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Toward their Newborn Infants

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PERCEPTIONS OF SEX-LINKED DIFFERENCES IN THE SPEECH OF MOTHERS AND FATHERS TOWARD THEIR NEWBORN INFANTS

By

Roberta Tekotte Hale

A DISSERTATION

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ABSTRACT

PERCEPTIONS OF SEX-LINKED DIFFERENCES
IN THE SPEECH OF MOTHERS AND FATHERS
TOWARD THEIR NEWBORN INFANTS

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The purpose of this study was to determine whether subjects perceived differences in the way mothers and fathers talked to their infants and whether they could identify the sex of the infant from the parent's speech. Subjects were asked to identify the parent who was speaking and the sex of the infant from reading excerpts of parents' verbal interactions with their infants where direct references about the true identity of the parents and infants had been eliminated.

The primary concern in this study was whether women and men, in their role as parents, use the English language differently and whether the sex of the infant influenced their speech in an identifiable way. A review of the literature suggested that differences exist in the way women and men talk, but that differences were dependent upon several factors, namely, age, socioeconomic background, occupation, and the context or role one is assuming at a given

time. There was also some evidence from the literature that the sex of the infant influenced the behavior and speech of parents. Experimental evidence of speech differences for women and men in their role as parents was nonexistent. There were also no experimental studies which tested whether the sex of the infant could be identified from what parents said to their infants. The potential use of empirical evidence that speech differences exist for women and men for subsequent research efforts into the part that language plays in learning sex-role appropriate behavior was the impetus for the study.

Fifteen married, Caucasian couples from the Lansing, East Lansing, Michigan, area were administered a 40-item instrument which asked them to identify the parent who was speaking and the sex of the infant for each item or segment of verbal interaction. The instrument had been developed from tape recordings of verbal interactions between mothers, fathers, and their infants. Subjects were also asked to indicate their reasons for deciding which parent was speaking and the sex of the infant. They were given a choice of four categories which they could use as a basis for their judgments. In addition, each subject was administered the Bem Sex-Role Inventory which classified them as Masculine, Feminine, or Androgynous.

A t-test for population means was used to test the hypothesis that subjects could identify the parent who

was speaking with greater than chance accuracy. Statistical significance was reached for this hypothesis ($p < .0001$). However, subjects were not able to identify the sex of the infant with greater than chance accuracy ($p < .11$).

Correlational analyses between the accuracy scores of identifying the parent and the sex of the infant and the Bem Masculinity and Femininity scores were performed. The only statistically significant finding was that there was a tendency for subjects who had high accuracy scores for identifying the father to have a high femininity score on the Bem. There was no ready explanation for this finding.

Examination of the data also showed that more than half of the time, subjects formed their judgments about the parent who was speaking from the language that was used in the item. When it came to how subjects formed their judgments about the sex of the infant, however, there were a greater variety of explanations.

Before any conclusions can be reached about whether women and men, in their role as parents, talk differently to their infants and whether the sex of the infant impacts on parental speech, larger and more powerful studies are needed.

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CHAPTER I

INTRODUCTION

Although interest in linguistic sex differences dates at least as far back as 1664 when women's and men's forms of speech were cited in a published report about the Carib Indians (Jespersen, 1922), it was not until the women's movement in the sixties that the topic of differences in the way men and women use the English language as well as other discrepancies between the sexes received much attention. Since then there has been an emerging body of literature on male/female differences in the use of the English language. Linguists, lexicographers, psychologists, sociologists, speech physiologists, anthropologists, novelists, and speech communication experts have all contributed to the analysis, findings, and commentaries on the sexual differentiation of the English language.

Sex differences have been noted in phonology (e.g., pronunciation, intonation patterns, pitch); in semantics (e.g., sex as a dimension in pronominal referents and in the elaboration and content of lexicons); in morphology and grammar (e.g., sex differences in choice of adverbs and in syntactic usage). Sex differences have also

been reported in the structuring of speech events (e.g., patterns of interruption and silences, development and choice of conversational topics, and the allocation of speaking terms).

However, the variability in the results of such studies as well as recent evidence suggests that factors such as age, social class, geographical location, ethnicity, occupation, as well as sex must be considered in the final analysis. In addition, authors Thorne and Henley (1975) and Key (1972) point out the necessity of going beyond linguistics to examining the context of the situation where differences in the use of the English language have been observed. "Speech," according to Thorne and Henley, "is intimately bound up with the social differentiation of the sexes" (p. 10). The authors conclude that the effect of different social settings and roles is crucial to understanding the linguistic behavior of men and women.

In the present study, perceived differences in the speech of men and women within their roles as parents of a newborn infant were explored.

Theory

Until recently, theories which existed about the differential use of the English language by men and women suggested biological and anatomical determinants. Jespersen (1922), who was the first writer to include a separate

chapter on women's speech, claimed that women "instinctively" shrink from "coarse and gross expressions" (p. 246). The anatomical hypothesis for male/female speech differences was that the voice-producing mechanism of men and women was different so that the sounds which were made were different, allowing a relatively easy distinction. This theory was challenged, however, by an experimental study done by Sachs, Lieberman, and Ericksen (1973). Basing their study on anatomical findings that prepubertal boys and girls of the same height and weight have the same larynx and thus the same fundamental frequencies, regardless of sex, these investigators asked 83 judges to listen to tape recordings and determine whether it was a girl's or a boy's voice they were hearing. Eighty-one percent of the guesses made by the judges were correct. Since there was no difference in articulatory mechanism size, the differences observed were thought to be the results of children learning culturally determined ways of speaking, i.e., learning a particular pitch and frequency, etc., that are viewed appropriate for each sex.

Although some writers imply that sex differentiation of speech has biological roots, the clear weight of evidence suggests social and cultural components. The phenomenon of taboo, for instance, has been offered as an explanation for sexual differentiation of vocabulary. This theory was advanced by Jesperson, particularly in reference

to the different forms of men's and women's speech found in the Carib Indians. He believed that if taboos became associated with particular activities or objects where, say women, were forbidden to use the original name, new words or phrases are likely to be used instead by the women, thus resulting in a sexual differentiation of vocabulary. This theory has been used to explain the finding that it is more acceptable for men in our society to use swear words than for women.

Peter Trudgill (1974), a sociolinguist, hypothesized that the differences in the way men and women use the English language are the result of social differences. That is, different social attributes and different behavior are expected from men and women. "Using a female linguistic variety," according to Trudgill, "is as much a case of identifying oneself as a female, and of behaving as a woman should, as is wearing a skirt" (p. 95).

The most comprehensive theory regarding the sexual differentiation of language comes from Thorne and Henley (1975). The authors cite three major themes in accounting for the differences: (a) the social elaboration of gender; (b) the structure of male dominance; and (c) the division of labor by sex (the interests, activities, and positions of women and men in society, including the socialization of children, and forms of social bonding).

The social elaboration of gender is explained by their belief that humans, compared with other species, are only slightly sexually dimorphic. That is, they organize such learned characteristics as posture, gesture, facial expression, and speech to enhance sexual dimorphism. Sexual differentiation of speech is conceptualized as part of human gender display, as one way in which sex differences are socially marked, emphasized, and enacted.

With regard to language and male dominance, the authors note that male dominance is strikingly apparent in the content of words and that in the English culture, men are more highly regarded than women. The authors cite nonverbal gestures which function as gestures of dominance and submission as well as asymmetry occurring at the verbal level. The authors also note that there are constraints against women and men using the speech style associated with the opposite sex but that men who use female forms seem to be more stigmatized than women who use male forms of speech.

As far as the division of labor by sex is concerned, Thorne and Henley (1975) believe that a strong division of labor by sex still exists in our society, with women largely responsible for housework and child care and men defined primarily by their economic or occupational position. This division of labor, according to the authors, is reflected in our language. For example,

conversational topics among men and women have been found to parallel the division of labor. Women talk to other women about family and interpersonal matters, while men talk to male friends about cars, sports, work, motorcycles, carpentry, and local politics. The authors suggest, however, that these patterns of conversation may be changing with the growing employment of women outside the home.

The present study is based on the theoretical assumption that sexual differentiation of language is effected by the relationship of the participants, the situation where the interaction takes place, and the particular role one is assuming at the moment. The importance of noting the context of the situation in which speech occurs as well as the effect of different social settings and roles has been recognized by authors Key (1972), Thorne and Henley (1975), and Trudgill (1974). Key (1972) believes that what might be a male/female distinction among one substratum of people might be more accurately described along other lines or along with other lines of the many dimensional varieties of language.

Trudgill (1974) noted that the same speaker may use different linguistic varieties in different situations and for different reasons. He theorized that the role relationships and relative statuses of the speakers involved in a discourse resulted in different linguistic varieties. For example, speech between individuals of unequal rank

(due to social class, age, or some other factor) is likely to be less relaxed and more formal than that between equals.

Thorne and Henley (1975) also concur that social context must be considered, especially as it relates to whether words, phrases, and sentence patterns are valued or less valued, strong or weak. It is their belief that given speech forms are not inherently strong or weak but acquire those attributes only in a particular cultural or social setting.

Overall, the theories reviewed suggest a social/cultural basis for the sexual differentiation of language. Additionally, the theories suggest that the context of the situation effects the linguistic behavior of men and women and that the impact of different settings and different roles must be considered in understanding and interpreting the linguistic behavior of men and women.

Need

While there is growing evidence that differences exist in the linguistic behavior of males and females, it has also become clear that many factors must be taken into account before conclusions can be drawn. An important consideration is that of social context or the particular situation and role in which discourse takes place. No studies to date have investigated whether differences are perceived in the speech of men and women in their roles as parents.

Furthermore, although an increasing number of studies have suggested that mothers and fathers treat their infants differently on the basis of the sex of the infant, no studies to date have investigated whether the sex of the infant is identifiable from what mothers and fathers say to their infants.

If it can be established that differences are perceived in the speech of mothers and fathers toward their infants and that the sex of the infant can be identified by what is said to the infants, then researchers can begin to explore the acquisition of speech styles associated with each sex and the relationship between sex-typed language and the learning of sex-related roles and behavior. Although language is often taken for granted, it is difficult to imagine that language would not play a central role in the socialization of children and their perceptions of what it means to be a male or a female in our society.

The implication for learning how children learn "appropriate" sex-role behavior is that we can then evaluate whether our ideas of "appropriate" behavior have kept pace with the demands of modern-day society. For example, if 90% of the female population will be employed outside of the home at least some of their adult lives, does it make sense to perpetuate the belief that housewifery and motherhood are the choice occupations for women? Also,

if men are going to be called upon to share increasingly in child care and household responsibilities, are we preparing them for those tasks by perpetuating the belief that men are tough, strong, insensitive, and occupation oriented? Sensitizing ourselves to all the complexities of the process by which we develop sex roles can help us in adequately preparing our children for the world in which they will ultimately have to cope and survive.

