Student Family Navigators Promoting Language Development in Infants and Toddlers from Lower-Income Families

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Abstract

The purpose of this pilot study was to develop and evaluate the feasibility of an experiential teaching and learning initiative that trained undergraduate students studying speech-language pathology to serve as family navigators promoting social communication and language development in infants and toddlers from lower-income backgrounds. Three students completed one semester of training that included multiple interactive approaches to instruction. They subsequently implemented a nine-month, online prevention and outreach program to nine mothers of infants and toddlers to promote social communication and language development. Results of formative assessments were examined and affective outcomes were explored. The intervention was implemented as intended, and the experience was acceptable to both student and parent participants. Uncertainties with regard to feasibility emerged, including the integration of this program into undergraduate programs in communication sciences and disorders as well as variability in parent engagement related to the presence or absence of concerns about their child's development. This empirical inquiry adds to the limited research base on clinical prevention activities that take place beyond the classroom by critically analyzing the implementation and documenting the outcomes of this initiative.

Keywords

undergraduate students, prevention, family navigation, language development

Cover Page Footnote

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The American Speech-Language-Hearing Association (ASHA) Scope of Practice in Speech-Language Pathology (SLP) delineates practice areas in the context of eight domains of service delivery that complement the International Classification of Functioning, Disability, and Health (World Health Organization [WHO], 2018), one of which is prevention and wellness (ASHA, 2016). Thus, SLP programs are responsible for preparing students for a variety of roles related to the primary, secondary, and tertiary prevention of communication disorders. In early childhood, ASHA (2016) recommends community-based prevention and wellness activities enabling SLPs to help reduce the incidence of communication and swallowing disorders. Roles and responsibilities include encouraging parents to participate in early screening and collaborating with professionals in healthcare, childcare, and education to recognize signs of communication disorders and promote healthy developmental practices.

Important aspects for SLP programs, then, are teaching and learning about evidence-based practices (EBP) related to identifying young children who are at risk for communication disorders to facilitate access to developmental evaluations and subsequent receipt of critical early intervention services. Students must also learn to coach parents of children at risk for communication disorders to use language promoting strategies in the natural environment (Greenwood et al., 2020; Woods, 2008). Clinically, SLP students provide education to families and support persons of individuals with communication disorders and participate in screening- and assessment-based practicum experiences in their graduate programs. However, using principles of implementation science to teach and apply empirically supported prevention practices in real-world settings at the undergraduate level could serve the important purpose of advancing preservice education in this area of practice (Olswang & Prelock, 2015).

Disparities in Access to Early Childhood Education and Intervention

Early intervention (EI) is federally mandated by the Individuals with Disabilities Education Act (IDEA, 2004). However, according to the Annual Report to Congress on the implementation of IDEA, less than 25% of children who will require special education at school age receive EI services (U.S. Department of Education, 2022). Federal funding for IDEA Part C remains insufficient, limiting the number of children receiving EI screenings, evaluations, and services (Gillispie, 2021). Further, there are persisting and significant disparities in access to EI for children of color and those from low-income backgrounds (Cole et al., 2023; Gillispie, 2021). Early language skills are strong predictors of school readiness and later school success (Hoff, 2013). However, decades of research have documented gaps in language skills at school entry between children from lower- and higher-income families (Fernald et al., 2013; García & Weiss, 2017; Ginsborg, 2006; Law et al., 2017).

The quantity and quality of child-directed speech and verbal responsiveness by parents are important predictors of downstream language skills (Delehanty et al., 2023; Zauche et al., 2016). Research findings have indicated that these variables differ by socioeconomic status and other social determinants of health including support networks, parental education and literacy levels, as well as accessible education systems, which partially explain early disparities in child language development (Chang, 2017; Di Sante & Potvin, 2022; Pace et al., 2017; Rowe, 2018). Other family support services for those considered at risk or facing economic challenges, including Early Head Start and home visiting programs, are also underfunded and experiencing severe workforce

shortages (Cole et al., 2023). For example, the most recent report issued by the National Institute for Early Education Research estimated that less than 10% of eligible infants and toddlers were served by Early Head Start (Friedman-Krauss et al., 2022).

The growing knowledge base in this area has led researchers and policy makers to recommend that SLPs take meaningful action by targeting these social determinants to decrease risk factors, increase protective factors, and reduce social inequalities in language development (Di Sante & Potvin, 2022; Law et al., 2017; Neiling & Cutshaw, 2023). As professional organizations begin to prioritize the prevention of developmental language disorders in the context of health promotion in SLP, research examining the development of customized, preservice learning opportunities related to prevention intervention programs is critical. Even further, enthusiasm for developing and maintaining undergraduate research initiatives for healthcare students is growing (e.g., Adebisi, 2022), as is the interest in considering the application of implementation science to the scholarship of teaching and learning (SoTL) in the field (Visconti & Douglas, 2023). The purpose of this pilot study was to develop and evaluate the feasibility of a training model for undergraduate students in speech-language pathology to serve as family navigators promoting social communication and language development in toddlers from lower-income families.

Promoting Language Outcomes through Family Navigation

The coordination of care across providers and services through family navigation is one strategy for overcoming barriers and supporting access to caregiver education, screening and evaluation, and EI to maximize children's developmental outcomes. Family navigators are laypersons from the community who are trained to provide tailored education and support over a time-limited period to build advocacy skills in caregivers and guide them through the process of accessing a variety of community services and supports (Broder-Fingert et al., 2020; Burke et al., 2023). Interventions that include family navigation emerged following decades of research findings that patient navigators were a critical element in reducing disparities and expanding access to cancer screenings and clinical follow up among low-resourced and medically underserved individuals (Freeman, 2006). However, the definitions, roles, types, and components of family navigation have expanded over time and vary by setting. Navigators now serve in education systems, nonprofit or family-led organizations, and state departments of health and/or human services (Association of Maternal & Child Health Programs [AMCHP], 2018). They can support child nutrition, safety, and development, serve as peer counselors focusing on adolescent transition and mental health services, increase family understanding of financial and logistical aspects of health care across the lifespan, and more (AMCHP, 2018).

