22. Parent Perspectives on Interfacing With Computing Opportunities in Library Settings

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Abstract: Libraries have the potential to be important sites for youth and families from nondominant communities to engage in the development of computational literacies needed to fully participate in our digital society. In this study, we focus on the perspectives, interests, and needs of parents and the ways they might take up technology-based opportunities within library settings. Parents can play important roles in their children's technological development as they make decisions and broker resources from their community for their children. We conducted focus groups at 2 library sites to ask parents about their family's relationship with technology, their local library, and other community resources. Their perspectives highlight the ways libraries must pay attention to how their physical interface (e.g., entrance, parking, and spaces), as well as their social and emotional interfaces, can impact families' participation in new and emerging technology-based opportunities.

Introduction and Background

Libraries have long been spaces for families to engage in traditional literacy activities together. As libraries take on a more comprehensive perspective of literacy, researchers, library practitioners, and administrators have had increasing interest in leveraging libraries to engage families in experiences that build computational literacy (Weiss, Caspe, Lopez, & McWilliams, 2016). Computational literacy, which has links to other literacy frameworks, describes the ability to engage in both computational thinking and computational creating (Brennan & Resnick, 2012). Through initiatives such as Ready to Code, community libraries have begun to play a significant role in providing youth, particularly those in nondominant communities, with opportunities to engage in this type of learning (Braun & Visser, 2017; Martin, 2017).

Libraries are also ideal environments to support connected learning, brokering opportunities across school, home, and community, particularly for historically marginalized and nondominant communities (Hoffman, Subramaniam, Kawas, Scaff, & Davis, 2016; Ito & Martin, 2013).With shifts toward multiliteracies, libraries have increasingly becoming spaces for patrons to not only obtain materials but to participate in activities together (Garmer, 2014; Hill, Profitt, & Streams, 2015). They are also free, public institutions that allow for flexible learning arrangements. This includes intergenerational and cross-generational learning, which is important for building connected learning (Larson et al., 2013).

Intergenerational or family learning can also be essential to children's development of technological literacies. Parents were found to be significant supports for technology learning and engagement, particularly when they took on the role of collaborator and colearner, or knowledge broker (Barron, Martin, Takeuchi, & Fithian, 2009). However, parents who hold identities that are underrepresented in STEM fields, or who have little experience with tech, need access to opportunities that help them gain comfort in the roles and practices they can take on to support their children's learning (Livingstone, Mascheroni, Dreier, Chaudron, & Lagae, 2015; Takeuchi & Stevens, 2011).

While libraries are promising sites for engaging nondominant families in computational literacy activities, they may still experience challenges reaching these patron demographics, attracting more parents who engage in what Lareau (2003) calls "concerted cultivation" parenting styles. As low-income families experience challenges to finding and accessing quality education opportunities around technology (DiSalvo, Reid, & Roshan, 2014; Rideout & Katz, 2016), it is essential

for libraries to do all they can to make their resources accessible. Failing to do so contributes to the continued reproduction of existing hierarchies and inequities through digital spaces (Bang, Marin, Faber, & Suzukovich III, 2013).

While connected learning literature has done important work attending to brokering practices and relationship building in library spaces (Hoffman et al., 2016), there has been less attention paid to some of the more concrete barriers to entry that may exist. These barriers to entry have the potential to impact how effectively a particular library can act as a site of connected learning. In order to understand how library users find materials and resources, Danish information studies scholar Bjorneborn names three types of "interfaces" patrons can interact with in the library space: digital, physical, and social (2008). In this study we employ the idea of interactions with the library's physical and social interfaces as something that shapes access.