Purpose

One purpose of this study was to determine whether mothers and fathers can be identified accurately on the basis of their speech to their infants. Additionally, it was the purpose of this study to determine whether the sex of the infant could be accurately identified from what parents said to their infant. Specifically, this study focused on whether naive subjects could accurately perceive the parent who was speaking and the sex of the infant from reading excerpts of transcripts where direct references to sex had been eliminated.

Research Hypotheses

The following five research hypotheses were tested in this study. These hypotheses are based on the results of a preliminary test and from theories taken from the literature.

H_1: Female subjects will accurately identify which parent was speaking a greater number of times than male subjects.

H_2: Male subjects will accurately identify the sex of the infant a greater number of times than female subjects.

H_3: Subjects will accurately identify when the mother is speaking a greater number of times than they will identify when the father is speaking.

H_4: Subjects will identify the parent who is speaking with greater than chance accuracy.

H_5: Subjects will identify the sex of the infant with greater than chance accuracy.

Overview

In Chapter II, the literature pertinent to male/female speech differences and the impact of the sex of the infant on parental speech will be reviewed. Chapter III describes the subject sample, the instrumentation, the research procedures, the hypotheses, the analyses, and the experimental design. In Chapter IV, the analysis of data for each hypothesis is presented along with the results of supplementary analyses used for exploratory purposes in this study. A summary of this investigation and a discussion of the findings and limitations as well as the implications for further research will be included in Chapter V.

CHAPTER II

REVIEW OF LITERATURE

A growing body of evidence exists which suggests that differences exist in the way men and women use the English language. However, evidence is also emerging which indicates that the specific social setting and role being assumed highlight or blur male/female differences. In this study sex differences in speech as they relate to women and men in their roles as parents of newborns were examined. The literature and theories on female/male speech differences will be reviewed first. Next literature pertaining to mother-infant and father-infant interaction will be presented. Finally, the literature on parental verbal behavior, especially as it relates to the sex of the child, will be presented.

Female/Male Speech Differences

Historically, sex differences in language were first reported in non-Western societies. Little was written about sex differences in English until the Women's movement in the late '60s and early '70s. Since then, there has been a rapid spread of interest in this area.

Students investigating female/male speech differences come from a variety of backgrounds which, in turn, has led to diverse frameworks for research. A 1944 study by Mary Haas exemplified the old ethnographic studies using the classic linguistic method of informants. Other researchers such as Labov (1972) and Swacker (1975) obtained samples from their English-speaking informants by the use of "elicitation." Using oneself as an informant in one's own language was used by Lakoff (1973). Jespersen (1922) and Lakoff (1973) made use of anecdotal material as well. "Observation" by tape recorders or by hand transcription has been used frequently by such researchers as Cherry (1975) and Gleason (1973). Other writers have done structural analyses of the language such as Key (1972), who wrote about the contexts for female-marked words. Kramer (1974) has done a "content analysis" of dirty jokes and cartoons. Some investigators have used the experiment (Wood, 1966). "Tests" have been used by a number of writers such as Warshay (1972).

Sociolinguists Thorne and Henley (1975) have provided the most up-to-date and comprehensive information on sex differences in language in their book, Language and Sex: Difference and Dominance. An overview of the development of the field as well as an extensive annotated bibliography which covers both verbal and nonverbal sex differences in language is presented. In addition, the

authors have included a selection of papers representing examples of current sociolinguistic interests.

Author Ann Bodine (1975) has written a review of cross-cultural literature on sex-based differentiation of language, drawing heavily from ethnographic studies of non-European societies, particularly Amerindian, Bengali, Carib, Cham, Chukchee, Hebrew/Semitic, Indo-European, Japanese, and Thai. She reviewed the attitudes of the speakers and the linguists toward linguistic sex differentiation. Bodine developed a classification system for how sex-based language differences have been reported. The axes of the classification scheme were: (a) type of language differences and (b) the basis of language difference (sex of speaker, receiver of the message, the speaker plus the person being spoken to or spoken about). It was Bodine's belief that the backgrounds of the ethnographers reporting linguistic sex differences caused them to overstate and exaggerate types of linguistic sex differentiation which do not occur in their own languages and ignore or set apart types which do occur in their own languages. She strongly recommended, therefore, that a classification system such as hers be used and that native speakers investigate their own language rather than a foreign language for sex differences.

Writer Marjorie Swacker (1975) pointed out the importance of the sociolinguistic variable, speaker sex.

In reviewing the literature, Swacker noted the meagerness of studies which consider the sex of the informants. Her own research was designed to help fill the void. She used 34 informants: 17 men and 17 women who were between the ages of 20 and 28 and were full-time students at California State University. Each informant was asked to view three pictures from the year 1500 and then describe what they saw. They were given as much time as they needed for their descriptions and were told to be as thorough as possible. Their descriptions were tape recorded. The total time was calculated for the descriptions of all three pictures. Three areas of significant differences between male and female speaking patterns were found. One area was "verbosity." The female mean time for all three descriptions was about 3.17 minutes, and for males the mean time was about 13.0 minutes. The second area of difference in speaking patterns was numerals. Men tended to use considerably more numerals in their descriptive passages than did women. Women were found to precede half of their numerals with indicators of approximation. The third area of nonandrogenous verbal behavior was that of the "topic shift marker" or pauses, interjections, conjunctions, or a combination of two or more of these which were used to shift topics. Women used significantly more conjunctions than did men. Men used interjections to mark topic shifts.

Author Ruth Brend (1975) found definite preferences in the general usage and avoidance of some speech patterns by men and women. For example, men rarely, if ever, use the highest level of pitch that women use, and men avoid final patterns which do not end at the lowest level of pitch.

With regard to interruptions and silences in conversations, Zimmerman and West (1975) found that the power and dominance enjoyed by men in other contexts are used in their conversational interaction with women. The authors examined transcripts of brief two-party conversations, covertly recorded in public places. The pairs consisted of 11 male/female, 10 female/female, and 10 male/male, Caucasian, middle-class, from 20-35 years old. The relationships between the pairs ranged from close friendships to casual acquaintanceships. The transcripts were examined for overlaps (where the current speaker has reached a point in his/her utterance which could be construed as a complete sentence and a nonspeaker begins to talk while the current speaker continues and the speaker might protest); and interruptions (a nonspeaker begins to talk at a point which could not be construed as the end of a sentence). There were 7 interruptions and 22 overlaps, both symmetrically distributed between speakers in the single-sex conversations. There were 48 interruptions and 9 overlaps, with male speakers making 98% of the interruptions and 100% of

the overlaps in the male-female conversations. The women who were interrupted did not protest in any of the cases. The distribution of silence was nearly equal in same-sex conversations, while in cross-sex conversations, women showed more silence than males. The authors concluded that male dominance pervades routine conversations since the women's right to complete a speaking turn was routinely encroached upon with no apparent consequences.

Sachs (1975) examined whether the sex of children can be identified from their voices prior to puberty and what some of the possible cues are for differentiating female and male speakers. Citing three experimental studies, Sachs concluded that prepubertal girls and boys can be identified with greater than chance accuracy as to sex from their voices. She also discovered that: (a) Judges were able to guess the sex of the child from hearing isolated vowels; (b) Judges could not accurately determine sex from sentences played backwards, suggesting that there is considerable information in normal sentences that carries information about the sex of the speaker beyond the phonetic aspects of the voices; (c) A factor emerged that was correlated with the perceived masculinity or femininity of the voice, along with two other factors, Active-Passive and Fluent-Disfluent, when judges rated spoken sentences on semantic differential scales. The author concluded that an independent cue about the sex of

the speaker which does not involve how active the voice sounds or how fluent it is may be operating.

A study by Garcia-Zamor (1973) determined that children were aware of male versus female language. The author studied eight nursery school children, four males and four females, all middle to upper middle class and 5½-6 years of age. The children were interviewed two times. The first interview consisted of a questionnaire designed to elicit overt attitudes toward sex roles. In the second interview, children gave judgments about whether a girl or boy doll prop uttered sentences containing terms of endearment, hostility, etc. The results indicated that there was more agreement among male subjects than among female subjects about whether a sentence was said by a male or a female. "Aggressive" and competitive expressions were consistently associated with male dolls. The expression "dum-dum" combined with the accidental breaking of something was associated with female dolls. Bright colors describing clothing were associated with males while light colors were associated with females. Tag questions tended to be female associated while swear words were seen as male terms. While boys made more consistent judgments about the appropriateness of language use on the basis of sex, girls had stronger sex-biased notions, according to Garcia-Zamor. The author concluded that boys learn a new language--male language--while girls continue in the language of the nursery.

In another study about children's perceptions of differences between the way men and women use the English language, Fillmer and Haswell (1977) examined the perceptions of 121 children from an inner-city school, all of whom were from a low socioeconomic background. The results of that study indicated that children perceived differences both in language usage of men and women and between the conception of occupational roles traditionally assigned to each sex.

Writers Labov (1972) and Trudgill (1974) have noted that women are more sensitive to prestige patterns and often use the more advanced forms in their own casual speech. Trudgill's explanation for why women use more correct forms of English than men is that women in our society are more status-conscious than men, and for that reason they will be more sensitive to the social significance of social-class-related linguistic variables. Men, because of current concepts of masculinity in our society such as "toughness," will use less "correct" speech than that of women to identify themselves as masculine.

Among the earliest writers to include a separate chapter on women's speech was Jespersen (1922). He discussed taboo words, female linguistic conservatism, adverbs, word choice, as well as some general characteristics of female speech. He believed that women's vocabulary was not as extensive as men's and was concerned with immediate

surroundings and ornamental things whereas men's vocabulary was more abstract and remote. Women, according to Jespersen, used more intense words and more adverbs than men. Jespersen also believed that women used incomplete sentences while men did not and that women talked more quickly than men did. Jespersen's claims, however, were based on literature written by men.

In an experimental study, Gilley and Summers (1970) found sex differences in the use of hostile verbs. Fifty males and 50 females were asked to make up sentences from a given pronoun and a given verb. The results indicated that male subjects used hostile verbs at a greater average frequency than did female subjects.

Gleser and Gottschalk (1959) tape recorded samples of speech elicited from 90 subjects. They found that women used significantly more words implying feeling, emotion, or motivation (whether positive, negative, or neutral) and made more references to self. Women also used more auxiliary words and negations. Men used significantly more words implying time, space, quantity, and destructive action. An interesting finding was that the more intelligent women were more similar to men in less frequent use of self-references and negation. Another important consideration in interpreting the results of this study is that it was done in the fifties prior to the women's movement and the increasing numbers of women who were employed

outside the home. Both of these factors may influence the content and topic of conversations.

