Article

A Case for Early Language and Behavior Screening: Implications for Policy and Child Development

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Abstract

Early language skills and prosocial behavior contribute to positive outcomes across the lifespan. Screening has improved the identification and early intervention (EI) for children with hearing loss, autism spectrum disorders, and genetically based disabilities. However, many children with significant functional impairments in language and behavior are not identified before school entry. These children have missed a critical window for EI that might have prevented or mitigated persistent developmental language impairment and challenging behaviors. The critical need for early identification of children with delays in both language and social-emotional development by proposing a preventive, universal screening approach. This approach to early screening aims to reduce the number of children on a trajectory of academic failure and social difficulties as a result of these early developmental delays.

Keywords

early intervention, screening, language, behavior, social-emotional

Tweet

Language delay and poor social-emotional development often overlap. One early screening approach proactively considers both domains, provides subsequent supports, and enhances access, knowledge, and resources for parents, caregivers, and community partners.

Key Points

- Early language and social-emotional development are the foundation for children's success in educational and social settings.
- Children with language delays are more likely to have delays in social-emotional development and be susceptible to internalizing and externalizing behavior problems.
- Poor social and academic outcomes—associated with delayed early language, social-emotional delays, and specific behavior problems—are costly for individual children, for schools, and for society.
- Preventing or mitigating the impact of language deficits and poor social-emotional skills depends on the timely identification of young children and provision of developmental support prior to school entry.

Early language and social-emotional development are the foundation for children's success in educational and social settings. These skills influence school readiness and continue to impact reading, other academic learning, and the formation of social relationships with peers and teachers. Timely development across these domains has been linked to academic achievement, higher educational attainment, and employment opportunities in later life (Bleses et al., 2016; Owens, 2016; Hammer et al., 2018). During the toddler and preschool years, development of language and social-emotional skills are critical indicators of whether children will succeed in the complex, dynamic learning and social environments of schools. While skills in each domain are important, the linkage between language and social-emotional development is uniquely important to successful school and life outcomes.

Critical Linkages Between Language and Social-Emotional Development

The well-established link between language and social-emotional behavior development goes in both directions.

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Children with language disorders display more frequent behavioral difficulties including externalizing (e.g., aggressive/disruptive behavior), internalizing (e.g., social withdrawal, anxiety), and attention problems than their language-typical peers (according to meta-analyses across studies: Chow et al., 2018; Curtis et al., 2018). Children with language disorders are about twice as likely to develop later behavior problems (Yew & O'Kearney, 2013). Not only does language relate to later behavior problems, but the strength of this relation is greater in samples of children with developmental language disorders than in community samples (Goh et al., 2021). Together, these findings suggest that children with language delays are more likely to have similar delays in social-emotional development and may be particularly susceptible to developing internalizing and externalizing behavior problems. In addition, children with poor social-emotional development and challenging behaviors are more likely to demonstrate poor language skills (according to meta-analyses: Chow & Wehby, 2018; Hentges et al., 2021; Hollo et al., 2014). In one study, language skills were associated with the more acting out and aggressive behaviors reported by both teachers and parents and poor social skills seemed to link language and behavior difficulties (Peterson & LeBeau, 2021).

Given that social-emotional skills and language skills correlate, deficits in developing social communication skills and especially, using language in a social context, may be a key mechanism linking early language deficits to the development of challenging behaviors. Evidence of the relation between language development and school performance is well established (Chow & Hollo, 2021; Dickinson et al., 2010; Peng et al., 2020). In the last decade, the continuities between early social development and academic outcomes have become increasingly evident (Gibson et al., 2021; Montroy et al., 2014). Toddlers and preschool children who engage in persistent challenging behavior are at a higher risk of developing persistent emotional and behavioral disorders (Hemmeter et al., 2021b; National Research Council and Institute of Medicine, 2009). In addition, supporting children's communication and social-emotional skills (such as initiating interactions with peers, recognizing and responding to others' emotions, and expression of one's own emotions) can prevent or reduce challenging behavior (Curtis et al., 2019; Hemmeter et al., 2021a; 2021b; Roben et al., 2013). Promoting social-emotional development is critical for all children but may be particularly important for children with language delays (Cunningham et al., in press).

