Latina Mothers’ Cultural Experiences, Beliefs, and Attitudes May Influence Children’s Math Learning

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Abstract
Drawing from a qualitative approach and through individual pláticas (processes of co-constructing knowledge through dialogue) as a linguistic and cultural framework, this work explored informal contextual factors valued by Spanish-speaking Latina mothers of children, three to five years of age and enrolled in a nonprofit California preschool. Results revealed that Latina mothers have cultural forms of knowledge which impact their children’s educational experiences and engage in direct and indirect numeracy environments. While personal math experiences and home practices differed, Latina mothers experience and navigate their children’s learning based on sociocultural aspects, influencing how they support their children’s math learning. This study drew from sociocultural learning theories that value learning embedded within meaningful learning experiences. Patterns of family learning have several implications for educational practice, especially for Latine families whose parent participation is typically not as visible as White American English-speaking parents.

Keywords Early learning · Early math · Family math · Funds of knowledge · Latine families

Latine children comprised 25% of all 54 million K-12 students in 2016 and by 2050 they are projected to make up nearly one-third of children in the U.S. (Lopez et al., 2018). Several studies have shown that Latine children are less likely to attend preschool or receive early childhood services (Suárez-Orozco et al., 2015). Hence, it is critical to understand the cultural opportunities available in the home environment of Latine children in the U.S. (Ansari, 2017). Several studies have investigated how funds of knowledge is embedded in Latine childrearing practices as informal learning hubs with fewer exploring math learning (González et al., 2005). Existing studies examining funds of knowledge and math education have explored older students in formal settings (Walkington et al., 2014) and the connection between in-school and out-of-school math (González et al., 2001). However, there is a need to understand and explore Latine families’ histories and experiences with math in relation to sociocultural perspectives of their own math learning, especially when parents are often unsure of what role they play in supporting their children’s development of math skills (Jackson & King, 2016).

Cultural Context in Latine Families
Latine families have linguistic and cultural home practices that impact their children’s development. Notably, Latine families create meaningful learning experiences with their children through their family identities of language, literacies, and cultural ways of being. Families employ the following cultural values for childrearing in relation to the child’s education: Respeto (cultural duty and obligation in Latine families), consejos (ethical and aspirational education development), apoyo (childrearing support for education development), and sacrificios (self-selected sacrifices Latine parents make to support their children’s education; Murphey et al., 2014). Latine families also see their Spanish language as culturally embedded and rooted in their identity
(Gándara & Contreras, 2009). Cultural values and beliefs are most notable in immigrant mothers who have recently arrived in the United States and speak only Spanish (Murphy et al., 2014). These cultural values found in Latine families provide a rich picture of how sociocultural contextual factors are interpreted and applied within learning and development in Latine children’s lives at home.

**Home Influences on Math Learning and Latine Children**

Much research has been done on the positive effects of the home learning environment, including studies examining home-based activity interventions, parent-child interactions, and math talk (Levine et al., 2011). Existing literature has also emphasized the value of home environments in promoting children’s understanding of numeracy (Napoli & Purpura, 2018). Additionally, family interactions are related to children’s early math achievement, especially for children who come from non-English language homes (Cheadle, 2008). While research conducted with Latine families is limited, it tells us how math performance is influenced by their literacy and math exposure at home (Lopez et al., 2007). Limited formal math knowledge in Latine parents, influences their ability to engage their young children in early math concepts (López & Donovan, 2009) reinforcing the need to help Latine families contextualize funds of knowledge to foster their children’s math skills (Civil et al., 2005).

Studies focusing on sociocultural learning perspectives have revealed how math can be ‘uncovered’ in home contexts, even if families may not have explicit math experience and knowledge (Cabrera et al., 2017). These findings demonstrate how the funds of knowledge approach helps families recognize how prior learning experiences can help scaffold new math learning with their children. These studies invite future researchers to examine how Latine families translate formal math instruction into home activities that create educational opportunities in household activities (e.g., cooking, cleaning, or doing laundry) they are already doing with their children (González et al., 2005).