The idea that families of children who are at risk for, or showing signs of developmental delays could benefit from family navigation is relatively new, but there is mounting evidence that it is a promising approach to lowering the age of diagnosis and access to care for children on the autism spectrum (Broder-Fingert et al., 2020; Feinberg et al., 2021). It is possible that family navigators could assist caregivers of very young children at risk for communication disorders, as well, and that undergraduate students in SLP programs could benefit from being trained to serve in this role.

Current Study

In response to policy shifts, the literature, and an identified need in our community, we designed a mobile prevention and outreach program that was delivered to nine families by three undergraduate students studying speech-language pathology. The program included three components that have been found to support positive outcomes (Figure 1). Over a nine-month period, student family navigators provided (a) screening with developmental surveillance, (b) seven individualized education sessions delivered via mobile technology to monitor development, supportively report screening results, and share evidence-informed resources in early child development and responsive parenting, and (c) a bridge to evaluation and access to early intervention as needed. We conducted a preliminary evaluation of the program and the experiential learning model to characterize the student experience, delivered on a small scale in a residential community sphere (Neiling & Cutshaw, 2023).

Figure 1

Components of the Family Navigator Mobile Outreach and Prevention Program
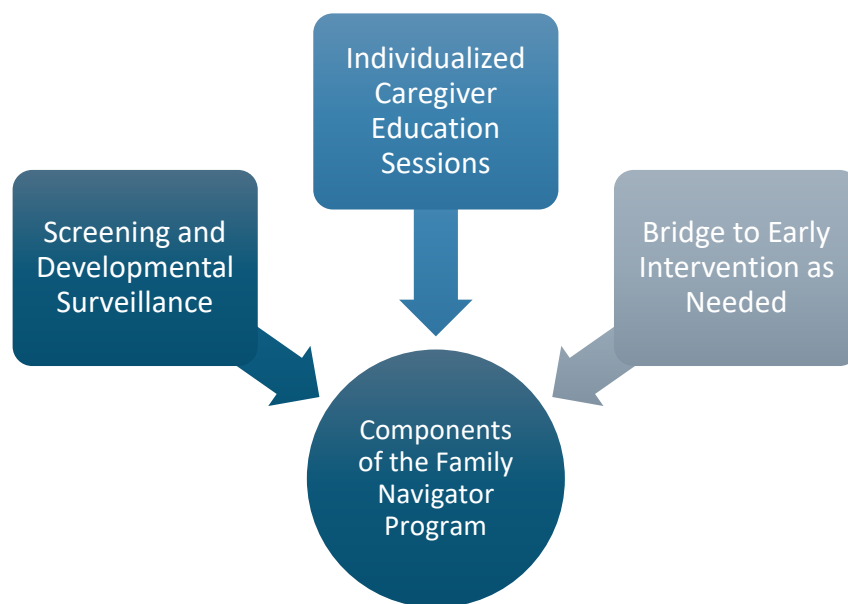
The study was guided by five aims. For our student family navigators, we evaluated our practices by examining (a) results of formative assessments in the training phase, (b) implementation fidelity during the intervention, and (c) their perceptions of the acceptability, practicality, barriers, facilitators, comfort, and confidence related to the implementation of the intervention. For the child and family participants, we captured information about satisfaction and acceptability of study procedures, data collection, and outcome measures, as well as preliminary responses to the intervention (Fey & Finestack, 2009; Orsmond & Cohn, 2015). Outcomes were measured with descriptive statistics, qualitative analysis, and the compilation of basic data related to administrative and physical infrastructure.

Significance

This pilot study contributes to the scholarship of teaching and learning in at least four ways. First, pairing instruction with hands-on practice providing parent education, developmental screening, and surveillance at the undergraduate level could promote a richer student understanding of prevention, wellness, and advocacy related to supporting language development in an underserved population. Next, researchers have emphasized the importance of providing students with early opportunities to encounter EBP in research and clinical interactions as well as in the classroom to maximize the integration of empirical evidence into clinical practice (Kelley et al., 2020; Wolter et al., 2011). Third, offering expanded undergraduate practicum experiences has implications for the education of preservice SLPs, but also for training certified SLP assistants who may one day work in an early intervention setting (ASHA, n.d.). Finally, this type of experience could enhance the probability of students' future application of EBP, thus contributing to reducing the persistent gap between research to practice in our discipline (Olswang & Prelock, 2015; Kelley et al., 2020).

Methods

Research Design. This pilot was a feasibility study designed to describe evidence related to relevance, practicality, implementation, and sustainability to plan for an experimental efficacy trial that would control for threats to validity and effect a positive influence on development for children and families (Fey & Finestack, 2009; Moore et al., 2011). Most evidence-based recommendations for interventions in communication sciences and disorders (CSD) are derived from highly controlled efficacy trials. However, feasibility studies are an important first step when community partnerships need to be established, increased, or sustained; when there are limited existing data using a specific intervention technique; and for helping to determine whether interventions are acceptable to their intended audience and can be implemented as intended (Fey & Finestack, 2009; Moore et al., 2011; Orsmond & Cohn, 2015). We used a within-group cohort design as a framework for development and evaluation. This feasibility study was underpowered by design and null hypothesis testing was not planned (Moore et al., 2011). We collected all data online via surveys and teleconferencing.

Design of this pilot was based in experiential learning theory, where knowledge is derived and tested within a continuous process that is grounded in the active participation and discoveries of the learner (Kolb, 2015), using community engagement approaches to designing public health interventions (e.g., Brunton et al., 2017). The design of the program's components was grounded in the transactional theory of language development that emphasizes the importance of ongoing social interactions with communication partners in everyday contexts and a measurement paradigm based on constructs of family-centered, individualized intervention (Dunst et al., 1988; McLean & Snyder-McLean, 1978; Woods, 2021). This study was approved by the Institutional Review Board at Duquesne University (Protocols 2020/12/8 and 2022/07/7).

