

Professional Competence to Promote Resilience for Children Who Are Deaf or Hard of Hearing and Families Living in Poverty

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Abstract

Poverty has a tremendous impact on the educational results of all children, including those who are deaf or hard of hearing. With targeted, evidence-based interventions during the first three years of life, EHDl professionals can assist families in mitigating the negative effects on children's development associated with poverty. Even though EHDl professionals often serve children and families living in poverty, university-based personnel preparation programs for EHDl professionals offer limited instruction and experience in how to best serve children and families living in poverty. The purpose of this article is to explore the degree to which EHDl professionals are prepared to serve children who are deaf or hard of hearing and their families living in poverty and to identify opportunities to improve professional knowledge and skills. A framework is presented and the comments of professionals are offered to improve professional preparation programs and to ultimately enhance services for children and their families.

Acronyms: DHH = deaf or hard of hearing; EHDl = Early Hearing Detection and Intervention; IFSP = Individual Family Service Plan

Introduction

Poverty has a tremendous impact on the educational achievement of all children, including those who are deaf or hard of hearing (DHH). With targeted, evidence-based interventions during the first three years of life, Early Hearing Detection and Intervention (EHDl) professionals can assist families in mitigating the negative effects of poverty on children's development. For the purpose of this paper, we will use the term *EHDl professionals* to refer to those audiologists, speech-language pathologists, teachers of the deaf, and related service providers who serve children ages birth to three. Some, but not all, EHDl professionals provide direct service to children and their caregivers. Some, but not all, EHDl professionals serve children and families who live in poverty. When EHDl professionals enter the workforce with a strong awareness regarding the risks associated with childhood poverty and a variety of effective practices and strategies which can be used to serve this population, then the EHDl system will promote resilience and improve outcomes for young children who are DHH and their families living in poverty.

The paper provides (a) a summary of the current literature outlining the effects of poverty on the development of young children and recommendations for serving children living in poverty including those who are DHH; (b) the results of a survey of EHDl professionals exploring the awareness, preparation, and needs of these professionals related to this topic; and (c) implications and recommendations for effective practice. We also direct readers to a supplemental resource we have written — *Fostering Resilience for Children Living in Poverty: Effective Practices & Resources for EHDl Professionals* (Voss & Lenihan, 2016) — which includes a framework of effective practices and strategies, resources, teaching materials, and further content for professional preparation and development; and can be

accessed at http://www.infantheating.org/issue_briefs/Fostering_resilience_in_children_living_in_poverty.pdf

The Effects of Poverty on Child Development

The earliest years of childhood are a critical period for learning and impact long term cognitive, language, and social outcomes. However, young children living in poverty face increased risk of poor social, emotional, behavioral, and educational outcomes. Recent neurobiological evidence suggests poverty negatively impacts brain development as well (Evans & Schamberg, 2009; Garner et al., 2012; Lipina & Colombo, 2009; Lipina & Posner, 2012; Noble, Houston, Kan, & Sowell, 2012; Rao et al., 2010). By using effective interventions and strategies, EHDl professionals can promote children's resilience and help parents buffer their children from the deleterious effects of poverty. Professional preparation programs at universities and professional development programs offered by organizations, schools, and agencies need to provide content and experiences that facilitate the development of these effective strategies (Amatea, Cholewa, & Mixon, 2012; Gorski, 2013; Hughes, 2010; Voss & Lenihan, 2014). Recent estimates suggest more than 15.8 million American children live in poverty (Jiang, Ekono, & Skinner, 2015a). According to the U.S. Census Bureau, the number of children living in poverty in the U.S. has been on the rise since 2000, increasing by 23% between 2007 and 2013. One baby is born into poverty every 29 seconds. The National Center for Children in Poverty reports that 47% of infants and toddlers (approximately 5.3 million) live in low-income families (Jiang, Ekono, & Skinner, 2015b). The poverty rate in the United States is higher than any other industrialized nation. Young families, those with the primary caregiver under 30 years old, seem to be most vulnerable to poverty, with rates nearing 38% (Children's Defense Fund, 2015; Ratcliffe, 2010; Redd, Sanchez Karver, &

Murphey, 2011).

Families of children with disabilities or health impairments are at additional risk, already facing increased levels of stress and financial costs, as compared to families with typically developing children (Evans & Kim, 2010; Mitchell & Campbell, 2011; Neuman, 2009; Parish, Shattuck, & Rose, 2009; Shahtahmasebi, Emerson, Berridge, & Lancaster, 2011; Walker et al., 2011). According to Park, Turnbull, & Turnbull (2002), “It is becoming increasingly evident that poverty has a tremendous impact on the educational results of all children, including those with disabilities. Thus, poverty is not a secondary topic in the field of special education services and disability policy anymore” (p. 152).

The numerous challenges facing families living in poverty include food insecurity, housing insecurity, health disparities, access to hearing technologies, lack of transportation, increased risk of child maltreatment, and lack of enriching environments and relationships. Children living in poverty may lack appropriate nutrition, access to health care, and experience diminished quantity and quality of caregiver language input and stimulation (Clearfield & Jedd, 2013; Cooper, 2010; Eshbaugh et al., 2011; Garrett-Peters, Mills-Koonce, Zerwas, Cox, & Vernon-Feagans, 2011; Sohr-Preston et al., 2012). Research exploring the intersection of poverty, parenting activities, and the impact on child language development is of particular interest to EHDI professionals. Converging evidence indicates that language is one of the developmental systems most at risk for children in poverty (Fernald, Marchman, & Weisleder, 2013; Hackman & Farah, 2009; Hackman, Farah, & Meaney, 2010). Reviews of behavioral, electrophysiological, and neuroimaging studies suggest that both language and cognitive control are most sensitive to differences in socioeconomic status (Hackman & Farah, 2009; Lipina & Colombo, 2009). A groundbreaking study, conducted by Hart and Risley (1995) explored the language experiences of young children across socioeconomic strata. Compared to children from professional and working-class families, children living in poverty were exposed to 30 million fewer words during the first three years of life and had smaller vocabularies and lower IQ scores at age 3 and later. The study also showed that encouragements, questions, and responsiveness from parents were beneficial for language acquisition. Suskind (2015) applied this research to her work with children using cochlear implants in an effort to improve language acquisition.