**Sociocultural and Ecological Theoretical Foundations**

Funds of knowledge research describe households as informal opportunities which are often overlooked by the school as learning opportunities (González et al., 1995). Notably, funds of knowledge explore families’ complex life experiences, assets, and skills to challenge deficit discourses (Gallo & Link, 2015; González et al., 2005), yet are often suppressed or denied in favor of normative practices (Hanley & Noblit, 2009). Funds of knowledge complements Suárez-Orozco and colleagues’ (2018) integrative risk and resilience model for understanding the adaptation of immigrant-origin children and youth to broaden the interpretation of Latine families as a source of influence on a child’s development. Both frameworks contextualize child development and positive learning outcomes in connection to larger sociocultural and political family systems and factors for this study. Both frameworks provide a lens to understand Latine families in real-world contexts, where home provides an enduring and multigenerational culture of learning that are oppositional to the prevalent deficit discourse in Latine families, which often attempts to fix or improve families instead of understanding how context—often determined by structure, culture, and agency—can shape a young child’s learning.

**Methods**

The overarching goal of this study is to be exploratory and aim at unearthing assumptions of funds of knowledge in Latine families, placing Latina mothers as experts of their learning experiences. Two research questions were examined: (1) What are the math experiences of Spanish-speaking Latine mothers? (2) How do Latine mothers support early math development in the home?

**Setting**

This study took place in a Southern California city where Latine families comprise the single largest minority group. 77% of the residents are of Mexican descent and identify as Latine and 69.1% speak Spanish (Kidsdata, 2018). All ten semi-structured interviews were conducted in April 2021 via the Zoom video-conferencing platform to ensure safety protocols for all participants during the ongoing COVID-19 pandemic.

**Participants**

IRB approval was granted before recruiting participants. Criteria for participation included families with children ages 2–5 who identify as Latine and speak Spanish or are bilingual. Participants were recruited in partnership with two Southern California nonprofit organizations. Five participants identified themselves as immigrants from Mexico, four participants from the U.S., and one participant was from Central America (Nicaragua). The four participants from the U.S. stated that they both identified as Latina mothers.
because of their Mexican family background. All participants identified as Latina and reported that their spoken home language was Spanish and that their children spoke English in school. To preserve anonymity, participants have been given pseudonyms. Table 1 identifies all participant demographics.

Data Collection

Using funds of knowledge literature, I developed a semi-structured interview protocol in Spanish (González et al., 1995). I used Castillo-Montoya’s (2016) guide to ensure refinement of the interview protocol and Chavez’s (2008) insider positionality framework to counter outsider/insider positionality intrinsic bias in the development of the protocol. The protocol was written with an open-ended and exploratory design but with the explicit purpose of making participants’ experiences the focal point (Smith et al., 2009). The semi-structured interview protocol was reviewed by experts to ensure the instrument was created for and with Latina mothers in mind. The semi-structured interviews were conducted in Spanish and lasted between 45 and 60 min each. Participants received a $25 gift card for participating.

Data Preparation

Semi-structured interview videos and transcripts were entered into MAXQDA software (VERBI Software, 2019). As a trained bilingual qualitative researcher (in Spanish and English), I transcribed and coded all the data in the participants’ original language (Spanish) with consultation from member checking and participants check-ins and peer-reviewed to verify transcripts and the development of the coding book to address inconsistencies and bias in data preparation for analysis. I recorded reflective field notes, reflections about the observations of semi-structured interviews, for insights, descriptions, and emergent themes from each participant as a data triangulation method (Maxwell, 2013). Quotes have been translated in English for the purpose of this manuscript.

Qualitative Coding and Analysis

Development of Codes

I first used open coding to label descriptive, linguistic, and conceptual comments: experiences, emotional reactions, words, repetitions, hesitations, understanding, and perception of their lived experiences (Saldaña, 2016). I also used inductive thematic data analysis to extract codes and referred to the theoretical foundations for more insights into patterns and themes. I organized codes based on similarities and frequencies from the data collected. During the open coding phase, I used a MAXQDA’S two-case model analysis to visualize the frequency of codes produced by data. I employed the Six C’s Model (part of axial coding) to categorize data based on causes, contexts, contingencies, consequences, covariance, and conditions (Larossa, 2005). Table 2 provides an example of the coding book representing the most pronounced codes and themes found in participants’ semi-structured interview data in relation to their background, history, culture, language, and math learning experiences.