Participants and Setting.

Student Participants. Three Duquesne University students studying speech-language pathology were recruited via convenience sampling to serve as family navigators. They provided written informed consent prior to participation in the study. This pilot study was not built into an

undergraduate course; therefore, recruiting our student family navigators proved to be a multifaceted process that leveraged the diverse talents and interests of our SLP students, as well as the structure of the five-year accelerated SLP program at the university.

Students were female and classified as undergraduates during the study. One student was in her senior year, or the fourth year of the accelerated five-year SLP program. She enrolled in her first clinical practicum and graduate level coursework as the study began. Our senior navigator immediately responded to a cohort-wide email that described the program, showcasing a proactive attitude towards research involvement. The second student was a junior who was identified by the research supervisors for her exceptional interactions with families of young adults with developmental disabilities. She demonstrated unique strengths in empathy and understanding in her extracurricular activities, making her a valuable addition to our team. The third recruit was a sophomore who expressed a keen interest in designing an undergraduate independent study (IS) that aligned directly with the goals of this program. She ultimately chose to participate in this study in lieu of completing the IS.

Leveraging the structure of our five-year program, we strategically aimed to include students from different cohorts who displayed enthusiasm for research, qualities that were viewed as assets to the program as planned, and the curiosity and aspiration to go over and above the requirements of the curriculum. We envisioned the senior cohort providing mentorship and guidance to the younger recruits, fostering a supportive environment conducive to learning and growth. Beyond this pilot study, we anticipated continued collaboration with these students, recognizing the potential for their ongoing assistance to younger cohorts as they themselves advanced through the SLP program.

Child and Family Participants. Nine families were recruited through community partnerships in early childhood education and healthcare to participate in the student family navigator training program. To be included in the study, families reported income of less than $58,100 per year or the receipt of benefits to meet food, childcare, housing, or utility needs (Pennsylvania Department of Community and Economic Development, 2023). Mothers ranged from 25-28 years of age at their child's birth. Six mothers identified as white, one as Asian/Pacific Islander, one as Black, and one did not report this information. In addition to English, two families also spoke Spanish, one spoke Cantonese, and one also spoke Russian and Hebrew in the home environment. Three mothers had completed a college degree and six reported having attended at least some college. Seven were employed at the time of the study, and two were not employed and not looking for work. Six mothers were married. Infants and toddlers were between 8-17 months at study entry and eight of the nine were male. Eight children were born prior to their due date, ranging from 3 days early to 5 weeks premature. Five were attending childcare during the study. Three mothers reported concerns about their child's language development and one mother reported concerns about motor development. Children were not receiving early intervention services at study entry.

Materials and Procedure.

Key Instructional Content: Scope and Sequence. The core components of a family navigation intervention were delineated by Broder-Fingert and colleagues (2020) following the principles of implementation science and intervention development (p. 526). The instructional framework used

to prepare our students for their work as navigators was built upon the elements operationalized by these researchers following four clinical trials of family navigation (Broder-Fingert et al., 2020). Core components included (a) Training and Supervision (i.e., intensive initial training, supervision and case review, and fidelity monitoring); (b) Navigator Activities (including encounters with families, identification of barriers, emotional support, care coordination, and referral); and (c) Navigator Tools (i.e., workbook of educational materials and resources and family specific action plans) (see Broder-Fingert et al., 2020, p. 528). All instruction was carried out online through self-paced training courses and via team meetings using videoconferencing. Student family navigators were trained for one academic semester in (a) responsible conduct of research (Collaborative Institutional Training Initiative [CITI], n.d.); (b) social communication and language development in infants and toddlers (SC-DIT; Wetherby et al., 2020); (c) developmental screening processes (Fenson et al., 2007; Wetherby & Prizant, 2002); and (d) Family Guided Routines Based Intervention with caregiver coaching (FGRBI; Woods, 2021).

Responsible Conduct of Research. Student family navigators enrolled in the Social and Behavioral Responsible Conduct of Research course offered by the CITI Program. The self-paced, online course consisted of nine modules covering topics including, but not limited to, research misconduct, data management, authorship, conflicts of interest, and protection of human subjects. Each module included a learning assessment that required a passing score of 80% to obtain a course completion certificate (https://about.citiprogram.org). Completion of this course was required by Duquesne University for all students participating in research. However, its inclusion in this pilot study was viewed as particularly important to foster a culture of positive regard for our participants, ethical decision making, and integrity in research.

Social Communication Development in Infants and Toddlers (SC-DIT). This self-paced, online professional development course was designed for undergraduate or beginning graduate students studying any discipline that works with young children and families, including child development, communication science and disorders, psychology, social work, early childhood education and special education, nursing, or other related fields. The course includes video players illustrating 80 social communication milestones that develop from 9 to 24 months of age organized into five domains—language, play, social interaction, emotional regulation, and self-directed learning. Students completed 15 self-guided lessons focused on how social communication development changes over time and how reaching milestones in these five developmental domains culminates in school readiness indicators. Students submitted online learning assessments with 10 multiple-choice questions for each of the five developmental domains and received a certificate of completion with a score of 80% or higher (https://autismnavigator.com/wp-content/uploads/2019/10/About-SC•DIT.pdf). Each student had completed an undergraduate course in typical language development. SC-DIT provided enriched content related to our target demographic of 9-24 months. Each of the hundreds of clips in the course is supplemented with narration that describes the parent's responsiveness and how their actions provided a supportive context for child development. Student family navigators were encouraged to return to the course throughout the pilot study to draw from the wide array of examples for use in their interactions with families.

