School readiness and social determinants of health: A collaboration with community teachers and parents

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ABSTRACT

Purpose: To explore perceptions of community dwelling caregivers of preschool-aged children regarding the influence of social determinants of health (SDOH) on children's school readiness. Parents' perspectives regarding solutions to enhance school readiness in preschool-aged children are also explored.

Methods: This study employed a qualitative, descriptive design and a community based participatory research (CBPR) approach. An academic institution collaborated with parents, teachers, and administrators at a community-based preschool learning center. Ten young-adult to middle-aged mothers and caregivers attended two separate focus groups and completed open-ended questionnaires. Inductive and deductive thematic analysis of text were employed.

Findings: Three themes emerged 1) Families described the vast lack of appropriate community resources and inability to access those resources that are available to prepare their children for school 2). Family members need help processing information about social resources 3) Community, individual and systemic level solutions to enhance school readiness.

Conclusions: Academic-Community partnerships provide an opportunity to (1) identify solutions to remove systemic barriers that impede children's readiness for school, and (2) design interventions to support families through that process. Interventions to enhance school readiness should be family-focused and can be informed by understanding the influence of SDOH during the planning stages. SDOH create barriers and prevent parents from prioritizing their children's school, health-care, and developmental needs.

Practice implications: Interventions to enhance school readiness should be family-based and can be informed by understanding the influence of SDOH during the planning stages. Social advocacy is also needed to enhance the ability of parents to enhance their children's school readiness.

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Pediatric nurses, regardless of practice setting, are committed to supporting the ability of children to fully participate in academic programs that are appropriate for their developmental level (Centers for Disease Control and Prevention, 2022). While there have been extensive research on the impact of social determinants of health (SDOH) by nurses and other health care professionals, little is known about the connection between SDOH and parents' abilities to prepare their children for school, typically described as school readiness (Braveman et al., 2011; McNeill, 2010).

Social determinants of health (SDOH) are structural conditions—social and environmental forces—in the places where people live, learn, work, worship and play (Healthy People 2030, 2020). These have been grouped into five domains (i.e., economic stability, education access/quality, healthcare access/quality, neighborhood/built environment, and social community context) and affect a wide range of health and quality-of life-risks and outcomes (CDC) (Healthy People 2030, 2020).

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Readiness for school includes the child's individual development, the school's readiness for the child, and the ability of the family and the community to support the child's development prior to entering kindergarten (High, 2008; Williams et al., 2019). School readiness measures include both pre-academic, academic and developmental indicators (Williams et al., 2019). Negative SDOH include, poverty, economic instability, unhealthy living conditions, poor educational and healthcare access, unemployment, lack of a safe environment and general exposure to disadvantaged (Rodriguz, 2017). These circumstances exist in under-resourced communities and logically threaten the health of children and their readiness for kindergarten through a variety of socio-ecological factors both collectively or individually (Bronfenbrenner, 1977; Golden & Earp, 2012; Healthy People 2030, 2020; Micalizzi et al., 2019; Scharf, 2016).

Studies about the impact of SDOH on school readiness and possible solutions from the perspective of caregivers of young children are lacking, yet are critical to support the institution of early intervention programs to assist families, and facilitate more children to be prepared to enter school (Williams et al., 2019). While families are assumed to be part of the process of creating school readiness, parents' perspectives have not been rigorously studied. Parents' perspectives gathered using exploratory, qualitative methods, may provide a comprehensive understanding for next steps in practice and research.

Background/literature review

Historically, most research related to school readiness has focused on child-oriented indicators of school readiness in older children, such as those entering middle school, and the emphasis has been on testing academic skills (Bloch & Kim, 2015; Emig, 2000). More recently the emphasis has been on enhancing school readiness in younger children and their families, specifically in the developmental period from birth-5 years old with additional stress placed on child development (Copple & Bredekamp, 2009; OECD, 2006; UNICEF, 2012).

Most researchers have used quantitative methods to examine correlations between SDOH and child-oriented indicators of school readiness (e.g., cognitive, psychosocial). Lower family income and educational level, financial strain, and racial ethnic minority status have been found to reduce pre-academic knowledge and skills, (e.g., self-regulation, social-emotional control) (Anderson, 2018; Dotterer et al., 2012; Isaacs, 2012; Perry et al., 2018; Reardon & Portilla, 2016) and academic achievement (e.g., early math and reading literacy assessments) among preschool and kindergarten-aged children (Anderson, 2018; Perry et al., 2018; Pratt et al., 2017; Reardon & Portilla, 2016; Williams et al., 2019; Wolf et al., 2017). In a nationally representative samples, only 48% of preschool-aged children from low-income households are ready for school at the age of 5 years compared to 75% of children from high earning backgrounds (Williams et al., 2019). Other studies also reveal that the environment (e.g., high poverty neighborhoods, rural locations, and poor resources) correlates with their educational and developmental outcomes (e.g., reduced reading and math skills and delayed behavioral, social, and cognitive development in children ages 2–5 years) (Burchinal et al., 2018; Wolf et al., 2017). In other quantitative studies, racial/ethnic minority parents of preschool-aged and kindergarten children report barriers (Belfield & Garcia, 2014; Peterson et al., 2021, 2018) and facilitators of school readiness by responding to self-report surveys (Belfield & Garcia, 2014; Puccioni et al., 2019).