I used narrative inquiry and a case study approach to develop naturalistic interpretation and make larger meaning of what I learned from participants’ pláticas (i.e., semi-structured interviews). I integrated testimonios (voicing and documenting narratives of Latine mothers’ lived experiences) and pláticas (processes of co-constructing knowledge through dialogue) to understand how participants share what they say and do in their homes and what they report about what informs their praxis, particularly as it is negotiated within sociocultural contextual factors that may influence their children’s math learning (Fierros & Delgado Bernal, 2016). I focused on their lived experiences that reflect their formas de vivir (ways of living; Oliva & Aleman 2019) and examined their learning experiences through their
Table 2: Example of a coding book for semi-structured interview data

| Code                      | Definition                                                      | Examples                                                                 |
|---------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------|
| Educational aspirations   | A desire for their children to “get ahead in life.”             | “I did not have the opportunity to go to school, I want my children to study to keep going forward.” |
| Holding onto home        | Parents’ aspirations for their children in keeping their culture.| “We always tell them that they have to speak Spanish at home, because it is in our Mexican culture to speak Spanish.” |
| Spanish                  | Sees and values of Spanish language as important for their children to learn and speak. | “She speaks Spanish. That’s why I want her to keep speaking Spanish to hold on those families ties and to communicate with each other.” |
| Literacy achievement     | Parents see reading as an important educational value.         | “But I want them to also have that understanding of English and will only do it through books.” |
| Self-efficacy beliefs    | Parents’ perceptions about their competence and self-efficacy with math | “[I] did not have the intelligence to reason well. So, I didn’t learn to do [math]… So, I think that’s why I didn’t like [math], [laughs]” |
| Math teaching contexts   | Parents’ experiences in school and outside of school for math teaching and learning | “I think if I had had a teacher who had explained a little better or given some tips on how to improve what I was failing at, I think I would have liked [the math].” |
| Self-perception of inherent ability | Parents’ beliefs that being good at math is genetic | “Sometimes I say to my child ‘I don’t know who you take after because you have a lot of math intelligence’…’Because I don’t. Neither your dad nor me, we did not have the math ability and capacity.’” |

...personal narratives—their knowledge of math, math beliefs and attitudes, and home practices. This study did not intend to quantify the conceptualization of math learning but rather offered a description of the affordances and constraints of Latine families within their cultural contexts.

Results

Applying the idiographic focus (detailed account of each semi-structured interview) of IPA, each participant’s account is treated and written about on its own merit and terms with specificity and particularity in mind to make sense of what was obtained from the semi-structured interviews (Smith et al., 2009). Five themes emerged from participants’ perspectives and participation in the semi-structured interviews: (1) Traditional education values, (2) Familismo, (3) Language and literacy perspectives, (4) Ecological environment, and (5) Identity formation related to (math) learning.

Traditional Education Values

All mothers described their motivations for their children’s academic success as traditional education values rooted in honorable work ethics that help raise their children to be happy and good people. This is represented in how participants recognized the importance of academic achievement for their children through educación (education), pointing out the many sacrificios (sacrifices) they make on behalf of their children, wishing for their children to get ahead in life, as Sandra shared:

“I want her to know more than me and have more education than me, because I went to college, but I didn’t finish it...I want to keep raising the education level with each generation. And I want my daughter’s children to end up with something more.”

For all mothers, the most important values when it came to the education of their children was for their children to exhibit proper social behavior, value honestidad (honesty) and verdad (truth). Nancy shared: “I want them to be good people, and good people with their community, I want them to respect the elderly, and focus on their education.” The value of honesty and truth can be understood as childrearing values in a broader sense to infer expectations that mothers have for their children’s schooling and academic future. Participants connected their cultural roots to their lives in the U.S. especially in how they raise their children. Latina mothers engaged their children in these traditional education values as a way to support their learning and educational success.

Familismo

Latina mothers have strong families bonds within their nuclear and extended families. They emphasized familismo above everything as Silvia shared:

“I want to be with family…I want to go to the fiestas or quinceañeras. I told [my husband] that we have to teach them to speak Spanish, because it’s very important for me that she can talk to her grandparents. It is the only grandparents she is going to have and I want her to communicate with them.”

Silvia’s statement reflect how Latina mothers do not put their Latine culture aside to function within US norms and values. Latina mothers view their culture as a collection of values. Latina mothers engaged their children in these traditional education values as a way to support their learning and educational success.
participants referred to their community as part of their family. Mothers are also cultural brokers in their community—they share resources and knowledge and establish trust. Latina mothers viewed this as a duty to their community members:

We live in a community where Spanish is spoken a lot and I know that also through this [English] language they can learn other things.