Developmental Screening Processes. Effective developmental screening processes include conducting screenings from trained care providers, ensuring that families are referred to supportive

services and interventions, documenting results for developmental surveillance purposes, and empowering caregivers to support their children's developmental health outcomes (National Institute for Children's Health Quality, 2023). Rates of universal screening for communication and developmental delays in primary care for very young children are rising (Lipkin, 2020). Still, at the national level, only 34% of infants and toddlers between 9-35 months received a developmental screening using a parent-report tool in the past year (Cole et al., 2023). Moreover, screening alone may not be sufficient for identifying children who need EI. Primary care providers may identify communication delays during routine well child visits. However, a "wait-and-see" approach is common due to typical variation in emergence of words as well as the limited amount professional time available during these brief visits. Further, following a positive screen for communication or other developmental delay, families may not receive a recommended diagnostic evaluation even if their provider makes a referral (Kuhn et al., 2021). Surveillance models that include ongoing developmental screening and monitoring as complementary strategies have been shown to improve linkage from screening to receipt of early intervention services (Barger, Rice, & Roach, et al., 2021; Barger, Rice, & Wolf, et al., 2018; Lipkin et al., 2020). For the current study, student family navigators were trained on principles of family centered care (Rusiewicz, 2021) and on the administration, scoring, and interpretation of commonly used and validated communication, speech, and language screening measures for infants and toddlers.

Family Guided Routines Based Intervention (FGRBI). The FGRBI model places a focus on the use of responsive communication strategies and building the caregivers' capacity to promote their children's development within the context of their typical routines and activities (Woods, 2021). A four-step collaborative coaching model based on adult learning and cognitive behavioral research is used: 1) identification of what works for each parent-child dyad using observation, direct teaching, and demonstration as needed; 2) guided practice with parent embedding intervention, feedback, and problem solving; 3) repetition with caregiver-led practice and reflection; and 4) back-out by interventionist for caregiver independence. Ongoing monitoring with corresponding adjustments in programming is based on observational data. Parents learn to use intervention strategies matched to priority learning targets dispersed throughout daily activities to increase opportunities for teaching and learning.

For the current study, we structured the parent education sessions using elements from the FGRBI Key Indicators Checklist from the FGRBI Key Indicators Manual (Woods, 2021). Selected components of the SS-OO-PP-RR coaching framework (Setting the Stage, [Observation and Opportunities to Embed – *not included in this study*], Problem Solving and Planning, and Reflection and Review) were incorporated to integrate the spirit, principles, and practices of FGRBI during each session with family members and increase the caregivers' competence and confidence to embed priority child outcomes and targets. Student family navigator activities were independently developed for this study and grouped using the FGRBI framework. We designed and employed a scoring rubric to estimate implementation fidelity during the study and following study completion. The template, which was modified every session specific to each topic and family, appears in Figure 2. Building our sessions around components of this framework enabled us to create individualizable lesson plans.

Figure 2

Checklist Used to Estimate Implementation Fidelity

FGRBI Key Indicator (Woods, 2021)	Student Family Navigator Activity (Developed for the current study)		
Setting the Stage		**Yes**	**Not observed**
1. Gathers updates on the child and family – *listens and encourages reflection*	Uses notes from last session to **ask for updates.**	❏	❏
	What has the family **observed** about their child's social communication and language development since the last visit? Makes encouraging comments.	❏	❏
2. Asks caregiver to update intervention implementation since last visit – *listens, encourages caregiver reflection, and sets up problem solving as needed*	**Reviews** the resource(s) provided during the last visit.	❏	❏
	Checks in to see if caregiver may have tried any **new strategies**: What is/not working well? Identify family choices and priorities.	❏	❏
	Makes comments when parent responds with updates on targets, routines, or strategies.	❏	❏
3. Shares information related to development and family interests – *connects learning targets to functional outcomes and priorities to increase caregiver knowledge and resources*	Reviews results of **parent questionnaires** as needed.	❏	❏
	Gently **reminds** the parent to complete the questionnaire if needed (Problem solve as needed).	❏	❏
	Checks in as to whether the caregiver is **concerned** about their child's development in any domain; **records** these concerns to discuss with research supervisors.	❏	❏
4. Clarifies session targets, strategies, and routines jointly – *facilitates caregiver participation and decision making in the discussion*	**Shares** specific, evidence-informed developmental information/resource.	❏	❏
	Connects learning targets to information shared about child communication and language development. Encourages reflection on caregiver knowledge and resources.	❏	❏
Problem solving and Planning		**Yes**	**Not observed**
5. Problem solves with the caregiver about appropriate intervention strategies to	Brainstorms, offers suggestions, and **plans** for the caregiver's current priorities and the next steps between visits (what, when, and how).	❏	❏

embed – *coaches caregiver on evidence-based intervention for identified targets and routines*	Supports the caregiver to develop and describe an **action plan** with specific targets to support their child's development.	❑	❑

Figure 2 (continued)

6. Supports caregiver to identify opportunities for embedding in additional contexts/routines – *plans when, where, how to embed*	**Supports** caregiver to identify opportunities for embedding learning opportunities and expanding the child's participation in different contexts and routines that are meaningful to the family.	❑	❑
Reflection and Review		**Yes**	**Not Observed**
7. Asks questions, comments to promote caregiver reflection and review of a routine or the session – *identifies what works for caregiver and child*	Checks in to review and asks **open-ended questions** about what has worked, what is happening now, and what the caregiver wants to do next.	❑	❑
	Makes **encouraging comments** to discuss what has been working well for the family.	❑	❑
8. Engages caregiver to lead development of a "best plan of action" for embedding intervention in multiple routines and activities throughout the day – *facilitates caregiver leadership and decision-making*	**Summarizes** together and asks if the caregiver has any **questions.**	❑	❑
	Asks **what we can do** to best support the family in preparation for next visit.	❑	❑
	Thank you for sharing your time and your child with us.	❑	❑

Note. Elements of the Family Guided Routines Based Intervention (FGRBI) Key Indicators Checklist© were used to structure parent education sessions. Student family navigator activities were independently developed for this study and grouped using this framework. Woods, J. (2021). *FGRBI Key Indicators Manual* (6th ed.). [Unpublished manual]. ©FGRBI Partners. https://fgrbi.com/wp-content/uploads/2021/09/KIManual2021-1.pdf and https://fgrbi.com/wp-content/uploads/2021/09/FGRBIKeyIndicators_2021.pdf. The following FGRBI Key Indicators were not applied in this study: *Observation and Opportunities to Embed* and *Reflection and Review* (*Encourages the caregiver to describe what it will look like when the intervention is working*).