Conversational interaction between men and women was the focus of three other studies. Saskin and John (1963) analyzed the talk of a couple during a 16-hour day. The quantity of talk and the frequency of different message types and functions were examined. They found that the wife produced more affect-discharging messages while the husband produced more directive and informational statements. In private, the wife produced more expressive messages than when the couple was in the presence of others. The husband claimed 29% of the talking time when he was having golf lessons compared to 79% of the time when he was talking to his wife. Hirschman (1973), in her study of six dyadic conversations between men and women, found that females used a much higher percentage of "fillers," e.g., uhm, you know, than males. No differences were found in the proportion of "qualifiers," e.g., maybe, probably, I think, I guess. Males used third-person references while females more often used pronouns. The generalizability of these studies is brought into question because of the small sample sizes and because no comparison data are available for interactions in other contexts, i.e., analyzing the talk of men and women in the office or where both men and women are employed outside the home.

The third study involving the analysis of conversational interaction between men and women was done by Marion Wood (1966). In her experimental study she found that men tended to use more words per utterance in a given verbal task than women. She also found that the length of the verbal output of males tended to increase under conditions of ineffective communication and to level off under conditions of successful communication. This was not true for females.

With regard to the language style of men and women, Warshay (1972) found that men tended to write with less fluency than women. They referred to events in a verb phrase, to be time oriented, to involve themselves more in their references to the events, to locate the event in their personal sphere of activity, and to refer less to others. Females, on the other hand, referred to events in a noun phrase, were less time oriented, tended to be less involved in their event references, and referred more to others.

Lakoff (1973) and Key (1972) have each written comprehensive reviews of male/female distinctions in language. Lakoff (1973) explored the concept of "woman's language" in English. She provided examples of woman's language with regard to lexicon (color terms, particles, evaluative adjectives) and syntax (tag questions and related aspects of intonation in answers to requests and

of requests and orders). The author also analyzed speech about women, especially with regard to lady:woman, master: mistress, widow:widower, and Mr.:Mrs.:Miss. Lakoff hypothesized that as children women are encouraged to be "little ladies."

> Little ladies don't scream as vociferously as little boys, are chastised more severely for throwing tantrums or showing temper: "high spirits" are expected and therefore tolerated in little boys; docility and resignation are the corresponding traits expected of little girls. . . . Women are allowed to fuss and complain, but only a man can bellow in rage (p. 51).

Lakoff described women's language as generally more polite, that women make far more precise discriminations in naming colors than men, that women tend to use "meaningless" particles in their speech, and use less strong expressions. In addition, Lakoff found a number of adjectives such as adorable, charming, sweet, lovely, and divine which were used almost entirely by women. Women are more apt to use tag questions, according to Lakoff, more than men. A tag question is midway between an outright statement and a yes-no question, such as "The war in Vietnam is terrible isn't it?" (p. 55). The author claimed that the use of different particles by men and women is a learned trait, "merely mirroring nonlinguistic differences again, and again pointing out an inequity that exists between the treatment of men and women, and society's expectations of them and the treatment of women" (p. 51). Lakoff concluded that there is a discrepancy between the way men and women use

the English language and that the social discrepancy in the positions of men and women is reflected in linguistic disparities.

Mary Ritchie Key (1972) summarized the findings of other researchers and made observations of her own about phonological differences in women's and men's speech, intonation patterns, male/female differences in syntax, the semantic component, and pronominal and nominal referents. In addition, Key commented on the importance of noting the context of the situation in which men and women are using language, i.e., the relationship of the participants, the situation where the interaction takes place, and the whole range of conditions involved, before determining whether the difference is sex-linked. Key concluded that her research showed there are differences in the linguistic behavior of males and females as well as in references made to males and females though these differences may not occur when speakers are in roles other than the sex role.

Kramer (1974) in her discussion on male/female speech differences noted the difference between what is actually different and what is believed to be different about men's and women's linguistic behavior. She reviewed both previous research and folk linguistics taken from a variety of sources including etiquette manuals, cartoons, speech books, and novels. She demonstrated how the stereotype of a woman having particular characteristics of speech

emerged. Kramer noted that there was a conflict between what women's speech is really like and what people think it's like as well as what people think it should be like. Kramer suggested that women learn to control their speech to remain in the background. She concluded that if sex-linked differences do exist, they are a way to maintain the differentiation between the sex roles.

In another study, Kramer (1973) examined actual and perceived differences in men's and women's speech. She asked 17 white men and 17 white women from a college freshman class to write paragraphs describing two photographs--one of a building and one of people. In analyzing the data, Kramer found no significant differences in adjective or adverb usage by women or men as had been previously theorized by Jespersen (1922) and others. However, when she asked the subjects to write their perceptions of the way men and women use language, they generally agreed that there are differences. Kramer concluded that "beliefs that sex-related language differences exist may be as important as the actual differences" (p. 85).

Mother-Infant, Father-Infant Verbal Interaction

Mother-infant verbal interaction has been the focus of many investigators, most of whom have been interested in language acquisition and the language environment of the child. Few researchers have examined father-infant

interaction in general, much less father-infant verbal interaction.

Clarke-Stewart (1973) concluded that there was a positive relationship between a child's language development and the mother's verbal stimulation. In particular, she found that mothers of girls were more highly verbal than mothers of boys and that girls were later found to be verbally more precocious than boys. However, researchers Cohen and Beckwith (1976) found contradictory results from their study and concluded that maternal language behavior to boys and girls was not different. Still other results were found by Friedlander, Jacobs, Davis, and Wetstone (1972), who found that although mothers were more active than fathers in babies' language environment, fathers played an important role but they were not specific as to what the father's role was.

Maccoby and Jacklin (1974) in reviewing the literature available on mother-, father-infant verbal interaction concluded that recent evidence does not clearly indicate that girls undergo more rapid verbal development in the first few years of life. The studies they reviewed showed inconsistent results as far as girls receiving more verbal stimulation or reinforcement than boys from their parents.

Trevarthan (1974) filmed five babies once a week from birth to six months. His evidence showed that fathers

play a more boisterous kind of game with more jokes and mimicry of prespeech grimaces and more poking of the body than do mothers.

In one of the few studies on father-infant verbal interaction, Rebelsky and Hanks (1971) showed that fathers spend little time vocalizing to their infants (average time was 37.7 seconds per day) and that the number of interactions varies by time of day, age and sex of infant, and the kind of activity occurring during the interaction. No comparable data on the amount of time mothers and infants interact were available, however, which was a weakness in the design of the study.

Parke and O'Leary (1972) compared mother-infant and father-infant interactions with their newborn infants. They found that fathers were very active with the infants. Fathers were twice as likely to hold the infant and equaled the mother in the extent to which he looked at, touched, and vocalized to the infant. These same investigators reported in a later study (1975) that mothers vocalized more when alone with their infants than they did when fathers were present.

Directly related to the present study is an unpublished study by Norbert Enzer (Enzer, Note 1). In personal communication with Enzer, he reported that judges were able to identify when the mother was speaking and when the father was speaking with greater than chance accuracy.

Enzer asked mothers and fathers to tape record their verbal interactions with their newborn infants in the hospital within 24-48 hours after delivery. The recordings were transcribed, eliminating references to the sex of the speaker or the sex of the infant as well as any conversation which was not directly related to the infant. A team of "expert" judges from the fields of psychiatry, psychology, pediatrics, and nursing was then asked to read the transcripts and make a guess as to when the father was speaking, when the mother was speaking, and the sex of the infant. Although statistical analyses were not done, Enzer reported that the judges were able to accurately guess the sex of the parent speaking and the sex of the infant greater than 50% of the time. The judges, according to Enzer, were unable to provide any reasons or clues as to what they were responding to in the transcripts which helped them make their judgments.

Impact of Sex of Infant on Parental Verbal Behavior

Although the results are inconsistent, a growing body of literature exists on the differential treatment of sons and daughters by their parents. Maccoby and Jacklin (1974), for example, who summarized existing studies on parent-infant verbal interaction, concluded that the results of such studies were highly variable but that the majority of studies showed no difference in the amount and

kind of verbal interaction. However, these authors concede that the evidence they reviewed may not be sufficiently refined to reflect important interactional differences which may be operating between the sex of the parent and the sex of the infant.

Aiden Macfarlane (1977) tape recorded parents' verbal interactions with their newborn infants immediately after delivery. She then transcribed every word uttered. Macfarlane found a preoccupation with gender and the attribution of a number of sex stereotypes by both parents and the medical staff. One mother upon learning she had just delivered a baby girl said to her husband, "Oh, I'm sorry darling," to which the doctor asked, "What are you sorry about?" "He (the father) wanted a boy" (p. 61). And later the mother said, "There's one--there--oh look, she's got hair. It's a girl--you're supposed to be all little" (p. 64).

In a study by Rubin, Provenzano, and Luria (1974), it was found that sex-typing and sex-role socialization appears to begin at birth. Thirty primiparous parents, 15 with sons and 15 with daughters, were interviewed within 24 hours after delivery. The births were traditional in that general anesthesia was used with deliveries and fathers were not allowed in the delivery room. Fathers were also not allowed to handle their babies during the first 24 hours but would look at them through the display

windows in the hospital nursery. Each subject was asked, "Describe your baby as you would to a close friend or relative" (p. 515). The responses were tape recorded and later coded. In addition, each subject was asked to complete a short questionnaire which consisted of 18 pairs of bipolar adjectives. Although there were no rating differences on the 18 scales as a function of sex of parent, several significant effects emerged as a function of sex of infant. Daughters were significantly more likely than sons to be described as little, beautiful, pretty, and cute, and as resembling their mothers. Fathers were more extreme in their ratings and made more stereotypic rating judgments of their newborns than did mothers.

Gould's story of a baby named "X" dramatically portrayed people's reactions to not knowing the sex of an infant from birth (Gould, 1972). The difficulties the parents encountered as well as the confusion and anger others experienced in not knowing the gender of the child poignantly demonstrated the importance our society places on gender.

An offshoot of this story was an experiment done by Seavey and Katz (1975), who found that adults' sex-role stereotypes influence their behavior toward boy and girl infants. Adult subjects were asked to interact with a 3-month-old infant who they were told was a boy, a girl, or were told nothing about the child's sex. Subjects were

randomly assigned to each of the three conditions. Adults who were told the baby was a girl were more likely to choose a doll for the baby to play with than those adults who thought the baby was a boy. In the case where subjects did not know the sex of the infant, each of them spontaneously labeled the infant a boy or a girl. When asked how they arrived at that judgment, the subjects were more likely to have used the characteristics of the baby. For instance, if the subjects thought the baby was male, they referred to the baby's strength, and likewise if they thought the baby was female, they cited the baby's softness.