This finding raises the importance of understanding how familismo can go beyond the family structure and extend to community—a way of learning from family and community through lived experiences.

Language and Literacy Perspectives

All mothers noted the importance of having their children speak Spanish as essential to communicating within their families and as linguistic capital—both to sustain their identities and those of their family and in terms of future economic potential, as seen in these mothers’ quotes:

Sol: “She speaks completely Spanish, right? That’s why I want them to maintain those family-to-family ties, right? And that they can understand each other [as a family].”
Sandra: “They’re the only grandparents she’s [daughter] going to have, so I want her to be able to talk to them.”
Rosa: “And because there is a lot of potential for my daughter and for another child, to learn another language.”

Findings demonstrate that Latina mothers value Spanish (sustaining language as a cultural value) as much as successfully learning English (learning how to speak, read, and write well in English) for their young children.

In our countries we don’t have that—our parents don’t have the habit of reading, right? I always said, ‘When I have my children, I want it to be different, I want them to have another kind of education and that they do it through books,’ because I know that through books one learns a lot of things such as language, words and more than anything else, spelling.

Latina mothers were so insistent on literacy and reading over mathematics, not only as an academic achievement but also as a way of successfully reaching the American dream. This is important to highlight because mathematics has generally not received the same attention from Latine families as reading with respect to family learning environments, and this study’s finding can explain why Latine families choose to teach reading rather than math in their home environments, revealing how their sociocultural and political contexts influence their emphasis on choosing literacy over mathematics.

Additionally, Latine mothers support literacy at home as their main form of parent engagement:

Nancy: “Because I know that through books you learn a lot of language.”
Isabel: “I want them to learn English and it’s only going to do it through books.”

For the Latine mothers in the present study, the idea of learning English and being proficient in literacy is attached to the idea that values English and diminishes Spanish in formal and educational settings. Latina mothers whose language is Spanish are living in a distinct in-between state—the urgency to hold onto their roots and culture (Spanish language) and pressure from research, practitioners, and education institutions telling them to understand American schooling (values literacy and having their children learn how to speak, read and write English well).

It was evident that for all participants, literacy was considered as valuable for academic reasons but also to fit in with the American culture and achieve the American Dream. This provides contextualization as to why perhaps it is challenging for many Latine families to view math learning the same way as literacy and reading.

Ecological Environment

It is important to consider their history and stressors to understand Latine mothers’ family relations/socialization, their role of motherhood, and their concept of parent engagement and community engagement within family dynamics and ways of learning. All the participants established relationships (family), and the indirect and direct interaction of personal factors with social environments (school/services) directly or indirectly influenced how they thought about their children’s development. For example, for Daniela and Erika shared how they both didn’t have support from their families as seen in their quotes:

Daniela: “Not in my house because my parents didn’t really help us.”
Erika: “My mom didn’t [support] us, she didn’t have the opportunity to study.”
Their lived experiences growing up without their family support, shaped how they parent and how they engage with their children.

Rosa’s case, she and her husband left everything in their home country because their home country’s troubled politics: “We left everything there, everything, everything, all our things because of our country’s political problem.” Rosa wants to “support” their children to “learn, but more than anything to focus and do their best.” As evidenced in the participants’ statements, many of them assessed their parental involvement, education expectations, and socio-economic issues based on their complex ecological environment, thus affecting their children’s development and learning. Latine mothers found themselves shaped by their ecological environments—their everyday challenges and barriers, thus influencing their children’s development and learning.

Identity Formation Related to (Math) Learning

Latina mothers shared their complex relationship with math learning. Their primary beliefs and perceptions about their competence and self-efficacy weighed heavily on their perceptions of who could learn and do mathematics, with many of them stating “mathematics are not meant for me” and “I did not like or understand mathematics.” All shared the idea that math is an inherent ability:

Sol: “I wasn’t very good at math, but my father-in-law is a computer engineer, so he has to be good at math. He has it in his blood and I hope my daughter inherits the ability to do math.”

Mothers attributed their math “shortcomings” to not being smart or capable of learning:

Isabel: “I think if I had had a teacher who had explained a little better or given some tips on how to improve on what I was failing at, I think I would have liked [the math].”