Elements of the Prevention Intervention Program: Student Roles and Responsibilities.

Screening and Developmental Surveillance. The family navigator program included three components as shown in Figure 1. Screening measures included parent-report checklists of social, speech, and symbolic communication (Communication and Symbolic Behavior Scales-Caregiver Questionnaire [CSBS-CQ] and the Infant-Toddler Checklist [ITC]; Wetherby & Prizant, 2002), as well as expressive and receptive language (MacArthur-Bates Communicative Development Inventories [MBCDIs]; Fenson et al., 2007). Parents were invited to complete the CSBS-CQ upon study enrollment and subsequently completed the briefer ITC. They were invited to complete the MBCDI form corresponding to their child's age (i.e., Words & Gestures, 8-18 months; Words & Sentences, 16-30 months) at study entry and exit.

After enrolling in the study, parents provided demographic information about race, ethnicity, education, and socioeconomic status, in line with American Psychological Association recommendations to collect necessary information about characteristics of samples that are important for drawing conclusions from the data. Family buy-in, satisfaction with intervention components, acceptability and self-efficacy were documented by online surveys administered at study mid- and endpoints. Family attendance data were also collected.

During the first and final meetings, parents were asked to encourage their child to interact and communicate as they participated in a naturalistic, video-recorded home observation of toy play and shared book reading. A set of children's board books and infant-safe toys, as well as a tripod for smart phone recording, were provided to families for use during the home observation. Families kept these materials after the study ended. As an additional method of measurement to verify results of parent report checklists, videos were coded using a systematic observation of child social communication and parent verbal responsiveness (Delehanty & Wetherby, 2021; Delehanty et al., 2023). Metrics included, but were not limited to, gesture and word inventories, frequency of child communication, and parental use of expansions, directives, and other verbal responses.

Individualized Education Sessions. The content of the materials shared during each 30-minute session integrated evidence-informed child development resources with responsive parenting research that has a strong evidence-base for children from varying resource settings worldwide and is recommended to improve child health and development by the WHO (Eschel et al., 2006). Responsive parenting as defined by WHO entails observing the child's cues, interpreting these signals, and acting swiftly, consistently, and efficiently to meet the child's needs. Scope and sequence of shared materials is presented in Table 2. Researcher-developed materials are available upon request. By sharing these materials in the context of a modified FGRBI framework, student family navigators guided participating parents how to incorporate responsive parenting into their everyday activities at home and in the community, to provide an optimized learning environment from a very early age for their child.

Students were provided with modifiable lesson plans, short scripts, and materials in advance of all sessions to individualize them for each family. Supervising SLPs (the first and second authors) joined the first two meetings to support the student family navigators and provide supervisory feedback. After each subsequent session, students debriefed with supervisors and reported questions, requests, or comments that parents may have asked. Supervisors contacted families to respond to any item of concern that the students were not comfortable or qualified to address, as well as to bridge them to evaluation for early intervention services as needed (the third component of the intervention). Sessions were video recorded to enable the rating of implementation fidelity.

Table 2

Resources Shared with Parents During Prevention Intervention Sessions

Session	Evidence-informed resource(s) shared	Source
1	Getting to know your child	https://fgrbi.com/family-guided-services/

	Milestones that matter: 1-24 months	
		[Baby Navigator Resources](#)
2	Everyday activities: Toddlers and their families making every moment count	[Baby Navigator Resources](#)
	Brain building 101: What every parent should know	https://www.vroom.org/science
3	How parents can support social communication development	[Baby Navigator Resources](#)
	16 gestures by 16 months	[Baby Navigator Lookbooks](#)
4	How parents can support social communication development	[Baby Navigator Resources](#)
	16 actions with objects by 16 months	[Baby Navigator Lookbooks](#)
5	Language development strategies	Researcher-developed handouts
6	Shared book reading; Screen time	Researcher-developed handouts
7	Emotion Regulation	Researcher-developed handouts [Baby Navigator Resources](#)

Results

Quantitative Findings.

Student Preparation and Implementation Fidelity. Student family navigators passed the required formative assessments related to the CITI online courses. They also completed the 15 SC-DIT self-guided lessons across all five developmental domains and achieved 80% or higher on each 10-question learning assessment. Accuracy of scoring and interpretation of all parent report screening measures (i.e., CSBS-CQ, ITC, and MBCDIs) were verified by supervising SLPs. Because their three assigned families attended sessions monthly, students reportedly dedicated fewer than 5 hours per week to scheduling, preparing, and meeting. Thirty-one videos (54% of all sessions) were reviewed by a trained undergraduate research assistant who was not affiliated with this study using the fidelity checklist, resulting in 97% intervention fidelity.

Family Outcomes and Preliminary Responses to the Program. Preliminary child and caregiver responses to the pilot study are presented to provide evidence supporting the premise and feasibility of the program. At study entry, eight of nine children scored within the average range on parent-report measures of communication and language development ($M = 100$, $SD = 15$); results were corroborated through interview and online observation of parent-child interaction.

Seven families of children completed the program and two with typical language and communication development left the study after completing two to three sessions, respectively. Five of the seven remaining children maintained typical communication and language development through the end of the study. We supported two families through the process of pursuing additional evaluation and subsequent receipt of early intervention services.

