



Strengthening Early Childhood Education and Care in a “Childcare Desert”

Ellen Prusinski¹ · Patten Priestley Mahler¹ · Melissa Collins¹ · Holly Couch¹

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Abstract

High-quality Early Childhood Education and Care (ECEC) is an important component of thriving communities. It is central to the socio-emotional and intellectual growth of young children, to the ability of parents to go to work, and to the ability of employers to find and retain workers. Despite this centrality, there is a profound shortage of ECEC in many communities, which has only been made worse by COVID-19. This study took place in rural Kentucky pre-pandemic, where approximately half of all residents lived in “childcare deserts”—a situation facing a growing number of communities. This research demonstrates that while financial factors affect the undersupply of childcare in a single community, there are also additional, more opaque, and under-theorized factors at play. Specifically, we argue that misconceptions around families’ ability and willingness to pay for ECEC, what families prioritize in an ECEC setting, and ambiguous terminology result in misunderstandings and miscommunication that, in turn, affect perceived solutions to the problem of the childcare desert. In short, when different stakeholders use different language and assumptions to describe their goals and ideas about ECEC, it is hard to reach community consensus about how to add the high-quality options that families desire and value. Drawing upon survey and interview data collected from parents and childcare providers, as well as local newspaper articles and during community forums, we uncover barriers that may hinder efforts to strengthen ECEC options; notably, many barriers are surmountable. Ultimately, this research points to concrete steps that communities can take to help bolster ECEC and, thus, communities at large.

Keywords Childcare · Early education · Capacity · Quality · Community perspectives · Mixed methods

Introduction

Despite the growing understanding that early childhood environments play a critical role in a child’s long-term success (Southern Regional Education Board & Schanzenbach, 2016; Southern Regional Education Board, 2015), communities across the United States struggle to provide Early Childhood Education and Care (ECEC)¹ that meets the needs of working families. Indeed, in the community in which this research took place, which is classified as a childcare desert, approximately one in three respondents who indicated that they face barriers to accessing ECEC said insufficient capacity was a barrier; further, all childcare providers interviewed indicated that they have an active waiting

list. While an undersupply of childcare is an issue that cuts across racial, socio-economic, and geographic lines in Kentucky, a state within the United States, families in rural areas and Hispanic/Latino families are the most likely to face challenges finding licensed childcare (Means, 2019). Among the most frequently cited reasons for the existence of childcare deserts, or areas with “an insufficient supply of licensed childcare” (Means, 2019), is the financial challenge resulting from insufficient funding by state and federal governments and high costs associated with operating a childcare center. As the Center for American Progress summarizes,

¹ In this paper, we use the term Early Childhood Education and Care (ECEC), which aligns with internationally accepted research by organizations such as the Organization for Economic Cooperation and Development (OECD). Following from the OECD, we define ECEC services as services that have an educative properties, are institutionalized in a setting outside the home, and have trained staff. In our survey, we asked families a two-part question about ECEC access. Part one asked about ECEC in daycare and pre-school settings. Part two asked about ECEC in supplemental settings such as First Steps, Kentucky’s early intervention program.

✉ Patten Priestley Mahler
patten.mahler@centre.edu

¹ Centre College, 600 W Walnut St, Danville, KY, USA

“Child care providers usually close their doors, because they simply cannot afford to operate on tuition payments alone, leading to an undersupply of child care across the country” (Malik et al., 2018). The financial factors associated with childcare deserts are obviously foundational to the problem and our research helps illuminate specific aspects of these financial factors. More importantly, however, our research also suggests that when trying to address an undersupply of ECEC, a community classified as a childcare desert² needs to attend not only to financial factors, but to other, less obvious factors as well. Specifically, we argue that unclear—and at times competing—ideas of what ECEC can and should look like within a community result in misunderstandings and miscommunication that, in turn, affect perceived solutions to the problem of the childcare desert.

To this end, the primary purposes of this paper are to: (1) share findings about how families and providers value and communicate about ECEC in a community that is classified as a childcare desert; and (2) to demonstrate that communication about ECEC has an effect on how the community conceives of solutions to the problem of the “desert.” Ultimately, we are interested in answering the following question: How can a community classified as a childcare desert both serve more families *and* ensure appropriate fit between provider and family so that children, families, and communities can flourish? By sharing the experience of one community that is grappling with the unmet need for childcare in an intentional and systematic way, we intend to demonstrate how issues related to perception of families’ willingness and ability to pay for ECEC, misconceptions about what families prioritize in ECEC environments, and ambiguous terminology influence what ECEC options are seen as feasible and, in turn, financially and logistically supported.

Conceptual Background

This study is informed by and contributes to multiple strands of literature. First, this research is grounded in literature that investigates the impact and diversity of approaches to ECEC and the ways legislative action on ECEC reflects the importance of supporting high-quality ECEC. Second, this research is situated in literature that questions why and how childcare deserts persist. Finally, and most broadly, this study conceptually rests in broad investigations of how families make choices about their children’s education and

how these choices are shaped by community factors such as access to information.

First, a growing body of empirical research demonstrates what parents and ECEC providers have long known: exposure to high-quality ECEC opportunities has a strong, positive, and lasting effect on a child’s academic growth and life outcomes (Campbell et al., 2002; Garces et al., 2002; Heckman et al., 2010). For example, children who were engaged in ECEC between ages 0–5 have been found to have higher labor market opportunities later in life, earn higher salaries, and show higher indicators of wealth (Belfield et al., 2006). In addition, research specifically on the effects of ECEC for disadvantaged children has demonstrated that early exposure to high quality ECEC leads to academic and social benefits for both individual children and communities, including lower rates of involvement in crime (Elango et al., 2015). More immediately, access to ECEC has been shown to increase school readiness (Phillips et al., 2017) and evidence suggests that formal schooling prior to kindergarten decreases the likelihood of grade retention (Bettencourt et al., 2016).

Given these benefits, it is unsurprising that the state’s role in supporting high quality ECEC would be part of state-level education policy discussions. Indeed, ECEC became increasingly prominent in state-level policy discussions during the late 1990s and early 2000s as policymakers began addressing questions related to family leave and support. Kentucky was no exception. In 2000, the Kentucky legislature successfully passed an ECEC funding initiative, which, among other measures, spearheaded quality rating systems throughout the state (Galley, 2000). Since then, various programs have been established to expand Kentucky’s ECEC initiative. Among the most prominent of these is the Child Care Assistance Program (CCAP), which offers support to eligible families in need of financial assistance for childcare (Kentucky Cabinet for Health & Family Services, 2017a). Another ECEC initiative, known as Kentucky ALL STARS, is an expanded childcare rating system throughout the Commonwealth which classifies early childcare centers according to their commitment to various high-quality standards (Kentucky Cabinet for Health & Family Services, 2017b). In addition, Community Early Childhood Councils (CECCs), are state-established councils which aim to provide innovative and collaborative community partnerships as a means to promote school readiness for both Kentucky children and their families (Kentucky Governor’s Office of Early Childhood, 2020). While each of these initiatives throughout Kentucky has certainly shifted the conversation towards more high-quality early childhood education, research ultimately depicts a more nuanced reality of the ECEC landscape.

According to Brown and Hallam (2004), Kentucky ECEC providers offer mixed reviews on the effectiveness of the state legislative initiative which launched in 2000.