Jeanne Brooks-Gunn and Wendy Schempp Matthews (1979) in reviewing the studies done on sex differences in male and female infants concluded that

> Whether parents perpetuate or amplify already existing sex differences or assume sex differences should exist based on their own stereotypes, their interactive style with their infants has an impact on their children's developing sex role. Because we unearthed so few real differences between boy and girl infants, we would be willing to assume that the development of increasingly extensive sex differences depends a great deal on the parent's differential treatment of boy and girl babies (p. 79).

Howard Moss (1974) found that mothers and fathers use stereotyped sex-role attitudes in relating to their 7-week-old infants. Parents were asked to work together in administering a series of nine tests to their infants. The tasks the parents were asked to administer included

trying to get the infant to visually follow objects, to exhibit physical strength and coordination, to smile, and to vocalize. The parents were instructed to continue with the task until they were satisfied that their infant had successfully completed the task or would be unable to succeed. There was no time limit. The authors found that mothers and fathers spent significantly more time participating with female than male infants in trying to get their infant to smile. Similarly, when the parents were asked to get their child to vocalize, both mothers and fathers exhibited greater participation time with the females. Of particular relevance to the present study, the author tape recorded the entire procedure and a frequency count was made of the number of affectionate terms of address the parents used in talking to their infants during the test itself. The author found that both mothers and fathers used significantly more affectionate terms when addressing the girls than the boys. Moss concluded that differences between the sexes are probably "amplified over time through the stereotyped sex-role attitudes of parents" (p. 162).

Cherry and Lewis (1976) in their study of sex-differentiated aspects of mother-child verbal interactions found that mothers of girls talked more to their daughters than mothers of boys, asked more questions, used repetition, and used longer utterances. There were no comparable

studies of sex-differentiated aspects of father-child verbal interactions.

Rebelsky and Hanks (1971), as mentioned in the previous section, tape recorded the verbal interactions of fathers and their infants for a 24-hour period every 2 weeks from the time the infant was 2 weeks of age to the time he/she was 3 months old. They found that 7 out of the 10 fathers who were recorded vocalized less to their infants during the latter half of the study and that this finding was more marked among fathers of female infants.

Goldberg and Lewis (1969), in their study using direct observation of mothers and children in a play situation, collected data on differential treatment of mothers toward their sons and daughters. As part of their analysis, the amount of verbal interactions were recorded. A frequency count was made which showed that mothers spent more time vocalizing to daughters than to sons. No comparable data on the verbal interaction of fathers and sons and daughters were available.

Gleason (1973) found that the manners of address were different for boy and girl children. Gleason did an observational study of children's emerging control of different language styles. He based his findings on the observations of natural conversations of families with children ranging in age from infancy to 8 years old. According to Gleason, boy babies might be addressed in a

"Hail-Baby-Well-Met style" especially by fathers while being played with heartily. Girl babies, on the other hand, were dealt with more gently, physically and verbally.

Rothbart and Maccoby (1966) in examining parents' differential reactions to sons and daughters found that mothers tended to be more permissive with boys while fathers tended to be more permissive with girls with regard to dependency and aggression. A child's voice that was ambiguous with respect to sex was used as a stimulus. One group of parents was told they were hearing a boy's voice, another than they were hearing a girl's voice. The parents were asked to imagine that he or she was at home reading with his or her 4-year-old boy, Johnny (or girl, Susan), playing with a puzzle in the next room. With the child is a 1-year-old baby. Parents were asked to write down what they would say or do in response to each statement made by the 4 year old.

Investigators Osofsky and O'Connell (1972) looked at dependence-independence variables in mothers' and fathers' interactions with their daughters. Both the mothers and fathers were observed in structured interaction sessions with their daughters. Mothers and fathers were also observed separately in interaction with their child. There were also separate interviews for the parents about their child-rearing attitudes and behaviors. In general, the investigators found that the father is more likely

to help the child physically or become detached during dependence-producing situations while the mother is more likely to encourage independence and explain, question, and make comments to the child. An interesting addition to this study would have been to include sons in the study to determine whether a difference in behavior based on the sex of the child would occur.

Parke and O'Leary (1975) reported the results of two observational studies they conducted comparing maternal and paternal behavior toward their newborn infant. They explored the impact that the sex and ordinal position of the infant had on parental interaction patterns. In the first study, two sets of observations were made: (a) mother-father-infant and (b) mother-infant alone. In the second study, three sets of observations were made: (a) mother-father-infant, (b) mother-infant alone, and (c) father-infant alone. Both studies were conducted in the hospital following delivery. In the first study fathers were present during both labor and delivery, with one exception; half of the couples had attended Lamaze childbirth classes. Nineteen couples and their first-born infants served as subjects. In the second study 51 white and 31 black families participated. Unlike the first study, where the families were from middle-class backgrounds, the families in the second study were of lower socioeconomic status. Also in contrast to the first study, none of the

fathers were present during delivery. The authors found that fathers vocalized more to first-born boys than to first-born girls, while fathers vocalized equally to later-born infants irrespective of sex. They concluded that both sex and ordinal position are important modifying variables in early parent-infant interaction.

Summary

A review of the literature found that, in general, there were differences in the way males and females use the English language but that the differences were highlighted or blurred depending on the context of the situation and such factors as age, socioeconomic level, and occupation. The most common difference in males' and females' linguistic behavior and the one with the most empirical support is that women are more "polite" than men. They avoid strong expressions or swearing and will more often choose the "correct" way of talking. Early training and cultural influences have been the more accepted and supported theories for observed differences in the way men and women use the English language.

Few studies have looked at what mothers and fathers say to their infants and the impact that the sex of the infant has on the parent's speech. Moss (1974) reported that parents related to their 7-week-old infants in stereotyped sex-role ways. A preoccupation with gender as well

as the attribution of a number of sex stereotypes by parents and medical staff could be found in the transcripts of parents following the delivery of their infant (Macfarlane, 1977).

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

This chapter covers the following areas: sample, instrumentation, reliability, research procedures, design, research hypotheses, and procedures for analysis of the data.

Sample

Fifteen married, Caucasian, middle-class couples who ranged in age from 21 to 35 volunteered to participate as subjects in this study. Middle-class, for the purposes of this study, was defined using Hollingshead's (1957) two-factor index of social position, i.e., amount of education of head of household and type of work. The couples were contacted through birth announcements in the local newspaper and by word-of-mouth. The couples were from the Lansing, East Lansing area. All of the couples had at least one child. The children ranged in age from 6 weeks to 2 years. Each couple was paid $10 for their participation in the study. Feedback about the results of the study was offered.

Instrumentation

The instrument used to assess responses about the sex of the parents and the sex of the infants consisted of 40 items. The items were segments of actual conversations between mothers, fathers, and their infants. Two separate answer sheets accompanied each test instrument. Directions included with the test instrument instructed each subject to read each item and then fill in the appropriate space on the designated answer sheet for the sex of the infant and the parent who was speaking.

There were two stages in the development of this instrument. During the first stage, two couples were initially contacted to tape record 90 minutes of their verbal interactions with their infants. One of the infants was a female and the other infant was a male. The couples were instructed to make their verbal interactions as normal as possible without trying to equalize the amount of interaction each of them had with their infant. The tape recordings were then transcribed in their entirety. Numerical codings were used to designate a change in speaker or a lapse of time. Direct references about the sex of the infant and which parent was speaking were eliminated throughout each transcript. These references included names; pronouns such as he, she, him, her; nouns such as Mom, Dad, Mother, Father, girl, boy, lady, and man.

As a preliminary test to determine the suitability of this instrument for further research, 10 employees of the College of Human Medicine, Michigan State University, were asked to participate as judges. The directions accompanying the transcripts asked them to read through each transcript and to list five times, by code number, when they thought the mother was speaking, five times when they thought the father was speaking, and the sex of the infant at the end of each transcript. The judgments about the sex of the parents and the sex of the infants were done independently by each of the participants.

The results from the preliminary testing of the instrument showed that 63% of the judgments about the parent who was speaking and 70% of the judgments about the sex of the infant were accurate.

The instrument was modified and procedural changes were made based on the findings of the preliminary test. Thus, for the second stage in the development of the instrument, four couples, instead of two, were asked to tape record their verbal interactions with their infants. Two of the infants were females and two of the infants were males. Equal numbers of female and male infants were used to avoid bias. The number of couples was increased to broaden the sample of parent-infant verbal interactions. The couples were recruited by word-of-mouth. Their instructions were similar to those given to the first two couples

who tape recorded their interactions. They were reminded that they did not need to equalize the amount of conversation each of them had with their infant and to make the interactions as normal as possible.

Again, each of the tape recordings was transcribed in its entirety. Then, the recordings were divided into 60-second segments or 50 words, depending on whether a change in speaker occurred prior to the 60-second elapse of time. Five segments of the mother speaking and five segments of the father speaking were randomly selected from each of the four transcripts for a total of 40 segments or items. As was done previously, direct references about the sex of the infant and the parent who was speaking were eliminated throughout the segments. By randomizing the order of the 40 items, three forms of the instrument were made. The directions were changed in that determinations about the sex of the infant and which parent was speaking had to be made for each of the 40 segments or items. Separate answer sheets for judgments about the sex of the infant and the sex of the parent were provided.

By modifying the instrument in the previously described manner, it was believed that several variables noted in the preliminary test results would be controlled. One of the factors noted was the variability in the length of the transcripts themselves. Most of the participants

who agreed to serve as subjects for the preliminary test stated they thought the transcripts were too long and tedious. The subjects also reported that the longer transcript gave more information by its length alone. Second, the subjects reported they became used to a "style of dialog" between the parents, which aided them in selecting which parent was speaking and the sex of the infant. Third, the length of the verbalizations by each parent was used in making judgments rather than any other cues. Finally, by asking the subjects to list five times when the mother was speaking and five times when they thought the father was speaking, there was no way of knowing whether it was the coded verbalization itself which was being used as a cue or the verbalizations leading up to the one chosen or following the one chosen. There was also no way of knowing why some verbalizations were picked and not others.

Categorization of Reasons for Judgments

In addition to making identifications about the sex of the infant and the sex of the parent, the subjects in the preliminary testing of the instrument were asked to write an explanation about their reasons or how they went about making their judgments. From their explanations and comments, four different categories of explanations were compiled. Category I referred to female/male differences

as they related to: (a) sex-role function; (b) personal attributes, behaviors, anatomy, and dress; and (c) occupation. Category II referred to the language that was used; i.e., either the words seemed distinctly masculine or feminine or the structure of the sentence seemed masculine or feminine. Category III related to the context or setting in which the interaction took place. Category IV referred to any explanations which were not included in the other three categories. For the present study, a description of each of the four categories was given to the subjects. They were instructed to check one of the categories each time they made a judgment about the sex of the infant and the parent who was speaking. If Category IV was checked, the subject was also asked to write out his/her own reason since it was to be checked when the reasons contained in the other three categories seemed inappropriate or unsuitable.