Few researchers have used qualitative methods to determine the influence of SDOH on promoting school readiness from the perspective of US parents. Most qualitative studies about school readiness have been conducted in non-US samples (Jose et al., 2020; Kinkead-Clark, 2015; McGettigan & Gray, 2012; Prinsloo & Reid, 2015; Rahmawati et al., 2018). A recent literature review revealed only two qualitative studies in US samples that emphasized the role of SDOH on school readiness. McAllister et al. (2005) found that parents reported two domains of SDOH (e.g., Economic Stability, Neighborhood/Build Environment) including violence, transportation, housing problems, policies, employment, and finances as personal stressors that impact their ability to get their child ready for school (Healthy People 2030, 2020). Another study narrowly focused on the SD of race and implications of racial socialization for school readiness (Anderson et al., 2015). These two studies did not conduct a comprehensive examination of the impact of all SDOH domains on school readiness (Healthy People 2030, 2020)

Purpose

As is evident, an updated in-depth evaluation of the broad impact of SDOH on school readiness that highlights parents' contemporary voices and perspectives is needed using qualitative methods. Rigorous qualitative methods allow for gathering of rich data and enables parents to detail the impact of SDOH based on the meaning constructed by them (Creswell & Poth, 2021). These data along with parents' perspectives about solutions will help to tailor school readiness enhancing interventions according family needs based on the unique context of their lives. Therefore, the purpose of this study was two-fold. We aimed to use participatory strategies to 1) Explore perceptions of community dwelling mothers and caregivers of preschool-aged children regarding the influence of SDOH on children's school readiness and 2) Identify strategies to enhance readiness for school from the parents' perspective. We used the SDOH to organize the mothers' responses about factors that impact school readiness. We used the multiple levels of the socio-ecological model (i.e., societal/policy, community, intrapersonal/individual, inter-personal/relationships) to organize the mothers' recommendations for solutions (Bronfenbrenner, 1977; Golden & Earp, 2012).

Methods

Design

This study employed a descriptive, qualitative design using focus group data. To engage community stakeholders, a participatory action research (PAR) approach was used (McIntyre, 2008; Minkler & Wallerstein, 2008). The Penn Futures project, a unique partnership among the School of Nursing, Graduate School of Education, and the School of Social Policy & Practice sponsored this project. A service-learning model was used to recruit faculty and baccalaureate, masters, doctoral, and post-doctoral students from all three schools who connected and completed the project (Adegbola, 2013; Furco, 1996; George, 2015). The PAR approach helped to facilitate effective collaborative processes to enhance community engagement.

Trusted community partnership is the key to a participatory action approach (McIntyre, 2008; Minkler & Wallerstein, 2008). Members of our research team collaborated with directors and parents at a licensed childcare center in West Philadelphia. The center serves 320 infants and preschool children from low-income, families of mostly ethnic-minority race/ethnicity (95% African American). Our longstanding 10-year collaboration with this community partner allowed for mutual and reciprocal consultative input, direction, and support throughout all phases of project conception through evaluation. We held bimonthly team meetings and were provided with insight on the needs of parents that was used to guide the design and methods for this study including the development of a semi-structured focus group interview guides.

Participants

We used purposeful sampling to obtain a sample representative of those who could provide information about the SDOH impacting school readiness for preschool aged children who attend the childcare center (Creswell & Poth, 2021). Snowball technique was also used as additional subjects were alerted by word of mouth (Creswell & Poth, 2021; Patton, 2015). Ten caregivers agreed to participate. Participants were included

they identified as caregivers to a preschool aged child (i.e., parent, grandmother, guardian), were English-speaking, and had a child enrolled at the community partner's preschool. Those not caring for a preschool aged child who attended the center were excluded. Since this was a pilot study, data saturation was not the goal. However, the two focus groups conducted had strikingly similar sentiments about the SDOH that impact school readiness that provides a basis for next steps in research and practice.

Data collection procedure

The study was approved by the institutional review board of the University of Pennsylvania. Afterwards students were trained weekly in logistics related to data collection, participant recruitment, and focus group engagement by senior faculty member experts. Students, faculty volunteers, and doctorally prepared facilitators were trained by an experienced focus group leader and senior qualitative research expert. The facilitators led the focus groups discussions while students recorded field notes and assisted with logistics.

Two focus groups were conducted. One was held in person (pre-COVID), and the other was held virtually (post-COVID). Prior to the start of the focus groups, baseline demographic, and survey data were gathered. Demographic data included caregiver's age, gender, family income, race, ethnicity, number or children, marital status, educational level, and information about financial and childcare support (See Table 1). For the in-person focus group, each participant met privately with an investigator in a space provided at the community partner's childcare center and obtained written informed consent by paper and pencil prior to starting the discussion. For the virtual focus group, verbal consent was obtained by telephone and participants consented online. Survey data was also collected via telephone interviews for virtual participants. Each participant was compensated $20 for their participation.

The survey questions asked about SDOH exploring themes of food insecurity, stable housing, transportation access, health literacy, community violence, and asked whether immediate intervention was needed by any participant (see appendix A; supplementary files). A semi-structured interview guide was used for focus groups (see Appendix B; supplementary files). Questions focused on parents' perspectives of the impact of SDOH and the families' abilities to prepare their children for school. Participants were also asked to offer suggestions for strategies to address those issues and factors identified. We assured the confidentiality of the data collection, data storage, data management, and data disposal using IRB approved procedures. Data were collected in person at the childcare center for the in-person group and electronically via secured video conferencing (focus group meeting) and REDCap web application for building and managing online surveys and data-base (questionnaires) for the online group.

Data analysis

The electronic recordings were transcribed by a professional transcription service using Microsoft Word and then uploaded into Atlas. ti © after their content was verified for accuracy. Each focus group lasted approximately 90 min. Teams of trained doctoral and master's- prepared coders reviewed all qualitative transcripts, and an audit trail was created in order to rigorously validate the process of data analysis with the goal of strengthening the scientific rigor of the analysis. Discrepancies between coders were resolved by building consensus. A traditional content analysis approach was used (Ruff et al., 2005). Coding began deductively with a list of start codes (those identified from the focus group guide) and then moved iteratively to an inductive process when new codes were needed to accommodate the data. Analysis proceeded from specific codes to broader categories to resultant larger themes as the unit of analysis and focused on identifying overall themes from each group. The unit of analysis and the basis for the thematic results

Table 1
Demographic Information.

