Digital Childcare: Need Of The Hour For International Student Mothers

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Abstract

Changing dynamics of society along with the evolution of
technology require us to accept and embrace the benefits
and applications of using digital technology in everyday life.
Many international student mothers seek help from digital
technology and media for engaging their children so that
they can complete their tasks, despite disadvantages asso-
ciated with early childhood media exposure. Their choice of
doing so lies in the lack of affordable and reliable childcare
options available to them as an unemployed student, bal-
ancing time constraints, as well as cultural, social and aca-
demic expectations. My research seeks to explore the use
of digital technology and media as childcare assistant, and
contributes towards designing safe, affordable and produc-
tive digital media applications which can act as a childcare
assistant for international student mothers.

Author Keywords

childcare, international student mothers, digital media,
screen-time, graduate mothers

CCS Concepts

•**Human-centered computing** → **Human computer in-
teraction (HCI)**; *Child-Computer Interaction;* User studies;
Please use the 2012 Classifiers and see this link to embed
them in the text: https://dl.acm.org/ccs/ccs_flat.cfm

Context and Motivation

I am a second year PhD student in the Department of Computer Science at Virginia Tech. Pursuing PhD and having a kid early on during graduate studies caused me lot of guilt regarding letting my child watch television for a major part of the day during first two years of her life. My husband works full time, and I do not have any family member or close friends who could help me with looking after my child while I complete house chores or study. Like myself, many International Student Mothers (ISM) experience role conflict because of excessive demands of motherhood, graduate studies [14, 9] and cultural responsibilities [13]. The academic milestones of PhD coincide with women's childbearing years [8], and considerations about provision of affordable healthcare, childcare and quality time to children during their early years of lives are some of the considerations which make graduate students postpone parenthood until after achieving a significant milestone during their doctoral studies, or until completing it altogether.

With children's digital technology and media use being somewhat normalized [5, 10], many student mothers seek help from digital technology and media for engaging their children while they complete tasks in the absence of help, regardless of its associated drawbacks [12, 6]. Their choice of doing so lies in the lack of affordable and reliable childcare available to them as an unemployed student, balancing time constraints, as well as cultural, social and academic expectations [2]. Children of new international student parents usually do not have a lot of play outside due to several reasons including newness of the place, not knowing enough people, such parents not having more than one child due to expensive childcare and liabilities related to work and studies, etc. These kids spend a lot of time indoors, with either or both parents looking after them. When parents of such kids have to do time-sensitive chores, they use digital technology and media to keep the child occupied. They consider using digital technology and media as a relatively safer option than letting the child go outside to play, which also puts an additional responsibility of looking for the child while they are outdoors. Despite its many disadvantages, digital technology and media have the potential to act as an childcare assistant for ISM, with key advantages including safety, affordability, opportunities for learning and mental growth for children.

Research Questions

I use the following questions to guide my research:

1. How often do ISM of children between the age of 0 to 5 years living in a single parent or nuclear family setup use digital technology and media to engage children while they complete their chores?

2. What are the common concerns of ISM regarding the use of digital technology and media by their children?

3. Which digital media devices are preferred by ISM to be used by their children?

4. What are the desired features of digital technology and media for children of ISM?

5. How can we design for providing the desired features in the form of digital childcare to ISM?

Related Work

Current research in HCI focuses on many aspects of motherhood including the use of technology by mothers to increase their confidence, information seeking, reassurance on choices and concerns regarding their child(ren), and as a means of self-therapy. Digital technology has also been used by mothers to share pictures of their children, to ask
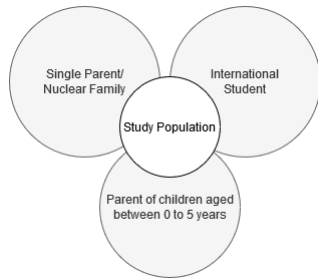
child related questions in online discussion communities, or to simply stay connected with the world [7]. Domestic HCI studies look at benefits of using digital technology for parent-infant play [7], use of tablets by infants and toddlers [5], regulation on technology use by parents [4], parents' use of digital technology as support and engagement during a period of isolation and struggle [1, 11], and the role of digital technology as a community builder [3]. However, the domain of using digital technology and media as childcare assistant especially for ISM remains largely unexplored.

Research Design

There is a vast array of research on the topic of motherhood, the use of digital technology and media by young children in home and outside, and problems faced by international students while studying abroad. For the literature review, readings will be narrowed to research overlapping the themes of use of digital technology and media by young children of ISM, and the concerns associated with it. The study population consists of international students who are also mothers of children between the ages of 0 to 5 years, living as a single parent or nuclear family (As seen in figure 1). Since I myself belong to the intended study population, gaining access and acceptance in the community of student mothers is expected to be easier for me [4].

Semi-structured, problem-centered interviews will be conducted with ISM to understand the patterns of use of digital technology and media by their children, common concerns, shared use of technology, and whether it causes conflict between partners etc. Interviews will be conducted in the absence of my child to avoid inevitable disruptions caused by the children which can require immediate attention from the mother. However, participants will not have such restrictions during participation in the interviews. Memos about place of interview, special interaction cues with the partic-

ipant and emerging thoughts and questions will be taken throughout the study. Interviews will be audio recorded with participants' permission. Data will be anonymized by coding all interview participants with a unique ID, and analyzed using the grounded theory approach for identifying themes. The data will be read and open-coded for producing an initial codes list until theoretical saturation is achieved [4]. Axial coding will be used to identify relationships between categories identified during the initial coding process. To avoid researcher bias, an external auditor who has not experienced motherhood during graduate studies will evaluate the findings [2]. After the identification of themes and categories regarding common concerns, desirable features and preferred digital technology and media, a prototype for a digital childcare assistant will be developed. Children of ISM will be invited to use the prototype developed to engage and care for their children. Usage sessions will be recorded for identifying emerging patterns with participants' permission. Following the prototype testing, ISM will be invited to be interviewed for providing open-ended responses about their experience of using digital technology and media as a childcare assistant.

Expected Outcomes and Benefits

Considering mental well-being of the mother [2], safety of the child and financial instability of the family, digital technology and media seem to be the lesser evil among other concerns. My research seeks to explore the use of digital technology and media as childcare assistant, and contributes towards designing safe, affordable and productive digital media applications which can act as a childcare assistant for ISM. I completed my qualifying exam in Spring of 2020, and plan to propose by the end of Fall 2020. Feedback received by participating in the Doctoral Consortium will help me in refining my research questions and method-

Figure 1: Study Population

ology, and may also help in meeting potential study partici-
pants.

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