Despite the serious threats to development stemming from life in impoverished environments, children are resilient. With targeted, evidence-based interventions during this sensitive time, professionals can support families in minimizing the negative impact of poverty on development. Garner and colleagues (2012) noted, “Protecting young children from adversity is a promising, science-based strategy to address many of the most persistent and costly problems facing contemporary society, including

limited educational achievement, diminished economic productivity, criminality, and disparities in health” (p. e228). The provision of high quality early intervention programs can significantly contribute to improved child outcomes as measured by educational success, workplace productivity, responsible citizenship, and successful parenting of the future generations (Center on the Developing Child, Harvard University, 2007; National Scientific Council on the Developing Child, 2004). Although it may not be possible to provide educational intervention for all risk factors stemming from poverty, researchers, educators, and practitioners can design comprehensive programs and interventions to combat the effects of poverty on development by striving for a model of resilience and promoting positive reaction to adversity (Gorski, 2013; Jensen, 2013; Thomas-Presswood & Presswood, 2007). Voss and Lenihan (2016) have identified six effective practices and associated strategies that EHDI professionals can use to foster resilience and to maximize development of children who are deaf or hard of hearing and live in poverty. These practices include

1. Identify personal bias;
2. Build relationships;
3. Assess family needs;
4. Provide resources and support;
5. Educate families on quality instruction;
6. Increase agency wide awareness.

See Appendix A for strategies associated with these practices.

Research and experience suggest that the most effective strategies and practices for mitigating the deleterious effects of poverty on the development of children who are DHH will include family-centered, interdisciplinary, strengths-based programs (Joint Committee on Infant Hearing [JCIH], 2013). Although much more research is needed regarding the efficacy of specific interventions, key factors to emphasize are that professionals be able to build warm, positive, responsive relationships with young children and families, to create language-rich environments, and to ensure consistent levels of child participation (Center on the Developing Child, Harvard University, 2007; National Scientific Council on the Developing Child, 2004).

The strongest evidence to date addresses the benefits of supporting the caregiver-child relationship (Eshbaugh et al., 2011; Komro, Flay, & Biglan, 2011; Mercy & Saul, 2009; Milteer, Ginsburg, Council on Communications and Media Committee on Psychosocial Aspects of Child and Family Health, & Mulligan, 2012; Phillips & Lowenstein, 2011; Thompson, 2011; Wikeley, Bullock, Muschamp, & Ridge, 2009). Paul Tough (2011) cites the Adverse Childhood Experiences Study as showing that the primary intervention for young children with adverse experiences should include enhancement of supportive relationships among educators, parents, and young children. These enhanced relationships will serve to buffer developing children from the adverse effects of poverty. “Parents and other caregivers who are able to form close, nurturing relationships with their children

can foster resilience in them that protects them from many of the worst effects of a harsh early environment” (Tough, 2012, p. 28).

EHDI professionals can support caregivers in improving their child’s language experience by encouraging increased caregiver responsivity, contingency, joint attention, and frequent syntactically complex and lexically rich child-directed talk (Gilkerson & Richards, 2008; Hoff, 2006; Suskind, 2015). Effective EHDI professionals acknowledge the additional challenges resulting from poverty, recognizing how they might interact and influence family goals and priorities for the child who is DHH (Hamren, Oster, Baumann, Voss, & Berndsen, 2012). Although the scope of practice for many EHDI professionals does not encompass direct service provision, those who are aware of the importance of such interactions can help ensure that children are receiving services from appropriately prepared professionals who can help maximize the child’s development.

Professional Competence of EHDI Providers

EHDI professionals include speech-language pathologists, educators, and audiologists who are working with children who are DHH. Professional organizations including the American Speech Language and Hearing Association, the Council for Education of the Deaf, and the Division of Early Childhood of the Council for Exceptional Children, provide guidance for the curriculum in professional preparation programs in each of these disciplines. The Supplement to the Joint Committee on Infant Hearing Position Statement (2013) also provided recommendations for professional competencies. Although the JCIH document included standards related to socioeconomic status, the standards lacked specificity and the document reported limited research on how professional preparation programs can provide content and experiences to develop the knowledge and skills needed to be effective in working with children and families living in poverty.

Hughes (2010) reported that the limited way in which the topic of poverty is addressed by teacher preparation programs is a disservice to future professionals. Professional preparation programs must develop an awareness of the realities while avoiding stereotyping. Amatea, Cholewa, and Mixon (2012) studied the impact of a university course designed to influence the attitudes of pre-service teachers about how they might work with low-income families. The authors found that “after completing the course, [the pre-service teachers’] attitudes were less stereotypic, they were more confident about using family-centric involvement practices, and conceptualized student’s problems in less blaming terms” (p. 801). Ulluci and Howard (2015) provided anchor questions that teacher educators explored with pre-service teachers to reduce stereotypic perceptions about educating students from impoverished backgrounds. Service learning projects and practicum experiences with low-income children and

families in teacher preparation programs have helped teacher candidates confront their own biases and reframe theories of poverty (Conner, 2010; Dunn-Kenney, 2010).

Eric Jensen (2013) and Paul Gorski (2013), leaders in professional preparation and development who address the challenges that students in poverty face, recommended evidence-based strategies for improving children’s academic outcomes. Content from their work can be aligned with professional development for EHDI professionals. Jensen’s work focused on learner engagement and factors and strategies that impact engagement. Gorski (2013) suggested that effective professional development opportunities related to poverty must focus on teacher efficacy and must be ongoing, nuanced, customized, and context-specific rather than one-time workshops that may increase deficit views of children and families living in poverty. The content needs to be framed positively and recognize professional expertise and commitment.

