THE ENVIRONMENT AND LANGUAGE IMPAIRMENT IN CHILDREN: IMPLICATIONS FOR ASSESSMENT AND INTERVENTION

Specific language impairment (SLI) is a relatively common disorder experienced by young children. Despite being healthy and otherwise typically developing, the language difficulties of children with SLI are manifested in their second year of life, with the cause or causes of the impairment being unknown. In an effort to better understand the nature of SLI, researchers and practitioners have focused on identifying children’s language characteristics and studying their environment, which has included identifying risk and protective factors and studying aspects of the home environment. As a result of this research, a number of parental factors have been identified as placing children at risk of less than optimal language outcomes, including parental education, socio-economic status of the family, maternal depression, interactional behaviors of parents, and more general parenting behaviors. More recently, Hammer and Tomblin have begun to investigate the relationship between the larger environment and children’s language abilities by examining the impact of neighborhood and school on their language development. Research has also been initiated investigating the role of culture on children’s language development. In this article, each of these factors is discussed and their implications for assessment and intervention using an ethnographic, family-centered approach are addressed.

As defined by Bronfenbrenner (1979) over two decades ago, the environment in which children develop consists of four interrelated systems. The first encompasses the immediate settings in which children develop, including their homes and schools. The second consists of the relationships among the settings of which children are a part. The third includes the broader environment – neighborhoods and the community that may have an indirect impact on the children. The final and broadest system
involves the culture of the environment in which the children are reared. In an effort to better understand the nature of specific language impairment (SLI) in children, researchers and practitioners have focused on identifying the characteristics of children's language and on studying their environment, with an emphasis on aspects of the first system. Specifically, the focus has been on the interactional behaviors of the children's parents. Less emphasis has been placed on other aspects of the parenting environment, the school and community and broader cultural environment.

The purpose of this article is twofold. First, the goal is to summarize lines of research that demonstrate the importance of environment on children's development. Research on environmental factors of the children's immediate setting, including biological exposures and parental factors, is discussed. The importance of investigating the school environment and larger community is highlighted followed by a section on research on the role of culture in development. The second purpose of the discussion is to apply this information to the delivery of services to children with language impairment.

ENVIRONMENTAL FACTORS
Efforts have been made to identify risk factors for SLI in children as they relate to the parenting environment. Tomblin and colleagues (1991, 1996) have conducted studies focusing on biological risk factors, including prenatal and perinatal contact with disease, tobacco and chemical substances. Consistent with the existing literature on potential risk factors for developmental language impairments, no relationships were found between these factors and SLI in children. The research in this area consistently demonstrates that in most instances prenatal and perinatal birth events sufficient to produce language impairments also result in generalized developmental deficits (cf. Streissguth et al. 1980, D'Souza et al. 1981, Tomblin 1992).

Research has consistently demonstrated that maternal education impacts on children's development. In general, children of parents with higher levels of education perform better on cognitive and intelligence measures and have academic achievement than children of parents with lower educational levels (Auerbach et al. 1992). Similarly, higher parental education has been associated with better child language outcomes (Brookes-Gunn, Klebanov and Duncan 1996, Hoff-Ginsberg 1991, Tomblin, Hardy and Hein 1991).

Another parental characteristic that has been shown to affect children's outcomes is maternal depression. Depression has been related to less than optimal parenting and child outcomes. Specifically, maternal depression has been associated with lower quality mother-child interactions (cf. Leadbeater, Bishop and Raver 1996), more negative views of offspring (Fergusson, Hons, Horwood, Bretton and Shannon 1989), and lower cognitive abilities in infancy (Field, Estroff, Yano, del Valle, Malphurs and Hart 1996). Chronic maternal depression has also been associated with lower cognitive-linguistic functioning and school readiness at age three (NICHD Early Child Care Research Network, 1999).

Mothers living in poverty are particularly at risk for depression (Belle 1990). Currently, Hammer and Miccio (1999) are conducting a longitudinal investigation of the language
Development of bilingual pre-schoolers from low-income families. Preliminary data indicate that 50 percent of the mothers participating in the study show signs of depression at a given time and 40 percent show signs of chronic depression.