² Although the “childcare desert” can be equivocal, at a community level, it functions to add urgency to discussions of how to expand childcare access and is therefore an important part of the context for our research.

In particular, providers point out that the legislative initiative failed to address the lack of ECEC staffing incentives, convenience of childcare facilities, and parental understanding of quality childcare. Weinraub (2015) states, “High-quality child care—care that prepares children for lifetime learning and citizenship—is expensive, and providing care requires a complicated balance between access, quality, and affordability.”

Second, one of the fundamental building blocks of quality early childhood education is clearly having access to such education. Unfortunately, access to ECEC is not a given throughout the state of Kentucky. In fact, approximately 50 percent of Kentucky’s population resides in a childcare desert (Jessen-Howard & Workman, 2019), which is defined as the ratio of more than three young children for every licensed childcare slot (Malik et al., 2018). In Kentucky, this access cuts across racial lines, as 52% of white, 42% of Black, and 45% of Hispanic/Latino Kentuckians live in childcare deserts (Malik et al., 2020).

Certainly, there are benefits and drawbacks to the very idea of classifying a community as a childcare desert. Among the benefits are that the classification can help lend a sense of urgency and visibility to a problem that might otherwise seem to be individual and hidden. That is, without the public attention that comes from such a designation, the extent of the problem may remain obscured, and families may assume that they are uniquely unable to find appropriate ECEC. The drawbacks, however, include the fact that the classification rests on one’s definition of an area’s boundaries, differences which might lead to confusion and misleading designations. For example, the 2017 Early Childhood Profile shows that the community under study has 2191 children aged six years and under with a capacity of 832 licensed and certified child care slots, or 38% of the population (Kentucky Center for Education & Workforce Statistics, 2017). Under this metric, the area lingered 103 slots above the 33% threshold described earlier to be qualified as a child care desert. However, many primarily rural census tracts included in this county qualify as child care deserts if analyzed by themselves. Further, when licensed and certified capacity is broken down by age group, the county has fewer than one slot for every three children under three years old. Ultimately, regardless of whether a community is universally classified as a childcare desert, when at least one-third of young children under the age of 5 do not have access to licensed childcare, parents oftentimes face difficulties in finding childcare which may lead to alternative employment decisions or enrollment in lower quality childcare options (Malik et al., 2018). Unfortunately, childcare subsidies, such as Kentucky’s CCAP, do not cover the costs of high-quality childcare, thus such care often fails to reach a majority of those families in need of assistance (Jessen-Howard & Workman, 2019).

As Johnson et al. (2012) note, in order for childcare subsidies to support the uptake of high-quality care, “parents must value childcare quality, they must be able to identify higher quality care settings, high-quality care must be available in the community, and the value of the subsidy must be generous enough to support the purchase of higher quality care” (p. 1445). Johnson et al. (2012) indicate, however, that these conditions are not always met. Moreover, the limited revenue within the ECEC arena ultimately leaves staff underpaid and restricts high-quality care only to families with the means to afford such care (Jessen-Howard & Workman, 2019). As a result of such limited access to high-quality care—despite childcare subsidies—equity gaps within ECEC continue to persist. Though the long-term implications of COVID-19 on ECEC are not yet fully clear, early research suggests that the pandemic has likely further entrenched childcare deserts (Malik et al., 2020).

Third, when options for ECEC *do* exist, it is important to note that the decisions parents make are complex, varied, and shifting (Chaudry et al., 2010; Dobbins et al., 2016). Clearly, the ability and meaning of choice in regard to ECEC varies among different social, cultural, and economic groups (Vincent et al., 2010) and factors such as nontraditional working hours or immigration status influence the ability of parental choice and school involvement (Henly & Adams, 2018; Turney & Kao, 2009). In addition, data indicates that within working-class families, “the known, the familiar, and therefore the trusted” are important factors when considering childcare options, which can have considerable impacts in relation to high-quality care (Vincent et al., 2010). To help bridge the socioeconomic differences in relation to childcare choice, effectively disseminating information concerning the importance of quality care is essential. Support playgroups, for example, can be a source of ECEC information sharing; however, research indicates the importance and necessity of an informed playgroup coordinator with up-to-date information on the current state of ECEC to share with families. In addition, technology has been increasingly explored as a means of bridging the ECEC information gap as it can strengthen home-school connections through asynchronous forms of communication such as emails, text messages, or web-based communication tools (Daugherty et al., 2014; Fan & Yost, 2019).

Current ECEC research suggests the need for substantial policy reform to address the lack of high-quality childcare options for families. To help address the persistence of childcare deserts throughout Kentucky, both federal and state policy recommendations include improving data collection, increasing public investments in childcare and early education, raising childcare payment rates, and making childcare infrastructure investments in all childcare settings (Malik et al., 2018). Johnson et al. (2012) suggest policymakers ought to increase childcare subsidies, thus making it easier

for families to access high-quality childcare as long as such care exists in communities. Moreover, increased investment in ECEC is a viable avenue by which public policy can address the need of accessibility to quality childcare options. For successful ECEC change to occur, however, childcare providers must be offered a seat at the table to help drive decision-making regarding any programmatic implementation (Brown & Hallam, 2004). Lastly, research suggests the need for greater connectivity among providers' perspectives on childcare. A lack of common understanding regarding ECEC may pose "a tremendous effect on the implementation and effectiveness of [any] statewide initiative" (Brown & Hallam, 2004).

Ultimately, existing research makes it clear that despite Kentucky's legislative focus on ECEC, the state continues to experience many unaddressed gaps in the ECEC system that have a direct and profound effect on young children, their families, and ECEC workers. In the next sections, we explain the background for and methods used to investigate the causes for these gaps in one community.

Study Background

This research takes place in a Kentucky county with a population of around 30,000. Just over half the population is located in a small city and the remainder in a rural county. As shown in Table 1, the county population is predominantly white, with over three-quarters of the population having less than a college education.

In the community under study, childcare is offered in ten licensed centers and two public preschools. Additionally, there are some supplemental programs for parents and children to engage with together, including the HANDS program offered by the local Public Health Department, story time at the public library, an early literacy program called the Gladys Project, Kentucky's early intervention program First Steps, and early learning communities offered by the public school system called Cradle School and Born Learning.

In fall 2017, the local Community Early Childhood Council (CECC) decided to carry out a community needs survey to develop a more complete picture of local families' perceptions of, needs surrounding, and barriers to accessing ECEC. The CECC planned to use this information to create more targeted outreach to families with young children in order to encourage engagement with ECEC programs—including supplemental programs such as library story hours—outside the home. The chair of the CECC approached our research team to partner in the development, distribution, and analysis of the survey.

