This study examined the correlation between speech, language, and hearing screening results and demographic or family structure. Participating were 733 children in day care, between 3 and 6 years old, representing diverse economic and racial backgrounds. Speech, language, and hearing screenings were completed in 1989, 1993 and 1995. The Denver Articulation Screening Exam was used in 1989 and 1995, and the Preschool Language Scale-3 was used in 1993. Results indicated that there was no relationship between children's hearing acuity and demographic or family structure data. Results from the 1989 data indicated that more children from married working-parent families (44 percent) were referred based on screening results than in single working parent families (25 percent). The 1993 data yielded similar results for both expressive and receptive language, but there was no difference in referrals based on speech sound results. The 1995 data also revealed that a greater percentage of children from two-parent families were referred (20 percent) than children from single-parent families (14 percent). The number of years the child was in day care did not correlate with language outcome. Over the 7-year data collection period, the referral rate for children from two-parent families declined from 44 to 20 percent, and for children from one-parent families, from 25 to 14 percent. (Contains 15 references.) (KB)
Preschool Communication Skills: Are Children from Single Parent Homes Disadvantaged?

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826-2238

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687-3806

ABSTRACT

Speech, language, and hearing screening results were obtained for 733 day care children. The data was analyzed to determine whether a correlation existed between screening results and demographic or family structure information.

INTRODUCTION

The influence of caregiver input and family structure on language acquisition represents an ongoing debate within the field of speech-language pathology. Currently, there is not a universally accepted theory for language acquisition although this topic has been heatedly debated in the speech/language literature since the 1950's (Bloom, 1994, Bohannon and Bonvillian, 1997 and Pinker, 1994). One of the major arguments has revolved around the relative contributions of nature versus nurture to the language learning process. Nurture refers to the importance of environment to the language learning process whereas nature refers to the importance of heredity or innateness to the process of learning language. Imbedded in this nature versus nurture debate are questions about the relative importance or influence of demographic and family structure differences on language learning.

It has been observed that mothers talk differently to their children than they do to adults (Snow, 1972 and Newport, Gleitman and Gleitman, 1977). Gleason (1977) found that not only mothers modify their speech when speaking with children. Fathers, adult caregivers and older children all modify their input in a similar manner. That speech is simplistic, highly intelligible, redundant, and grammatically well formed. It is referred to as simplistic because it is presented at the child's level of understanding; highly intelligible because it is presented at a slowed rate of speech which is neither mumbled nor slurred; redundant because key words and phrases are repeated; and grammatically well formed.
because of its grammatic correctness. These observations have been used to add credence to a social interactionism theoretical model of language development which stresses the importance of input or nurture to language learning process (Bohannan and Bonvillian, 1997).

The innateness of language was postulated by Norm Chomsky in 1957. The importance of nature is still central to his current Government Binding Theory. This theory is based on the premiss that an innate set of universal parameters exist that are general or the same for all natural languages (Leonard and Loeb, 1988). According to this theory, every human being is born with a universal mechanism which contains the structures and rules common to all languages. Since language is considered innate, the importance of nature to the language learning process is considered to be primary.

Even though Government Binding Theory considers the language structure to be innate, this theory recognizes the necessity of language input as a trigger to stimulate the language learning process. The importance of both nature and nurture are recognized in this theoretical perspective although the strength of each contribution is not.

Recognizing that nurture can influence early language development, the purpose of the this study was to look at specific demographic and family structure data to determine if any of these variables correlated with a preschool child's speech and or language development as measured by standardized speech/language screening instruments.

METHOD

Subjects:

Speech, language, and hearing screening results as well as demographic data and information pertaining to family structure were collected for a total of seven hundred and thirty three preschool children attending area day cares. All children included in this study were between the ages of three and six and exhibited no physical signs associated with impaired language development. The 733 children included in this study represent diverse economic and racial backgrounds. The day care settings were consistent across the data collection, however, different children and different families were represented as the study spanned a seven year period. Three hundred and eleven children were screened in 1989, three hundred and five in 1993, and one hundred and seventeen in 1995. Parental permission forms for screening were required for inclusion in the study. All children with signed permission forms were screened, although those for whom demographic or family structure information was not supplied were, by necessity, excluded from the data pool for this study. Screenings were completed by speech/language majors under the direct supervision of a licensed and certified speech language pathologist.
Procedures:

Questions pertaining to demographic information as well as family structure were included on the permission to screen form. Since this form needed to be completed by the child's legal guardian, the information obtained relative to demographic or family structure data was supplied by the child's primary caregiver. Demographic information was consistent across all three screening dates and included the child's name, address, phone, birth date, and sex. Family structure questions were modified as the study progressed to better understand the results from earlier data collections. In 1989 questions pertaining to the number of parents in the household, the number of children in the family and the child's position in the family (birth order) were obtained. In 1993, the questions were modified to include the number of parents in the household, the number of working parents and the number of years the child had been enrolled in day care. In 1995 the number of parents in the household was the only family structure question asked. Completion of demographic and family structure data was not required for a child to be screened.

During the speech/language screening, information was obtained about receptive language, expressive language, and speech sound development. The screening included both standardized screening instruments and a language sample analyses. All children were screened individually under the direct supervision of a licensed and certified speech language pathologist while in attendance at their day care. The standardized screening test used for the original data collection in 1989 was the Denver (Drumwright, 1871). In 1993 the Preschool Language Scale -3 (PLS-3) (Zimmerman, Steiner and Pond. 1992) was utilized to allow for categorization of results by expressive language, receptive language, or speech sound development. In 1995 the Denver was once again utilized for replication of the original study.