Eight parents responded to the mid- and final feedback surveys, including one family who left the study early. Family feedback was primarily positive (Figures 3 and 4). Families reported that their student family navigator maintained contact with them, presented material in different ways, and offered opportunities to ask questions. Some felt less strongly that their student family navigator offered clear and helpful information about their child's development and gave enough, but not too much, information and ideas for activities. At the end of the study, most families strongly agreed that the resources helped to increase their confidence about supporting their child's communication and language development, that the program was worth their time and effort, and they would recommend the program to other parents who might be seeking information about their child's development and how to support their social communication and language skills during everyday activities at home. Only one family strongly agreed that the program increased their awareness of community agencies, services, and programs that could help their child and family. Parents also responded to an open-ended question asking what they would have liked to have received from this program. Examples of responses included more activities with detailed examples, more of an emphasis on meeting the child "where they are than where they should be" with respect to the developmental milestones presented, and more resources for parents of children who were behind on milestones.
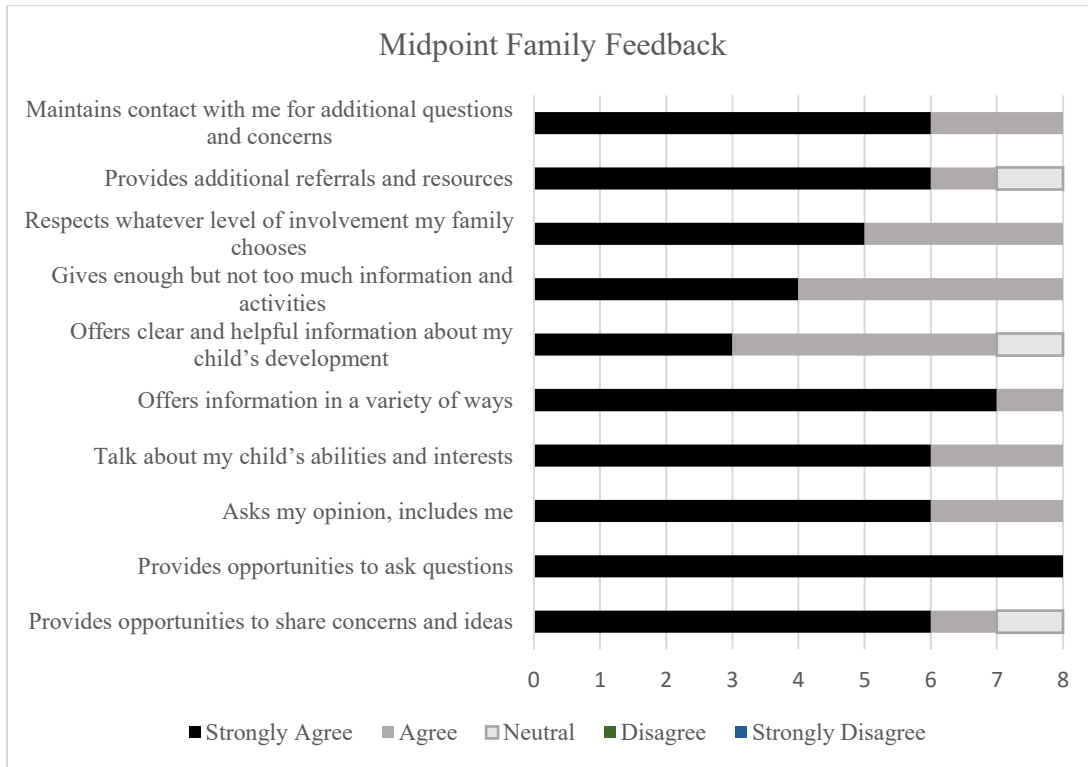
Student Family Navigator Perceptions. Student family navigators completed a post-experience survey after completing the intervention. The survey included five open-ended questions and eight Likert-style questions that provided space for comments. Open-ended questions included the following:
1. Think back over the months that you've participated as a student family navigator in this project. In your experience, what went particularly well?
2. What were some challenges and/or barriers to conducting this project?
3. Suppose that you were in charge and could make a change that would make the program better. What could have helped with these challenges and barriers?
4. If you had a friend who was interested in participating in this project, what would you say in the invitation?
5. Final thoughts - Have we missed anything?

Likert-style questions and mean ratings, with a possible range from 1 to 5, are presented in Table 3. The scale for questions 1-5 and 8 was represented as the following: 1 = Strongly disagree to 5 = Strongly agree. The scale for questions 6-7 was represented as the following: 1 = Decreased significantly to 5 = Increased significantly. Selected quotes are provided as evidence of training program effectiveness and change in learning as well as practice.
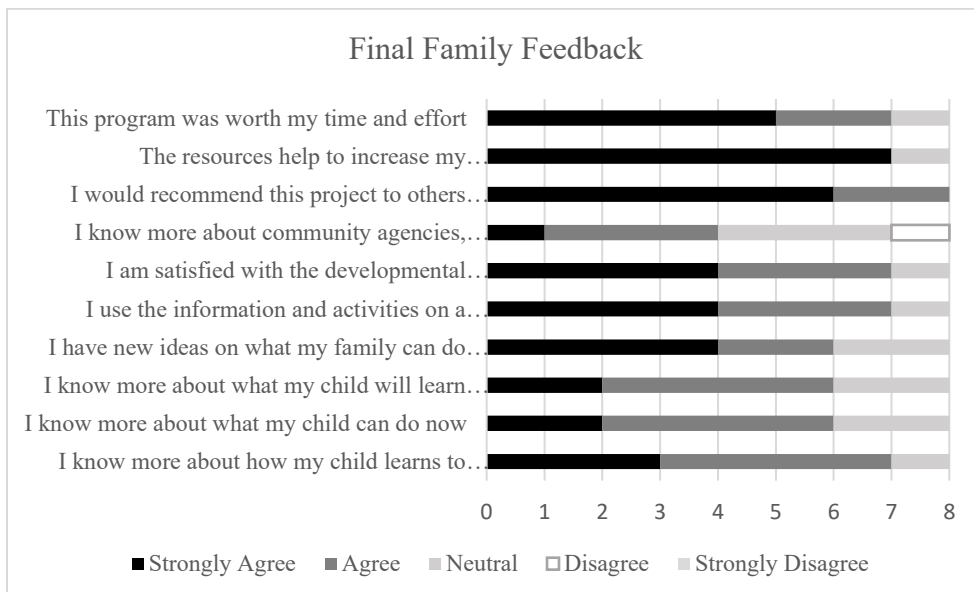
Figure 3