In the spring of 2018, midway through the survey collection, the largest childcare center in the community, with a capacity of 244, announced that it planned to close within

Table 1 Community needs survey respondents vs. community demographics

	Survey respondents	Boyle county
Respondents' race		
Caucasian	80.9%	87.1%
African American	4.3%	7.7%
All other races (Hispanic, multiple races, other)	11.7%	5.2%
Race/ethnicity missing	3.1%	
Respondents' education		
Less than high school, no degree	2.7%	14.4%
High school degree or equivalent	10.9%	35.4%
Some college, associate's degree	22.2%	27.9%
Bachelor's degree	37.0%	11.6%
Graduate/professional degree	24.9%	10.7%
Education missing	2.3%	
Age of respondents' children		
0–2	33.3%	51.8%
3–5	66.7%	48.2%
Respondents' children's current ECEC use		
Childcare or preschool	74.2%	
Other or supplemental	35.2%	

Boyle County demographics from RKG Associates, Inc. (2017) and Kentucky Center for Education and Workforce Statistics (2017)

a few months. The closing of this center altered available capacity severely, causing the county as a whole to be classified as a childcare desert. The closing announcement dramatically changed the nature of the community needs survey and raised new implications for the findings. It also arguably made the findings of interest to a wider audience than had been anticipated, sparking the attention of a variety of community members—not just those with children or directly involved in ECEC. Indeed, in a newspaper article published shortly after the center's closing announcement, the mayor was quoted as saying that the closure would create "a large hole in our economic fabric" (Hart, R., 2018a). Thus, after completing the community needs survey, we implemented a second stage to the research and partnered with the CECC to conduct interviews of local ECEC providers. In the following section, we explain the methods used in both stages of this research.

Methods

As described above, this paper is a mixed methods case study based on quantitative and qualitative data collected in two primary research stages: first, a community needs survey completed by 257 families with children ages 0–5 in spring 2018; second, in-person interviews conducted with

six ECEC providers in summer 2018. This data is supplemented with participant observation in community forums and local newspaper articles related to community discussion of how to address the childcare desert. As Johnson and Onwuegbuzie (2004) explain, a mixed methods approach is uniquely positioned to “draw from the strengths and minimize the weaknesses” of both quantitative and qualitative research methods (p. 14). We are also guided by Yin’s (2009) suggestion that case study research offers rich opportunities for “analytical generalization” and the testing of potential explanations to complex questions. When developing a holistic understanding of a complex, shifting case such as ECEC, we found a mixed methods approach that allowed us to collect quantitative survey data from a large number of families and more in-depth qualitative interview data from the relatively small number of providers in the community to be the most appropriate and useful. In this particular case, a mixed methods approach was also the most appropriate because of the way multiple stakeholder groups created what appeared, at times, to be contradictions and divergent perspectives (Creswell & Clark, 2010). Ultimately, our interview questions (Stage 2) built upon insights we gleaned from our survey data (Stage 1) and were designed to reveal differences and similarities in how families and providers think about and value early childhood care and learning. By putting data collected in each stage into conversation, our theoretical insights became richer and more nuanced. For example, the finding from our survey data that many parents expressed the idea that “not knowing who to talk to about ECEC” functioned as a barrier to accessing ECEC led us to ask providers about the methods they use to communicate with and involve parents. Recognizing and understanding this additional nuance is, we suggest, not only an important contribution of our study, but is also critical to helping providers, families, and community leaders work together to improve ECEC. Without an understanding of this nuance, the misconceptions and assumptions that result in ineffective solutions to the childcare desert will persist.

Stage One: Community Needs Survey

As seen in Appendix A, the community needs survey was designed to elicit information about the needs, preferences, and experiences of families with respect to ECEC. The survey asked questions regarding what forms of early childhood education the respondent was currently using for their child and questions about the respondents’ ideas surrounding ECEC, including identifying important factors when making ECEC decisions, barriers to accessing ECEC, level of importance of ECEC, and what other forms of ECEC the respondent would like to see within the community. The majority of the questions allowed for more than one answer, and all of them offered room for additional comments and

the option to write in an additional “other” answer if the respondent felt as though their perspective was not represented in the list of stated possible responses. At the end of the survey, we included optional demographic questions, such as race and education level. Data from the paper surveys was entered into Qualtrics and double-checked for any errors or inconsistencies.

In order to reach as many families in the research area as possible with children between the ages of newborn to five, survey distribution took multiple forms. All surveys were on paper and were available in both English and Spanish. The survey was designed to take approximately five minutes to complete and all questions were optional. Responses were collected in-person by going door-to-door in low-income communities and standing outside local supermarkets. Surveys were also distributed via six ECEC centers who distributed surveys directly to families or sent them home with children. In addition, the two local school systems agreed to provide surveys to all families with children enrolled in pre-kindergarten and elementary school, dramatically broadening our reach. Regardless of the manner in which they took the survey, respondents received a free children’s book for completion.

Ultimately, 257 community members with 369 children ages newborn to five completed the survey, representing approximately 20% of all children between newborn and five in Danville/Boyle County (Kentucky Center for Education & Workforce Statistics, 2017). The largest number of respondents came from the city school system. Table 1 provides an overview of the respondents across key demographic variables of race and education level. While our survey is reasonably representative in terms of race in our county, respondents with a college degree and those with slightly older children are overrepresented in the data.

Stage Two: Provider Interviews

In order to develop a more holistic picture of the provision of ECEC and complement the survey data collected in stage one of this study, we interviewed providers during the summer of 2018. At the time, the community had a total of 12 licensed childcare and public school providers, all of which were invited to participate in an interview; of these, 8 agreed to be interviewed. All interviews were semi-structured following the layout in Appendix B and took place in person. All interviews were recorded and transcribed. In an effort to ensure forthright responses, staff members from Child-Care Aware of Kentucky conducted the interviews with providers.³

³ ChildCare Aware is part of the Partnership for Early Childhood Services at the University of Kentucky. They hire a large staff who aim to improve child care quality by offering assistance to child care providers. These staff regularly interact with local providers to assist

While stage one of our research gave us a picture of the ECEC options that families wanted and families' perceptions of the ECEC options that were provided, stage two was designed to capture the providers' perceptions of ECEC offerings. In order to identify how conducive the community was to supporting ECEC programs, other questions were designed to elicit information about how the providers managed their business or program. While some providers were eager to share their thoughts and opinions, others were less enthusiastic and, in some cases, expressed skepticism about the benefits of participating.

After transcribing the recorded interviews, we used an inductive approach to data analysis. According to Patton (1980), "Inductive analysis means that the patterns, themes, and categories of analysis come from the data; they emerge out of the data rather than being imposed on them prior to data collection and analysis". For example, when analyzing the providers' responses to the second question, "What does a typical day in your center look like?" we looked for words that offered insight into how they think about their work. Specifically, we discerned words such as "curriculum", "teacher", and "students" as indicators that the provider saw a strong educative function in their work; words such as "babysit" were classified as words that indicated the provider saw their work as focused more on the caregiving elements of ECEC. Importantly, this is not to imply that the lines between the two approaches were always clear or that we categorized providers' approaches into "academic" or "care". Rather, we used their responses as a way to better understand the rich complexity in their philosophies and values surrounding ECEC. Quotes are presented as they were originally stated with only minor modifications (shortening, verb tense changes, sterilizing for confidentiality). It is important to note that quotes only reflect the opinions and perceptions of individual participants. Therefore, the range of quotes is meant to represent the differing perceptions and understanding of the research participants. In the following section, we explore the findings from the survey and interviews.

Results and Discussion

In this section, we present and discuss our research findings related to both the financial and the communication elements of the childcare desert, including disagreements about

the nature of early childhood learning and what aspects of ECEC should be prioritized.

