your child after using the mobile technology? Can you comment on how mobile technology is shaping your child's life? What are some of your biggest concerns when your child is using the mobile technology?

Procedure

Parents were contacted and explained about this small research project prior to sending out the questionnaire and consent forms through email. After their approval an email with information sheet and consent forms were sent to them. Then the questionnaire was sent to each parent to fill up. All the 15 participants responded to the mailed questionnaire. The data from these 15 participants were analysed and presented under findings and discussion.

Data Analysis

The data were analyzed using inductive approach to categorise and describe the responses. The data from different sources provided opportunity to compare and contrast across participants' responses (Boeijs, 2002). The qualitative data from the open-ended questions

were analysed using thematic analysis with descriptive method as it allows to describe the data with a limited number of themes or categories for a novice researcher (Howitt, 2016). Categories were developed from the data and these themes are discussed in the findings with the quotes (Creswell, 2018). Additionally, the quantitative data are illustrated in the form of tables and graphs for comparison. The findings are presented in the form of 'narrative discussion' (Creswell, 2018).

Ethical Procedure

Creswell (2018) states that ethics should be the primary consideration and followed in all research processes with standard guidelines for ethical practices. The participants completed the questionnaire anonymously and the confidentiality of the responses are protected. Asking of any sensitive questions was avoided and participants' views or decisions respected. A consent form (entirely voluntary) was emailed before the participants' survey, with the right to withdraw if they wanted to but explained that it must be before their responses can be recorded. Two-week time was provided for the participants to respond and complete the survey questionnaire. Since the parents were the primary observer of the children in this research, there was less risk involved, for the researcher did not have to deal directly with the children.

Analysis and Findings

The findings are categorised under three different sections: Mobile devices found at home with screen time and applications used by the children, parents' perspectives, and parents' perceived benefits and concerns.

MOBILE devices found at home with screen time and applications used by the children

Figure 1 represent all the households (n-15) had either smartphones or tablets with a few having both the devices for children to use (smartphones- 67%, tablets-13%, both-20%). All children except one had access to internet in their mobile device. However, with or without the internet nearly 77 percent of children reported to enjoy using mobile devices when 23 percent preferred using the device only with internet.

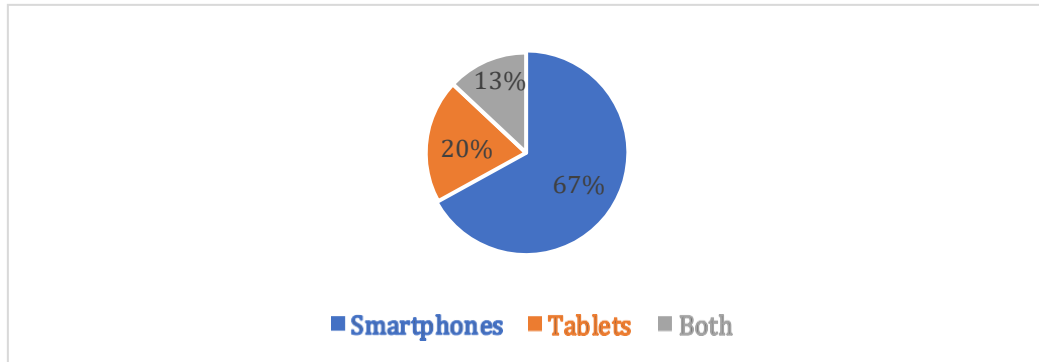


Figure 1: Mobile devices available at home

Regarding frequency of internet usage, the data displays that almost all the children (87%) used it daily whereas only 13 percent used few days in a week. The mobile screen time for every day shows similar pattern in all the children. High percentage of parents (80%) reported that their child spends two to three hours in a day, 13 percent spent four hours and 7 percent with the highest screen time of more than six hours in a day.

Amongst the applications used by the children, YouTube is the most popular app used by children as all the respondents had ticked it followed by games and camera. One parent mentioned that child used an app to edit photos, paint, and colour. The data also suggest that parents found other social media apps such as TikTok and WeChat were becoming popular with the children.