Bem Sex-Role Inventory

The Bem Sex-Role Inventory, although not included at the time of the preliminary testing of the instrument, was included in the present study. This instrument was originally designed to implement empirical research on psychological androgyny, a term that denotes the integration of masculinity and femininity within a single individual. This inventory was one of the first instruments

to treat masculinity and femininity as two independent dimensions whereas in the past, masculinity and femininity were treated as two ends of a single dimension. Thus, an individual had to be either masculine or feminine but not both. This sex-role dichotomy has not allowed that many individuals could be "androgynous"; that is, that they might be both masculine and feminine, both assertive and yielding, both instrumental and expressive, depending on the situation and appropriateness of these behaviors. Likewise, strongly sex-typed individuals might be restricted in the range of behaviors available to them as they go from one situation to the next. It has been pointed out by Bem (1974, p. 155) that highly sex-typed individuals are motivated to keep their behavior consistent with an internalized sex-role standard. Bem and Lenney (1976) later demonstrated this notion in an experimental study where they saw the avoidance of cross-sex behavior by sex-typed individuals.

The Bem Sex-Role Inventory was selected for use in this study to gain information about the subjects and to determine whether a relationship existed between the scores the subjects received on the instrument used to assess whether they could identify the sex of the parent and the sex of the infant and the Bem Masculinity and Femininity scores. That is, is there a relationship between being typed as Masculine, Feminine, or Androgynous and the number

of accurate identifications about the sex of the infant or the sex of the parent? Does having an internal perception of one's own sex role influence how he/she perceives others?

Reliability

Reliability refers to the accuracy and consistency of the measuring instrument. There are many varieties of test reliability. With regard to the instrument used in the present study to assess whether subjects could accurately identify the sex of the infant and which parent was speaking, test-retest reliability was considered relevant. In addition, reliability as measured by whether the subjects responded in the same way, regardless of their accuracy, was also considered relevant to this study.

Sixteen items were readministered to the subjects. The 16 items were selected after the subjects had completed the 40-item instrument. Table 3.1 shows the number of accurate identifications about the sex of the infant and the parent who was speaking for each of the 40 items. The number of correct responses was divided by the number of subjects (n = 30) to arrive at a percentage of correct responses.

Upon further examination, it was found that the items could be grouped according to the following: (a) whether greater than 50% of the responses about the sex

Table 3.1

Item Performance Analysis

Item No.	Total Number of Correct Responses for Sex of Parent	% of Correct Responses for Sex of Parent	Total Number of Correct Responses for Sex of Infant	% of Correct Responses for Sex of Infant
1	9	30	20	67
2	16	53	10	33
3	15	50	24	80
4	11	37	6	20
5[a]	28	93	5	17
6	17	57	13	43
7	13	43	16	53
8[a]	22	73	17	57
9	20	67	13	43
10[a]	22	73	17	57
11	8	27	14	47
12[a]	17	57	27	90
13	14	47	9	30
14[a]	22	73	20	67
15	23	77	12	40
16	11	37	24	80
17	17	57	10	33
18[a]	17	57	21	70
19[a]	8	27	11	37
20	17	57	11	37
21[a]	14	47	27	90
22[a]	20	67	23	77
23[a]	9	30	1	3

Table 3.1 (Continued)

Item No.	Total Number of Correct Responses for Sex of Parent	% of Correct Responses for Sex of Parent	Total Number of Correct Responses for Sex of Infant	% of Correct Responses for Sex of Infant
24	23	77	5	17
25	8	27	18	60
26	24	80	8	27
27	13	43	16	53
28	15	50	21	70
29[a]	19	63	17	57
30[a]	17	57	17	57
31	22	73	10	33
32	10	33	16	53
33	22	73	16	53
34[a]	16	53	20	67
35[a]	25	83	9	30
36	12	40	8	27
37[a]	23	77	24	80
38	16	53	20	67
39[a]	19	63	26	87
40	11	37	22	73

[a]These items were included in the second administration.

of the infant and the sex of the parent were accurate, (b) whether greater than 50% of the responses about the parent who was speaking were accurate but less than 50% of the responses about the sex of the infant were accurate, (c) whether less than 50% of the responses about the parent who was speaking and the sex of the infant were accurate. It was decided to include some items from each of the previously mentioned groups for readministration rather than all 40 items. The concern in administering only 16 of the items was that the subjects would feel fatigued and drop out prior to the completion of the study. Table 3.1 indicates which items were selected for readministration.

The items were readministered approximately one to two weeks after the first administration. Test-retest reliability was computed using the Pearson correlation coefficient. Correlation coefficients were computed separately for identifying which parent was speaking and the sex of the infant. The coefficient for identifying the sex of the infant was -.12. This correlation coefficient suggests that there was little relationship between the two sets of scores. The correlation coefficient for identifying which parent was speaking was .48, which indicates a moderate degree of positive relationship between the two sets of scores. That is, in identifying which parent was speaking, there was some tendency for those subjects who performed well on the first administration to perform well on the second

administration and vice versa. In addition, the correlation for identifying which parent was speaking was statistically significant beyond the .01 level ($p < .003$). Thus the two sets of scores for identifying the parent who was speaking are truly correlated, even though the correlation was not great.

Perhaps if all 40 items had been readministered, the reliability coefficients would have been higher since reliability is affected by the length of the test (Anastasi, 1968, p. 83). Another possible contributor to the low reliability may have been the items which were selected for readministration. Some of the items included those where less than 50% of the subjects were able to accurately identify which parent was speaking and the sex of the infant when the item was first administered. Since the computation of the Pearson correlation coefficient is done on the number of accurate responses, those items where there were few correct responses could have lowered the total correlation coefficient.

Another index of reliability is to examine whether the same subject responded to the same item on a different occasion in the same way, regardless of whether the response was correct. Table 3.2 shows the percentage of the subjects who responded in the same way to the same item across the two administrations. That is, if 20 of the 30 subjects identified which parent was speaking exactly the same way for the

Table 3.2

Percentage of Consistent Responses

Across Two Administrations of Sixteen Items

Item No.	% Consistent Responses for Sex of Parent	% Consistent Responses for Sex of Parent
1	67	67
2	40	53
3	73	40
4	57	50
5	57	53
6	63	30
7	60	47
8	43	30
9	63	67
10	63	60
11	43	60
12	47	60
13	43	57
14	63	63
15	73	60
16	30	37
Average % of consistent responses for sex of parent =	55	Average % of consistent responses for sex of parent = 52

two administrations of the item, the percentage of consistent or same responses would be 67%. An overall average of consistent responses was calculated by summing over the percentages and dividing by the number of items (16). On the average, 55% of the subjects identified the sex of the parent in the same way across the two administrations of the items while 52% of the subjects identified the sex of the infant in the same way. Possibly, if all 40 items had been readministered the consistency of the responses for identifying which parent was speaking and the sex of the infant may have been greater.

Reliability and Normative Data for the Bem Sex-Role Inventory

The normative data for the Bem Sex-Role Inventory consisted of 444 male and 279 female students at Stanford and 117 male and 77 female paid volunteers at Foothill Junior College in California. Internal consistency for the Bem was estimated by computing coefficient alphas separately for the Masculine, Feminine, and Social Desirability scores. Masculinity $\alpha = .86$; Femininity $\alpha = .80$; Social Desirability $\alpha = .75$ for the Stanford sample. In the Foothill sample, Masculinity $\alpha = .86$; Femininity $\alpha = .82$; and Social Desirability $\alpha = .70$. The reliability of the Androgyny difference score was .85 for the Stanford sample and .86 for the Foothill sample.

A test-retest reliability was computed from the Stanford sample with the following results: Masculinity r = .90; Femininity r = .90; Androgyny r = .93; Social Desirability r = .89. In the Stanford sample, 34% of the males and 27% of the females were classified as androgynous, 36% of the males and 8% of the females were classified as masculine, 35% of the females and 6% of the males were classified as feminine. In the Foothill sample, 44% of the males and 38% of the females were classified as androgynous, while 22% of the males and 8% of the females were classified as masculine and 40% of the females and 9% of the males were classified as feminine.

In the present study, 33% of the male subjects were classified as masculine and none of the female subjects; 30% of the female subjects and 7% of the male subjects were classified as feminine; 10% of the male subjects and 7% of the female subjects were classified as androgynous; and 13% of the female subjects and none of the male subjects were classified as undifferentiated. Fewer of the subjects in this sample were classified as androgynous than in either of the normative samples.

Research Procedures

Subjects who participated in this study were initially contacted through birth announcements in the local paper or through word-of-mouth. Once the subjects

agreed to participate, a date and time were set. The subjects were randomly assigned to one of the three forms of the test instrument. Ten subjects were assigned to each form.

Data collection was done in two 1½-hour sessions in the homes of the subjects. The subjects were contacted one or two days prior to the beginning of data collection to remind them of the appointment time.

At the time of the first session, each subject was asked to read and sign the consent forms (Appendix A). Subjects were told what was to happen during this session. They were also reminded that all responses were to be completed independently. The subjects were then provided with the test instrument and the answer sheets. They were instructed to read the directions and ask any questions they might have before they began.

At the end of the session, another appointment was made one to two weeks later. As a reminder, subjects were contacted one or two days prior to the second appointment. Upon arrival, the subjects were briefed about what would happen during that session.

Sixteen items from the original 40 items were readministered at the time of the second session. The directions and answer sheets were the same as was previously given. In addition, each subject was given a description of the categories which were to be used to indicate their

reasons about the judgments they made. They were instructed to check one of the categories for each judgment about the sex of the infant and one of the categories for each judgment about the parent who was speaking. The Bem Sex-Role Inventory was also administered. A description of these instruments is included in the Instrumentation section of this chapter. Upon completion of the instruments, subjects were thanked for their participation and each couple was paid $10.

Research Design

The design for this study was one way with two levels. That is, there was one independent variable, the sex of the subjects, with two levels, females and males. Each subject was asked to make 40 judgments about which parent was speaking and 40 judgments about whether the infant was a girl or a boy. Thus, all of the subjects received the same treatment condition.