Specifically, we first discuss the ways financial factors—both real and perceived—play into discussions about expanding ECEC options. Second, we present and discuss finding that across parental education levels and parents' willingness/ability to pay for ECEC, the vast majority of parents say they value ECEC and particularly value ECEC that is highly focused on skills. Although this community value apparently exists among parents, newspaper articles and community forum comments indicate that providers and community leaders who are engaged in conversations about expanding high-quality ECEC in the community may not always recognize it or may make assumptions about parents' ability to access care. Third, we analyze the provider interview data revealing that ECEC providers often describe their work using ambiguous and, at times, seemingly conflictual language. This is particularly important to consider in light of the survey finding that many parents say that beyond there being not enough spots, not knowing who to talk with about ECEC has been a barrier to accessing ECEC. Finally, we analyze the implications of these evident disconnects in communication for efforts to create a community-wide effort to enhance ECEC.

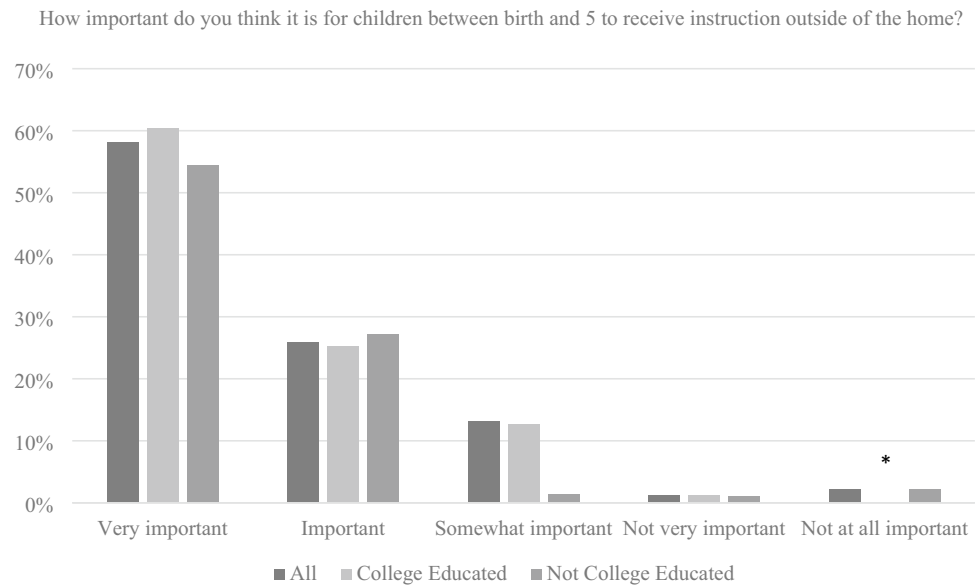
Financial Factors

As discussed above, previous research has demonstrated that a lack of financial support for providers is one of the primary causes of childcare deserts (Malik et al., 2018). The findings from our research appear to bear this out and help to shed additional light on the specific financial barriers to expansion that may be contributing to an undersupply of ECEC options. First, the provider interviews showed that although ECEC provision has many of the same complications as any other business, other complications are unique to the field and might—if providers are not included in discussions—go overlooked when communities have discussions about expanding ECEC. Certainly, as in some other education sectors, it is difficult for many providers to maintain pay levels that effectively retain workers. Providers also, however, have strict regulatory provisions that consume significant amounts of administrative time and are seen by some providers as inconsistently applied. For example, state-level regulations force them to maintain mandated ratios of children to staff and children to square foot of space. One provider shared, "It feels as though it requires a whole lot of time to comply with all the regulations and at the same time I feel like some of them may not be judged fairly. Some of them I feel are a little far-fetched, especially with the ratios with the infants" (Provider 2). Such regulations restrict a center's ability to expand. Once they reach capacity in terms of square footage, an additional child would require additional

Footnote 3 (continued)

them on how to become licensed and increase quality according to the ALL STARS metrics. They do not license, inspect, or regulate providers in any way.

Fig. 1 Parents’ Importance of Outside Instruction. NOTES: Data from Stage One: Community Needs Survey. * indicates difference between College Educated and Not College Educated is significant at the 10% significance level



building space—a cost that one child’s dues will not cover. This is exacerbated in our specific community because rent for commercial space is higher than the surrounding areas (RKG Associates, Inc., 2017). Financial constraints can also affect the quality of care. One provider explained that an “obstacle” to providing services “...has to do with having the finances to provide some of the special need items we need to help our children grow” (Provider 2).

Additionally, our research uncovered that for providers that enroll a large percentage of children whose tuition is covered by CCAP, the state tuition assistance program, revenues may not be sufficient to cover operating costs, much less the upfront costs associated with expansion. One provider explained, “69% of my enrollment are CCAP funded tuition, so having to wait that initial six weeks to have that cash flow was huge in the beginning...When I get that subsidy check everything is good for a couple of weeks, but then I’m waiting for it again” (Provider 4). Similarly, another provider offered, “95% of our kids are state funded. I would say our obstacle for cash flow is the state” (Provider 6). Furthermore, there is some concern among providers about the idea of raising tuition beyond CCAP. As one provider explained of the feasibility of a center-based sliding scale, “...you can’t charge someone that’s not on CCAP more money” (Provider 4). In effect, then, the state’s subsidy rate appears to be having an effect on a provider’s ability to raise the revenue necessary to expand and create more spots for children to access ECEC. This is particularly problematic because, as shown in Fig. 3, our survey results suggest that some families may be able to pay higher rates, effectively subsidizing the ECEC centers’ work. Regardless, while these financial barriers are clearly significant, they do not tell the whole story. In the rest of this section, we turn to the more subjective factors that

appear to be exacerbating the problem of undersupply by hampering the community’s ability to have clear discussions about factors that are within their control. Specifically, we suggest that there are three communication and conceptual factors at play: (1) Parents care about the skills their children learn in ECEC settings, but this often goes unseen by providers and the community; (2) ECEC providers and parents are using different terminology to describe the same features of care and education, leading to confusion on both sides; and (3) Parents do not know how to access information about ECEC in the community.

Prioritization of Skills

Our survey asked parents, “How important do you think it is for children between birth and five to receive instruction outside the home?” In response, 84% of parents indicated that they think it is important or very important for children between birth and five to receive instruction outside the home (See Fig. 1). Importantly, this is effectively the same across parents with and without a college degree.

Further, parents who responded to our survey were most likely to say that the most important factors in choosing a childcare provider are: emphasis on the development of social skills (64%), cost (50%), and emphasis on the development of reading skills (49%). (See Fig. 2) These findings were similar for parents with and without a college education.