	Demographics	
	n	%
Age		
18–23	0	
24–39	3	30.0%
31–39	3	30.0%
>40	3	30.0%
No response	1	10.0%
Gender		
Female	9	90.0%
Male	0	
Other	0	
No response	1	0.00%
Marital Status		
Married	2	20.0%
Divorce	1	10.0%
Widowed	1	10.0%
Never Been Married	5	50.0%
Partnered	1	10.0%
Family Income		
<$5000	2	20.0%
$12,000-$15,999	1	10.0%
$16,000-$24,999	2	20.0%
$25,000-$34,999	1	10.0%
$50,000-$74,999	1	10.0%
No response	3	30.0%
Highest Educational Level		
12th grade/GED	5	50.0%
Some college	5	50.0%
Hispanic, Latino or Spanish origin		
No	9	90.0%
No response	1	10.0%
Race		
Black or African American	10	100.0%
Native American	1	10.0%
If adults live with you, do they help with childcare?		
Yes	2	20.0%
No	1	10.0%
No response	1	10.0%
If adults live with you, do they help financially?		
Yes	3	30.0%
No	1	10.0%
How many children live in your home?		
0 or no answer	1	10.0%
1	3	30.0%
2	5	50.0%
3	1	10.0%
Status of home		
Owned by you	3	30.0%
Rented by you	6	60.0%
other	1	10.0%

$N = 10$.

was the group and the knowledge co-created in their interaction and not necessarily the individual verbalizations (Smithson, 2000; Wu et al., 2016). The richness of the data and the breath of SDOH, resulted in broad, exploratory, thematic representations of those issues followed by detailed study implications (Smithson, 2000). Responses were tallied from the quantitative surveys regarding demographics and the SDOH.

Trustworthiness of the data

To ensure trustworthiness of the qualitative data, and increase the credibility of the findings, analyst/investigator triangulation was used (Patton, 2015; Wisdom & Cresswell, 2013) and at least two team members analyzed all data. In addition, while all participants were mothers, some were also teachers or grandparents who were caring for a child who attended the preschool. Finally, the entire project was conducted within the context of a long-standing community partnership.

Results

Ten parental caregivers between the ages of 24 to 39 participated in the focus groups. All participants self-identified as female and Black or African American (100%), while one individual also identified as Native American. Half of the participants (50%) reported 12th grade/GED as the highest level of educational achievement while the other half reported having some college (50%). Twenty percent of the parents reported a family income of <$5000 or between $16,000 and $24,999, which borders on the federal poverty line of $20,000 based on an average household of at least two family members, one child and one parent. See Table 1 for additional demographic characteristics.

When completing the SDOH study questionnaire (Appendix B), none of the participants reported difficulties in paying for utilities, transportation to health visits, unsafe living conditions, or urgent needs related to SDOH. A few participants, however, reported limited food availability (10%), worry about unstable housing (10%), difficulty finding childcare for work (10%), transportation to doctor/physician visits (10%), and reported the need for immediate assistance for one of the endorsed SDOH (20%). During focus group discussions, statements representing all of the areas on the questionnaire along with all five domains of the social determinants of health were mentioned by parents as factors that impact school readiness in children. Three themes and subthemes corresponding to SDOH that impact school readiness emerged during focus group discussions with parents. These themes and subthemes are discussed below along with parental quotes. Detailed practice and research implications follow.

Participant perspectives: SDOH and school readiness

Theme 1: Families described the vast lack of appropriate community resources and inability to access those resources that are available to prepare their children for school

Economic stability. A range of factors were identified in terms of community characteristics that impact school readiness. One main challenge related to how zip code determines resource availability and how certain neighborhoods have an overall lack of resources. This lack of resources was described as being manifested in a multitude of ways. When discussing food and community health, parents shared there can be a lack of knowledge about food availability locations, pantries, restaurants, and how to participate in such community resources, as well as a lack of quality food and fresh produce. As one parent stated, "Parents are unaware of resources" and "there are so many [food] programs… but do they even know they are available…do they even know they exist?…because there are a lot of those education programs…but do they know they're there?" Barriers were also described about trying to increase resource availability in communities. For instance, local restaurants feared being sued if the excess food they donated was to spoil and make someone ill. Mothers also reported that it is difficult to afford necessities like clothing and laundry services.

Lack of transportation was also identified as an issue. As stated by a parent, "A lot of parents don't know that, um, there's a lot of food shelters out here but it's like the locations and the transportation to get there and everything." Parents explained that if they do not have access to a personal vehicle or have limited bus vouchers or tokens it becomes difficult for kids who must walk far distances to attend school. They added that pickup points for public transportation may additionally not be in an accessible location for all families. Uber and other ridesharing services are unaffordable alternatives. Economic instability in under-resourced communities impact access to transportation that would help families prepare their children for school.

Social and community context. Parents shared that they may have limited social networks to provide information about services through word of mouth and peer support and limited access to technology for dissemination of resource information. Parents pointed to the need for support from those in the community of similar backgrounds as the residents and who may understand their needs and know how to address them. As one parent stated, "I think utilizing social media, diversity, seeing more faces like mine in there.. seeing more people from the community in there, and understanding so you won't feel as though, you don't have a clue what I'm talking' about."