The dependent variables were the number of correct identifications (accuracy scores) for: (a) the sex of the parent who was speaking and (b) the sex of the infant. For some of the analyses, these scores were further broken down into the number of correct responses for identifying: (a) when the mother was speaking, (b) when the father was speaking, (c) when the infant was a boy, and (d) when the infant was a girl. The number of possible correct responses

for identifying the sex of the parent was 40. Twenty of the 40 possible correct responses were when the mother was speaking, and 20 were when the father was speaking. Similarly, there were 40 possible correct responses for identifying the sex of the infant. Twenty of the 40 possible correct responses were when the infant was a girl, and 20 were when the infant was a boy. The effect of the independent variable, the sex of the subject, was assessed by comparing the average score on the dependent measures for female and male subjects.

In addition to receiving an accuracy score for identifying which parent was speaking and the sex of the infant, each subject received a Masculinity and Femininity score from the Bem Sex-Role Inventory. These scores were used in a correlational analysis to determine whether a relationship existed between the Masculinity and Femininity scores and the accuracy scores for identifying which parent was speaking and the sex of the infant.

Research Hypotheses

Five research hypotheses were generated to empirically test whether subjects perceived the sex of the infant and the parent who was speaking.

The null hypotheses may be stated as follows:

Null Hypothesis I: No differences between female and male subjects on the accuracy scores of identifying which parent was speaking will be found.

Null Hypothesis II: No differences between female and male subjects on the accuracy scores of identifying the sex of the infant will be found.

Null Hypothesis III: No differences between the number of accurate responses for identifying when the mother is speaking and when the father is speaking will be found.

Null Hypothesis IV: No differences from chance (H_o: $\mu = 20$) will be found in identifying which parent is speaking, as measured by the accuracy scores.

Null Hypothesis V: No differences from chance (H_o: $\mu = 20$) will be found in identifying the sex of the infant, as measured by the accuracy scores.

Procedures for the Analysis of Data

The major focus of this study was to determine whether subjects could accurately identify which parent was speaking and the sex of the infant from reading excerpts of verbal interactions between parents and infants. The data used for the analyses included accuracy scores (number of correct identifications) for judging which parent was speaking and the sex of the infant.

To test the first two hypotheses a multivariate analysis of variance test procedure was used. The expectation that the dependent measures, i.e., the accuracy scores for identifying which parent was speaking and the sex of the infant, were interrelated suggested that a multivariate analysis be used. The alpha level for the multivariate approach was set at .05.

A t-test of dependent means was used to analyze the data for Hypothesis III. Equality of population variance and normality of distribution were assumed. The maximum score for identifying when the mother was speaking was 20. Likewise, the maximum score for identifying when the father was speaking was 20.

To test for Hypotheses IV and V, t-tests for population means were used. Equality of population variance and normality of distribution were assumed. There were 40 possible correct responses for identifying which parent was speaking and 40 possible correct responses for identifying the sex of the infant. Chance or 50% of the total possible correct responses equaled 20 for identifying which parent was speaking and the sex of the infant. Thus, symbolically, the null hypothesis was $H_o: \mu = 20$ for both Hypotheses IV and V.

Additional analyses were also done that provided descriptive data beyond the formal hypothesis testing. A one-way analysis of variance procedure was used to test whether there were significant differences between the accuracy scores for the three different forms of the instrument. Correlational analyses were used to explore the relationship between the Masculinity and Femininity scores on the Bem and the accuracy scores for identifying which parent was speaking and the sex of the infant.

A frequency count was also made of the categories chosen by the subjects which they used to explain why they decided the parent was the mother or the father and whether the infant was a girl or a boy.

Summary of Procedures

Fifteen married, Caucasian couples with one or more children under the age of two volunteered to participate as subjects in this study. The subjects were from the Lansing, East Lansing area and were contacted by birth announcements in the local newspaper and through word-of-mouth.

The instrument used in the study to assess whether subjects could identify which parent was speaking and the sex of the infant was developed from tape recordings of mothers and fathers talking to their infants. A preliminary testing of the instrument resulted in several modifications and changes. Ultimately, the instrument consisted of 40 items or segments of actual verbal interactions mothers and fathers had with their infants. The subjects were instructed to read each item or segment and on separate answer sheets make a judgment about which parent was speaking and the sex of the infant. All responses were made independently.

Reliability of the instrument was determined by readministering 16 of the 40 items. A criterion for

inclusion of an item in the second administration was developed. Test-retest reliability was computed, and consistency of the responses across the two administrations was examined. There was little relationship between the two sets of scores for identifying the sex of the infant. A moderate degree of relationship was found between the two sets of scores for identifying which parent was speaking. Although this correlation was found to be statistically significant, it would have been desirable if it had been higher.

At the time of the second administration of the items, the subjects completed the Bem Sex-Role Inventory. The subjects were also given a description of categories which they were to use to explain how they made each of their judgments. Each couple was paid $10 for their participation in the study.

The design for the study was one way with two levels. The independent variable was the sex of the subjects, females and males. The dependent variables were the number of correct identifications (accuracy scores) for the sex of the infant and the parent who was speaking.

Because the dependent measures were believed to be highly interrelated, multivariate analysis of variance was used to analyze some of the data. T-tests for dependent means and population means were also used. Additional analyses were done, correlating the scores from identifying which

parent was speaking and the sex of the infants and the Bem Masculinity and Femininity raw scores. A frequency count was also done of the categories chosen for each judgment about the sex of the infant and sex of the parent. The results of data analysis are presented in Chapter IV.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter is divided into three sections for the purpose of reporting the results of the investigation. The first section presents the descriptive statistics, the second section reports the results of the hypothesis testing, and the third section presents further analyses of interest.

Descriptive Statistics

The effect of the independent variable, the sex of the subject, was tested using the data from the dependent variables. Table 4.1 contains the cell means and standard deviations for the accuracy scores identifying the sex of the infant and the parent who was speaking.

A Pearson product-moment correlation coefficient was computed to determine whether a relationship existed between the accuracy scores for identifying which parent was speaking and the sex of the infant. The correlation coefficient was -.21, which was not statistically significant ($p < .44$). Thus, there was little relationship between the accuracy scores for identifying the parent who was speaking and the sex of the infant.

Table 4.1

Cell Means and Standard Deviations of Accuracy Scores for Identifying the Sex of the Parent and the Infant

Subjects	Parent	Infant
Females	$\bar{X}$ = 23.20 s.d. = 3.19	$\bar{X}$ = 20.53 s.d. = 3.44
Males	$\bar{X}$ = 22.00 s.d. = 2.54	$\bar{X}$ = 20.87 s.d. = 2.97
Total	$\bar{X}$ = 22.60 s.d. = 2.90	$\bar{X}$ = 20.70 s.d. = 3.16

Results of Hypothesis Testing

Since the dependent measures were believed to be highly interrelated, multivariate analysis of variance was used to analyze the data for two of the five hypotheses. A t-test for dependent means was used to analyze the data for Hypothesis III. T-tests for population means were used to analyze the data for Hypotheses IV and V. To facilitate reading, a restatement of each null hypothesis in nonstatistical form will be presented along with the results of the analysis. The results of Hypotheses I and II will be presented together since they were analyzed using the multivariate analysis of variance.

> Null Hypothesis I: No differences between female and male subjects on the accuracy scores of identifying which parent was speaking will be found.

> Null Hypothesis II: No differences between female and male subjects on the accuracy scores of identifying the sex of the infant will be found.

The multivariate test used to determine whether male and female subjects differed in their accuracy scores of identifying which parent was speaking and the sex of the infant was not statistically significant $F(2,27) = .63$, $p < .54$. Table 4.1 reports the means and standard deviations. The null hypotheses were not rejected. That is, male and female subjects have similar accuracy scores.

> Null Hypothesis III: No differences between the number of accurate responses in identifying when the mother is speaking and when the father is speaking will be found.

A t-test for dependent means was used to analyze the data. The level of significance for this hypothesis was $p < .35$, indicating that there were no differences at the stipulated alpha level ($p < .05$). Thus, mothers were not accurately identified a greater number of times than fathers.

> Null Hypothesis IV: No differences from chance ($H_o: \mu = 20$) will be found in identifying which parent was speaking, as measured by the accuracy scores.

Hypothesis IV is the only effect that obtained statistical significance at the stipulated alpha level ($p < .05$). The mean score for identifying which parent was speaking was 22.6, which was statistically significantly greater than the chance level of 20 ($t = 4.91$, $p < .0001$). A t-test for population means was used to analyze the data. The null hypothesis was rejected in favor of the alternate hypothesis that there was a significant difference from chance ($H_1: \mu > 20$) in identifying which parent was speaking.

> Null Hypothesis V: No differences from chance ($H_o: \mu = 20$) will be found in identifying the sex of the infant, as measured by the accuracy scores.

A t-test for population means was used to analyze the data. The mean score for identifying the sex of the infant was 20.7, which was not significantly different from the chance level of 20 ($t = 1.21$, $p < .11$). The null hypothesis was not rejected, indicating that subjects could

not identify the sex of the infant with greater than chance accuracy.

Further Analyses of Interest

The results of the multivariate analysis of variance were not significant in finding whether female and male subjects differed in identifying the sex of the infant and which parent was speaking. An additional analysis was performed to test whether there was a sex-of-subject effect when the difference between the accuracy scores of identifying the parent who was speaking and the sex of the infant were compared. There was a difference of 2.67 for female subjects in identifying the parent who was speaking versus identifying the sex of the infant. Male subjects had a difference of 1.13 in accuracy scores for identifying the sex of the infant and the parent who was speaking. An analysis of variance test procedure failed to find any significant difference between female and male subjects ($p < .38$).

Analysis of the data for Hypothesis III revealed that there was no statistically significant difference between the number of accurate responses for identifying the mother and the number of accurate responses for identifying the father. Analyses were also performed to test whether there was a greater number of accurate responses for identifying female infants versus male infants. A

t-test was done and was not found to be statistically significant ($p < .54$).

An analysis of variance procedure was used to test whether the accuracy scores were significantly different on the three forms of the test. The results showed there were no significant differences between the accuracy scores received by the subjects who had Form #1 versus the subjects who received Form #2 or Form #3 ($p < .75$).

Correlational analyses were performed to explore whether a relationship existed between the accuracy scores for identifying which parent was speaking and the sex of the infant and the Masculinity and Femininity scores received from the Bem Sex-Role Inventory. Pearson product-moment correlation coefficients are shown in Table 4.2. As indicated in the table, the correlation coefficient for the relationship between the Bem Femininity score and the accuracy score for identifying which parent was speaking was found to be significantly different from zero. More specifically, the accuracy score for identifying when the father was speaking and the Bem Femininity score were correlated. Thus, there was a tendency for those subjects who had a high accuracy score for identifying when the father was speaking to have a high Femininity score.