Professional Preparation and Experience

Although it is clear that poverty affects the family’s ability to access intervention and the outcomes of children, little is known about the degree to which EHDI professionals are knowledgeable about these issues; are aware of resources, strategies, and activities to assist them; and have been prepared to effectively serve children and families who live in poverty. To better understand professional preparation and experience, we collected responses from 121 EHDI professionals. Even though this convenience sample of EHDI professionals is not large, there are important insights about how infants and young children who are DHH and live in poverty can be provided with more effective services. We asked these EHDI professionals to respond to the following questions:

1. What are the current practices (strategies, activities, and resources) you use in working with families of children who are DHH and live in poverty?
2. To what extent did your professional preparation address ways to support families who live in poverty?
3. What are your professional development and learning needs related to serving families who have children who are DHH and live in poverty?
4. What recommendations do you have for professional preparation programs in regard to working with families of children who are DHH and are living in poverty?

To collect responses to the above questions, an email invitation was sent to members of the Association of College Educators of the Deaf/Hard of Hearing listserv, Fontbonne University deaf education and speech-language pathology alumni, Auditory Verbal Therapists Yahoo! Group listserv, and a list of EHDI early intervention providers supplied by the National Center on Hearing Assessment and Management (NCHAM). An invitation was also disseminated in a weekly Alexander Graham Bell Association for the Deaf/Hard of Hearing e-newsletter. The web-based survey was also distributed widely to an

unknown number of users via social media with a message encouraging professionals to forward it to colleagues who were in the target audience. The survey is provided in Appendix B.

The survey responses provided both quantitative and qualitative information. Respondents answered questions about demographic information, familiarity with resources, the extent to which the respondent's professional preparation program addressed support for families, the respondent's attendance and interest in professional development in various areas, and the importance of specific strategies and activities. Finally, open-ended questions requested information about what experiences or assignments had impacted the respondent's ability to serve children and families in poverty and what they wished they had known prior to beginning their career.

Responses were collected from 121 professionals¹ (66 teachers of the deaf [54.5%], 45 speech-language pathologists [37.2%], 12 special educators [9.9%], and 8 audiologists [6.6%]). Of the 121 people, 39 (32.2%) identified themselves as Certified Listening and Spoken Language Specialists™. Professional experience ranged from 1 year (3.4%) to 15 or more years (48.7%), with 61.2% having ten or more years of experience. Sixty-four respondents (52.9%) indicated their current role included providing services for 0-3 year old children. Of those providing services to 0-3 year old children, 46.2% identified their employers as private programs ($n = 30$), 29.2% as public programs ($n = 19$), 33.8% as school settings ($n =$

22), 9.2% as hospital settings ($n = 6$), 16.9% as agencies ($n = 11$), and 16.9% as other ($n = 11$). The respondents serving children through early intervention also identified their model of service delivery as home visiting (66.7%, $n = 44$), center-based individual (60%, $n = 39$), center-based group (32.3%, $n = 21$), tele-intervention (4.62%, $n = 3$) or other (4.62%, $n = 3$) including program administration, university clinic, and other community-based program.

Respondents were asked to indicate their use and familiarity with a list of 20 resources. The five resources most used or referenced were

- AG Bell Knowledge Center (76.1%)
- Early Head Start (45.6%)
- Zero to Three (42.1%)
- Project ASPIRE (28.1%)
- Maternal Infant and Early Childhood Home Visiting (12.6%)

Respondents indicated they were familiar with, but had not used resources from Children's Defense Fund, The Play and Learning Strategies (PALS) and the National Center for Children in Poverty.

Respondents were asked to rate the extent to which their professional preparation programs addressed seven challenges that are encountered by children and families who live in poverty. As seen in Table 1, the two highest rated challenges, were (a) access to hearing technologies (76.3%), and (b) lack of enriching environments (59.7%). More than 80% of the respondents indicated that the

¹ Total responses will not equal 100% because some professionals belong to more than one group.

Table 1. Respondents' Ratings of Professional Preparation and Development Needs

Area	Addressed <i>multiple times or consistently</i> in professional preparation programs	Attended professional development addressing this topic $n = 107$	Desire additional professional development addressing this topic $n = 109$
Food insecurity	12/113 (10.6%)	28 (26.22%)	79 (72.5%)
Housing insecurity	17/113 (15.0%)	27 (25.2%)	82 (75.2%)
Health disparities	30/114 (26.3%)	51 (47.7%)	86 (78.9%)
Access to hearing technology	87/114 (76.3%)	93 (86.9%)	57 (52.3%)
Lack of transportation	20/112 (17.9%)	29 (27.1%)	66 (60.6%)
Increased risk of child maltreatment	34/114 (29.8%)	55 (51.4%)	71 (65.1%)
Lack of enriching environments and relationships	68/114 (59.7%)	84 (78.5%)	75 (68.8%)

challenges associated with lack of transportation, housing insecurity, and food insecurity were infrequently or never addressed in their preparation programs.

Respondents were also asked to identify those areas for which they had attended professional development opportunities or training. The majority indicated they had attended professional development opportunities designed to address the challenges associated with access to hearing technologies (86.9%) and lack of enriching environments and relationships (78.5%). Fewer respondents had attended professional development designed to address challenges associated with increased risk of child maltreatment (51.4%), health disparities (47.7%), lack of transportation (27.1%), food insecurity (26.2%), and housing insecurity (25.2%). The greatest proportion of respondents indicated their desire to seek professional development related to: health disparities (78.9%), housing insecurity (75.2%), and food insecurity (72.5%).

