Factors Associated with Symbolic Play Development in Preschoolers with Hearing Impairments and Language Processing Delays

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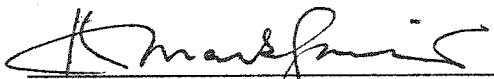

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Dec. 18, 03
Date

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DEDICATED

To My Parents

David and Margie Hamm

who supported and encouraged my graduate studies
(even though I did choose to study psychology!)

And
In Honor of
My Grandmother

Mrs. Sarah Hamm

who inspired me with her high regard
for education and its institutions

And
In Memory of
My Grandfathers

Mr. Isaac Hamm and **Mr. Hugo Weiss**

who passed on legacies of strength, courage and forbearance

And, finally,
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My Grandmother

Mrs. Isabel Weiss

who loved to play

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ABSTRACT

A child's ability to play is dependent on various factors, both internal and environmental. This study examines the relationships between symbolic play development in children, language development in children, parental role behaviors and parenting stress. This project is specifically concerned with the development of play in relation to these other factors in a population of hearing impaired and language processing delayed preschoolers.

Due to the fact that both language and symbolic play are at least partially dependent on the cognitive capacity for representation, it is hypothesized that when language skills are held constant hearing impaired children will demonstrate higher level symbolic play skills than will language delayed children. Furthermore, it is hypothesized that parenting roles involving the bonding with, and sensitivity toward, children will relate positively with symbolic play development in children; and that parenting stress levels will relate negatively with such development.

Twelve hearing impaired and thirteen language delayed children participated in this study. Parents filled out demographic sheets, the Parenting Behaviors Questionnaire and the Parenting Stress Index (Short Form). The Test of Pretend Play and the Preschool Language Scale (3rd ed.) were administered to the children. Between-group differences were analyzed using independent *t*-tests; analyses of covariance were used to partial out the factors of both age and language; and Pearson product moment correlations were used to analyze the relationships between the various measures.

Major findings included between group differences on the language measure, but not on the measure of symbolic play; this was true even when language and age were

partialed out. However, it was noted that as symbolic tasks became more complex, language became a more critical related element. Additionally, while parenting behaviors did not correlate with symbolic play development in this population, parenting stress related to some, but not all, areas of play skill development.

It was concluded that the two diagnostic groups may have had more in common than originally thought, perhaps as a function of the delay in diagnosis and amplification of the hearing impaired group (thereby decreasing the chance for stimulation of the representational areas of the brain through language), or perhaps as a result of the school setting, which offers similar modes of instruction and remediation to all students, as well as support and resources to all parents. Additionally, the potential effects of the various parenting factors on play skill development, in view of an evolving understanding of parental characteristics (such as the effects of parental coping skills rather than the direct experience of parenting stress), are discussed.

Chapter 1

INTRODUCTION

Symbolic play in children is understood as activities into which children incorporate some degree of non-literal, or pretend behaviors (Fein, 1981). Although researchers differ on what exactly constitutes symbolic play, there is general agreement that it emerges within the second year of life (Fein 1981; McCune-Nicolich, 1981; Piaget, 1962). From a chronological standpoint, this form of play tends to decrease after about age seven, when it is replaced with games involving rules, such as board games and ball games (Piaget 1962).

The ability to play symbolically is dependent on various factors (Lewis & Boucher, 1997). First, there is the child's conceptual readiness; does the child have a broad enough base of general concepts to be able to demonstrate them in his play? Second is the child's ability to utilize symbols; does the child understand that one object can be used to stand in for another? Third is the child's degree of emotional adjustment; is the child emotionally secure enough to "lose" him or herself in pretend play? It is likely that unless each of these factors is present to some degree or another, the development of symbolic play will be thwarted.

Studies have looked at the co-existence of these various factors with children's play: Ruff & Salterelli (1993) looked specifically at the role of conceptual development in early play, while Tamis-LeMonda & Bornstein (1993) explored the relationship between symbolic play and various other mental capacities. There have been various

studies looking specifically at the relationship between language development and that of symbolic play (McCune-Nicolich, 1981; Sigman & Sena, 1993; Lewis, Boucher, Lupton & Watson, 2000). This is because of the generally accepted view that the ability to utilize symbolization is a component of both language skill and pretense, with the capacity for representational thought as the underlying critical element. Other researchers have chosen to focus on the child's emotional capacity for play; many of the studies in this area look to the parents' degree of emotional availability, as well as their parenting behaviors, as the determining factors of their child's emotional stability (Greenspan, 1992; O'Reilly & Bornstein, 1993; Slade, 1987; Wachs, 1993).

When a child is disabled in some way, each of the factors mentioned above may play more or less of a role in determining the child's capacity for symbolization. Learning disabled children, for example, may not have amassed enough of a conceptual knowledge base to be able to demonstrate age-appropriate pretend play skills (Lewis & Boucher, 1997). This study focuses on the differences in symbolic play skill between children with hearing impairments and those with a language (or auditory) processing delay. Since the capacity for language and play share a basic representational ability, it is suspected that children who have a cognitive impairment in their ability to symbolize language (namely, those with an auditory processing delay) will also demonstrate difficulties symbolizing within the realm of play. In contrast, it is thought that hearing impaired children, whose language delay is due to a lack of exposure as opposed to a specific weakness in the realm of representation, will demonstrate a higher level of symbolic play than their processing delayed peers, when the language skills of the two groups are equal.