A frequency count was made to determine which of the categories was used most by the subjects in giving their reasons for selecting the sex of the infant and

Table 4.2

Pearson Correlation Coefficients

Accuracy Scores for Identifying:	BEM Masculinity Score	BEM Femininity Score
Parent	-.05	.30*
Mother	.03	.04
Father	.09	.33*
Infant	.11	.05
Girl	.19	-.05
Boy	-.03	.09

*p < .05.

which parent was speaking. The number of responses for each category was divided by the total number of responses to arrive at a percentage. The percentages are shown in Table 4.3.

As indicated in Table 4.3, Category II was chosen most frequently for both the selection of the parent and the infant. Category II related to male/female differences as they related to language. That is, the subjects checked Category II if they felt the basis of their judgment about the sex of the parent or the infant had to do with the language that was used in the item which they associated as being characteristic of a particular sex. In identifying the parent who was speaking, the subjects checked Category II 58% of the time. In identifying the sex of the infant, the subjects checked Category II 48% of the time. The least-selected category for the sex of the parents was Category IV, which was to be chosen when the other categories seemed inappropriate or unrepresentative. The least-selected category for the sex of the infant was Category III, context.

Summary

Five hypotheses were tested. Hypotheses I and II used a multivariate analysis of variance testing procedure. Results of the analysis indicated there was no significant difference between male and female subjects in accurately

Table 4.3

Categories Selected as Basis for Judgments

About the Sex of the Parent and the Infant

	Sex of Parent	Sex of Infant
Category I	23%	23%
Category II	58%	48%
Category III	14%	8%
Category IV	5%	21%

Category I referred to female/male differences as they related to sex-role function, physical appearance, or occupation.

Category II referred to female/male differences in the language that was used, either words or phrases.

Category III referred to the context of the situation of the setting described in the item.

Category IV was an open-ended category which could be checked when the other categories seemed inappropriate or unsuitable.

perceiving the sex of the parent and the sex of the infant.

Hypothesis III was tested using a t-test. The conclusion drawn was that there was no significant difference in the number of correct responses for identifying when the mother was speaking and when the father was speaking.

Analysis of the data for Hypothesis IV, using a t-test for population means, showed statistical significance for the subjects being able to perceive which parent was speaking with greater than chance accuracy ($p < .0001$).

A t-test for population means was used to test Hypothesis V. Statistical significance was not reached. The null hypothesis was not rejected. The sex of the infant could not be identified with greater than chance accuracy.

Further analyses were conducted to test whether there was a sex-of-subject effect. An analysis of variance procedure used to test the data resulted in no significant differences between female and male subjects.

To test whether there was a difference in the accuracy scores for the three forms of the test, an analysis of variance procedure was used. No statistical significance was found ($p < .75$).

Correlational analyses were done to explore the relationship between the accuracy scores and the Masculinity

and Femininity scores from the Bem Sex-Role Inventory. A statistically significant correlation was found between the accuracy score for identifying the father and the Bem Femininity score. The correlation coefficient, however, was low (.33), which suggested that the relationship was not close.

Subjects chose Category II 58% of the time as containing the reasons for their decisions about the sex of the parent, while they chose the same category 48% of the time when making judgments about the sex of the infant. Category II referred to male/female differences with regard to the language used in the items.

CHAPTER V

SUMMARY, CONCLUSIONS, AND DISCUSSION

In this chapter, the study is summarized, and conclusions based on the data analysis are explored. A discussion of the results as well as the limitations of the study are included, along with suggestions for future research in this area.

Summary

The primary purpose of this study was to determine whether differences were perceived in the speech of mothers and fathers toward their infants such that the sex of the infant and which parent was speaking could be accurately identified by naive subjects. The assumption that men and women use the English language differently, depending upon the situational context, the role that one is assuming at a given time, age, socioeconomic background, and occupation, served as the theoretical basis for this study. The additional knowledge that would be gained from empirical data supporting the notion that men and women use the English language differently in their roles as parents provided the impetus for this study. Also, very little experimental

research had been reported on this theoretical assumption to date.

A review of the literature was conducted in three areas: Female/Male Speech Differences, Mother-Infant, Father-Infant Verbal Interaction, and the Impact of Sex of Infant on Parental Verbal Behavior. The summary of female/male speech differences suggested that, in general, there were differences in the way females and males use the English language. The finding with the most empirical support is that women are more "polite" than men. They avoid strong expressions or swearing and will more often choose the "correct" way of talking.

Moss (1974), one of the few researchers to comment on what mothers and fathers say to their infants and the impact that the child's sex has on parents' speech, noted that parents were relating to their 7-week-old infants in stereotyped sex-role ways. Macfarlane (1978) audio-tape recorded parents immediately following delivery of their infant and found a preoccupation with gender as well as the attribution of a number of sex stereotypes by the parents and the medical staff.

Fifteen married, Caucasian couples with one or more children under the age of two were paid volunteer subjects for this study. The subjects were from the Lansing, East Lansing area and were contacted by birth

announcements in the local newspaper and through word-of-mouth.

The instrument used to assess whether subjects could accurately identify which parent was speaking and the sex of the infant was developed from tape recordings of mothers and fathers talking to their infants. A preliminary testing of the instrument showed that 63% of the judgments about the parent who was speaking were accurate, while 70% of the judgments about the sex of the infant were accurate.

Several modifications and procedural changes were made as a result of the preliminary testing of the instrument. The number of couples who agreed to tape record their verbal interactions was expanded from two couples to four couples. Instead of using entire transcripts as had been done for the preliminary test, the transcripts were divided into 60-second segments or 50 words. Five segments of the mother speaking and five segments of the father speaking were randomly selected from the four transcripts for a total of 40 segments or items. By randomizing the order of the 40 items, three forms of the instrument were made. The directions were changed in that subjects had to identify which parent was speaking and the sex of the infant for each of the 40 segments or items. Separate answer sheets for identifying which parent was speaking and the sex of the infant were provided for each subject.

The reliability of the instrument was low for identifying the sex of the infant and only moderate for identifying which parent was speaking. Reliability was tested by readministering 16 of the 40 items one to two weeks after the administration of the 40-item instrument. Test-retest reliability was computed using a Pearson product-moment correlation coefficient. The correlation coefficient for identifying which parent was speaking was .48, while the correlation coefficient for identifying the sex of the infant was -.12. Reliability was also tested by examining whether the subjects responded in the same way to the same item across the two administrations of the items. On the average, 55% of the subjects identified which parent was speaking in the same way across the two administrations, while 52% of the subjects identified the sex of the infant in the same way. Again, the reliability was low.

At the time of the second administration of the 16 items, the subjects were also asked to indicate their reasons for deciding which parent was speaking and the sex of the infant. The subjects were given a choice of four categories which they could use as a basis for their judgments. A description of each category used and an answer sheet were provided. In addition, each subject was administered the Bem Sex-Role Inventory, which classified them as Masculine, Feminine, or Androgynous.

The design was one way with two levels. The independent variable was the sex of the subjects. The dependent variables were the accuracy scores for identifying the sex of the infant and the parent who was speaking. Five hypotheses were generated to test whether subjects could identify with greater than chance accuracy (H_o: $\mu = 20$) which parent was speaking and the sex of the infant. Since the dependent measures were believed to be highly interrelated, a multivariate analysis of variance procedure was used to analyze some of the data. T-tests for dependent means and for population means were also used for some of the analyses. Correlational analyses were included to determine whether a relationship existed between the Bem Masculinity and Femininity scores and the accuracy scores for identifying which parent was speaking and the sex of the infant.

Results

A multivariate analysis of variance procedure was used to test whether there was a sex-of-subject effect. Results of the analysis indicated that there were no significant differences between females and males in either correctly identifying which parent was speaking or in identifying the sex of the infant.

A t-test for dependent means was used to test whether mothers were accurately identified a greater number

of times than fathers. Analysis of the data showed there was no significant difference between the number of correct responses for identifying either the mother or the father.

The results of the data analysis for testing whether subjects could identify which parent was speaking with greater than chance accuracy (H_o: $\mu = 20$) showed statistical significance ($p < .0001$). That is, subjects could correctly identify which parent was speaking with greater than chance accuracy (H_1: $\mu > 20$).

No statistical significance was found after testing whether subjects could identify the sex of the infant with greater than chance accuracy (H_o: $\mu = 20$).

Further analyses were performed to test whether there was a sex-of-subject effect. Differences in accuracy scores between identifying the sex of the infant and the parent who was speaking were compared for female and male subjects. The results of the analysis of variance procedure showed no sex-of-subject effect ($p < .38$).

An analysis of variance procedure was used to test whether there were significant differences between the accuracy scores of the three forms of the instrument. No difference was found ($p < .75$).

Correlational analyses were performed between the Bem Masculinity and Femininity scores and the accuracy scores identifying which parent was speaking and the sex

of the infant. A statistically significant correlation was found between the Femininity scores on the Bem and the accuracy score identifying which parent was speaking. More specifically, the higher the Femininity score, the higher the accuracy score for identifying when the father was speaking. The correlation coefficient was low (.30), however, which suggests that the relationship was not close.

Subjects selected Category II most frequently as the basis for being able to identify both the sex of the infant and the parent who was speaking. Category II stated that the language used in the items seemed associated with a particular sex or that the phrasing or language style seemed masculine or feminine.

Discussion

Only one of the five hypotheses tested achieved statistical significance. That is, subjects could identify which parent was speaking with greater than chance accuracy ($p < .0001$). There was no effect for the independent variable, sex of subject.

The findings from this study were consistent with earlier research that there are differences in the speech of women and men (Fillmer & Haswell, 1977; Garcia-Zamor, 1973; Gilley & Summers, 1970; Gleser & Gottschalk, 1959; Key, 1972; Kramer, 1973; Lakoff, 1973; Thorne & Henley, 1975). The results of this study, however, are interesting

from the standpoint that the sex of the infant could not be identified from what the parents said to their infants. That is, the sex of the infant did not appear to influence what parents said in any identifiable way. This is in contrast to a limited amount of research which indicates that parents speak and behave differently on the basis of the sex of the infant (Macfarlane, 1977; Moss, 1974). Additionally, in the preliminary testing of the instrument, 70% of the judgments about the sex of the infant were accurate, which is also in contrast to the present findings. The question of why the subjects were unable to accurately identify the sex of the infant warrants further explanation.

One possibility is that the instrument itself was not powerful enough to detect the differences. The items for the instrument were taken from four couples' verbal interactions with their infants. The parents themselves chose what they would record. Thus, the number of couples who recorded was low so that the representativeness of the verbal interactions is called into question as well as the method used to collect the samples of verbal interactions. Increasing the number of couples who tape recorded would have added to the generalizability and representativeness of the sample of verbal interactions which, in turn, would have increased the power of the test. In addition, a set-up similar to the one used by Rebelsky and Hanks (1971) would have been desirable. In their set-up, the microphone was

operated by a voice key to eliminate silent periods, and the recordings took place over a longer period of time. With the recorder activated by a voice at specified intervals rather than the couples choosing when they would record, a wider, unbiased sampling could have occurred.