Respondents were also asked to rate the importance of various strategies and activities to support families who live in poverty. To further explore how strategies were being used, we examined the responses by those who were currently working as early intervention (EI) providers ($n = 64$). The EI respondents rated the following strategies as highly important:

- Ask meaningful questions and listen, listen, listen (93%)
- Make families feel comfortable (93%)
- Use language the family understands and explain new terms (93%)
- Instill a sense of confidence and self-worth (92%)
- Recognize priorities may be different than ours (90%)
- Use positive statements about the child and family (90%)
- Comment on child's strengths and development (88%)
- Identify strengths of the family (88%)
- Use daily routines such as mealtime for listening and language development (88%)
- Provide authentic affirmation (87%)
- Implement play activities (86%)
- Recognize and acknowledge the positive aspects of child-caregiver interaction (83%)
- Determine the best time and place to meet with the family based on the family's needs (78%)
- Assess with team members when appropriate (69%)

Strategies listed on the survey that were unfamiliar to a large number of respondents included:

- Host an open house for community agencies that provide services for families (15.3%)
- Identify community resources for food assistance such as the "backpack snack" programs or community garden programs found in many communities (12.1%)
- Use the Individual Family Service Plan (IFSP) team social worker to assist in goals related to food, housing and health (12.1%)
- Obtain gas cards or bus passes from community resources to support transportation needs (11.9%)
- Create a list of food pantry locations and contact

information (10.3%)

- Participate in activities with colleagues to increase agency-wide effective practices such as book study, poverty simulation, and resource simulator (10.3%)

When asked, "Are there other strategies or activities you use to support children and families living in poverty that this survey has not yet listed?" 29 respondents noted specific strategies or activities they had used to support children and families living in poverty. All of the strategies listed in response to this question could be classified in the six effective practices identified by Voss & Lenihan (2016).

There were 59 responses to the question, "When you think back to your university preparation, what were the formative experiences or assignments that had the greatest impact on your ability to serve children and families living in poverty?" Thirty respondents described experiences or assignments that occurred through in-course awareness activities ($n = 16$) including panels, case studies, readings, discussions and simulations; as part of practicum ($n = 12$), or through extracurricular service learning ($n = 2$). The other 29 commenting respondents noted that they recalled no formative experiences or assignments related to serving children and families in poverty as part of their university preparation. Three respondents noted life experiences relative to this topic (e.g., living in an impoverished area, growing up in poverty, serving in the Peace Corps) not specifically part of their university preparation.

There were 53 responses to the question, "What do you wish you would have known about serving children and families living in poverty prior to beginning your career?" These responses focused primarily on four areas. First, many comments addressed the need to learn more about ways to access resources. For example,

- "I wish I knew more resources to offer families in my state and how to access them."
- "Resources....where to start."
- "Information on community resources and how to help families access these resources."

Several comments addressed the need to know more about the impact of poverty on child development.

- "So many times these kids have fallen through the cracks early in life due to poverty issues and have not had appropriate hearing services or intervention. Then they are starting very late and at an even greater disadvantage and the problems become compounded to the point where they are nearly impossible to solve."
- "A family in poverty may have different priorities because they are trying to survive."

Respondents also addressed a desire to understand how poverty impacts the role of the professional:

- "I wish I would have been more forward in speaking out about food and housing insecurity—and insisting that part of all work with families is to respect their fundamental needs for food and shelter as well as supporting their children's growth in all areas."
- "How to empower families and help them advocate for the services they need."
- "How to assess families' needs without it seeming

judgmental or biased.”

- “That it affects everything we do with a family.”
- “How different our priorities can be. If I’d known this, I’d have kept from being so frustrated that it didn’t seem like we were on the same page.”

The fourth area that emerged was that respondents wished they had known more about safety of children and indicators of child maltreatment.

- “[How] to focus on the child and his/her needs...safety... signs of abuse, especially sexual abuse.”
- “How to ensure kids are safe and have access to healthy food when they are out of school.”

Several respondents reiterated the lack of professional preparation related to serving children who live in poverty.

- “Programs should absolutely talk loudly about these issues with practical tasks and strategies provided to address and not just criticize.”
- “Experience and exposure would have been key, but that is almost impossible to provide by the university.”
- “I learned much about minority cultures, but very little about addressing the needs of low SES families.”

Respondents were also asked, “What else would you like to share with investigators exploring the practitioner preparation focused on serving children and families living in poverty?” Responses represented the complexity of the issue of poverty and its impact, as well as the need for additional preparation in these areas. Although some comments addressed concepts mentioned earlier, additional comments contributed uniquely important information. One concept that emerged was the respondents’ emotional response to the topic (e.g., gratitude that a program addressed this topic, frustration, and overwhelming feelings of inadequacy to address this topic). Another concept that emerged was the desire for greater mentoring and support on the job in order to learn how to address the circumstance of poverty (e.g., job shadowing, co-treating, mentoring, working with senior experienced therapist, etc.). A third concept reflected the respondents’ respect and sensitivity toward the families they serve.

- “Often times, the solutions to a situation are limited. . . be realistic about what can and cannot be fixed in a situation. Recognize your role and your limitations. Always be respectful of the family members—no one really knows what the family has been through.”
- “It is clear that this needs to be discussed more at the degree preparation level. It is also important for leadership in medical settings to be aware of needs and discrimination related to poverty. Although my university did a wonderful job preparing us for multicultural and bilingual issues, I cannot recall detailed discussion about serving families in poverty. I wonder if the issue of poverty has (in the past) seemed “too big” and too unfunded to tackle?”
- “This is such an important topic and preparation programs should spend much more time focused on this than they do currently. Poverty doesn’t end when a child turns 3. All pre-service teachers need this information

because poverty impacts students throughout their years in school.”