An additional component within this realm of developmental disabilities is the emotional capacity of the child which, as mentioned, is typically tied directly to the emotional availability of the parents. Parents of disabled children, and specifically of children with communication delays, demonstrate greater degrees of difficulty interacting with their children than do parents of typically developing youngsters (Vaccari & Marschark, 1997). Their views of themselves as parents, and the roles they must carry out, often differ drastically from the roles they envisioned for themselves and their families before their child's disorder was discovered. This often results in increased tension and stress, providing the parents with less access to their parenting and general coping skills, which they might otherwise utilize effectively (Abidin, 1992). When parents do not have the resources to make themselves emotional available to their children, and/or when they feel a need to intrude upon or control their children (especially in play), the children tend to demonstrate less sophisticated pretend play skills (O'Reilly & Bornstein, 1993). Therefore, it is suspected that should there be increased levels of parenting stress, and/or parental behaviors which deviate from the norm, they will coincide with reduced levels of pretend play skills in the hearing impaired and language delayed children.

Chapter 2

LITERATURE REVIEW

Hearing Impairment

Approximately 1.5 to 3 out of every 1,000 newborns are born with a significant hearing loss (National Institute on Deafness and other Communication Disorders [NIDCD][a]). In order to understand hearing loss in children, it is first necessary to have a working understanding of normal hearing. Hearing occurs when sound waves enter the ear and are transmitted to the brain via the auditory nerve. The distinct characteristics of each sound wave – namely its frequency (pitch) and its decibel level (loudness) – allow us to identify it as a particular sound. Regarding sound frequencies, what is important to understand for purposes of this study, is that many of the sounds necessary to discriminate speech occur at the higher frequencies. The decibel level refers to the loudness of a sound. Breathing occurs at 10 decibels, normal conversation occurs at 40 – 60 decibels, a train can be heard at 100 decibels and a jet at 120 decibels. Hearing loss is characterized as the number of decibels beyond which the person cannot hear. People with mild hearing loss can only hear sounds above 25 decibels; people with moderate hearing loss can only hear sounds above 40 decibels; people with severe hearing loss can only hear sounds above 70 decibels; and people with profound hearing loss can only hear sounds above 90 decibels (Northern & Downs, 1984). Therefore, people with as little as a moderate hearing loss require amplification, and often remediation, in order to hear conversational speech.

There are two forms of hearing loss which may affect children. The first is a conductive hearing loss, which is typically a result of middle ear diseases, such as otitis media. A child with chronic fluid build-up may experience this form of hearing loss. While they may in fact cause functional difficulties, conductive hearing losses are generally mild and of relatively short duration. They also typically affect the lower frequency sounds, and so do not impact severely on the child's ability to hear spoken language (Ross, Brackett & Maxon, 1991). Therefore, they are not the focus of this study. The second form of hearing loss is a sensorineural hearing loss. This is a result of damage to the inner ear - the cochlea - or to the auditory nerve. The causes of sensorineural hearing loss may include genetic factors (25%) or injury or illness, either in utero or soon thereafter (25%); however in up to 50% of children with congenital sensorineural hearing loss the cause is unidentifiable (Oberkotter Foundation, 2002). Sensorineural hearing loss is of a more permanent nature than conductive hearing loss, and it typically involves the loss of the higher frequency sounds (Ross, et al., 1991); therefore sensorineural hearing loss impacts significantly on the child's ability to hear spoken language. While clinicians differentiate between "deaf" and "hard of hearing" individuals based on the severity of the hearing loss (with the phrase "hearing impaired" used as a generic term for all forms of hearing deficiencies; Sanders, 1993), for purposes of this study, these terms will be used interchangeably, and will refer to children with a sensorineural hearing loss.

Language Processing Delay

The ability to process language involves the recognition and interpretation of the sounds we hear – and specifically of the sounds involved in verbal communication.

Children with delays in this area do not necessarily have a hearing loss (although some children with hearing loss may also have a language processing delay); in actuality, these children hear normally. However, they are unable to interpret what they hear, and so they cannot code language adequately and often cannot retrieve it for use expressively. A child with language processing delays (also called auditory processing delays) may decipher spoken words incorrectly; for example, if you request, "Tell me how a chair and a couch are alike" the child may understand it as "Tell me how a cow and a hair are alike." The difficulties incurred by children with language processing delays tend to increase with the complexity of the information to be processed, and with increased background noise (NIDCD[b]).

While a formal "Auditory Processing Disorder" cannot be diagnosed before age 5, the symptoms inherent to this disorder are often apparent in younger children. In this paper, the terms "language delayed" or "language disordered" are used to describe children who exhibit difficulties processing incoming verbal stimulation, as described above.

Symbolic Play

Children's play changes qualitatively as development progresses. In her review of the literature, Fein (1981) noted that many play researchers follow Piaget's basic guidelines of developmental schemata. With regard to play, Piaget (1962) theorized that until the age of two years children utilize a primarily sensorimotor approach to objects; that is they explore objects with their senses. In the second year of life this primary approach is typically joined by some pretend activities. Pretense increases both in