Poor social and academic outcomes associated with early language, social-emotional delays, and specific behavior problems are costly for individual children, for schools, and for society. During the school years, children's difficulties with language and behavior undermine their own interactions and learning and, in turn, their difficulties undermine the social dynamics and learning opportunities available in classrooms and the broader school environment (Chow et al., 2021a; Farmer et al., 2019; Hamm et al., 2020). Early language development has become a public health priority because of its association with lower quality of life ages 4–13 (Law & Levickis, 2018; Le et al., 2021). Similarly, positive social-emotional development in early childhood predicts academic outcomes and later adult mental health, employment, and social relationships (Gasser-Haas et al., 2021; Hammer et al., 2018). Notably, children and youth with mental health and behavioral challenges often present with undiagnosed language disorders in clinical and youth justice populations (Chow et al., 2021b; Cohen et al., 1998).

Evidence-Based Interventions can Improve Language and Social-Emotional Development

Evidence-based programs demonstrably improve language (Heidlage et al., 2020; Walker et al., 2020) and social-emotional behavior for young children (Luo et al., 2020; Sheridan et al., 2019). Supporting children's communication and social-emotional skills (initiating peer interactions, recognizing and responding to others' emotions, expression of one's emotions) can prevent or reduce challenging behavior (Chow, 2018; Curtis et al., 2019; Hemmeter et al., 2021a; Roben et al., 2013).

A Model for Integrating Language and Behavior Supports

Evidence-based interventions can improve language and social-emotional behavior for young children. Integrating these interventions into a systematic process that targets both domains concurrently can provide children with supportive learning environments. An Interaction-Centered Model for Language and Behavioral Development (Chow et al., 2020) is a system for improving language and behavioral outcomes for young children through high-quality social-emotional and behavioral support, which, in turn, sets the stage for developmentally appropriate, high-quality language and literacy instruction and increased levels of adult interaction. This model addresses both the input (linguistic models, reading, and literacy instruction) and the types of dynamic adult–child interactions that teach functional language skills while modeling and supporting social skills in adult–child and peer interactions. The key to benefiting from such innovative models is screening early, while children's learning trajectories and social development are malleable and optimal outcomes are still within reach. Early identification allows for tailoring the targets, dosage, context, and timing of interventions to meet the individual needs of children as they develop over time.

Universal Screening for Language and Social-Emotional Development is Needed

Preventing or mitigating the impact of language deficits and poor social-emotional skills depends on the timely identification of young children who require developmental support prior to school entry (Shahidullah et al., 2020). Many children enter school with unidentified language delays (Adlof & Hogan, 2019; Tomblin et al., 1997). A similar number of children enter school with social-emotional delays (Briggs-Gowan et al., 2001; Weitzman et al., 2014). However, there is not yet an estimate of the children presenting poor development across these domains because young children have not been strategically assessed for potentially co-emerging problems in language and social-emotional development.

Universal screening refers to a process using developmental screening tools with *all* children and families within a setting, regardless of risk status (e.g., a screening tool is used to assess all toddlers in a childcare center at 16 months) (Wallace, 2018). Universal screening identifies children with delayed development as early as possible in a systematic prevention approach to mitigating developmental deficits. Potentially, universal screening, using culturally and linguistically appropriate measures and responsive assessment procedures, can reduce gender, language, and racial biases in the referral process (Dever et al., 2016; Raines et al., 2012). Establishing universal screening protocols would be consistent with the American Academy of Pediatrics recommendation for continuous developmental monitoring from birth through age five (Lipkin & Macias, 2020), while increasing equity and access for all children and families.

Gaps in Current Screening Approaches

Although numerous programs provide screening for toddlers and preschool children, the discontinuities among these approaches contribute to late identification and limited access to early interventions (EI) that could improve language and behavior outcomes (it is beyond the scope of the current paper to offer a comprehensive review of these programs). Briefly, screening programs target specific development concerns such as hearing screenings at birth, public health initiatives to increase screening for autism spectrum disorders (ASD), and pre- and postnatal screening for genetic conditions associated with developmental disabilities (Barger et al., 2018; Twardzik et al., 2017). Developmental screening for young children often occurs during well-child doctor's office visits; however, health care practitioners' implementation of screening and follow-through is not consistent and can vary as a function of their education and experience with young children with disabilities (Jimenez et al., 2014; Moore et al., 2017; Veldhuizen, 2016;). Less than half of caregivers report that a developmental screening occurred with their children between ages 9 and 35 months (Hirai et al., 2018).