Family Feedback Collected at the Midpoint of the Prevention Intervention

Midpoint Family Feedback

Note. Questions began, "My student family navigator…"

Figure 4

Family Feedback Collected After Completion of the Prevention Intervention

Final Family Feedback

Table 3

Post-Survey: Student Family Navigators

Student Family Navigator Perceptions		
	M	*SD*
Overall, I feel that the training I received during this project was sufficient.	4.3	0.5
I feel that the level of preparation and support provided by my research supervisors before each session helped me feel confident during my interactions with parents.	5.0	0.0
I believe that using video conferencing was an effective way to meet with families (vs. conducting in person, face-to-face information sessions).	5.0	0.0
I feel that the families I served were comfortable using video conferencing to meet with me.	5.0	0.0
Overall, I felt comfortable providing information about language development and parenting to the families I served.	4.7	0.5
My comfort level with providing information about early communication and language development to parents of children has increased since I completed this project.	5.0	0.0
My confidence level with providing information about early communication and language development to parents of children has increased since I completed this project.	5.0	0.0
I anticipate that this experience will be useful for preparing me for my future career as a clinician.	5.0	0.0

Note. Likert style questions included an option for comments. Range of possible scores: 1-5. The scale for questions 5-9 and 12 represented 1=Strongly disagree to 5=Strongly agree. The scale for questions 10-11 represented 1=Decreased significantly to 5=Increased significantly.

Qualitative Findings.

Student Acceptability and Practicality. Responses to Likert-style questions indicated that the preparation students received prior to program implementation was perceived as sufficient. However, it was apparent that they valued the importance of both experiential learning and supervisor support, noting that "the training was helpful, but some things are best learned by gaining experience with the families. I also wish we did some practice sessions before our first session with our families." Another student wrote, "Preparation and support provided by my research supervisors before each session helped me feel confident during my interactions with parents. I felt very prepared and supported throughout the project." They also identified the personalized and predictable session plans as a contributor to their comfort and confidence: "The outlines were a great way to help me feel prepared and organized."

All students strongly agreed that video conferencing was an effective way to meet with families, citing the importance of reducing access barriers related to transportation and time. One student shared:

> The parents did not have much free time between their jobs and taking care of their children, so this mode of communication helped save them a trip to campus or saved us a

trip to their house. It also allowed us to have more flexibility if a parent forgot about a meeting or suddenly needed to move the time.

Other perceived benefits included the option to record sessions and the flexibility to meet from anywhere, as some parents joined meetings from work, the public library, or a fast-food restaurant. They shared that technical difficulties rarely occurred, and were unanimous in their perceptions that families seemed comfortable using video conferencing to meet with them.

Student Comfort and Confidence Levels. Separate questions inquired about students' comfort and confidence levels with providing information about early communication and language development to parents of children from the beginning to the end of the project. Overall, they felt somewhat comfortable to strongly comfortable providing information about language development and parenting to the families they served. All students noted that both their comfort and confidence levels increased significantly as the program progressed even though all reported feeling worried or nervous at the start. One student shared at the beginning of the study: "I was concerned about talking to the parents and how I would be able to answer questions, but I became more comfortable talking to them about language development as well as about their lives." Another noted: "I feel much more comfortable talking with parents and counseling them as a result of this project." Finally, one student who reported modest gains in comfort commented, "The courses we took prepared me well for this. However, there were times that I felt like I wasn't able to relate to the parents since I don't have much experience with kids."

Student Rewards. All students strongly agreed that the experience would be useful preparation for clinical practice, with one stating:

> This experience taught me so much about analyzing social communication in young children. Being able to speak about social communication and language development has allowed me to remember more milestones than just studying for a test or exam in class.

Another commented, "I learned how to provide information to parents as well as problem solve and counsel. These skills will help me with families of clients all ages with speech, language, and communication needs." Finally, a participant made reference to the personal benefits of the learning experience, writing:

> This was a great opportunity to learn about social communication and milestones expected in the early stages of life. It was beneficial on a personal level and allowed me to practice talking with clients and analyzing social communication modalities while also helping parents. Parents that continued participating were extremely grateful and expressed appreciation, which was also very rewarding.

Students' Challenges and Suggestions for Refinement. A significant challenge the students faced during the project was responding to varying levels of parent engagement in the program. They commented that some parents were involved and appeared to look forward to the meetings. For others, time spent scheduling and preparing for sessions was lost when the parent failed to log on. "I think we could have used a greater variety of ways to contact the parents. I also think it would be beneficial if we brainstormed ways to make them more involved." They also shared that managing parent communication on top of a rigorous academic program was challenging.

A third challenge was that despite our efforts to individualize, a curriculum of resources was standardized for sessions regardless of content relevance to families of children at differing ages and stages of social communication and language development:

> I think all the resources were helpful but not always age appropriate for the child. [One parent who left the study early] had a child who was already demonstrating a lot of the milestones. Maybe going forward, we could pick parents with younger babies at the beginning of the project so the strategies are taught earlier on.

A final challenge was that parents occasionally expressed concerns or asked questions that students needed to defer to faculty supervisors: "I would validate their feelings and advise them as best as I knew how…" A suggestion for refinement was to have additional "check-ins" with families, conducted by the research supervisors.