Parents' perspectives

Parents' perspective based on nine items with regard to use of mobile technology by their child is presented in Table 1. High number of parents, over 80 percent have reported that use of mobile technology is important for their child's learning and for the entertainment purpose. Interestingly, 53 percent also agreed that use of mobile devices helps to calm or manage difficult behaviours in their child. On the other hand, while embracing the benefits of technology, 73 percent of parents expressed that they restrict the screen time of their child and finds the cost of connecting internet to the devices quite expensive. Almost all the parents (93%) agreed that they would prefer their child to do reading than use a mobile technology.

Table 1: Parents' perspective on their child's use of mobile technology

	Strongly Agree/Agree %(n)	Neither Agree nor Disagree %(n)	Strongly Disagree/Disagree %(n)
It is important that my child learn to use mobile devices to gain technological skills and knowledge.	80% (12)	7% (1)	13% (2)
My child uses the mobile technology with internet for games and entertainment.	87% (13)	0	13% (2)
My child uses the mobile technology only for learning.	47% (7)	27% (4)	27% (4)
I let my child use the device for as long as he/she want.	20% (3)	7% (1)	73% (11)
I set rules and monitor my child's use of internet and the mobile device	73% (11)	13% (2)	13% (2)
Mobile device keeps my child engaged to have more time for me to do my work.	67% (10)	13% (2)	20% (3)
I let mobile devices to calm, soothe or manage difficult behaviours in	53% (8)	13% (2)	33% (5)

my child.			
I would prefer my child to engage in reading book than using a mobile device	93% (14)	7% (1)	0
Lots of money is spent on connecting internet to mobile devices.	73% (11)	7% (1)	20% (3)

Parents’ perceived benefits and concerns

Figure 2 displays parents’ perceived benefits. The main themes emerging from this data indicated benefits with regard to: English language learning, exposure to the outside world, and learning technological skills to navigate through the devices. 87 percent of parents(n-13) stated that through mobile technology their child learnt English alphabets, numbers, puzzles, sounds, pronunciation, spoken language, new vocabulary, rhymes, songs, dance, and names of things (colors, animals, fruits, and vegetables). 20 percent parents added that their child gained exposure to outside world and 13 percent agreed that their child could navigate through gadgets independently.

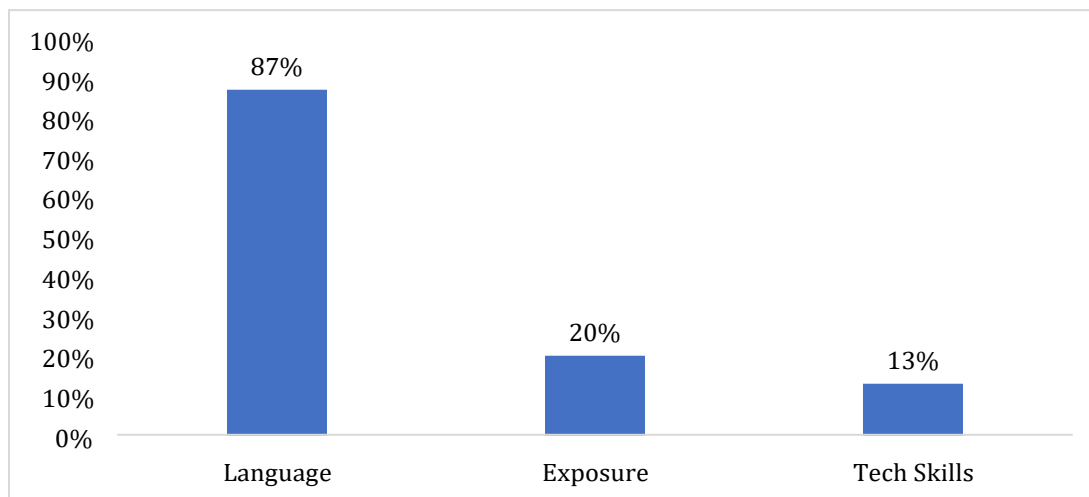


Figure 2: Parents’ perceived benefits

The parents also discussed concerns regarding the use of mobile technology which is represented in figure 3. The main themes that emerged included beliefs with respect to: becoming addicted (dependent) with too much screen time (53%); losing touch with the real world and no socialization (40%); developing negative behaviours (27%); health issue like poor eyesight (27%); inappropriate content (13%) and lose interest in one’s culture (7%). The following quotes from the open-ended comments provide examples of parents’ concern:

The child may become violent and would hate to socialize with friends. [Mother]

Child might dwell into virtual world and lose touch with the real world. [Father]

Becoming addicted to the mobile. [Mother]

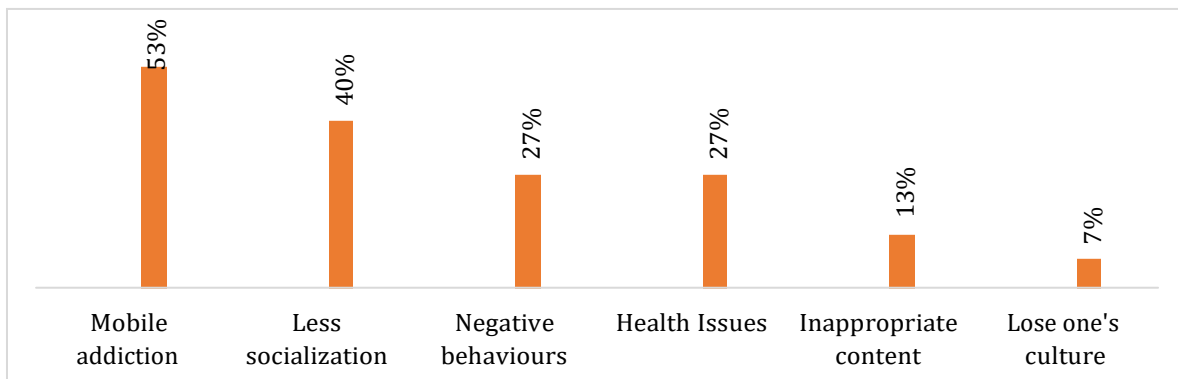


Figure 3: Parents’ perceived concern

Discussion

This study describes the patterns of very early use of mobile technology among children of 0 to 8 years in a Bhutanese homes with educated parents. All the children in this study had access to the mobile devices and the internet. The study shows that children are the daily user of mobile technology due to its easy use and mobility. The youngest user was one year old. This finding espouses the similar trend found in young children around the world (Papadakis et al., 2019; Radesky et al., 2016; Wood et al., 2016). This further suggest that mobile technology is becoming ‘child’s play’ as described by Downes (2002) with data showing games app as one of the highest used beside YouTube. On the other hand, this could also imply that children could be exposed to inappropriate contents as shared by few parents with high accessibility to internet connected mobile devices). The study findings relate to what Radesky et al. (2016) presented in their findings about the tension caregivers had over the importance of educational interactive technology and fears ab out negative effects on children’s thinking and social skills. The main themes that these study

findings reveal are parents' perceived benefits and the concerns of using mobile technology by their children.

Benefits of using mobile technology

Although use of mobile technology has raised concern over screen time and inappropriate online content, but benefits of its usage outwit the concerns as 87 percent of children were reported to have developed language learning in terms of letter sounds and words by watching songs and rhymes. Furthermore, children were reported to use the devices daily with or without the internet for educational and entertainment purpose. Subsequently, educational and entertainment apps were popular as YouTube videos and games were the most used app amongst the children. Parents felt that the use of mobile technology have developed their child's language skills with 87% perceived benefits and helped in providing exposure to the outside world. This emphasises that online texts and games are providing opportunities and interactions to develop early literacy through range of digital multimodal texts (Dezuanni, 2019). By the same token, the findings of present study also confirm the parental support for early exposure as technological benefits are apparent and is in line with the study findings from Wood et al. (2016). This finding defies what Plowman et al. (2010) describe about technology taking away the childhood from the child and the child's overall development. Infact, use of mobile technology has enabled development of early literacy in children as it is evident in the findings from this study. This finding will direct future researchers, policy makers, families, and educators to create positive experiences with technology to promote learning in children (Erikson Institute, 2016; Wood et al., 2016). These findings also support the argument put up by Plowman et al. (2010) stating that early interaction of technology by young children develops early literacy and knowledge of the world. The idea of early interaction with technology by young children suggest that they will have an advantage in life and learning as they will be prepared to use technology for learning in the schools as use of ICT is presented as an essential tool in Bhutanese schools by Sherab et al. (2017). Moreover, parents' idea of using mobile technology by their children is guided by positive beliefs and benefits which suggest that use of mobile technology is an accepted trend that can have positive experiences for their children. However, the parents' perceived benefits are not without concerns.