Silvia: “Math was always difficult for me...Sometimes I say to my child ‘I don’t know who you take after because you have math in your blood’. And I say to him ‘Because I don’t. Neither your dad nor me, we did not have the math ability and capacity, and the mentality to advance’.

However, mothers also stated that they want to support mathematics skills in their children. Daniela mentioned that although mathematics was not “mucho de su agrado”/“not my cup of tea,” she tries to help her children with math:

I tell them, ‘let’s Google it and do some research.’ I start reading to her and I try to explain it to her. I use the abacus to teach mathematics. Well, in Mexico it’s called an abacus... and that’s the one I use with her, and I saw that it was easier for her, because I used my fingers a lot and sometimes, she didn’t have enough fingers [she laughs].

It is worth noting that although all participants stated their belief in a lack of math self-proficiency, participants shared conversations and interactions they had with their children that revealed the presence of home math environments. Rosa shared how math is included in what she values the most for her children—reading and literacy, saying: “We have math games, [like] letter games because we like it a lot, and it makes my [daughter] think.” Other mothers stated how they engaged in math practices like counting money, sorting laundry and dishes, doing puzzles, identifying shapes and colors, and playing math games. Sandra described how she sings to count numbers with her daughter when they are on the go, driving:

One day we were in the car with my husband. We were going to visit his parents and we had already been driving for two hours. I started telling my girl, ‘one,’ and she would say ‘two.’ Then my husband said ‘three.’ Then four, five... it started like that, and she wanted to keep going and then there were moments where she said, ‘Okay, you two continue, I already want to stop.’

What the findings tell us, is that for Latina mothers, although they engage in math talk and create home math environments, they don’t contextualize those experiences as math learning experiences, but simply as part of their caregiving duties as mothers. Erika shared that she liked the outdoors, and she noticed that her kids liked to be outside too. She shared that when they are outside, they “like to walk outside gathering stones, because we always find stones of different figures and colors.” However, Erika views these interactions as part of their caregiving role, simply being a mom to her children.

Sandra also viewed her math interactions with her child as caregiving practices, this finding reveals how much math talk Sandra did with her child by asking questions and teaching her child explicit strategies to use in problem-solving tasks, like counting money:

When we go to the store and she asks for cookies I say, ‘How much are these cookies?’ and she tells me $2.27, and then I say, ‘Okay, do you want that cookie with the $2.27 or do you want something else with the same money?’
Francisca shared a similar experience of learning how to count money by the circumstances of losing her father:

I had no dad and my mom...had to go to work. I was basically a teacher-student, [laugh] and my mom would just leave me the money when I was 12 and say, ‘here it is and you manage it as you can, because I have to go’...I had to manage money for gas [stove], for tortillas...and I had to make it work for the whole week.

When asked what this experience meant for her, Francisca stated that it represented a family bond more than a math learning experience. She only reflected on this experience during the interview. In fact, Francisca stated that for some reason, math was not in her genes, despite stating how at a young age learned to manage money:

For some reason I think math wasn’t in my genes—at this point in my life, I really think math is something you have in your genes.

Results indicated that all mothers thought about their experiences with math both in their home countries and in the US as personal ecological challenges. Challenges they experienced as immigrant women, as children growing up, and as mothers—persistence in overcoming challenges, getting ahead in life, and having ethics and values is seen as a successful educación—even though for them is not related to formal schooling or academics experiences in the traditional American education culture. Although many of the participants stated how busy they were as homemakers, they said they always made time to engage with their children. However, they all cited their lack of confidence as a struggle to guide their children’s early developmental skills that help promote math comprehension.

| Table 3 | Semi-structured interview themes and findings in relation to research question 1 |
|---------|---------------------------------------------------------------------------------|
| Themes  | Findings                                                                        |
| Traditional education values | Finding 1: Latina mothers have cultural forms of knowing that impact the educational experiences of their children and themselves. |
| Familismo | Finding 2: Latina mothers emphasize the importance of socioemotional learning and literacy over mathematics because of sociocultural issues. |
| Language and literacy perspectives | Finding 3: Latine mothers’s past mathematics experiences influence their mathematics beliefs, attitudes, and their perceptions on how to engage in direct and indirect numeracy environments. |

Discussion

I frame the conclusion of this study through the discussion of three major findings that emerged from the semi-structured interviews and in relation to the research questions: (1) What are the math experiences of Spanish-speaking Latine mothers? (2) How do Latine mothers support early math development in the home? Finding 1: Latine mothers have cultural forms of knowing that impact the educational experiences of their children and themselves; Finding 2: Latine mothers emphasize the importance of socioemotional learning and literacy over mathematics because of sociocultural issues (see Table 3) and Finding 3: Latine mothers’ past mathematics experiences influence their mathematics beliefs, attitudes, and their perceptions on how to engage in direct and indirect numeracy environments (See Table 4).