Hearing screenings were also completed. All children were screened for pure tone hearing acuity at 20db H1 bilaterally for 500, 1000, 2000, and 4000 Hz.

RESULTS

For each of the three data collection samples, an analysis of variance was completed to determine if any significant relationships existed between the demographic or family structure information and results from the speech language screening or hearing screenings completed. The level of significance was set at p> 0.05. Descriptive statistics were also used to look at the data obtained. Percentages of children referred for evaluation and percentage of children found to be within normal limits were computed based on the results obtained form the screening measures utilized.

For speech and language, children who scored 6 months or more below age expectations on the standardized screening measure
utilized were referred for further evaluation. Children within 6 months of the norm were considered to be functioning within normal limits. For pure tone hearing screening, children failing any frequency in either ear were referred for a rescreening, all others were considered to be within normal limits.

Over all three periods of data collection, no significant correlations were found between children's hearing acuity and demographic or family structure data.

The only significant correlation (p > 0.05) between demographic or family structure data and speech/language screening results from the 1989 data related to the number of parents in the household. Descriptive statistics from the data revealed that 25% of the children from single parent homes were referred for a diagnostic while 44% of the children from two parent homes were referred. This would seem to suggest that children from single parent homes had better communication skills than children from traditional two parent households.

**Study I-1989**

Population - Daycare (311 children screened with questionnaire responses available for analysis.)

Referred - Single working parents. . . . . 25%
Married working parents. . . . . . 44%

In the original study, screening results were simply coded as pass/refer; no attempt was made to divide the data by type of referral (expressive language, receptive language or speech sound development). When the decision was made to replicate this study, data was collected separately for receptive language, expressive language and speech sound development as well as hearing acuity.

In Study II (1993), similar results were obtained for both expressive and receptive language development, as the only significant correlation found between demographic data or family structure and referral rate based on screening test results related to the number of parents in the household. This held true even though family structure questions were expanded to include the number of working parents in the household and the number of years the child had been enrolled in day care. Interestingly, no between group differences were found for speech sound development. Some children presented with communication problems in only one area, while others had multiple difficulties. Those children with multiple issues were included in the descriptive statistical analysis for each area of concern.

**Study II - 1992-93**

Population - Daycare (305 children screened with questionnaire responses available for analysis.)
Referred -

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<td>23%</td>
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<td>expressive language</td>
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For the 1995 replication, screening results for speech/language were once again coded as pass/refer. Results revealed that 14% of the children being referred for an evaluation came from single family homes while 20% came from two parent homes.

**Study III - 1995 (control)**

Population - Daycare (117 children screened with questionnaire responses available for analysis.)

Referred - Single working parents. . . . . 14%

Married working parents. . . . . 20%

**DISCUSSION**

From all of the demographic and family structure data obtained, the only factor that was found to correlate with speech language screening results was the number of parents in the household. Over the seven year period, which represented three separate data collection samples, the screening result trend was consistent. There was a higher speech-language referral rate from two parent homes than from single parent homes. This was indeed a curious and unexpected outcome.

Even though the relative importance of caregiver input to language learning is open to debate (Pinker, 1994) some level of language input is seen as necessary for the language learning process to occur (Leonard and Loeb, 1988, Rymer, 1993, Snow, 1972 and Newport, Gleitman and Gleitman, 1977). Leonard (1971) indicated that children, even in their first year, know a great deal about the language heard in their home. This would indicate that these very young children are sensitive to the language that they hear on a daily basis. The fact that the number of years a child had been enrolled in day care did not surface as correlating to language outcome is also interesting. The children involved in this study currently receive daily language input both from their day care environment and from their home environment. Where the earliest language input occurred (home or day care setting) does not seem to matter to the level of language use or understanding for these children when they reach preschool age.

Why, among all the demographic and family structure information obtained, was number of parents in the household the
only factor that related to screening outcome for speech or language? The children in this study share the same day care environment and same demographic community. A large part of their daily language input is similar; shouldn't their language abilities be similar as well? Perhaps the major difference is the quality or amount of parental interaction time after the day care day is over. Since a single parent has no other adult present in the home for end of the day conversations; their children may receive more language input after day care than those children living in two-parent homes. This could account for the lower referral rate among children from single parent homes.

As with most studies, it raised as many questions as it answered. The data for this study was obtained from area day care settings. Would a similar correlation between number of parents in the household and language outcome be found among children who spend a major part of their time in the home environment rather than in a day care setting? Would the results have been as consistent if the day care settings had been altered from year to year rather remaining the same? Embedded in this last question are issues relating to the quality of the day care environment as an optimal language learning environment.

Another interesting outcome from this study was that over the seven year period that data was collected, the referral rate did decline from forty-four per cent to twenty per cent for children from two parent homes and from twenty-five per cent to fourteen per cent for children from single family homes. This represents close to a fifty percent drop in referral rate. The data trend strongly suggests that day care providers may be becoming better equipped to provide adequate and appropriate language stimulation for their preschool population. Marvin (1994) noted that language in school settings is more tied to the here and now while the language used in the home is more often about the then and there. When language is freed from the here and now, more complex language is expected to develop (Nelson, 1989, Lucariello, 1990, and French, 1986). Perhaps the language input provided in day care settings has become more like "home talk" than "school talk".

After the final screenings were completed, results were shared with the day care teachers at the largest center served. Interestingly, they were not surprised by our findings and reported having noticed a similar trend for day to day functioning among the children who they serve.


Drumwright, A. (1971) *The Denver Articulation Screening Exam*. Denver, CO.:University of Colorado Medical Center


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