- “This issue needs to be a “when” you encounter a family....rather than an “if” you encounter a family living in poverty issue. I have seen many homeless families that just want to help their children, but they needed shelter and food before hearing aid batteries. So, I had to locate the resources for all of it—thankfully we had social workers that knew what to do. This is an important issue!”
- “Every family has cultural differences; families living in poverty are not all just ‘one thing,’ but all have different skills and needs.”

Implications for EHDl Professionals

Although the responses from the relatively small number of respondents described above may not be generalizable to all EHDl professionals, they provide some initial information that is valuable for EHDl professionals and those responsible for their preparation. It is clear that most professional preparation programs offer limited instruction and experience in how to best serve children and families who live in poverty. EHDl professionals may learn interventions and strategies for promoting resilience on the job or through professional development activities, but these experiences vary widely.

Respondents also provided important insights that can be used to improve preparation programs. First, while many respondents were able to identify numerous resources they have consulted along with a variety of strategies and activities they use to serve children and families in poverty, some professionals were entirely unfamiliar with many resources, strategies, and activities. Further, the list of practices used in the survey was not exhaustive. There are many more resources available to EHDl professionals which this survey did not explore.

Second, EHDl professionals identified the extent to which their professional preparation programs addressed the challenges facing families who live in poverty. Access to hearing technologies and lack of enriching environments were the highest rated challenges. Further, it is alarming that 40.4% of programs from which these respondents received their training either infrequently or never addressed lack of enriching environments and relationships. Because food and housing insecurity are primary challenges stemming from poverty that directly impact the ability for children and families to access services and intervention support, it is a major concern that professional preparation programs are infrequently or never addressing these topics. More than 80% of the respondents indicated that the challenges of lack of transportation, housing insecurity, and food insecurity were infrequently or never addressed in their preparation programs.

Of concern, 70.2% of respondents indicated that their professional preparation programs infrequently or never addressed the topic of increased risk of child maltreatment.

Although it is possible these programs did address the topic of child maltreatment, they might not have addressed the fact that children living in poverty are at an increased risk. Our concern is that some programs do not address the topic at all. This is especially concerning because all EHDI professionals, independent of discipline, are mandated reporters of child maltreatment, with moral and legal responsibility to recognize and respond to incidences of child maltreatment.

Third, respondents repeatedly indicated they have professional development or general learning needs related to poverty. The top two challenges addressed by professional preparation programs and those professional development topics most often mentioned by our respondents included access to hearing technologies (86.9%) and lack of enriching environments and relationships (78.5%). This is not surprising given the focus on communication development. However, if professional development opportunities are in place to enhance the participants' knowledge or skills, programs might make a greater shift in their professionals' knowledge and skills by addressing topics less frequently addressed and more specific to living in poverty. Although the resources available to those responsible for offering professional development may be limited, they are not entirely absent. Thus, it is critically important that professional development facilitators or program administrators appreciate the impact these learning opportunities can have on improving professionals' knowledge and skills in the area of serving families living in poverty.

Fourth, the EHDI professionals responding to this survey recommended that personnel preparation programs should intentionally address in course work and practical experience how to work with families of children who are DHH and are living in poverty. Respondents also emphasized the power of strong mentoring and ongoing professional development on this topic.

Conclusions

The information collected from EHDI professionals described here is a first step. Additional research with larger, better defined, and more representative samples would be useful to confirm what was reported here. Additionally, interviews and surveys with families living in poverty who have been served by EHDI programs would enable us to examine how families perceive the system, and what is working and not working. It would also be useful to review course syllabi in personnel preparation programs with respect to how issues related to poverty are being addressed in course outcomes and activities. Such an analysis could lead to the development of a tool that could be used to conduct an internal review of course outcomes and activities. A syllabi review, in conjunction with surveys of professionals and families, could identify the gaps in preparation, and opportunities for program improvement, relative to serving children and families living in poverty.

The NCHAM Issue Brief, *Fostering Resilience for Children Living in Poverty: Effective Practices & Resources for EHDI Professionals* (Voss and Lenihan, 2016), provides definitions and data on poverty, and a description of the issues including research, trends, and the impact on child development. This document offers a framework of effective practices and strategies, a description of family influences that professionals can impact and a list of exemplary programs including awareness and advocacy activities, home visiting, and family support. Finally, this document provides guidance for faculty and program administrators to develop course and professional development content through case studies, questions for reflections, group discussion prompts, visuals, and a multimedia presentation related to how services are best provided to families and children who are DHH and living in poverty. This document is most effective when used in conjunction with other resources such as Jensen (2009, 2013), Gorski (2013), Neuman (2009), and Suskind (2015).

In sum, the practices that promote resilience for children and families living in poverty are the same practices that will support and enhance development for all children. However, it cannot be overstated that when considering a vulnerable population of children, as those are who live in impoverished environments, it is of critical importance to use effective practices that may be uniquely needed by this population. More research is necessary so that professional preparation programs have evidence-based strategies and activities to thoroughly address this topic through course work and practical experiences. Only when EHDI professionals enter the workforce with a strong awareness regarding the risks associated with childhood poverty and a variety of effective practices and strategies will we promote resilience and improve outcomes for young children who are DHH and their families living in poverty.

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Appendix A.

A Framework of Effective Practices and Strategies to Promote Resilience

1. Identify Personal Bias

- Reflect on our experiences, values, and attitudes related to poverty.
- Read articles and explore websites about poverty.
- Be present, non-judgmental, and selfless.



- Find the strengths in each family.
- Recognize priorities may be different than ours.
- Watch, listen, learn.
- Hold high expectations for achievement.

2. Build Relationships

• Parent-Professional

- Use positive statements about the child and family—be specific.
- Instill a sense of confidence and self-worth.
- Provide feedback and authentic affirmation to make families feel comfortable.
- Use language the family understands and explain new terms.
- Talk with caregivers about their lives to know what their tangible and intangible contributions can be.
- Support families in determining what they can and want to contribute.
- Ask meaningful questions and listen, listen, listen.