Interactional behaviors of parents have also been investigated. In general, mothers of language-delayed children have been shown to use different speech styles than mothers of normally developing children (cf. Petersen and Sherrod 1982, Pelligrini et al. 1985, Conti-Ramsden 1990). Parents of children with language difficulties have been shown to be less responsive, use more directives and employ more demanding teaching strategies. It is hypothesized that these differences occur because the parents need to assume more responsibility for the conversation, work harder to engage their child and compensate for their children’s more passive style (Pelligrini et al. 1985, Conti-Ramsden 1990).

There is a limited understanding of the relationship between more general parenting behaviors and children’s language abilities. In a preliminary study, Hammer et al. (2001) investigated these relationships. A questionnaire about parenting behaviors was administered via the telephone to parents of 886 children with normally developing language and 216 children with SLI. Specifically, the parents were interviewed about practices that fell within the following categories: conversing with children, teaching behaviors, the children’s daily routine, and discipline.

The results revealed that parents of children who were normally developing engaged their children in particular conversational activities more frequently than had parents of children with SLI. Specifically, parents of normally developing children read to their children, told them stories and discussed daily activities more frequently than did the parents of children with SLI. Parents of children with SLI tended to teach their children school readiness skills (e.g. the alphabet and colors) and disciplined their children more frequently.

Research involving factors outside the home environment such as the relationship between children’s outcomes and characteristics of their schools and neighborhood has received relatively little attention. The work of Brooks-Gunn, Klebanov and Duncan (1996) has demonstrated a relationship between neighborhood poverty and children’s scores on intelligence tests, and has alerted researchers of the need to investigate the relationship between neighborhood factors and language outcomes. Currently, Hammer, Tomblin and Zhang are investigating the relationships among parenting characteristics, school and neighborhood resources and children’s language abilities.

The broader cultural environment in which children are raised has been examined by a relatively small number of psychologists and linguists. Heath (1983) and Rogoff (1990, 1993) have illustrated how cultural beliefs about language development and styles of communication are reflected in child-rearing practices. However, more work in this area is greatly needed along with application of this knowledge base to children with language impairments. Hammer and Weiss (2000) have begun to build on this research by studying African American mothers’ beliefs about language development. They have documented a range of views about how children’s language develops and how the daily routine is...
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structured. In addition, differences in mothers’ perceptions about their children’s receptive and expressive language development and the mothers’ role in their children’s development were found to exist within this population.

IMPLICATIONS FOR SERVICE PROVIDERS

Service providers need to be aware of the relationship between the environmental factors outlined above and the language abilities of children with SLI. Additionally, these factors need to be taken into account when providing services to children with language impairment. Hammer (1998) has argued that services to children can be maximized when service providers employ ethnographic, family-centered methods, as opposed to more traditional methods, when assessing children with a view to achieving a complete understanding of the children’s language-learning environment. Hammer asserts that traditional methods for assessment and intervention have arisen out of the scientific tradition of service providers focusing on the child (as opposed to the child and the family), identifying cause and effect relationships leading the practitioner to identify negative qualities in the family and to attribute these to the cause of the children’s language impairment. S/he establishes her/himself as the objective observer of the situation, rather than recognizing that multiple perspectives can exist about the child, the nature of the problem, and the services that are to be provided. By assuming an ethnographic, family-centered approach, the child and family, language behaviors and parent beliefs are described within context; the perspectives of the family members about the children and their language status are recognized and responded to, and services begin from the point of view of the family.

An ethnographic, family-centered assessment includes triangulation of data from multiple sources including written documents, interviews, observations (formal and informal) and questionnaires. Written documents include articles and books about the family’s culture if the practitioner is unfamiliar with the culture of a given family. They also include medical and therapeutic reports. These are read for factual information about the child’s medical and therapeutic history, in keeping with a traditional approach; they are also read in an attempt to determine what impact the child’s medical and therapeutic experiences might have had on the family. For example, when reviewing a child’s medical history that includes several extended hospitalizations due to complications associated with a preterm birth, one can appreciate the emotional toll this may have had on the family. In addition, the family’s treatment by the medical community can affect a family’s relationship with professionals. Mistrust can readily be established if a family is not shown respect. When examining written documents about a child, a practitioner may detect, through the tone of the written word, evidence of mistrust that has developed between the professional and family.