Neighborhood and built environment. Residents of low-resourced communities may suffer from low quality unstable, unaffordable housing or adequate emergency shelter options. Participants stressed that lack of money exacerbated poor access to quality housing, education, and community resources. Heat, electricity, cooking, water, and other utilities were often not affordable. Housing instability and poor quality may cause parents to be displaced, living with other families and that could affect parents' mental health. One parent stated, "Worrying about housing, that can affect your health in a negative way." Neighborhoods with unstable housing are also not frequently located next to parks. Parks in these neighborhoods are also often unsafe and unkept. Individuals are often seen in these parks loitering and engaging in behavior that is undesirable to others such as smoking and drinking on the premises. One parent stated, "And it's a shame how you can't take your kids to the park around here anymore because it's the place to smoke, drinking', people doing' any type of thing in the park." The option of relocating to another zip code with higher quality schools, housing, and other resources becomes less feasible when there is a lack of financial resources. One parent stated, "by the time I actually get a house in a quality neighborhood because I don't just wanna move in a dangerous neighborhood, a safe neighborhood with quality schooling is way out of my means." Parents also indicated that their mental health is negatively impacted by unstable, unsafe and unaffordable housing as one parent states.

Parents in this study also experienced conditions that exposed them to safety and health risks causing them to be affected by a higher burden of natural death and violence. These conditions impacted children and the families when children are being prepared for school. As one parent stated, "death of a parent. I've had…We've had parents murdered this year, so it's just a lot." Trauma and loss suffered related to the "Death of family members" complicated by maladaptive coping skills, may also lead to poor mental health outcomes. In terms of trauma, loss and death in communities, numbers may not be up to date regarding causes of death, and parents may lack health literacy to understand and learn from these experiences. One staff member describes a situation as follows: "they said that the little boy lost his mom…because I think she had asthma…but she had a blood clot she didn't know about."

Education access and quality. As indicated by parents, access to quality educational resources were often determined by location of residence and zip-code. As one parent described, "…a lot of it has to do with the resources and the systems in place because your zip code basically dictates the quality of your education and that's just the bottom line."

Healthcare access and quality. While US children have access to Medicaid through state programs, parents and caregivers may not know how to access and some health care providers, especially mental health will not take Medicaid. Parents and caregivers may not have affordable health insurance options. As stated, "Some children don't have medical insurance." Mental health was cited as a needed school and community resource. Although mental health is a fundamental aspect of health, parents complained that mental health does not seem to be addressed in their communities or in schools leading to use of "ineffective coping mechanisms" by many. Parents stated that being poor and being a parent is depressing and that negatively impacts their mental health. As expressed, chronic anger and from lack of money or unemployment may be prolonged. Parents may cope by taking out these emotions on their children. As one parent states, "The parents are broke

sometimes...Sometimes they are angry, and it affects how they treat the kids, everything irritates and spreads."

Theme 2: Family members need help processing appropriate information about social resources

Participants pointed out the lack of appropriate resources, and the unawareness of the resources that were available. In addition, they felt that families could be taught how to advocate for themselves and their family members to qualify for and access these resources.

Education access and quality. Parents reported that when resources are available, they are not appropriate for the needs of families. One parent stated, "I think the resources basically are available: it's just that the aspect of the quality of what they are." There is a lack of quality schools to provide an appropriate, high-quality education that meets the needs of all children. Other parents commented that it is necessary to recognize developmental delays among the challenge of a "one size fits all" education and may not be appropriate for the needs of select children and families. In addition, the needs of children who speak different languages are not readily recognized and may serve as a barrier for the child and parent. Describing how language can lead to misunderstandings, one parent provided an example from her interactions with another parent and her daughter: "Her daughter used to be so quiet. She wouldn't talk when we met her originally. We didn't know that she spoke a different language at home."

Healthcare access and quality. Health literacy was an issue due to differing levels of education and language barriers impacting how the information about resources was received and time constraints that leave no time to read health informational materials. As a parent stated, "The information is there it's about how they are transmitting the information."

Social and community context. Parents and caregivers also said that information about access to resources is sometimes not delivered appropriately. Parents discussed situations in which a disrespectful tone of delivery impacts the acceptance of verbal and written education by parents. This was further explained as cultural clashes whereby parents perceived that information was being relayed with a superior attitude or not at the proper educational level of students or parents. A parent explained, "Some of these college kids come in with a...almost with a superior attitude and I know I find it offensive...you have to come in to understand and not have that, it's very condescending." Culture related to the need to the lack have diverse teachers of various race and gender groups to increase understanding of diverse students and reduce bias and incidents of microaggressions. One mom stated, "Micro oppression they call 'em...it was really happening and I think that plays a major part in how you prepare." One mom states there is a lack of male teachers and recommended "hiring male teachers... preschool male teachers."

The influence of policies at every level of the social ecology were also identified. One parent stated, "if we start honestly with the policies and procedures and the systems in place, policies and systems will have to be changed then I think it'll slowly trickle down to the individuals and it'll be better on all You'll see that domino effect." Another parent stated, "your zip code dictates the quality of your education." Another parent plainly states, "Fix the systems." See Table 2 for additional comments from parents and caregivers.

Theme 3: Community, individual and systemic level solutions to enhance school readiness

Mothers offered suggestions and strategies to enhance school readiness that targeted multiple levels of the socio-ecological model Parents' comments and some strategies are presented below. See Table 2 for additional strategies and comments.

Interpersonal/community

Several short-term solutions were posited related to the community and built environment. To make resources that already exist within the community better known, parents' recommendations included peer to peer information sharing and practicing engagement for resources. Other parents' recommended peer-to-peer education through electronic platforms. For example, parents suggested lists of resources and how to access them may be provided to parents online as well as how to make referrals. For insurance assistance, parents should always be referred to social service resources with more information on how to access these programs. One parent stated, "I think utilizing social media...teamwork is important."