In this study, we explore challenges to engaging nondominant families, and how libraries can best consider parents' needs for computational learning. As part of an effort to partner with local libraries to engage nondominant families in computational literacy education, we conducted six focus groups with 22 parents across two libraries in very different neighborhood contexts. We highlight parents' perspectives and stated experiences on their interactions with the library and relationship to technology to understand ways that libraries may position themselves to better serve families' technology-related education needs and make the space more welcoming and accessible. We asked: *What challenges and barriers do parents and their children face in participating in technology-based learning opportunities in their libraries? What supports and resources do they want and need regarding their family's engagement with technology and building computational literacies?*

Methods

Context

Focus groups were conducted as part of a collaboration between the Family Creative Learning (FCL) project, which engages families to create and learn together with creative technologies, and two library systems in the Western Mountain region that adapted the program. The project was focused on nondominant families with limited social support and resources around computing.

Morgan, our first partner site, served a diverse patron demographic. While Morgan was a historically African American neighborhood, in recent years there had been significant growth in the immigrant population. The emerging immigrant community was predominantly Spanish speaking, and most of the library staff also spoke Spanish. Morgan offered a number of resources to its patrons, including access to a computer lab, a robust immigrant-services program, and a makerspace. The partnership was originally formed in an attempt to initiate greater engagement with parents and adults in the makerspace through the implementation of FCL workshops.

Our second library partner, Main, was situated in an affluent college town, where immigrant and low-income communities were largely invisible. The library had been renovated in recent years, and the large space included a theater, café, makerspace, art gallery, and a number of private meeting and event rooms that the public could reserve, as well as an edible garden and playground. The library had recently created a new role for community outreach and had named increasing diversity and inclusion as a major goal in a recently released mission statement. Library collaborators expressed a desire to specifically increase library engagement for a small but growing Latinx population in the city.

Data Collection and Procedures

Focus groups, which were called *Parent Tech Chats*, were held before the implementation of FCL workshops at each library to gain a better understanding of parents' library engagement, how they identified resources within their community, and their family's relationship to technology. The focus groups allowed us to get parents' perspectives in conversation with each other as they discussed shared experiences. The aim of these focus groups was to increase our understanding of the local context and gain insight into the needs of parents in the community. Three focus groups were held for each library. A Spanish-speaking research team member assisted with translation for parents who primarily spoke Spanish. All participants were compensated with a gift card. Findings were used to inform recruitment efforts and the adaptation of FCL to the local context.

Our focus group protocol included an icebreaker and group-norming activity, and in some cases a walking tour of the library or trip to the makerspace. The conversations were guided by questions regarding families' library use, accessing resources in the broader community, and technology use, attitudes, and challenges. Two out of the three focus groups held at Morgan included a visit to the makerspace to introduce participants to resources there and to hear their perspectives on the space. Because of the many resources distributed throughout Main's large building, focus groups held there included a walking tour of the library to identify which parts of the space participants used and were aware of. Main focus groups also included a resource-mapping exercise to get a sense of the community assets participants valued in their lives. While we asked questions about community resources in the first set of focus groups at Morgan, we changed our strategy to include mapping at our iteration at Main, as we thought discussions about community resources could be better supported through concrete activity. The two sets of focus groups were facilitated by different members of the research team. It is important to note that these differences, as well as the variety in the protocol noted above, may have had some impact on parents' responses.

Morgan focus groups were all held in the library and had a total of 11 participants. Recruitment for the focus groups was done by library staff. We did not seek to recruit any particular demographic of library users beyond parents and guardians who lived in the Morgan community. All were Latina mothers, some immigrants and some born in the United States. Most had lived in Morgan for at least four years. No fathers or other types of guardians, such as adoptive parents, or grandparents participated.

The Main focus groups had 11 participants in total, with two focus groups hosted at Main and one hosted at a community center for low-income housing. Recruitment was done by library staff and the focus group information was posted on their its calendar and shared with various community partners who worked with nondominant families. The community center had a high concentration of Latinx families and provided a more convenient location to engage parents from that community. Participants were all mothers, with the exception of one father, and were Chinese, Turkish, and Latinx.