And yet despite the clear concern about and prioritization of quality on the part of parents, local newspaper articles and discussions in public forums, as well as provider interviews, suggest that the primary *community* concern centers on capacity. For example, in a public forum, a community

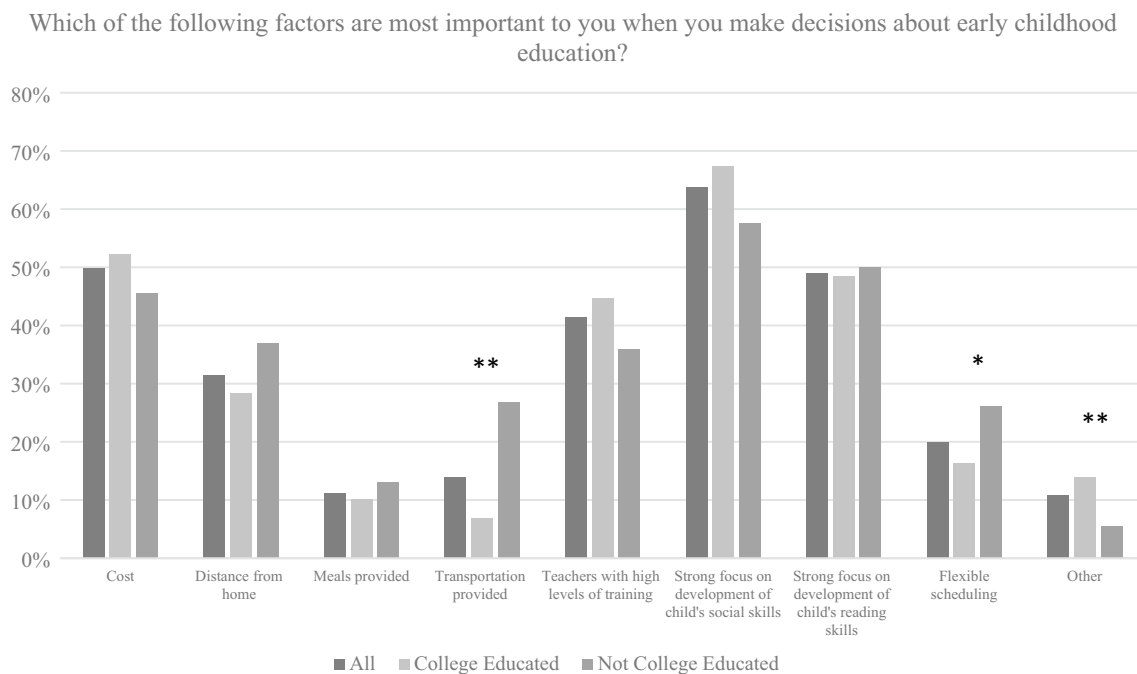


Fig. 2 Important Factors Contributing to Parents' ECEC Decisions. NOTES: Data from Stage One: Community Needs Survey. ** and * indicate differences between College Educated and Not College Educated at the 5% and 10% level, respectively

member argued, “Parents do not have a good concept of what early childhood care is and should be. It is the role of ECEC providers to educate parents. If the child will be safe at an ECEC center there is the idea that parents are not concerned about child development, beyond the benefit of a safe environment, so maybe they don’t understand.” Similarly, in a provider interview, a provider shared, “A lot of parents aren’t really concerned about child development. They’re just trying to find a safe place for their child to be, so they can go to work or school” (Provider 4). Local newspaper articles about issues of ECEC, furthermore, often focus not on questions of quality, but rather on capacity and the availability of ECEC (Kleppinger, 2019). For example, in an article published nearly nine months after the largest center in town announced that it would close, the mayor was cited as saying, “We’ve got to have something in that space in order to keep our workforce... I guess really, we have to throw this back to our Economic Development Partnership—not that this is their responsibility to solve, but it’s a place to have a broad-based conversation” (Hart, R., 2018b).

While, in a childcare desert, a focus on capacity is clearly warranted, this gap in perspective between parents who value ECEC with an educative component and a community narrative focused on quantity leads to two potential problems. First, there is a risk that community leaders may focus on attracting more providers without regard for their ability to deliver services that include educative elements, thereby adding additional spots for children but effectively

continuing to fail to meet parents’ needs and priorities. Second, while it is true that some of the parents who participated in this research experienced capacity-related barriers to enrolling their children in ECEC and while it is true that all the providers we interviewed have active waiting lists, a focus on capacity at the expense of a discussion on quality seems to ignore the many families who indicated that they have *not* encountered barriers in accessing ECEC. Indeed, the concerns—particularly, the concerns about quality—of the nearly half of respondents who indicated they had not faced barriers to accessing ECEC should also be taken seriously.

Terminology Around ECEC

Beyond this evident disconnect between what parents say is important about ECEC and the community narrative about ECEC is additional element of communication that our research suggests may impede the development of effective solutions to the childcare desert: namely, the ways providers talk about their own work and approaches. Differing perspectives from providers—referring to their work as either a daycare or preschool—can have serious impacts on the implementation and effectiveness of ECEC more broadly (Brown & Hallam, 2004). Indeed, our interviews with providers revealed discontinuity in the terms providers themselves used to describe ECEC services. In their comments, some interviewees distinguished between providers as either

being “daycares” or “preschools.” For example, one provider explained, “...I think we have preschools and then I think we have daycares. Obviously, there are not enough daycares where you have working families that need a service from 7 [A.M.] until 6 in the evening” (Provider 7). Yet another interviewee describes her services as both, “full service day-care, that includes a preschool program from toddler age up to when they leave us at kindergarten” (Provider 4). This implies that “daycare” and “preschool” are programs within a center that are provided to children at different times during the day, or to different kids depending on their age, or perhaps at the same time. While this may not be a problem for parents who are associated with the center and understand the idiosyncratic ways these terms are used, it may be a problem for parents who are trying to discern whether a center meets their needs.

Moreover, our interviews revealed that providers use the term “early childhood education” in varied ways and that the meaning of the term is often unclear. For example, one provider said she did not include elements of early childhood education, but later in the interview referenced her center’s focus on language development. Similarly, another provider who explained the mission of her center as, “To take care of the kids when the parents go to work” later described the curriculum and lesson plans used in her center and repeatedly referred to her staff as “teachers” (Provider 5). Yet another provider who responded “no” when asked if her services include elements of early childhood education later indicated that she focuses on readings skills by having “the library come with the book mobile and the librarian does activities with them and also story time with them” (Provider 1).

Again, while inconsistencies in the use of terms associated with early childhood education such as these may not cause any internal problems within the center itself or even indicate any inconsistency in a center’s approach, we suggest that it may cause challenges for families who are trying to discern the extent to which a center has an educative focus. Grisham-Brown and Hallam (2004) suggest “child-care would improve if families had a better understanding of quality in child-care and that they had a better understanding of what [ECEC facilities] were trying to do to improve the early learning of their children” (p. 29). Because accurate information is both an integral element of parents and providers finding an ideal “match” and of effectively working together to support a child’s growth, the ambiguity around the services an ECEC provider offers is not a benign, semantic matter. Indeed, we argue that the confusion and inconsistency in the way providers talk about their services is indicative of a serious issue that inhibits parents and providers from properly communicating and that may be an even more serious issue for parents with lower levels of education. More broadly, such inconsistency may also

reinforce—rightly or wrongly—a perception in the local community that the academic aspects of ECEC are not being emphasized in the existing centers.

Accessing Information

In stage one of our study, 25% of parents without a college education stated that they did not know what their ECEC options were, which prevented them from accessing early childhood education. (See Fig. 3) In addition, 14% of parents with a college education also found this to be a barrier. Similarly, 22% of parents without a college education versus 9% of those with a college education said that not knowing who to talk with had prevented them from accessing services. (See Fig. 3) Moreover, these barriers to information may help to partially explain the disparity in the use of ECEC outside the home: only 68% of parents who are not college educated had enrolled their children in ECEC outside the home, compared to 87% of college-educated parents.