To address tangible needs such as transportation concerns and physical supplies, parents stated that they should be encouraged and form parent alliance groups at daycare centers to pool resources to assist one another and home-based educational activities. As parents recognize the need to look within, one parent stated, "...parents are going to have shoulder, you know, the day to day learning with their children maybe more than before...to bridge that gap."

Individual/intrapersonal/interpersonal

Parents also felt that mental health should be more widely discussed in schools and involve interventions such as mindfulness activities and an introduction to online strategies such as peer-to-peer support groups. As one parent states, "I believe that mental health should be a subject in school just like physical health." Parents recommended individual consultations with educational and health professionals in schools for stress management. Parents recommended doing individual research to find out about supplementary educational strategies as well as brainstorm new strategies themselves. One parent stated, "I did my research. I researched all I could, I asked all the questions that I could have a better understanding...so I can follow through at home."

Community/intrapersonal

Parents recommended that community establishments provide education to help parents enhance their knowledge and skills about child development, communication, parenting and advocacy. One parent stated, "You can't just let anybody tell you anything...you gotta speak up for your kids...If you want that change, speak up...instead of complaining...be an advocate...cause I got to speak up for mines." They also recommended establishments provide education about cultural awareness. As one parent states, "incorporate the new parent classes...give them the information that they need...have those individualized lesson plans...It's important to have every culture for cultural awareness." The importance of dissemination was a consideration and parents suggested that educational information may be transmitted electronically or through other convenient means.

Societal/policy level

Parents also recognized that the relationship between zip code and resource availability is systemic. As one parent stated, "structure, you know, systemic, you know, these larger issues that really need to be addressed...there are policy issues. Revamping updating social welfare systems...Live in the right zip code so you can utilize public education." There was much discussion about the need to enhance gender and racial/ethnic diversity among pre-school personnel, an issue that must be resolved at the institutional, societal or policy level. One parent recommended, "hiring male teachers...preschool male teachers?" Parents had multiple, specific, proactive recommendations and steps that parents can take to begin to address systemic level barriers involving advocacy, education, and political

Table 2

Social determinants of health impacting school readiness and solutions.

Themes	Social Determinants of Health Domains	Quotations
Theme 1 Lack of appropriate community resources and inability to access those resources	Economic Stability	• "And your community, like sometimes there might not be fresh produce" • "Laundry, maybe? Not having money for laundry?" "Only having' money for one uniform. …Oh, they can't afford to buy more… Can't afford 'em… The uniforms might be too high." • "We were just talking' about bills, so like your utilities, like some kids don't have heat, some kids don't have water. So they're not showering or they're not eating." • "And they need coats, too…Oh, yeah, coats 'cause a lot of people come in, they don't have proper clothing in the winter" • "…if you're in a neighborhood not near a…bus, what's gonna happen in inclement weather?…if you don't have access to multiple strains of transportation? who can afford to Uber all the time?" • "So it's just the pricing of the housing because I know that I can't afford, you know, for my rent to constantly go up and your income is not following" • "I almost feel like, you know, with a lot of things, your zip code will depend on the quality of things you will receive." • "I'm broke [sometimes]" • "I'm afraid that I, you know, won't be able to afford a house, like to own a house like my parents And that's what I'm afraid of. I'm afraid of it's always gonna be out of my means" • "their kids are going into schools where they're under-resourced and frankly, dangerous. " • "you don't wanna move here but you don't really have a choice to move here because you can't really afford to where you wanna live at." • "sometimes parents living' with other people that has children and then the waiting' list as far as housing"'
	Education Access and Quality	• "You're expecting these students to succeed but not providing them the tools for them to succeed" • "The curriculum is failing these kids" • "she's self-teaching herself to do cursive" • "they're kind of teaching to the tests and not teaching to actually comprehend…you know, there is kind of a one size fits all" • "Structure, you know, systemic…and there are policy issues too."
	Healthcare Access and Quality	• "some adults don't have medical insurance [at all]." • "The information is there, it's about how they are transmitting the information." (re: health information) • "But the resources are there like you just have to be willing to reach out and get it and it depends what level you're on." • "If you don't understand how can you even use that information if it's not a level where you can understand it" (re health information)
	Neighborhood and Built Environment	• "the quality of playgrounds in the different neighborhoods, it's depressing." • "we're all looking for a new environment that will fit the needs and stay within our means." • "it's just always the environment either is not up to par of what or where we need it to be at with as far as safety or the space is… it won't fit our family." • "that's exactly how I feel, very, very depressing from even a few years ago living in my apartment." • "I seen some nice houses but it's in some rough blocks, some rough neighborhoods that's and dirty, I want my environment, someplace where my son can be outside and be on the steps and you really don't have to worry about nothing'. There's not a lot of that around here in this area." • "we had a murdered father and then the mom seemed like she…I didn't like how the mom was changed…The mom didn't know how to cope she was projecting it on the child…cause she was upset so she was like pushing feelings on him." • "And then we've had murders….Murders"
	Social and Community Context	• "I guess, providing more support and what you need is more people from the community in there, under-standing and that's why I think it's very important to employ the people in your Community." • "I think where my son teachers struggle with trying to relate to his black male students because he didn't have such that cultural awareness that he, you know, where he was.. he's a nice Jewish man but trying' he was struggling so bad he just could not relate." • "his therapist was a black male and to be totally honest that made such a huge difference because he understood.. he was more cultur-ally understanding and it made such a difference"

Table 2 (continued)