Children entering programs designed to support families from low-income backgrounds such as Head Start and Early Head Start are likely to be assessed at admission and throughout enrollment (U.S. Department of Health and Human Services Administration for Children and Families, 2016). These programs offer a promising approach for screening children with potential delays in language or social-emotional development, but less than 5% of all eligible children under the age of 3 who are eligible for enrollment in Early Head Start access these programs, and only half of all children eligible for Head Start (ages 3–4) are enrolled (Barnett & Friedman-Krauss, 2016; National Women's Law Center, 2012; Schmit et al., 2013). This alarmingly low percentage suggests that a large portion of young children at-risk may not have their first encounter with a screening and evaluation process until they enter the school system at kindergarten, which is cause for concern (Chödrön et al., 2021a; Chödrön et al., 2021b).

Approximately 40% of infants and toddlers in the United States are enrolled in some form of childcare prior to school entry (Mamedova & Redford, 2015). Potentially, childcare centers can serve a critical role in the early identification of language and social-emotional delays; however, only half of the childcare providers identify developmental screening as part of their role in caring for children (Boh & Johnson, 2018). Many providers report being unfamiliar with the referral process and what they should do when they have concerns about children's development (Bransom & Bingham, 2017). When childcare providers do engage in monitoring children's development and the referral process, they are more likely to use informal methods of recording and communicating information about concerns for child development than they are to use formal, objective assessments that are designed for developmental screening (Chödrön et al., 2021b).

Finally, people who care for young children do not coordinate enough. Communication is lacking between pediatricians and childcare centers, childcare providers may not communicate with parents, other caregivers, or medical personnel, or they may be unable to share due to privacy laws (Ghazvini & Readdick, 1994; Johnson-Staub, 2014; Nobile & Drotar, 2003). Information gathered in early childcare and Head Start may not be available when children are screened for public preschool or kindergarten programs. As a result, some children may be assessed regularly, and others may never be assessed. In addition, critical developmental information, such as low language scores and persistent but subclinical problems in behavior may not be communicated even when the screening and referral process is adequate to identify children with the most significant developmental disabilities.

Access to Screening may be Most Limited for Children at High Risk

Unfortunately, access to screening for language development and behavior concerns may be most limited for children at

high risk for these challenges. This is problematic, because children are more likely to experience language delays if they are from environments associated with low education, poverty, and parental stress (Horwitz et al., 2003). Children from well-resourced homes and neighborhoods may have access to regular screening for language and behavior concerns during well-child visits to pediatricians and in high-quality childcare or preschool settings. In addition, parents with higher levels of education are likely to be more sensitive to developmental differences in language and social-emotional development (Baker, 2013; Cabrera et al., 2007). Families experiencing poverty are less likely to access preventative medicine and are more likely to experience increased adverse events, trauma, and other challenges such as food insecurity and mental health struggles that can influence a child's development and caregiver–child interactions (Bates et al., 2021; Blair & Raver, 2012; Choi et al., 2019).

Universal screening is a high potential solution to critical gaps in screening coverage. Children from families with less access to health care and who are not served by public programs such as Head Start are unlikely to be assessed prior to school entry. In particular, children who are dual language learners whose families may have limited access to primary health care are unlikely to be assessed for language delays. Both erroneous assumptions about language delays being the likely result of dual language learning and the lack of appropriate sensitive screening instruments that account for bilingual development are barriers to screening for this population (Nayeb et al., 2021; Peña et al., 2011). Parents who report early language delays, particularly in boys, may be discouraged from seeking comprehensive assessments or EI by health care providers who adopt a "wait and see" approach and suggest that most children will recover from mild language delays without intervention (Singleton, 2018). However, full recovery for children with delays in understanding and for some children with delays in producing language, especially word combinations, is less likely than has been assumed (Fisher, 2017; Reilly et al., 2010). Further, failure to detect and address early language delays is associated with significant behavioral problems in adolescence and beyond (Norbury et al., 2017, summaries from several research studies).

Current Screening Procedures Fail to Identify Children with Co-Occurring Delays in Language and Social-Emotional Development

Current screening approaches rely on a medical model: a single screening indicates positive or negative status for a specific disability or condition (McKean et al., 2016). As a result, many children who could benefit from EI are not identified. A dichotomous screening approach with assessment at a single time point fails to identify children with significant but moderate primary language delays and/or emergent social-emotional development delays and behavior problems. In addition, this approach may fail to identify children with early trajectories of increasing deficits. Children with developmental delays may not meet clinical severity cut points early in development but as they demonstrate persistent slower developmental trajectories, they do not close the gap with their peers over time (McKean et al., 2016; Norbury et al., 2017). In addition, data from these longitudinal studies suggest that mild deficits in language predict later poor school and social behavioral outcomes.