Though troubling, the finding that a lack of information was a barrier to some parents’ uptake of ECEC was, in some ways, to be expected. As mentioned above, though it had no empirical evidence to definitively demonstrate that this was true, the CECC did suspect that some families were not enrolling children in ECEC because they simply did not know what their options were. Similarly, as one provider explained when asked what needed to be done to enhance ECEC in the community, “Getting the information out so people know what’s available and reaching the people that have no idea. We start recruiting families in February for the August school year, so by May we’re usually full. It never fails that come August, I have ten families calling me asking, ‘Why can’t I get in?’” (Provider 3). From the outside, however, the idea that ineffective information sharing impedes access to ECEC might seem to be a rather surprising finding. In an era of information overload, it can be easy to assume that simply putting information out into the community via flyers, websites, and pamphlets is sufficient for reaching people. Clearly, however, that is insufficient for conveying the complexity and variety of approaches, perspectives, and ideas about ECEC amongst community providers. Indeed, while it might be simple to inform all parents of ECEC providers through a well-circulated list, finding a solution that would empower parents to get more information about what services are provided is less clear, particularly if—as described above—providers themselves use conflicting or ambiguous terms to describe their work.

Ultimately, the effects of poor communication about ECEC are not only short-term and do not only affect where and when families enroll in ECEC. Rather, and particularly troubling in the context of a childcare desert, poor communication is most certainly having an effect on whose voices are included in community discussions about enhancing

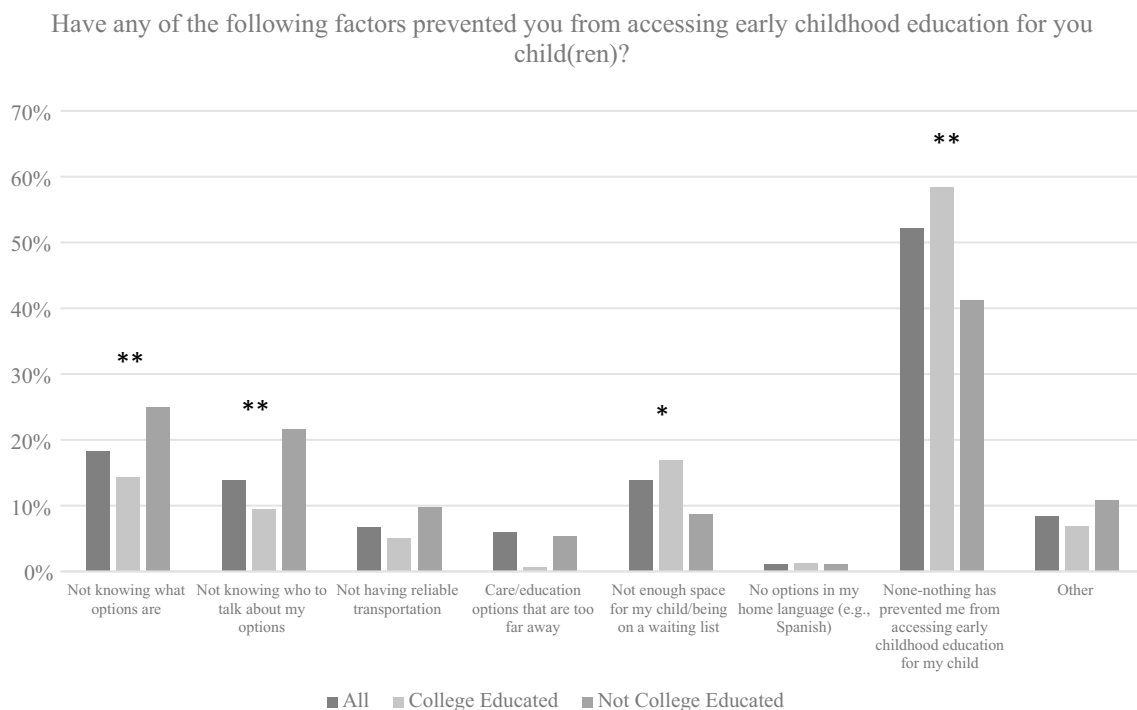


Fig. 3 Factors Preventing Access to ECEC. NOTES: Data from Stage One: Community Needs Survey. ** and * indicate differences between College Educated and Not College Educated at the 5% and 10% level, respectively

ECEC options in the community. Indeed, we suggest that if families do not know who to talk with about ECEC, they are also unlikely to be included in discussions about how to enhance the ECEC landscape going forward. This is particularly concerning in light of the common misperception that parents are unconcerned with the learning environment. If community discussions about ECEC fail to include parent voices, inaccurate ideas about parents' experiences with ECEC, including the popular idea that parents are not concerned with their child's academic growth, could persist without resistance. Moreover, if the voices of some parents are systematically left out, a lack of communication could further widen inequalities in access. As mentioned above, while both college educated and non-college educated parents find ECEC important and place emphasis on social and reading skills, 59% of parents without a college education have at least one barrier of access compared to 42% of college-educated parents. This suggests that even if community conversations eventually lead to increased capacity, not all families will be affected equally. Indeed, even if the services are designed to include transportation and flexible scheduling to meet the needs of all families, the lack of information

about what services exist and who to talk to about services could further entrench a gap in access. As a result, children who have the most to gain from ECEC would continue to participate at lower rates.

Conclusion and Policy Implications

As discussed above, we are particularly interested in how a community can enhance its early childhood education landscape and ensure that all families who would like to enroll their children in ECEC—particularly ECEC designed to help children develop socio-emotional and cognitive skills—are able to do so. We suggest that, particularly in a rural community with a limited number of options, there is a strong need for stakeholders at all levels and in all capacities to play a role in enhancing ECEC. Yet following from the results presented above, without a clear understanding of how all stakeholders conceptualize the purposes and goals of ECEC and without a shared language for talking about ECEC, finding a way for everyone to have a meaningful role in the conversation can be challenging. In this final section, we

outline three policy implications that follow from our data and analysis. Importantly, each of these policy areas can be tackled at the local level. Certainly, continued discussion of potential national interventions and support for ECEC as exemplified by the Build Back Better bill are important and previous literature reinforces the need for a multipronged policy approach to addressing access to quality early childhood education (Henly & Adams, 2018). At the same time, the potential for local communities to make changes and improvements in their ECEC landscape should not be dismissed. While enhancing classroom and other practices in ECEC settings is of course vital to increasing quality, we focus here on policy because, as a community-wide issue, there is a strong need for a coordinated effort that goes beyond the practice level. We suggest that providers and families alone—while perhaps the most obvious stakeholders—should not be solely responsible for improving the community’s ECEC landscape. Rather, because high-quality ECEC affects the ability of the entire community to thrive, business leaders, elected officials, and school leaders all need to take on a leadership role in supporting ECEC.

First, in order to facilitate the potential for existing providers to expand their services, tuition, costs, and the willingness/ability of some families to pay tuition that fully covers costs need to be brought into closer alignment. As discussed above, in many ways, the CCAP reimbursement rate appears to be putting a false ceiling on what providers are willing and able to charge for their services, particularly when a significant proportion of local families qualify for childcare assistance.⁴ Lobbying to raise CCAP may be a logical solution, but may not be feasible. Instead, though national-level policy efforts such as The Child Care for Working Families Act give some indication of how complex sliding scales can be (Gomez & Hardy, 2021), providers might consider instituting a sliding scale that would allow tuition rates to more closely match what a family is willing and able to pay. Indeed, as demonstrated by the finding shown in Fig. 3 that nearly half of families indicated that they have not faced barriers in accessing ECEC, we suggest that some families may be willing and able to pay more for services. Unfortunately, currently in the community under study, this idea appears to be unpopular or unrealistic. Charging more to families that are able to pay a higher rate would effectively subsidize families with lower incomes, allowing centers to even out their revenue streams. However, a sliding scale developed at the county or community level might be seen as more politically feasible and easier for a provider to implement.