Themes	Social Determinants of Health Domains	Quotations
Theme 2 Family members need help processing appropriate information about social resources	Education Access and Quality	• "if it's not on their level (information) a lot of them get frustrated... getting down so it can be understood by multiple audiences." • "Like Miss (name) mentioned the cultural thing, some parents who are not from here don't know the process of even getting the kids ready for school or how to look into it or where to go, so, um, that's like a barrier, too, not being from here."
	Healthcare Access and Quality	• "Sometimes if you have a parent of different language" • "But the resources are there you just have to be willing to reach out and get it and it depends what level you're on." • "this goes on delivery of messages.. if it's not a level where you can understand it"
	Social and Community Context	• "really making sure your education [about resources] is not culturally biased" • "I'd appreciate more black males in the education system because a lot of the children get in trouble, being black men and not understanding." • "the way they talk... the tone.. not just the tone of voice but the delivery of it and it comes off like...I'm better than you are and I know"
Theme 3 Community, Individual and Systemic Level Solutions Community/ Individual Level Solutions	Solutions	
	Community/Interpersonal • Parental role-play of scenarios for accessing government resources including food assistance programs, utility assistance programs, and other government service support programs such as WIC, Compass, and SNAP. • Internet searches posting lists at school entrances. • Providing peer to peer support through texting group chats or online groups and social media. • Carpooling and home-based activities to keep them safe within unsafe or high-crime areas. • Sharing resources with each other such as book bags, coats and school supplies. Individual/Intrapersonal/Interpersonal • Mindfulness, Websites for mindfulness. • Provide listing of referrals referrals to free community resources for mental health and parenting programs. • Connect with chat groups for support in times of stress, Community/Intrapersonal • Education through emails or text, and flyers stapled to or put in children's bookbags. • Education about age milestones during Pre-K to Kindergarten year and parenting. • Advocacy Training: Communication, assertiveness skills, cultural competency, and antiracist/bias training • Parenting classes to address barriers related to school readiness that include SDOH. • Instructions in problem solving for brainstorming short-term solutions as they wait for long-term interventions.	• "I think what it is, is asking the community... say, hey, we need your help to help. You know, we want to help, and how can we help and grabbing some more individuals from that community to really go around and help and I think that'll make a big difference. " • "how you guys were giving out fliers...passing something out to parents...this is the information for LIHEAP if you're struggling with this utility...information for WIC...for food stamps." • "ask everybody to donate a coat, book bag, school supplies." • "I think that we should incorporate the new parent classes like this when they have a baby or when they get pregnant" • "teaching like problem-solving...and conflict resolution...and then trying to help people sort that out, kind of what are the steps." • "I think that's what it is, seeing more people from the community in there" • "you can have those community helpers...I'm from here and I do understand • "I think we really need to gear towards strength-based learning instead of focusing on what your worst areas instead of building your strengths and versus building... strengths can lead to solutions." • "definitely more support, more information... that is somehow just easily digestible for people." • "So if you do teach them equip them with that knowledge, they'll have, those necessary skills to better equip themselves to solve that problem and then hopefully that will have that positive domino effect to lead them to be better advocates for themselves and their children...being an advocate"
Systemic-Societal Level Solutions	Societal/Policy Level • Attend board meetings, parent advisory boards, and sign petitions • Exploring educational opportunities that increase job and career searches to address financial concerns.	• "it's the fault of the structures...And policies and the systems...So we're just trying to help people deal with...the craziness." • "having a son...I think we need more males and, you know, and in social welfare and in human services and in education." • "I think sometimes I think it's good to have male... male figures in role models inside the child care setting." • "when we look at zip codes and we look at health, the health in the zip codes around the university is very • different than the health in the zip codes right next to the university."

involvement. Much involved advocacy and political involvement to address concerning policy issues for quality improvement in neighborhoods and schools. See Table 2 for these specific recommendations and all other interpersonal, intrapersonal, and community level recommendations discussed above.

Discussion

In this study, overall parents revealed that issues surrounding cultural, the quality of schools, and lack of advocacy in communities were

SDOH that impacted their ability to ready their children for school. Negative SDOH in all domains contribute to stress, limited knowledge and resourcefulness and poor mental health, subsequently limiting their ability to enhance and prioritize school readiness in their children. Parents also revealed multiple challenges that impact their ability to get their children ready for school and offered their perspectives about potential solutions. SDOH are both directly and indirectly related to school readiness. As indicted by these caregivers, the impact of SDOH is directly related to school readiness by creating barriers to procuring the goods and services parents need to prepare their children for the school

year. SDOH are indirectly related to school readiness by preventing caregivers from prioritizing their children's school, health care, and developmental needs.

Our study is unique because this is one of few qualitative studies in which non-Hispanic Black/African American parents revealed factors related to all five domains of the SDOH that impact school readiness from their perspective. In prior qualitative studies, parents of preschool aged children reported the impact of only select SDOH domains on school readiness (ie economic instability, neighborhood/built environment/social and community context) (Healthy People 2030, 2020). Specific areas included housing problems, violence in communities, lack of adequate public transportation, childcare, and social/welfare to work policies as stressors that impact their ability to get their child ready for school (Anderson et al., 2015; McAllister et al., 2005). Since the publication of the study by McAllister et al. (2005), there has been increased emphasis on studying the impact of all social determinants in families from under-resourced communities (Copple & Bredekamp, 2009; OECD, 2006; UNICEF, 2012). In this present analysis, parents reported additional SDOH domains (i.e., healthcare and education access and quality) including lack of high-quality education, health insurance, limited health literacy, safe green spaces for recreation, cultural biases/barriers and inadequate mental health services as factors that impact school readiness in children.