Analysis

Codes were developed inductively by the authors through an iterative process. An initial round of open coding was completed to identify themes. Through a second round, codes were developed for place-based phenomena in the library, attitudes toward technology, technology use, library engagement, values, and community assets. These codes were applied to all six focus group transcripts. The authors double coded two of the six transcripts and discussed discrepancies in coding until they reached agreement. The remaining four transcripts were then single coded.

Findings

Family Engagement With Technology

Anxieties and concerns. Across focus groups parents expressed a range of questions and concerns regarding their children's technology use. Overall the parents' primary concerns were around knowing how much screen time was appropriate, navigating strategies for setting limitations, and their ability to monitor their kids' technology use and protect them from seeing inappropriate content online.

Parents with young children wondered when it was appropriate to allow them access to technology such as smartphones and tablets. Across all age groups parents discussed how difficult it was to get their kids to disengage with screens. They described how attempts to take things such as tablets away would end in tears and arguments. While some parents said they were able to put limits on screen time, they found it challenging. The computer or tablet's being what their kids used to study or do homework in many cases made it especially difficult.

Some parents wanted to know about putting child locks on devices and Internet browsers or setting up password protection. In the beginning of one of the focus groups, a mother, Amanda, asked, "How could you secure the children from the computer?" Another mother, Addy, shared how she snuck into her daughter's room while she was using the computer sometimes, so that she could monitor her computer use. Several parents, particularly in the Morgan focus groups, expressed concerns about inappropriate pop-up ads or content their kids might be exposed to, as well as strange adults messaging them on social media. One mother, Aria, shared, "It's something that worries me because I have children of all ages. So, knowing what it is they're watching, what they're into, and I can't keep track … because phones are too advanced for me. I'm very behind." In response, another mother, Arlene, shared, "It doesn't happen to just you. Believe me. All parents are worried."

In one focus group at Morgan, mothers had concerns about their children being socially disconnected or lacking socialization because of increased technology use. On the other hand, across all the focus groups, parents found phones and tablets to be valuable for communication, especially with distant family and with their children's schools and teachers. One mother, whose son was autistic, said that technology was another way for him to communicate, as he had trouble doing so in traditional ways.

Attitudes about learning with technology and desired resources. Many parents expressed pride in how tech savvy their kids were and saw value in technologies as learning tools. Those who had little exposure to technology when they were in school were happy that their children had the opportunity to gain those literacies and access tech in their schools. One mother, Amanda, said, "I like that they're learning something that didn't exist before, because everything has progressed so much. I'm happy my kids know more than me, because, well, what one wants is that your children are better than you, that they can do whatever they do best."

Many of the mothers at Morgan also expressed interest in learning more digital literacy skills and wanted classes that would help them keep up with new technologies. While some were fairly tech savvy, others expressed that their limited knowledge was an obstacle to things such as applying for jobs or filling out government paperwork. They expressed an interest in library classes on basic technology skills, as well as classes that would help them navigate their kids' technology use.

Some parents relied on their children for tech help but found that their kids did not always have the patience to teach them. One of the mothers, whose husband was in IT, described a fairly reciprocal relationship, in which she would teach her kids sometimes, and sometimes they would teach her. Others were concerned that not keeping up with technology would limit their ability to monitor how their kids were using it. Parents also wanted to be able to participate in their

children's learning. Amanda said, "I just wanted to know … how can I play or be more active with them in the computer so that they can learn?" Another mother, Ula, wanted to learn more technology because she wanted to be able to better help them with their schoolwork.

Family Engagement With Libraries

Parents' frequency of visits to the library ranged from weekly to almost never. Across focus groups, most parents described books and literacy activities as being their primary reason for going to the library, both for their kids and for themselves. Many parents brought their children for storytime, but some with older children had stopped coming to the library once their kids had aged out of this activity. Several of the parents who were immigrants attended language classes at the libraries, or had in the past.