Interviews can be another major source of information about the family. If the practitioner has limited experience with and knowledge of the family’s culture, interviews of community leaders and services providers can be conducted to gather information about
the family’s social-cultural environment before the initial meeting with the family. Interviews with leaders and elders within the family’s community can be helpful in broadening knowledge of the values, beliefs and behaviors of the family’s culture (Randall-David 1989). Interviews with service providers who have been successful in working with individuals from the family’s culture can provide the practitioner with knowledge of positive ways of working with families from that culture.

Semi-structured interviews can also serve as a primary vehicle for learning about the following: (a) the child and family, (b) the family’s experiences working with professionals, (c) the child’s communication abilities, and (d) parental concerns and priorities for service delivery. Semi-structured interviews differ from traditional structured interviews in two ways. First, unlike the structured interview, in which a standard set of questions is asked generally in the same order, semi-structured interviews are modeled after a conversation between equals (Taylor & Bogdan, 1984, p. 77). The interviewer does not direct the conversation, but places initial emphasis on establishing a positive relationship with the family member being interviewed and allowing that person to share what is important to him or her (Rubin and Rubin 1995). The second goal of a semi-structured interview is not just to obtain information, but in addition to acquire insights into the family’s views and perspectives about what occurred in relation to their child. By phrasing questions in a manner that invites the family to share their views, information may be obtained about the family’s understanding of the child’s language development and the nature of the disorder, the family’s view of language and how language development occurs, their expectations for services and their goals for their child. In addition, preliminary insights about the family members’ emotional state can be gained and follow-up can occur if needed.

Observations are another source of important data. If the practitioner is unfamiliar with the family’s culture, observations may be made in the community to learn more general information about the culture. Visits to the family’s community will allow for observations of parent-child, spouse-to-spouse and adult-to-adult interactions, which can yield information about parenting behaviors as well as styles of communication.

Observations of the child interacting in classrooms and with family members can also be made as part of the assessment. Although part of a traditional assessment, the purposes differ when an ethnographic assessment is being conducted. The first purpose is to provide practitioners with naturalistic data about the child’s ability to communicate in settings in which he or she is commonly a member. The second is to learn about who interacts with the child and the activities in which those people engage with the child. This makes it possible to develop practical intervention suggestions on the basis of what the individuals are already doing.

Questionnaires are another potential source of information through which to gain an understanding and knowledge of the child and family. Traditionally, practitioners have used questionnaires to gather personal information from the family. Often, they are given to the family before the professional has met the family; however, in an ethnographic assessment, it is suggested that questionnaires be given to the family after at least one
meeting with the professional so that a positive relationship can be established first. Questionnaires can be a less intrusive way of asking for information such as parental educational, employment and income information as well as birth history information and other factual information deemed necessary by the practitioner’s agency. In addition, questions can be included on the questionnaire that target frequency of parent-child conversational, reading and teaching activities. If the parent reports frequent teaching of the alphabet and colors and limited engagement in conversational activities, this could be a risk factor for language impairment in a young child.

By employing an ethno-graphic, family-centered approach to assessment, practitioners can better tailor their interventions to the unique qualities of the child and family. The ultimate goal is to develop an understanding of the family’s perspective of their child and his or her impairment and to work from the family’s perspective when developing an intervention plan. In working from the family’s perspective, Hammer (1998) argues that services can be maximized because the practitioner and the family are working from the same point of view. As a result, families will view services as better meeting their needs, which can lead to increased participation in collaboratively developed intervention plans.

REFERENCES

Maternal and environmental characteristics as predictors of child behavior problems and cognitive competence. American Journal of Orthopsychiatry, 62, 409–420

Poverty and women’s mental health. American Psychologist, 45, 385–389

Bronfenbrenner, U. (1979)
Ecology of human development. Cambridge, MA: Harvard


Contri-Ramsden, G. (1990)
Maternal recasts and other contingent replies to language-impaired children. Journal of Speech and Hearing Disorders, 55, 262–274

Hearing, speech, and language in survivors of severe perinatal asphyxia. Arch Dis Child, 56, 245–252


Depressed mothers’ perceptions of infant vulnerability are related to later development. Child Psychiatry and Human Development, 27, 45–53

Toward a Thick Description of Families: Using ethnography to overcome the obstacles to providing family-centered services. American Journal of Speech-Language Pathology, 9, 1–22