These prior studies (Anderson et al., 2015; Lipscomb et al., 2019; McAllister et al., 2005) also do not examine solutions to SDOH challenges from the parents' perspective as done in the present study. Our analysis, therefore, provides a comprehensive picture of the impact of all domains of the SDOH along with parent recommendations to address them. These recommendations can be used to implement targeted strategies at the individual, family, community, and societal level about ways to enhance school readiness in children and families from communities that are under-resourced by society.

Culture

This study pointed to the different ways in which culture and difference are manifested. Parents are sometimes unaware of resources that can facilitate their children's school readiness, the type of assistance they may need before and after the transition to kindergarten. Parents also reported difficulties helping their children adjust to a different setting and different routines in kindergarten academically and socially. These difficulties are heighted when parents come from another country other than the U.S. and the children speak a different language. Other than English. Parents may lack knowledge or understanding of the information needed to support their children and do not understanding what their children would need to be ready for school in terms of school supplies, physical preparation, and immunizations. Parents also reported the need for schools to be ready for children who have diverse learning needs and abilities and reside in communities at risk for low school readiness in their children. However, parents comments indicated that communication barriers along with lack of cultural responsiveness and lack of humility on the part of academic and school faculty and staff is significant and needs highlighting in terms of further contributing to parental stress. This is consistent with current reports that indicated a gap in research with respect to promoting readiness of schools and communities to meet the needs of the diverse population of children (Williams et al., 2019).

To address language barriers, recent school readiness interventions have been conducted in the native tongues of non-English speakers (i.e., Spanish, Chinese) and have involved role modeling/play to support academic skill acquisition and development (i.e., counting, literacy, math, social-emotional development, self-regulation) (Marti et al., 2018; Peterson et al., 2021). Some of these programs have been adapted for children and parents that speak different languages (Marti et al., 2018; McClelland et al., 2019). Programs emphasizing home, clinic, and school-based interventions to enhance school readiness in

preschool-aged children and their families from diverse backgrounds who reside in at-risk, low income, communities are being implemented and evaluated (Leech et al., 2018; McClelland et al., 2019; Peterson et al., 2021). One parent requested information to assist with accessing resources to address the SDOH that impact school readiness in their children. However, as other parents report, lists of resources may be helpful but not enough. Parents sentiments are consisted with a study whereby parents were provided education related to how to access SDOH such as health related nutrition services, meal services, screenings, diagnosis and referrals, however, the value of this component of the intervention was not tested (Reynolds et al., 2014).

Current policies recommend professional development and teacher support to address the needs of dual language learners (New America Care Report, 2023a, 2023b). As evident by the continued difficulties expressed by parents, there are challenges with respect to implementation of these policy recommendations and strategies suggested in published studies. Perhaps, other SDOH mentioned by parents pose barriers to 1) language readiness and 2) the implementation of the strategies proposed by parents that involve systemic solutions (Weyer, 2021).

Advocacy

One challenge was self-advocacy skills involving communicating the needs of the children to the school before and once school starts regarding special considerations such as chronic illnesses, developmental disabilities, and language and learning differences. This is especially needed based on comments related to culture involving the way in which information is transmitted in a culturally insensitive way or at a level not accessible to parents with limited education. As recommended by parents, parents can be coached about how to "speak-up" and communicate their uniquely diverse needs and those of their children to those supportive of school readiness efforts. This recommendation is consistent with government policies that encourage early education staff to support parents as advocates and leaders at home and in early childhood programs (US Department of Health and Human Services, 2019). Parents recommend email writing workshops and providing templates and educating parents about who to reach out to when problems with children arise. Parents suggested that role-play scenarios in parenting classes can encourage being proactive, speaking up, and learning problem solving and conflict resolution. A potential barrier for this approach would be navigating these new skills alongside the teacher to bring about teamwork rather than conflict. Another challenge for advocacy would be incorporating best practices by attending open houses and kindergarten transition meetings (US Department of Health and Human Services, 2019). As indicated by parents, however, SDOH such as lack of transportation impact parents' ability to attend these meetings that are crucial for advocacy.

To further address these concerns related to lack of knowledge, parents recommended strategies that include peer-to-peer support via formation of parent alliances and advisory boards and attendance at school board meetings. Parents emphasized that instead of looking for external resources for assistance, parents can collaborate with each other and be assisted to develop strategies that will help them to enhance developmental readiness in their children at home. This support can also involve group communication via electronic means (i.e., chat groups, texting), and collaboration to address transportation needs (i.e., carpooling). Parents could be given and share information electronically including things like where to access school supply lists. To address concerns about safety, parents recommended home-based school readiness activities. Home-based, parent-child level interventions that provided electronic education to parents via video and audio-recordings have been effective for increasing school readiness in preschool aged children from under-resourced communities (Bierman et al., 2018; Leech et al., 2018; Marti et al., 2018). One intervention providing a group-based learning format to encourage parent interaction but was not effective for increasing school readiness in preschool-aged

children long-term (Ma et al., 2015). These interventions, however, rarely involved components that incorporate parent to parent peer support, communication, and collaboration for knowledge acquisition about school readiness and pooling resources related to all social determinants of health as recommended by the parents in this study.

Quality of schools

The quality of schools was affected by competing for charter school entry and inaccessibility of charter schools. As parents recommend, this problem could be addressed by caregivers sharing information electronically about processes for admission to these schools. Parents frequently discussed the connection between the zip codes and quality of schools. Issues registering for school is a systemic problem that can be addressed through peer mentorship and support and engagement at board meetings to promote policy changes. Recent school readiness interventions have been school and clinic-based with a focus on individual and family-level interventions to enhance a child's developmental and pre-academic readiness for school and family and community support for the child (Marti et al., 2018; McClelland et al., 2019; Peterson et al., 2021). As parents recommended, policy level interventions that involve education and peer-to-peer support to increase knowledge about the impacts of policies and how to engage at the policy level may benefit parents in their efforts to promote school readiness in their children. Policies and initiatives in Philadelphia, Pennsylvania have been adjusted to make access to high quality schools more equitable for different segments of the population (Graham, 2021).