Many parents discussed the importance of the library as a physical space to be visited and interacted with. Mothers in one of the Morgan focus groups talked about the library's importance as a place for face-to-face interactions. One Morgan mother, Erica, said she told her daughter, "'OK, we can read a book in the tablet or the phone, but we're not going to stop going to the library.' … If I see something in Facebook or something interesting in the Internet, a movie, a book, I come here and order it. … Technology helps us in a certain way, but they also drift us away from coming here and being with and meeting other people." On the other hand, two mothers in the Main focus groups discussed how technology was helpful because their kids were able to research things online without having to make a trip to the library.

Obstacles to Participation

Knowledge of resources. Unsurprisingly, the association of the library with books was strong, but participating parents were much less aware of the other resources the libraries offered. Parents who stopped going to the library after their children grew out of storytime were largely unaware of programs offered for a range of ages. While discussing ways to increase community awareness of library technology resources at Morgan, Amanda said that many people in her community did not go to the library because "they probably think it's just books." At Morgan, almost none of the mothers knew about the makerspace. One commented that she came to the library all the time but had not known it was there. All the mothers responded positively to touring the makerspace and said they would use the tools there, especially the sewing machine and crafting tools. As Amanda said, "I did not know. Now I have to bring my kids every day. I'll be living here."

At Main, one of the parents had previously used the makerspace, but most were unaware of it. This was unsurprising, since it was completely out of sight in another wing of the building. During the Main focus group library tours, parents had many questions about how the spaces within the library could be used. Questions included whether WiFi was available, if you could read a book in the café, and use various open areas to work or study. Similarly, when a program booklet was passed around at the focus group held at the community center, the parents said they had no idea about all the activities happening at the library. One commented that she thought the program should be mailed out to everyone in the city. In several focus groups across both libraries, parents said that paper materials were better for informing their community about library events and resources than making the information available online.

Child care. Across focus groups parents most frequently brought up a need for child care when discussing obstacles to library engagement. Parents described being unable to use resources such as the computer lab, or participate in programs for adults, because of their children. Even when children were allowed in these settings, parents felt distracted

or embarrassed by the need to keep an eye on their kids. For parents with children of varied ages, especially those with young children, a lack of child care also impacted their ability to attend family programming geared toward a single age group. Parents requested activities designed for all-age participation so that they could attend as a whole family.

Transportation and parking. Parents at both libraries also noted challenges related to parking. At Morgan some parents complained of how limited parking in front of the library often forced them to park across the street. The already small parking lot was shared with the community center next door, and people commonly hung out in their cars to use the library's WiFi. This was an issue for those with young children because they would need to cross a potentially dangerous high-traffic street. As one mother said, "My biggest problem with this library is parking. And that deters me. … I have my little ones. So, having to cross the street is going to be a problem." She also said that although she preferred to come to her local library, she sometimes went to the branch in the next town over because of the parking situation.

At Main, parents were concerned about paying for parking and understanding the parking system. One mother, Danica, said, "We honestly used this space more before they started charging. They used to have three hours of free parking outside and now it's only an hour and a half. And that's changed how we've used the library." Some parents were unsure about where to park, or were concerned about getting tickets. These questions were especially prevalent for parents who spoke to us at the community center and who overall had the weakest ties to the library.

Comfort and belonging. At the Morgan focus groups, some of the mothers discussed deterrents to their coming to the library more often. They discussed the area outside the library, the parking lot, and the entrance, as problem areas, as well as the computer lab. Issues in the computer lab included adult men looking at inappropriate content or smelling like pot, and kids playing violent video games. They suggested that this activity should be better monitored, and that maybe there should be separate computer labs for kids and adults. They also questioned whether there was security at the library, as well as security to monitor activity happening outside.

At Main, on the other hand, a number of parents, particularly those with young children, were concerned about not meeting the library's behavioral norms. They did not bring their children as often as they would like because of worries they would be yelled at if the kids were running or making too much noise. One mother, Martina, said that the librarians would get angry because her kids were running around, and said it was "horrible." Another parent, Ula, talked about how the space for kids at Main was very small, and that "it's not for children because you have to be very quiet. That's one reason I never take my children. … Because my children are super restless, doesn't matter what age they are and the library tenses them up instead of helping."