Latine Mothers have Cultural Forms of Knowing that Impact the Educational Experiences of Their Children and Themselves

Latine families incorporate cultural values into their parenting as a form of intervention and adaptation (Ramos, 2014). Studies exploring Latine parents have revealed their ways of engagement are not always recognized by the dominant culture in the United States. This is important to highlight because the literature tells us that families have significant funds of knowledge as this study found. Latine mothers’ desires and expectations for their children’s education were about traditional education virtues, morals, work ethics, and educational aspirations, which is consistent with Latine family cultural narratives (Hill & Torres, 2010; Poza et al., 2014).

Mothers view traditional educational virtues and aspirations as cultural practices that are resources as child-rearing methods and for the educational success of her children. This finding is consistent with Valdés’ (1996) work on socialization, cultural values, and education of immigrant Mexican families, specifically highlighting the theme of educación. Recently, Espino (2016) highlighted the
American definition of education versus Latine immigrant families’ definition, citing how for these families educación is about strong, honorable work ethics and values to raise their children as happy and good people.

Despite decades of acculturation and naturalization discourses arguing and establishing laws like ‘English only’ for immigrants (García, 2014), culture is not something that we can detach from these families. As discovered here, this has implications for understanding how to support Latine families’ engagement and learning practices with their young children. In fact, Latine mothers hold onto their culture to reaffirm their identities, their traditional educational values, familismo, and language. Valenzuela (1999) has argued about the adding or subtracting of the wealth and richness of Latine families. Other participants also viewed their traditional virtues and familismo as assets—a way of learning from family and lived experiences (Kiyama, 2010). This finding also counters deficit thinking in Latine parents, which sees Latine parents as having a lack of motivation and inadequate educational practices for their children (Koyama & Desjardin, 2019), which is the opposite of how mothers in this study described supporting their children.

Latine Mothers Emphasize the Importance of Literacy over Mathematics Because of Sociocultural Issues

Cultural and linguistic values are important in understanding Latine families’ practices for the success of Latine children’s education. Cheadle’s (2008) has noted that family engagement was related to children’s early mathematics achievement, especially for children who came from non-English-language homes. All participants stated the importance of their Spanish language preservation as cultural wealth for their children, wanting their children to hold onto speaking Spanish as an ability that would not only sustain their Latine identity but also as a form of literacy achievement. This finding aligns with other findings on family engagement—Latine families support learning and literacy at home as their main form of parent engagement (Conteh & Kawashima, 2008; Ladky & Peterson, 2008).

It is also critical to understand this finding through Anzaldúa’s (2001) description of language duality. Latine and immigrant mothers whose first language is Spanish are living in a distinct in-between state—the urgency to hold onto their roots and culture (including the Spanish language) and pressure from research, practitioners, and education institutions telling them to understand American schooling (Crosnoe, 2010). For many Latine families—including Latine mothers in the present study—the idea of learning English and being proficient in literacy is attached to the idea of the American Dream and also to the idea that learning English diminishes their Spanish.

It was evident that all participants viewed literacy as valuable for academic reasons and to fit in with American culture and achieve the American Dream. This provides contextualization as to why perhaps it is challenging for many Latine families to view mathematics learning the same way as literacy and reading. Therefore, highly valuing literacy over mathematics is not only grounded in participants’ negative mathematics learning experiences but also in sociocultural and political contexts.