Systemic solutions

In the long term, parents' comments focused on systemic barriers that would have to be addressed via policy level interventions. These included issues related to ability to choose quality schools and place of residence, location and accessibility of safe recreational spaces, and lack of cultural sensitivity in relation to how and by whom social information is produced and presented. The lack of economic stability, unstable housing, unsafety in neighborhoods and exposure to violence experienced by low-income and ethnic-minority families has its roots in discriminatory housing and racist policies implemented decades before the negative impact is being realized and expressed by the parents in the current study (Habitat for Humanity, 2021; Princeton University, 2019; Rosen et al., 2021). As described in the parents' and caregivers' comments, these social factors are known to negatively impact both mental and physical health and subsequently the ability of families to prepare their children for school (Robert Wood Johnson Foundation, 2020; USA.gov, 2019). In prior studies, Black single mothers similarly report lack of financial and housing resources as sources of a depressed mood that negatively impacts mental (Atkins et al., 2020). As evident, social determinants, the roots of which must be additionally solved at the policy level, are impacting their ability to get their children ready for school (Weyer, 2021). Although parents offered numerous community, intrapersonal, and interpersonal level solutions that they could address in the short-term, to effect long-term change parents also realize that society and policies must change.

Limitations

This study is limited by a small sample size. Although findings reported in this article are limited to the focus groups that we conducted, they were interpreted using insights and supports from in-depth community engagement. The data were also informed by a diverse sample and rigorous analytic strategies. The results will inform future research about how to collaboratively plan a parental-based intervention that builds on the strength of the community and on the needs identified by community members.

Clinical practice implications

Based on these themes identified in this study, pediatric nurses can work on both the direct and indirect effects of SDOH on school readiness, as many of the same issues affect the use of healthcare resources and overall child development (Artiga & Hinton, 2018; Barch & Luby, 2023; Johnson, 2017). Nurses can work with professional and community partners to identify potential solutions aimed at removing community and systemic level barriers that impede children's readiness for school and provide information that can be used to design interventions that support parents and children through that process (Johnson, 2017).

Clearly, effective early intervention programs should include components that are adapted/modified to appropriately assist children who have diverse learning needs and differing abilities developmentally. Interventions may also include checking what transition meetings consist of, particularly whether they screen for social determinants of health that may impact other aspects of school readiness, health of the community in which incoming students live, and broad, systemic community characteristics for appropriate intervention (Johnson, 2017). Nurses in academic research roles can partner with early childhood programs, to keep them abreast of current policies for educating parents about advocacy so that continued implementation can take place (US Department of Health and Human Services, 2019; Weyer, 2021). As reported, these interventions are desired and can be informed by the voices of diverse parents who are often the most powerful leaders for change (US Department of Health and Human Services, 2019).

Future research recommendations

This exploratory study also provides the basis for ideas moving forward for nursing science and prioritization of contextualizing questions within the SDOH that influence those being studied. This study found that the SDOH questionnaire did not reveal the true state of SDOH issues until participants in the focus group were engaged in a discussion. These finding strengthens the importance of qualitative and mixed method approaches to research related to SDOH. Further research should be enhanced and directed by parents' voices, as evident in this research where quantitative measures were not sensitive to their concerns.

Conclusions

Efforts to enhance school readiness in children should include their families who are a child's main resource (Marti et al., 2018; Sheridan et al., 2010). Families are the primary stakeholders to identify children's needs in preparing them for school, communicate those needs, be part of the evaluation process and work with community partners to meet those needs (Ryan, Graue, Levine, and Gadsden, 2021). Challenges to everyday life often need to be prioritized by parents so that they may anticipate the issues related to school readiness that can be resolved immediately versus those that require longer term solutions. As evident by the sentiments of parents, prioritization of school readiness can be supported by community and systemic level strategies that give careful attention to all of the domains of the SDOH that impact school readiness in their children. Although the implications for this study are focused on parents, the findings highlight the importance of advocacy needed on every level of the social ecology to address these issues.

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Author contributions

Conceptualization J.D., T.L, R.H. Developed the ideas, formulation/ evolution and overarching research goals and aims; **Methodology:** T.L, J.D, R.A. designed the methods**; Formal Analysis**: R.A., J.D., R.H., C.B., D.A., E.B., A.H.M.J., D.K., D.L., V.G., T.L, analyzed and synthesized the data; **Investigation:** R.A.,J.D.,R.H., C.B., E.B., M.J., D.K., D.L, T.L, conducted the research, participating in data collection**; Resources:** T.L. provided resources for data collection. **Data Curation**. J.D., R.A., managed the research data. **Writing-Original Draft Preparation**: R.A., A.H., D.A., C.B., wrote the original draft. **Writing-Review & Editing**: R.A., J.D., R.H., C.B., D.A., E.B., A.H., M.J., D.K., D.L., V.G., T.L, participated in manuscript preparation/critical review, and revisions; **Visualization,** R.A., T.L., J.D., participated in preparations for visualization/data presentation; **Supervision:** T.L., J.D.,R.H., and R.A. had oversight and leadership responsibilities. **Project Administration**: T.L. provided project administration activities. **Final Approval**: R.A., J.D., R.H., C.B., D.A., E.B., A.H., M.J., D.K., D.L., V.G., T.L., approved the final version. **Funding Acquisition**: T.L.

Declaration of Competing Interest

Appendix A. Supplementary data

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