⁴ At least 24% of children attending licensed or certified childcare providers received CCAP in 2016 (Kentucky Center for Education and Workforce Statistics, 2017).

Second, because the confusion over terms such as “early childhood education” as described above suggests that the “communication gap” that clearly exists between providers and families may not be as straightforward as families simply not knowing where to find information about which providers exist, the community should give renewed attention to ways of facilitating information sharing. Indeed, while addressing the gap may entail relatively simple solutions such as developing and publishing a comprehensive list of providers, in all likelihood, a more nuanced approach may be needed, particularly in a community in which the majority of the population has less than a college education (Vincent et al., 2010). Specifically, as discussed above, because the “communication gap” appears to be, at least in part, a result of families and providers not always knowing how to talk to one another about expectations and what they value in regards to ECEC, more opportunities for face-to-face meetings between families and providers might be valuable. In addition, developing a mechanism for formalizing or standardizing terms used to describe values and approaches may be helpful, particularly if these terms could be used in any lists or publications that are published. For example, finding a way to agree on terms such as “daycare” and “preschool”—at least in the context of local practice—could help parents make an informed choice about where they would like to enroll their child. Given arguments suggesting that policy makers invest in effective early childhood education as a means to increase educational revenue and, consequentially, reduce K–12 costs (Kaufman et al., 2015) and their trusted role in the community, local school districts may be key partners in information-sharing efforts.

Such a formalization may also help providers communicate more effectively with one another. Policy changes at the state level could also play an important role in helping to address this gap, particularly if these changes take local context into account (Henly & Adams, 2018). While ALL STARS represents an excellent and important first step toward making information about quality visible, understandable, and consistent and should be applauded for the ways it helps parents and caregivers understand the care their child receives (Zero to Three, 2018), our findings suggest that ALL STARS might also be revamped in order to make it more user-friendly. For example, while some quality indicators are clearly applicable across contexts, our findings demonstrate there is also variation across families in terms of what aspects of quality are most meaningful for their specific needs. Making the specific aspects that factor into the ALL STARS rating more visible could help parents find a provider that best aligns with their needs and priorities.

Finally, it is impossible to deny that there simply remains a significant need for more spaces for children to enroll in ECEC. Yet in the urgency of attempting to attract new providers or expand existing providers, the voices of those who

are closest to ECEC—namely, families and existing providers—cannot be lost or inadvertently stifled by those who occupy more formal policy-making roles in the community. In fact, in the interviews, providers shared a range of ideas for both enhancing the ECEC landscape and using existing resources more effectively. For example, some providers suggested that the local Economic Development Partnership could offer small business loans specifically for childcare providers in order to help them open or expand their services. Other providers mentioned that rather than spending limited funds on new assessment tools, stronger partnerships with local pediatricians could help ensure that children with special needs were identified and then provided with the services they deserve. In short, community forums aimed at gathering information about people’s needs and priorities must respect the voices of those who are most directly affected by the daily realities of providing ECEC services.

Many communities struggle to provide sufficient access to families who need ECEC services while and—simultaneously—also struggling to reach all families with young children who could benefit from involvement with early childhood care and learning (Dobbins et al., 2016). Moreover, despite targeted efforts to leverage high-quality ECEC, some communities—including the community described in this paper—continue to struggle to increase kindergarten-readiness levels (Osborne, 2019). Yet despite these challenges and the other challenges described in this paper, we also see encouraging signs. In particular, despite the evident gaps in communication between providers and families, there are also clearly strong areas of alignment that can serve as a community strength on which the community can build. For example, the finding that families appear to be consistently placing a strong importance on the development of their child’s social skills was echoed in many of our interviews, in which providers repeatedly mentioned that they see social skills as one of the most essential elements of early childhood education. Where there are similarities, we can see the development of a common definition of quality that efforts to strengthen our childcare landscape can then build upon. Furthermore, the community has some providers that are deeply committed to providing ECEC options that are affordable and meet families’ needs. Regardless of what approach to enhancing ECEC the community eventually takes, it is clear that starting with an honest appraisal of existing strengths

and challenges will be important for ensuring that proposed solutions have the potential to make a positive impact.

Appendix A: Community Needs Survey

This survey is designed to help us learn more about early childhood education in Danville and Boyle County. Your participation in this survey is completely voluntary. Unless you choose to share your name, your responses will be kept anonymous. By taking this survey, you certify that you are over the age of 18 and confirm that you are a Boyle County/Danville resident. Each family should only complete this survey once.

I do not have any children ages 0–5 living with me:

I already completed this survey:

1. How many children ages 0–5 live with you OR are you the primary caregiver for? What are their ages?

Age of child 1: _____

Age of child 2: _____

Age of child 3: _____

Age of child 4: _____

Age of child 5: _____

2. Is your child(ren) currently enrolled in some form of early childhood education or care outside the home, such as Head Start, Wilderness Trace Child Development Center, A Children’s Place, Boyle County Schools Preschool Program, Danville Independent Schools Preschool Program, Danville Montessori, etc.?

Location of child 1: _____

Location of child 2: _____

Location of child 3: _____

Location of child 4: _____

Location of child 5: _____

3. Which of the following additional forms of early childhood education do you currently use? (Circle all that apply)

a. Cradle school

b. Library storytime

- c. Gladys project
 d. Born Learning
 e. HANDS
 f. First Steps
 g. Other: _____
4. Which of the following factors are most important to you when you make decisions about early childhood education? (Circle no more than three factors)
- a. Cost
 b. Distance from home
 c. Transportation provided
 d. Meals provided
 e. Teachers with high levels of training
 f. Strong focus on development of child's social skills
 g. Strong focus on development of child's reading skills
 h. Flexible scheduling
 i. Other: _____
5. Have any of the following factors prevented you from accessing early childhood education for your child(ren)? (Circle all that apply)
- a. Not knowing what options there are.
 b. Not knowing who to talk to about my options.
 c. Not having reliable transportation.
 d. Care/education options that are too far away.
 e. Not enough space for my child/being on a waiting list.
 f. No options in my home language (e.g., Spanish).
 g. None—nothing has prevented me from accessing early childhood education for my child.
 h. Other: _____
6. How important do you think it is for children between birth and 5 to receive instruction outside of the home?
- a. Very important
 b. Important
 c. Somewhat important
 d. Not very important
 e. Not at all important
7. What additional forms of early childhood education would you like to see in Danville and Boyle County? (Circle all that apply)
- a. Additional high-quality, low-cost options
 b. Additional supplemental education programs, such as library programs
 c. Additional full-day programs
 d. Additional half-day programs
- Please see following page for optional demographic questions.
8. What is the highest level of education you have reached?
- a. Some high school
 b. Finished high school
 c. GED
 d. Some college
 e. Finished college
 f. Some graduate school
 g. Finished graduate school
9. Which of the following best describes your race/ethnicity?
- a. African American
 b. Caucasian
 c. Hispanic
 d. Multiple races
 e. Other: _____
10. Would you be interested in participating in an early childhood education information event this spring? If so, please provide a phone number, address, or email address where we might send an invitation.
- _____
11. Would you be interested in talking with someone about early childhood education options? If so, please provide a phone number, address, or email address where we might send an invitation.
- _____

Appendix B: Provider Interviews

This interview is designed to complement a recent survey conducted with families of children ages 0–5 on their early childhood service needs. Our hope is that we can provide a fuller picture of early childhood services in Danville/Boyle Co. by interviewing service providers. In particular, we aim to identify potential opportunities to support center-based early childhood providers to meet the community's needs.