• Parent-Child

- Recognize and acknowledge the positive aspects of child-caregiver interaction.
- Note appropriate attachment between child and caregiver.
- Comment on child's strengths and development.
- Provide resources for caregivers to develop positive relationship with child—print, online, and community resources.

3. Assess Family Needs

- Identify strengths of the family.
- Assess with team members, when appropriate.
- Determine type of poverty experienced by the family—financial, emotional, mental, physical, support systems, role models.
- Consider Maslow's Hierarchy of Needs in recognizing family priorities.
- Determine the best time and place to meet with the family based on the family's needs.
- Observe trends in communication access; keep previous contact information and extended family contacts.
- Use a written agreement that discusses roles and responsibilities of early intervention provider and family.
- Guide families in documenting appointments and sessions.

4. Provide Resources and Support

• Listening Technology

- Seek funding to provide free hearing screenings to childcare programs in neighborhoods with limited resources.
- Find pediatric audiology programs that provide services at low or no cost.
- Seek funding to provide hearing aid batteries at low or no cost.

• Access to Services

- Obtain gas cards or bus passes from community resources to support transportation needs
- Assist in arranging medical transportation for audiology services
- Host an open house for community agencies that provide services for families

- Meet with the family at the local public library to encourage use of the library for literacy
- Create a list of medical clinics that provide free or reduced cost services
- **Food, Housing, Health**
 - Identify community resources for food assistance such as the “backpack snack” programs or community garden programs found in many communities
 - Explore governmental agencies at the state and local level that may provide support such as Supplemental Security Income, Medicaid and the U.S. Department of Health and Human Services/Regional Centers
 - Develop collaborative relationships with social workers and social service programs in the community
 - Use appropriate snack activities during sessions to encourage the use of healthy snacks
 - Create a list of food pantry locations and contact information
 - Use the Individual Family Service Plan team social worker to assist in goals related to food, housing, and health
 - Be aware of religious organizations in the community that the families may connect with for support
- **Keep everyone safe**
 - Discuss safety concerns as related to scheduling of time and place of family sessions, lead paint poisoning, and access to outdoor play
 - Protect children from child abuse and neglect by providing resources and support and by using Johnson’s Observe Understand & Respond: The OUR Children’s Safety Project



5. Increase Awareness and Advocate

• Agency-wide

- Participate in activities with colleagues to increase agency-wide effective practices such as book study, poverty simulation, and resource simulator.

• Community-wide

- Be aware of legislative initiatives that could provide support for children living in poverty and advocate with governmental leaders for the implementation of such policies.

6. Educate Families on Quality Instruction

- Identify quality instruction within the intervention program
- Use relevant, authentic, and multi-cultural activities and materials
- Implement play activities recommended by American Academy of Pediatrics (AAP) and Play and Learning Strategies (PALS)
- Avoid bringing toys and equipment that the family wouldn’t typically have in their home
- Teach families how to create activities out of materials in their home such as building towers, cards and puppet theaters from cereal boxes, or using towels, sheets, clothes pins, toilet paper tubes etc. for dramatic play
- Use daily routines such as mealtime for listening and language development
- Bring materials for an art project and leave some materials behind so that families can use the materials to recreate or extend the activity
- Sing songs, recite rhymes, and participate in movement and fingerplays
- Encourage caregivers to teach you the songs they use or remember from their childhood
- Provide written descriptions of activities you use in your session to encourage repetition
- Establish family support groups for parent-to-parent interaction and learning
- Support families in selecting quality childcare by using resources such as Childcare Aware (<http://www.naccrra.org/> or www.childcareaware.org/)
- Teach families about the characteristics of quality early childhood education.

Appendix B.

2015 Survey of EHDI Professionals



Serving Children and Families Living in Poverty: Perspectives on Provider Preparedness

Serving Children and Families Living in Poverty – Perspectives on Provider Preparedness

You are invited to participate in a research study being conducted by investigators from Fontbonne University. Please consider completing this survey investigating perspectives on serving children and families living in poverty. Investigators are exploring pre-service preparation, in-service support, and overall attention towards the service delivery for a population of learners living in poverty. By doing so, you'll be contributing knowledge to the field on how to best prepare future professionals.

The survey should take approximately 15 minutes to complete.

Taking part in this research study is completely voluntary. If you do not wish to participate in this study, simply delete this invitation or disregard this link. Should you choose to participate, by submitting the survey, you are consenting to the use of your responses in this study. You may choose to drop out at any time by exiting out of the survey browser. We will not collect your name or personally identifying information about you. It will not be possible to link you to your responses on the survey.

To take the survey, click next to begin.

Feel free to forward this invitation and web-link to other professional colleagues who may be eligible to participate. If you have any questions about the research study please contact Dr. Jenna Voss (jvoss@fontbonne.edu) or Dr. Susan Lenihan (slenihan@fontbonne.edu) at 314.889.1407. If you have questions about the rights of research participants, please contact the Institutional Review Board for the Protection of Human Subjects in Research, Office of the Vice President for Academic Affairs, 202 Ryan Hall, Fontbonne University, 6800 Wydown Boulevard, St. Louis, MO 63105.

Thank you very much for your participation.

Next

1. I have ___ years of experience in my profession.

2. My profession is (Check all that apply):

- Teacher of the Deaf
- Audiologist
- Speech Language Pathologist
- Special Educator
- Certified LSL Specialist
- Other (please specify)

3. My employer is characterized as (Check all that apply):

- Private
- Public
- School
- Hospital
- Agency
- Other (please specify)

4. My service delivery model can be described as (Check all that apply):

- Home Visiting
- Center based: Individual
- Center based: Group
- Other (please specify)

5. My degree and area of study relevant to my current role (e.g., MA Early Intervention in Deaf Education):

6. Note - your response to this prompt is optional.
My professional preparation program (e.g., university) was:

Next

7. Does your current role include providing early intervention services for children who are deaf/hard of hearing, ages birth through three (Part C)?