Most screening is focused on identifying children with significant disabilities as a basis for referrals to EI (Part C), early special education, or autism-related services. Access to EI services is dependent upon a child being referred to local EI agencies who provide follow-up assessment and intervention as needed. Children with language delays only or with subclinical behavior concerns may not be referred because children with mild language or social-emotional concerns do not qualify for EI services in many states.

Diagnosis should not be the only marker of "success" of a universal screening approach. Although proactively identifying young children with a developmental delay is of the utmost importance, screening tools can give valuable information to practitioners and caregivers about *all children*, including those who may be demonstrating some mild-to-moderate delays in a single domain that do not rise to the level of clinical diagnosis, but still warrant attention (Glascoe, 2001; Greenwood et al., 2011; Johnson-Staub, 2014; McKean et al., 2016). Children whose scores initiate a referral, but who are not ultimately diagnosed with a disability, still score significantly lower than age-matched peers without developmental disabilities; these differences are evident across developmental domains, including language and behavior (Glascoe, 2001). Therefore, while false positives from screening do occur (e.g., children who fail a screening but do not ultimately qualify for services or diagnosis), this is not inherently an indication that universal screening is not an efficacious or worthy undertaking.

Recommendations

Given the importance of early screening, the interplay between language and behavior, and the state of screening practices, five recommendations emphasize moving forward. These recommendations aim to present forward-thinking options likely to maximize the reach and efficiency of screening, intervention, and ultimately child outcomes.

Recommendation 1: Adopt a Preventative Approach Built on Universal Screening

Universal screening would promote access to appropriate evidence-based interventions during the critical period of

early childhood development. Universal screening is the first step toward prevention and mitigation of the most serious effects of early language and social-emotional delays. Screening for both language and behavior should be widely available at no or low cost through public and private sources, beginning at 12 months and continuing until school entry. The screening system should be based on a developmental monitoring approach to assess trajectories, rather than a single screening to determine status.

Recommendation 2: Screen for Language and Behavior Problems Using Brief Tools

Universal screening depends on tools that are time and cost-efficient enough to implement them with all children in their care. Given the overlapping influences of language and behavior on a child's development, these screening efforts can streamline into a single universal process. Universal screening tools for language and behavior, at ages 2–6, can demonstrate excellent predictive validity, especially when incorporating parent-reported assessments (review by Sim et al., 2019). Further, social-emotional screening must occur, including treatment and referrals, in order to provide the critical foundation for any comprehensive approach (Briggs et al., 2012).

Recommendation 3: Engage Parents and Child Care Providers as Collaborators

Parents and childcare providers are key partners in the screening process because they are most likely to have valid information about the functional language and social behavior in everyday contexts (Yates et al., 2008). Parents can provide contextual information that is essential in interpreting scores, which is especially important for behavior screening (Parlakian, 2003; Friesen et al., 2015; Yates et al., 2008). Many screening instruments rely on parent and childcare provider reports. However, an intentional collaborative process leverages parent and provider expertise, especially with children and families whose first language is not English and who represent different cultural and linguistic backgrounds (Friesen et al., 2015). Public awareness campaigns to engage parents as partners in assessment and prevention efforts should be part of a public health screening program.

Recommendation 4: Ensure That Screening Leads to Intervention, not Just Diagnosis

Screening in isolation is not enough. Screening should be linked to accessible interventions within a public health system that connects parents to services in a developmentally timely manner. Sufficient evidence can guide the design of an effective intervention support system for very young children (much like existing multitiered systems of support [MTSS] for school-age children) (Carta et al., 2016; Greenwood et al., 2011). Technology for remote screening and telehealth models with tiered service delivery options could make the development of an accessible system of support for early development feasible and timely. Developmental monitoring of child progress and the effectiveness of developmental supports should be a core feature of this system.

Recommendation 5: Track the Impact of Early Identification and Intervention for Young Children with Language and Behavior Concerns

Current technology makes it possible to build a dynamic, responsive system for tracking the incidence of language delays and social-emotional developmental concerns, for analyzing developmental trajectories, and for linking children and families to a tier system of supports. Such a system can forecast the need for services both in early childhood and as identified children enter school, as well as to evaluate the impact of services on academic, social, and valued life outcomes such as employment, health, and post-secondary education. A system systematically informed by such data is one in which innovation is not only possible, but likely.

Conclusion

There is compelling research supporting the universal screening of young children to identify language and social-emotional delays. Poor academic and social outcomes for children with these co-occurring developmental concerns are costly to society and individual families and children. It is timely and important to move toward the development of a new paradigm linking universal screening for language and social-emotional delays to accessible early childhood services for all children.

Declaration of Conflicting Interests

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