Discussion

Summary of Findings. The purpose of this pilot study was to evaluate the feasibility of an experiential teaching and learning initiative that trained undergraduate students studying speech-language pathology to serve as family navigators promoting social communication and language development in very young children and families from lower-income backgrounds. Three students completed one semester of training that included multiple interactive approaches to instruction. They subsequently implemented a nine-month, online prevention and outreach program to nine mothers of infants and toddlers. Results of formative assessments were examined, and affective outcomes were explored. Taken together, findings suggested that the training model and study procedures were acceptable to students and families. Students delivered the intervention with fidelity and described the experience as rewarding and valuable. It was evident from their survey responses that interacting with family participants above and beyond the didactic learning experiences extended students' learning into the field. The mobile technology platform was determined to be feasible, and the screenings and resources provided were generally appreciated by families.

Implications, Limitations, and Future Directions. Results of this pilot study revealed multiple areas that need further exploration. First, future iterations of this program must carefully consider the population who might benefit from a student family navigator, and how this program could augment existing social support programs in the community and SLP preparation programs. Caregivers who participated in this study reported lower incomes; however, had relatively high levels of educational attainment. Future iterations of the program should consider additional social determinants of health, including maternal education, family adversity, knowledge of and access to desired services, and the availability of social support networks with associated impacts on emotional and mental wellbeing, as well as degree of concern about their child's development (Leung et al., 2023). In the present study, some children had surpassed the milestones and the educational resources were not as valuable to the families. For others with more significant concerns, the materials were not sufficiently individualized, and the intensity of the program was not adequate to meet their needs.

With regard to the addition of this program into existing social supports, training students to deliver prevention interventions like this one may offer a creative solution to expanding the workforce needed to improve available services and address health disparities (Nielsen et al., 2023). The

current and persistent underfunding of programs like Early Head Start, home visiting, and IDEA Part C services is compounded by minimal federal regulations related to Child Find implementation in the U.S. (Gillispie, 2021). Thus, access to high-quality early education and intervention is inequitable. Collaborating with local early childhood education and health care agencies to identify potential family participants was key to the success of this pilot program. For example, some families had asked or expressed concerns about their child's development or brought up the desire to monitor it more closely, but were not already identified as being at risk, were not receiving home visiting services, and were not yet ready or able to pursue early intervention services. Early educators and health care professionals then referred parents to our study who might benefit from the tailored support we offered.

Integration of an abridged version the program into a semester-long undergraduate CSD course in language development, language disorders, clinical methods, or within an interprofessional course could widen its reach to more families as well as to students from multiple disciplines working in early education and intervention. This would bring the opportunity to participate in implementation science and interprofessional education, to learn about and apply EBP outside of the classroom, and to complete undergraduate clinical practicum hours. The experience of bridging content from the training phase directly to clinical problem solving with children and families was an especially salient benefit to students' participation. Therefore, this program could be adapted for the graduate level, providing meaningful and comprehensive learning relative to family-centered practice and the prevention of communication and language disorders. However, uncertainties with regard to feasibility are important to note. Following the training phase, the program was not perceived by the students as being overly time intensive. Foreseeable instructor/supervisor challenges, on the other hand, may include the cultivation and maintenance of relationships with community partners, coordination of logistical aspects including scheduling with families and students, finding space in an existing course to train students, and assessing student work. It will be important to modify and replicate this pilot in additional contexts to determine how the program could support undergraduate studies.

Other limitations must be considered. First, self-selection bias must be considered when interpreting our results. Our student family navigators volunteered or agreed to participate in the study, and our parent participants were also recruited through nonprobability sampling methods. Inflated perceptions of the program, therefore, cannot be ruled out. Next, we successfully recruited the desired number of families for this pilot, but attrition did occur. Burke and colleagues (2023) recently published a study exploring the perspectives of parents of children on the autism spectrum from low-resourced communities to inform family navigator programs. Based on our findings, applicable strategies uncovered by Burke et al. (2023) might include educating families about governmental and direct services, connecting them to peer support, and empowering them to advocate and communicate with professionals. Incorporating approaches to strengthening families' social support networks and awareness of available community resources would be a critical addition to future programming. Still, the screening, surveillance, and navigation to services we provided may have helped accelerate access to targeted interventions for those who needed them.

A systematic method of supervision and availability of a licensed SLP to answer parents' questions and address their concerns is another refinement to consider. An important bridge between the

training and implementation phases may have been additional, low-stakes practice and role play for our students. Faculty and students debriefed following their sessions. However, formalizing this process through the use of structured reflection logs (e.g., Hall-Mills, 2022), group debriefing meetings, and other active learning opportunities could deepen the learning experience and would allow for a scholarly teacher to assess student strengths and weaknesses during each phase of the program. However, it was encouraging that the students' perceived comfort and confidence talking to parents increased during the program despite their documented needs. Finally, training students to use additional observational tools, including the Parenting Interactions with Children: Checklist of Observations Linked to Outcomes (PICCOLO) (Roggman et al., 2013), a global rating scale of developmentally supportive parenting behaviors, could provide additional enrichment and value. We hope this experiential learning opportunity was an important supplement to the instruction our students received in the classroom that will enhance their future professional practice.

Conclusions

Careful consideration of our findings will support the development of future scholarly community-engaged learning experiences that provide opportunities to strengthen connections between coursework and clinical practice. Expanding this pilot study and conducting further investigation is warranted. If scaled successfully and found to be efficacious, there could be important implications for undergraduate and graduate education in communication sciences and disorders and related fields. Ultimately, preparing a well-trained workforce of student family navigators to deliver a brief, mobile prevention and outreach program that includes multiple components: ongoing screening and monitoring to identifying delays early, evidence-based resources about early child communication and language development and responsive parenting practices, and navigation to specialized services as needed, may contribute to reducing early disparities in children language development and improving children's social communication and language skills so that they increasingly benefit from the curriculum when they begin school.

Disclosures

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