Parents' perceived concern

The screen time of children in this age group is not more than one hour as per the AAPCCM (2016) and the data showed maximum children, 87 percent spending less than three hours in a day as the items in the questionnaire had not reflected specific time such as one hour, two hours and less than an hour. The time measurement in this research could have been

more specific to determine the screen time of children. Nevertheless, children are found to have daily screen time. The above findings reflect the theme on daily screen time and concern of parents over inappropriate online content. Additionally, the parents also shared other prominent concerns over the mobile usage. The parents were worried that their child might not be able to develop needed social skills (40%), being dependent on mobile technology (the most perceived concern-53%) and have negative effects on their health and behaviour. A few parents also shared concerns about the child getting exposed to inappropriate contents. The findings of this study represent the tensions Radesky et al. (2016) found such as screen time, negative effects on child's thinking and social skills that caregivers expressed over the use of mobile devices. As a way forward, Radesky et al. (2016) suggest that this is a good opportunity for pediatric clinicians and other stakeholders concerned to have conversations on children's evolving behaviours on mobile technology use so that parents/caregivers can make informed decisions. Additionally, the present findings also indicate that parent should model and monitor healthy use of mobile devices by young children as parents' own habits of mobile use can influence the child (Levine et al., 2019). The study showed that half of parents did not agree in using mobile devices to sooth or manage child behaviour which indicates a good parenting role suggested by earlier research (Levine et al., 2019). Furthermore, the findings suggest that when parents guide and support the proper use of technology by children the benefit is more than the concern. (Erikson Institute, 2016). Thus, relevant stakeholders and policy makers of Bhutan need to provide, check, and create awareness on how young Bhutanese children must use mobile technology so that it benefits the children (Dahal, 2016).

Limitations

Given the small purposive sampling and data obtained through parents' perspectives could have been biased in addressing the research question and it cannot represent general Bhutanese children. The present study did not include participants related to ethnicity, with no formal education and socio-economic status. These factors could have played a role in the way parents let their children to interact with mobile technology (Kabali et al., 2015). More in-depth study is required to investigate the actual experiences the children have with mobile technology use, actual screen time and specific content watched to understand the use of technology by children across diverse group in the society.

Conclusion

This study explored a group of educated parents' perspective on the use of mobile technology by their children in a semi-urban area and the experiences their children had with the mobile usage. The study revealed parental support for early exposure as the

benefits of technological experience by these children have resulted in numerous benefits especially in English language learning. However, these benefits are accompanied with future concerns and requires further study to guide parents in the proper use of technology by their children. The findings from this study can be a starting point for the pediatric clinicians, policy makers, apps developers, educators, and parents/caregivers to come together to discuss children's early experiences with mobile technology, model ways to support their learning experiences, and empower those with children to make informed decisions as mobile technology is inevitable in today's world (Kabali et al., 2015; Papadakis et al., 2019; Radesky et al., 2016; Wood et al., 2016). This reiterates the point for Bhutanese policy makers and relevant stakeholders to create awareness on children's use of technology. Moreover, a safe and healthy use of mobile technology by the children is crucial as children now have early exposure to mobile devices. Overall, the educated parents agreed that use of mobile technology is important for their children to learn and gain exposure to the outside world. More investigations and empirical research in this field would help to determine how young children use the mobile technology at home and guide families to achieve healthy use of technology.

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