Yes

No

If no, please describe your current role.

8. Is your employer identified by the federal government as a high need district?

9. Do you currently have children living in poverty on your caseload?

Next

10. Are you familiar with the following resources?

	Unfamiliar	Familiar, but have not used it	Familiar and have used, reference, or consulted it.
National Center for Children in Poverty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children's Defense Fund	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Center on the Developing Child at Harvard University	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promise Neighborhoods- Creating Nurturing Environments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Early Head Start (EHS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frank Porter Graham Child Development Center Abecedarian Project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Save the Children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maternal Infant and Early Childhood Home Visiting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nurse Family Partnership- and the Child FIRST Program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Children's Learning Institute	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Plan and Learning Strategies (PALS) curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comer School Development Program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changing the Odds for Children at Risk: Seven Essential Principles of Education Programs that Break the Cycle of Poverty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AG Bell Listening and Spoken Language Knowledge Center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Project ASPIRE (Achieving Superior Parental Involvement for Rehabilitative Excellence)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food Research and Action Center (FRAC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zero to Three	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Urban Institute	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Observe, Understand and Respond: The O.U.R Children's Safety Project - Hands and Voices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child Welfare Information Gateway	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Next

11. Please rate the following: My professional preparation program addressed how to support families in the following areas:

	Not at all	Infrequently	Multiple Times	Consistently
<i>Food Insecurity</i> - as defined as lack of dependable access to enough food for healthy living	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Housing Insecurity</i> - as defined as a range of circumstances, including but not limited to: multiple families sharing single family dwellings, lower quality homes, temporary housing, and use of extended stay hotels as primary residence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Health Disparities</i> - as defined as differences in which disadvantaged social groups systematically experience worse health or greater health risks than more advantaged social groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Access to hearing technologies</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Lack of transportation</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Increased risk of child maltreatment</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Lack of enriching environments and relationships</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Next

12. In my career I have attended professional development that addressed how to support families in the following areas (Check all that apply):

- Food insecurity* - as defined as lack of dependable access to enough food for healthy living
- Housing insecurity* - as defined as a range of circumstances including but not limited to: multiple families sharing single family dwellings, lower quality homes, temporary housing, and use of extended stay hotels as primary residence
- Health disparities* - as defined as differences in which disadvantaged social groups systematically experience worse health or greater health risks than more advantaged social groups
- Access to hearing technologies*
- Lack of transportation*
- Increased risk to child maltreatment*
- Lack of enriching environments and relationships*

13. I would like additional professional development in the following areas (Check all that apply):

- Food insecurity* - as defined as lack of dependable access to enough food for healthy living
- Housing insecurity* - as defined as a range of circumstances including but not limited to: multiple families sharing single family dwellings, lower quality homes, temporary housing, and use of extended stay hotels as primary residence
- Health disparities* - as defined as differences in which disadvantaged social groups systematically experience worse health or greater health risks than more advantaged social groups
- Access to hearing technologies*
- Lack of transportation*
- Increased risk to child maltreatment*
- Lack of enriching environments and relationships*

Next

14. Rate your knowledge of the following categories of effective practices and strategies as related to serving children and families living in poverty:

	Unfamiliar	Familiar, but have not used it	Familiar and I have used/referenced
Identify Personal Bias	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Build Relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access Family Needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Document What Works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep Everyone Safe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide Resources and Support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educate Families on Quality Instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase Awareness and Advocate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. Rate (between 1 and 5) the importance of using these strategies or activities to support families living in poverty: (Note* after you've rated these strategies/activities, you will have an opportunity to comment).

	1- Not Important	2	3	4	5- Extremely Important	N/A - This is unfamiliar to me
Reflect on personal experiences, values and attitudes related to poverty	<input type="radio"/>	<input type="radio"/>				
Read articles and explore websites about poverty	<input type="radio"/>	<input type="radio"/>				
Recognize priorities may be different than ours	<input type="radio"/>	<input type="radio"/>				
Hold high expectations for achievement	<input type="radio"/>	<input type="radio"/>				
Use positive statements about the child and family	<input type="radio"/>	<input type="radio"/>				
Instill a sense of confidence and self-worth	<input type="radio"/>	<input type="radio"/>				
Provide authentic affirmation	<input type="radio"/>	<input type="radio"/>				
Make families feel comfortable	<input type="radio"/>	<input type="radio"/>				

Comments:

Next

16. CONTINUED: Rate (between 1 and 5) the importance of using these strategies or activities to support families living in poverty: (Note* after you've rated these strategies/activities, you will have an opportunity to comment).

	1- Not Important	2	3	4	5- Extremely Important	N/A - This is unfamiliar to me
Note appropriate attachment between child and caregiver	<input type="radio"/>	<input type="radio"/>				
Recognize and acknowledge the positive aspects of child-caregiver interaction	<input type="radio"/>	<input type="radio"/>				
Use language the family understands and explain new terms	<input type="radio"/>	<input type="radio"/>				
Provide resources for caregivers to develop positive relationships with child - print, online and community resources	<input type="radio"/>	<input type="radio"/>				
Identify strengths of the family	<input type="radio"/>	<input type="radio"/>				
Talk with caregivers about their lives to know what their tangible and intangible contributions can be	<input type="radio"/>	<input type="radio"/>				
Ask meaningful questions and listen, listen, listen	<input type="radio"/>	<input type="radio"/>				
Comment on child's strengths and development	<input type="radio"/>	<input type="radio"/>				

Comments:

Next

17. CONTINUED: Rate (between 1 and 5) the importance of using these strategies or activities to support families living in poverty: (Note* after you've rated these strategies/activities, you will have an opportunity to comment).