1. What is the main focus of your center?
2. What does a typical day at your center look like?
3. Please describe your approach to child development. What do you see as important to include as part of your services?
4. Do your services include elements of early childhood education? If so, please describe.

After providing an answer to the previous question, ask the following:

Do you focus on...

- | | | |
|------------------------------------|------------------------------------|------------------------------------|
| Language development? | Social skills? | Reading skills? |
| <input type="checkbox"/> Yes, how? | <input type="checkbox"/> Yes, how? | <input type="checkbox"/> Yes, how? |
| <input type="checkbox"/> No | <input type="checkbox"/> No | <input type="checkbox"/> No |

5. Do you face any obstacles to providing the services you aim to provide?

After providing an answer to the previous question, ask the interviewee to look at this list.

Do you face any of the following obstacles to providing the quality of child development services you aim to provide? If so, please elaborate orally.

- | | |
|---|---|
| Space | <input type="checkbox"/> I have enough revenue overall but it does not come consistently |
| <input type="checkbox"/> Availability | <input type="checkbox"/> I do not have enough revenue |
| <input type="checkbox"/> Cost | |
| Workforce | Regulations |
| <input type="checkbox"/> Have trouble hiring workers | <input type="checkbox"/> I don't agree with many regulations |
| <input type="checkbox"/> Can hire workers but they leave | <input type="checkbox"/> It costs too much money to comply with regulations |
| <input type="checkbox"/> Can hire workers who stay, but they are not a good match | <input type="checkbox"/> It requires too much time to comply with regulations |
| Cash flow | |
| <input type="checkbox"/> Compliance with regulations is not judged fairly | <input type="checkbox"/> Parents and I disagree about child development methods |
| Meeting needs of families | <input type="checkbox"/> Services that children need are often outside the scope of my care |
6. How many full-time staff do you have? How many part-time staff do you have?

Do you offer your staff...

- | | | |
|------------------------------|------------------------------|------------------------------|
| Health care benefits? | Retirement benefits? | Pay > minimum wage? |
| <input type="checkbox"/> Yes | <input type="checkbox"/> Yes | <input type="checkbox"/> Yes |
| <input type="checkbox"/> No | <input type="checkbox"/> No | <input type="checkbox"/> No |

7. What have you found to be the most effective methods for communicating with and involving parents?

8. What types of families do you serve?

Do you serve kids in these age groups? Approximately how many?

- | | | | |
|--|--|--|--|
| 6wks-1yr | 1-2yr | 2-3yr | 3-4yr |
| <input type="checkbox"/> Yes, #: _____ | <input type="checkbox"/> Yes, #: _____ | <input type="checkbox"/> Yes, #: _____ | <input type="checkbox"/> Yes, #: _____ |
| <input type="checkbox"/> No | <input type="checkbox"/> No | <input type="checkbox"/> No | <input type="checkbox"/> No |

Do you serve children with grandparent(s) as primary care-giver(s)?

- None (0% of children)
- Very few (<10%)
- Several (10-50%)
- Many (>50%)

How many children do you serve from households with these characteristics?

- | | | |
|--|-----------------------------------|-----------------------------------|
| Single-parent? | Two-parent, one earner? | Two-parent, two-earners? |
| <input type="checkbox"/> None (0% of children) | <input type="checkbox"/> None | <input type="checkbox"/> None |
| <input type="checkbox"/> Very few (<10%) | <input type="checkbox"/> Very few | <input type="checkbox"/> Very few |
| <input type="checkbox"/> Several (10-50%) | <input type="checkbox"/> Several | <input type="checkbox"/> Several |
| <input type="checkbox"/> Many (>50%) | <input type="checkbox"/> Many | <input type="checkbox"/> Many |

- | | | |
|-----------------------------------|-----------------------------------|-----------------------------------|
| Low-income? | Middle-income? | High-income? |
| <input type="checkbox"/> None | <input type="checkbox"/> None | <input type="checkbox"/> None |
| <input type="checkbox"/> Very few | <input type="checkbox"/> Very few | <input type="checkbox"/> Very few |
| <input type="checkbox"/> Several | <input type="checkbox"/> Several | <input type="checkbox"/> Several |
| <input type="checkbox"/> Many | <input type="checkbox"/> Many | <input type="checkbox"/> Many |

Do you...

- | | | | |
|-----------------------------------|-----------------------------------|------------------------------|------------------------------|
| Accept CCAP? | Participate in CACFP (food)? | Offer meals? | Offer transportation? |
| <input type="checkbox"/> Yes | <input type="checkbox"/> Yes | <input type="checkbox"/> Yes | <input type="checkbox"/> Yes |
| <input type="checkbox"/> No, why? | <input type="checkbox"/> No, why? | <input type="checkbox"/> No | <input type="checkbox"/> No |

9. Thinking about the children and families you serve, are there any who face particular barriers to receiving services? If so, what are these?

10. What options do parents have in terms of days and hours of care? (For example, full-day, part-day, summer, after-school?)

11. Is there a waitlist for your center? If so, please explain which services are in highest demand.

12. How much do you charge for your services? How did you choose this price?

After providing an answer to the previous question, ask the interviewee these questions.

- | | |
|--|---|
| From your perspective, is this a fair price that sufficiently compensates you for your services? | From the families' perspective, is this a fair price that accurately reflects the value of the services they are receiving? |
| <input type="checkbox"/> Yes | <input type="checkbox"/> Yes |
| <input type="checkbox"/> No, why? | <input type="checkbox"/> No, why? |

13. Do you think the early childhood services in this community are sufficient in terms of capacity (# of spots); quality; the ability of families to access services; and choice? Explain.

After providing an answer to the previous question, ask the interviewee to separately evaluate each criterion.

Do you think the early childhood services in this community are sufficient in terms of...

- | | | | |
|------------------------------|------------------------------|------------------------------|------------------------------|
| Capacity? | Quality? | Access? | Choice? |
| <input type="checkbox"/> Yes | <input type="checkbox"/> Yes | <input type="checkbox"/> Yes | <input type="checkbox"/> Yes |
| <input type="checkbox"/> No | <input type="checkbox"/> No | <input type="checkbox"/> No | <input type="checkbox"/> No |

14. In your opinion, what is the single most important thing that Danville/Boyle County could do to enhance early childhood services?

Declarations

Ethical Approval The authors did not receive any external financial support for this study. The authors have no relevant financial or non-financial interests to disclose. This research was approved by the Institutional Review Board at Centre College and informed consent was obtained from all participants.

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