Latine Mothers’ Mathematics Experiences Influence Their Mathematics Beliefs, Attitudes, and Perceptions on How to Engage in Direct and Indirect Numeracy Environments

Past research has studied mathematics anxiety and mathematics identities in children and adults (Beilock et al., 2010; Justicia-Galiano et al., 2017). This finding differs from previous literature in the sense that it focuses more on how Latines experience mathematics from a knowledge, skills, and attitudes perspective, which represent learning domains. All mothers had very strong negative reactions to the topic of math learning compared to literacy learning, reading, and books. Their lack of confidence and negative experiences with math instruction indicated strong mathematics anxiety and negative attitudes toward mathematics, which could have consequences for their children’s mathematics learning experiences (Cannon & Ginsburg, 2008). This was an important analysis to uncover the complicated layers of Latine mothers’ relationship with mathematics learning. Their primary beliefs and perceptions about their competence and self-efficacy weighed heavily on their perceptions of who could learn and do mathematics, especially when Latine parents perceived themselves through a deficit-thinking lens. Parents in this study believed that because math was not in their “genes” they did not have the ability to help their young children learn math.

This is an important finding because it highlights the role parents play in supporting their children’s learning development, as well as how parents’ negative attitudes or beliefs toward mathematics can in turn affect their children’s mathematics readiness. It is also important to consider how cultural factors, specifically, play a role in Latine families’ beliefs and attitudes toward mathematics learning. Interviews from the present study suggest how mathematics anxiety is characterized by cognitive, emotional, and self-efficacy experiences (Macmull & Ashkenazi, 2019). All mothers understood that math is important for their young child’s development and learning, but also believed they were not capable of supporting their children’s math
learning. Although participants stated that they did not know how to do math, they did find ways to help, demonstrating once again how Latine parents’ involvement and engagement in their children’s education and learning activities varies. This finding also counters deficit thinking in Latine parents, which sees these parents as lacking motivation and inadequate educational practices for their children (Koyama & Desjardin, 2019).

It is worth noting that although all participants stated their belief in a lack of mathematical self-proficiency, all participants shared conversations and interactions they had with their children that revealed the presence of home mathematics environments. For example, many participants stated they engaged in money practices like counting money, counting and sorting laundry and dishes, solving puzzles, identifying shapes and colors, and playing math games. For all participants, family life had a double meaning—their caregiving as mothers profoundly affected the lives of their children even without direct relationships and home learning environments as a major source of influence for their development (Ceka & Murati, 2016).

This is a critical finding because prior research has shown how parents’ home learning environments have implications for children’s school readiness. Snow (2006) argued that parents’ home environments should be considered “an agent of change in promoting school readiness” (p. 20), linking parents and home context to support their children’s academic success. This is crucial because families need to recognize how they can contextualize home mathematics environments to understand how to support their children’s early mathematics development. The critical findings are two-fold: (a) families are creating home mathematics environments, even if they do not see it in mathematics learning terms and view these interactions as part of their caregiving role; and (b) there is a need to help Latine families contextualize home mathematics environments to help support children’s mathematics skills.

Limitations

One limitation of this study is that the sample size is relatively small. This study cannot claim generalization of findings to other Latine families or another community outside its immediate context; however, the study’s purpose was not to find generalizable results in mathematical thinking but to uncover how Latine families value education and how their culture and practices may influence how they support their children’s math development and learning.

Conclusion and Implications

This study drew from sociocultural learning theories, valuing learning that is embedded within meaningful learning experiences and supportive relationships. It recognizes that there are diverse learning pathways and forms of knowledge and expertise, especially when it comes to Latine families. Early childhood education organizations, institutions, practitioners, and educators can cultivate, encourage, and foster asset-based approaches to counter the dominant narratives about Latine family learning affinity and ability, especially in math. This is especially critical in family engagement interventions. Family engagement cannot be prescriptive because families are ever-evolving and changing based on their contexts. Understanding Latine families’ personal histories with math can help practitioners support families in forming a learning identity. This could be a powerful strategy for a real family engagement transformation.

To truly center Latine families as mathematics learners, create a sense of mathematics identity, and build mathematics self-efficacy, future research should investigate their personal histories with mathematics and their cultural and linguistic assets. How do Latine families remember math? What does it mean for families to learn math, based on their challenging histories and experiences? Future research needs to explore this in more detail. What if family engagement interventions were not about asking Latine families to be molded into traditional American schools that require them to learn the cultural equivalent for American schooling norms? This is a critical question to ponder because there are still deficit thinking narratives around Latine family engagement. Traditional family engagement programs are often created through an individualistic lens, failing to address the social and political contexts of Latine communities within the collective and social capital paradigms.

Disclosures

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