Some parents said they brought their kids to other library branches with more active play space, even if they were farther away. One of these parents, Daniela, said she often brought her kids to a library in another neighborhood because there were lots of activities: "They have like, little tables for younger kids and have puzzles, and they have sheets and colors and crayons, and have a lot of stuff to do. … They have sofas, and a place where they just relax in the room." Parents in another Main focus group also commented on how they wished there were larger activity tables for kids to spread out and engage in creative activities. Another mother, Mariana, talked about how she thought it was important that play space and reading space be integrated for kids, "because that's how I've seen my kid has learned to love reading, because he knows he can get to the library, he knows we're going for books, but first he plays with Legos or jigsaw puzzles and then goes off and does something."

Some parents also commented on how they used to be more comfortable in the library before the renovation. For example, Daniela said, "I don't know why, but I feel intimidated in this Main library when they renewed it. … It was kind of old, but it was cozy before that, and now you feel like it's so pretty and you just don't want to touch anything." Another mother, Beatriz, felt intimidated by the size of the library: "This library is huge. It's a little bit intimidating." But not everyone felt this way. When discussing the renovation, Hilda, one of the mothers, said, "But now, what I love actually about this library, very colorful. When I see that … my spirit is shining. A lot of colors, bright, hot, warm. I can sleep here."

Practical Implications and Conclusion

While this study represents the local experiences of a small sample of parents, we believe that it may point toward relevant areas of further study and investigation, both for researchers and library staff and administrators. First, we argue that libraries should consider taking a holistic approach to technology resources and address the range of technology-related learning opportunities families could benefit from. Findings from our focus groups suggest that parents would benefit from workshops and resources that address their interest in developing effective parenting strategies around technology engagement, allow them to engage in creative collaborative learning with their kids, and address their own computational literacy needs and interests. There is also opportunity to leverage the traditional literacy activities families already engage in at the library, such as storytime, to bridge interest in computational literacy.

Parents who participated in our focus groups were often surprised and excited to learn about the technology resources their library had to offer. These reactions show that lack of participation may often stem from lack of awareness that a resource exists, rather than lack of interest. While developing recruitment strategies that make nondominant families aware of what the library has to offer may be a complex endeavor, one step libraries can take to ensure patrons know about technology resources is to make them physically more visible within the library space. The many questions posed by parents about how to use different parts of the library also make it clear that the norms of the space are not self-evident. Patrons may need to be guided through them in some ways to feel comfortable making full use of the library and its resources.

Based on our findings, we argue for the importance of acknowledging and investigating concrete barriers to participation that nondominant families may encounter when interacting with a library's interfaces. Libraries that want to increase their diversity and inclusion may take symbolic action by doing things such as incorporating language on diversity and inclusion into mission statements while neglecting to take concrete actions that may help increase accessibility. A lack of recognition that inequitable access may take the form of social and physical barriers may cause parents' stated needs, such as child care, to be brushed aside as outside of the library's core mission and duties.

In addition to more concrete obstacles such as lack of child care, or transportation challenges, it is also important that libraries consider the messaging about behavioral norms that the space is signaling. According to statements by parents in the focus groups, libraries may feel unsafe if behavioral norms are too loosely enforced or the space is lacking boundaries, or unwelcoming if norms and boundaries feel too rigid. There may be no perfect balance, but keeping some of these factors in mind may help libraries reflect on where they fall on the spectrum and how they might adjust to help families feel comfortable and welcome. It is also important to consider how this balance may affect the participation of different patron demographics, as effectively serving the needs of various groups will always be a challenge.

While we consider this study to be preliminary, we believe it may provide some insight into where public libraries should focus their attention if they want to attend to nondominant families' technology-learning needs. We also hope that this can serve as one model for how libraries can learn about their patrons—by engaging them in focus groups and other types of structured conversation.

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