	1- Not Important	2	3	4	5- Extremely Important	N/A - This is unfamiliar to me
Guide families in documenting appointments and sessions	<input type="radio"/>	<input type="radio"/>				
Keep previous contact information and extended family contacts	<input type="radio"/>	<input type="radio"/>				
Use a written agreement that discusses roles and responsibilities of early intervention provider and family	<input type="radio"/>	<input type="radio"/>				
Assess with team members when appropriate	<input type="radio"/>	<input type="radio"/>				
Consider Maslow's Hierarchy of Needs in recognizing family priorities	<input type="radio"/>	<input type="radio"/>				
Discuss safety concerns as related to scheduling of time and place of family sessions, lead paint poisoning and access to outdoor play	<input type="radio"/>	<input type="radio"/>				
Determine type of poverty experienced by the family - financial, emotional, mental, physical, support systems, role models	<input type="radio"/>	<input type="radio"/>				
Determine the best time and place to meet with the family based on the family's needs	<input type="radio"/>	<input type="radio"/>				

Comments:

Next

18. CONTINUED: Rate (between 1 and 5) the importance of using these strategies or activities to support families living in poverty: (Note* after you've rated these strategies/activities, you will have an opportunity to comment).

	1- Not Important	2	3	4	5- Extremely Important	N/A - This is unfamiliar to me
Find pediatric audiology programs that provide services at low or no cost	<input type="radio"/>	<input type="radio"/>				
Assist in arranging medical transportation for audiology services	<input type="radio"/>	<input type="radio"/>				
Create a list of medical clinics that provide free or reduced cost services	<input type="radio"/>	<input type="radio"/>				
Obtain gas cards or bus passes from community resources to support transportation needs	<input type="radio"/>	<input type="radio"/>				
Meet with the family at the local public library to encourage use of the library for literacy	<input type="radio"/>	<input type="radio"/>				
Protect children from child abuse and neglect by providing resources and support	<input type="radio"/>	<input type="radio"/>				
Host an open house for community agencies that provide services for families	<input type="radio"/>	<input type="radio"/>				
Seek funding to provide hearing aid batteries at low or no cost	<input type="radio"/>	<input type="radio"/>				

Comments:

Next

19. CONTINUED: Rate (between 1 and 5) the importance of using these strategies or activities to support families living in poverty: (Note* after you've rated these strategies/activities, you will have an opportunity to comment).

	1- Not Important	2	3	4	5- Extremely Important	N/A - This is unfamiliar to me
Use the IFSP team social worker to assist in goals related to food, housing and health	<input type="radio"/>	<input type="radio"/>				
Use relevant, authentic and multi-cultural activities and materials	<input type="radio"/>	<input type="radio"/>				
Create a list of food pantry locations and contact information	<input type="radio"/>	<input type="radio"/>				
Identify community resources for food assistance such as the "backpack snack" programs or community garden programs found in many communities	<input type="radio"/>	<input type="radio"/>				
Develop collaborative relationships with social workers and social service programs in the community	<input type="radio"/>	<input type="radio"/>				
Be aware of religious organizations in the community that the families may connect with for support	<input type="radio"/>	<input type="radio"/>				
Explore governmental agencies at the state and local level that may provide support such as SSI, Medicaid and DHHS/Regional Centers	<input type="radio"/>	<input type="radio"/>				
Use appropriate snack activities during sessions to encourage the use of healthy snacks	<input type="radio"/>	<input type="radio"/>				

Comments:

Next

20. CONTINUED: Rate (between 1 and 5) the importance of using these strategies or activities to support families living in poverty: (Note* after you've rated these strategies/activities, you will have an opportunity to comment).

	1- Not Important	2	3	4	5- Extremely Important	N/A - This is unfamiliar to me
Be aware of legislative initiatives that could provide support for children living in poverty and advocate with governmental leaders for the implementation of such policies	<input type="radio"/>	<input type="radio"/>				
Teach families about the characteristics of quality early childhood education	<input type="radio"/>	<input type="radio"/>				
Participate in activities with colleagues to increase agency-wide effective practices such as book study, poverty simulation and resource simulator	<input type="radio"/>	<input type="radio"/>				
Sing songs, recite rhymes, and participate in movement and fingerplays	<input type="radio"/>	<input type="radio"/>				
Support families in selecting quality childcare	<input type="radio"/>	<input type="radio"/>				
Support families in selecting quality childcare 1 - Not Important	<input type="radio"/>	<input type="radio"/>				
Provide written descriptions of activities you use in your session to encourage repetition	<input type="radio"/>	<input type="radio"/>				
Establish family support groups for parent-to-parent interaction and learning	<input type="radio"/>	<input type="radio"/>				
Implement play activities	<input type="radio"/>	<input type="radio"/>				
Avoid bringing toys and equipment that the family wouldn't typically have in their home	<input type="radio"/>	<input type="radio"/>				
Bring materials for an art project and leave some materials behind so that families can use the materials to recreate or extend the activity	<input type="radio"/>	<input type="radio"/>				
Teach families how to create activities out of materials in their home	<input type="radio"/>	<input type="radio"/>				
Use daily routines such as mealtime for listening and language development	<input type="radio"/>	<input type="radio"/>				

Comments:

Next

21. Are there other strategies or activities you use to support children and families living in poverty that this survey has not yet listed? If so, please list them here.

22. When you think back to your university preparation, what were the formative experiences or assignments that had the greatest impact on your ability to serve children and families living in poverty?

23. What do you wish you would have known about serving children and families living in poverty prior to beginning your career?

24. What else would you like to share with investigators exploring the practitioner preparation focused on serving children and families living in poverty?

Thank you for taking the time to complete this survey. Your responses are valued and will contribute to our understanding of professional preparation related to serving children and families living in poverty.