A number of methodological and procedural changes occurred as a result of the preliminary testing of the instrument which also may have resulted in the subjects' inability to correctly identify the sex of the infant. One of the largest changes from the preliminary testing was in using 60-second segments or 50 words instead of entire transcripts. Perhaps more cues or different cues were needed to identify the sex of the infant than were needed to identify which parent was speaking. By not using the entire transcript, the cues may have been lost. It is also possible that the percentage of time that the sex of the infant does influence the speech of parents is very small and that those segments containing cues about the sex of the infant were not included in randomly choosing the segments.

Any conclusions or interpretations of the findings of this study are limited by the questionable reliability of the instrument. Perhaps if all 40 items, instead of 16 items, had been readministered, the reliability of the instrument would have been raised. With an increase in the reliability, there would have been stronger support for the

finding that subjects could identify which parent was speaking. However, since the reliability was so low for identifying the sex of the infant (-.12), it is doubtful whether additional items would have raised the reliability coefficient substantially. The instrument would probably still be unreliable with respect to identifying the sex of the infant.

With regard to the correlational analyses, there appeared to be a positive relationship between the Femininity score on the Bem Sex-Role Inventory and the accuracy score for identifying when the father was speaking. There was no ready explanation or theoretical underpinning for this finding. The correlation coefficient was low, however, which suggests that although there was a tendency for those subjects who had a high accuracy score in identifying when the father was speaking to also score high on the Femininity scale, the relationship was not close. There was no readily available explanation or theoretical underpinning for this finding.

Perhaps more meaningful information could have been gained by the use of an instrument such as the Myers-Briggs Type Indicator. The Myers-Briggs contends that individuals differ in their basic preferences with regard to perception and judgment and classifies individuals into dichotomous type categories. One of the categories, Sensing or Intuition, has to do with whether an individual perceives

directly in a factual, realistic way or indirectly through associated ideas and imaginative implications. With regard to this study, it would be interesting to determine whether there is a difference in the accuracy scores between intuitors and sensors. That is, are intuitors or sensors able to identify the sex of the infant and the parent who is speaking more accurately? If a difference was found between sensors and intuitors, perhaps the process the subjects went through in making their judgments could be better understood.

In addition, if an indepth interview followed the subjects' identification of the sex of the infant and which parent was speaking, more information about the process of decision making might become available. For instance, instead of just knowing that the subjects thought the language used was distinctly masculine or feminine, it would be possible to find out the exact word or phrase that was used. This method seems preferable to the checking of categories which was used in this study or may have been used as a supplement to checking the categories.

Limitations

When interpreting the results of this research, several things must be kept in mind. The way in which the research subjects were obtained, the size of the samples, and the instrument used for assessing whether subjects

perceived differences in the way mothers and fathers talk to their infants.

Couples from a city where there is a large mid-western university volunteered to participate as subjects in this research. Volunteers may differ from other groups of individuals in the general population and thus affect their response set for completing the instruments. Their willingness to participate may indicate that they are more sensitive and perceptive and aware of themselves as parents than the general population. In meeting with the couples, there was a sense that they wanted to perform well on the instruments even though it was explained to them that they would not receive specific feedback about their performance. As a group, they seemed highly motivated and expressed a strong interest in knowing the results of the experiment. These attitudes may not reflect the attitudes of the general population.

A second limitation is with the couples who agreed to audiotape record their verbal interactions with their infants. Four couples volunteered to participate. Because of the low number of participants, any conclusions or generalizations about the representativeness of their verbal interactions to couples in the general population is quite limited. In addition, their cooperativeness and willingness to participate may set these volunteers apart from the population as well as their small number.

A third limitation lies with the test instrument itself. As mentioned previously, test-retest reliability for identifying the sex of the infant was low and only moderate for identifying the parent who was speaking. It was not possible to predict an individual's score on the second administration of the item with his/her performance on the first administration. Thus, even though subjects could identify which parent was speaking with greater than chance accuracy, any conclusions are limited by the low consistency and accuracy of the instrument.

Recommendations for Further Research

Further exploration and investigation would be appropriate and useful based on the discussion of the results found in this study. The notion that women and men, in their roles as parents, use the English language differently is intriguing and important to our understanding about sex-related differences. If differences in the speech of men and women can be firmly established, perhaps the theoretical underpinnings for why differences exist can be further developed and explored. From there, an exploration could begin about the role that language plays in the learning of sex roles and sex-appropriate behavior in our society.

Recommendations and suggestions for further research include replication of the study but with correction of the

shortcomings discussed in the preceding Discussion and Limitations sections. More specifically, it would be desirable to test whether the sex of the infants and the parent who was speaking could be identified by a larger sample. Furthermore, it would be desirable to conduct the research using a nonvolunteer sample such as with all parents who enter a hospital to have a baby. By increasing the size of the sample and using a nonvolunteer group, the results would be more generalizable to the population.

Improvements in the instrumentation are also highly desirable. The number of couples who tape record their verbal interactions should be increased, and as mentioned previously, the method of collecting the sample of verbal interactions should be changed. The recordings should take place over a longer period of time and at specified intervals, i.e., a 24-hour period of recording every week. A microphone that is operated by a voice key to eliminate silent periods would be useful. The tapes should be transcribed by naive coders to eliminate experimenter bias.

Administer the Myers-Briggs Type Indicator instead of the Bem Sex-Role Inventory to learn more about the ways subjects perceive things. Do some subjects perceive directly in a factual, realistic way, or do they perceive indirectly via associated ideas and imaginative implications? Do subjects who perceive indirectly identify the sex of the infant and the parent who is speaking more

accurately than subjects who perceive things in a factual, realistic way? Is there something inherent in making judgments about the sex of the infant and which parent is speaking which makes it easier for those subjects typed as intuitors versus those who are typed as sensors to attain a higher level of accuracy?

Include an indepth interview after the subject has made his/her judgments about the sex of the infant and which parent is speaking. The subject can be asked directly about each judgment and what cues or decision-making process he/she used. This information would be especially useful if differences were found in the speech of mothers and fathers. It would then be possible to know exactly what differences were perceived as well as that they exist.

Another interesting research project relating to this one would contrast the speech of women and men in their roles as parents with women and men in work situations. The instrument could be developed in a similar way using tape recordings, but eliminate asking subjects to identify the sex of the infant, only whether it was a woman or a man speaking. The focus of the study would be on whether women and men use the English language differently, depending on the context of the situation and the particular role they are playing.

Another way of establishing whether differences in the speech of mothers and fathers exist would be to

collect and analyze large samples of verbal interactions. The recordings could be transcribed and coded according to the vocabulary used, the language style, the frequency and amount of verbal interaction, the number of silences and interruptions, the number of references to the sex of the infant, etc. By coding the interactions, it would be possible to establish how many, if any, of the verbal interactions have to do with the sex of the infant and how many have to do with unrelated topics.

In summary, the evidence from this study suggests that accurate judgments can be made about the sex of the parent from their speech, but the sex of the infant cannot be accurately identified from their speech alone. However, before any conclusions can be drawn, more powerful, rigorous studies need to be designed and implemented.

APPENDICES

APPENDIX A

SUBJECT CONSENT FORMS FOR RESEARCH PARTICIPATION

APPENDIX A

SUBJECT CONSENT FORMS FOR
RESEARCH PARTICIPATION

Consent Form for Mother-, Father-Infant Speech Study

I understand that participation in this study will involve audiotape recordings of conversations between myself and my newborn infant. I understand that the audiotape recordings are for the purpose of research for this study and that my confidentiality will be strictly maintained.

I understand that I am free to discontinue my participation in the study at any time without penalty.

I have freely given my consent to participate in this study being conducted by Roberta T. Hale under the supervision of Dr. William Hinds. I have not been offered, nor do I expect to receive, any remuneration for my participation in this study.

_____
Signature of Participant

_____
Date

_____
Signature of Witness

_____
Date

Consent Form for Mother-, Father-Infant Speech Study

I have freely consented to take part in a research study being conducted by Roberta Hale under the supervision of William Hinds, Ed.D.

I understand the explanation that has been given and what my participation will involve.

At the conclusion of my spouse's and my participation, I understand that together we will receive $10.00 in remuneration.

I understand that I am free to discontinue my participation in the study but will not receive any part of the $10.00 remuneration nor will my spouse.

I understand that the results of the study will be treated in strict confidence and that I will remain anonymous.

_____
Signature of Participant

_____
Date

_____
Signature of Witness

_____
Date

General Information Sheet

Name of Parents: Mother: Father:

Age of Parents: Mother: Father:

Occupation of Parents: Mother: Father:

Education of Parents: Mother: Father:

Sex of Infant: Boy Girl

APPENDIX B

TELEPHONE SOLICITATION OF SUBJECTS

APPENDIX B

TELEPHONE SOLICITATION OF SUBJECTS

Telephone Conversation

Mr./Mrs. _____, my name is Roberta Hale. I'm a doctoral student in Counseling Psychology at MSU. As my research project, I am investigating what mothers and fathers say to their children. I saw your name in the birth announcements in the State Journal and am calling to see whether you and your husband/wife would be interested in participating. I'll be offering $10 for each couple who participate in both parts of the project.

Your participation would involve you and your husband/wife reading through some excerpts of actual conversations that mothers and fathers had with their newborn and then independently making judgments as to the sex of the parent and the sex of the infant. I will come to your home while you complete this. In approximately 2-3 weeks from that visit, I'll return to your home with a second set of excerpts of parents' speech and again ask you to make judgments as to the sex of the parent and the sex of the infant. There will also be a questionnaire about why you made the judgments you did, as well as a brief personality inventory. I expect the first and second visits to each take approximately 1½ hours. I will pay you the $10 at the conclusion of the second visit.

Do you have any questions you'd like to ask me?

APPENDIX C

INSTRUMENTATION AND SCORING KEY

APPENDIX C

INSTRUMENTATION AND SCORING KEY

Mother-, Father-Infant Speech Study

DIRECTIONS: The attached instrument is composed of 40 excerpts of actual conversations mothers and fathers had with their infants. References to whether the mother or father is speaking and the sex of the infant have been eliminated. On the answer sheets, you will be asked to make a judgment as to whether the mother or the father was speaking and the sex of the infant for each of the 40 excerpts. ON ANSWER SHEET #1 PLEASE RECORD YOUR JUDGMENTS AS TO WHETHER YOU THOUGHT THE MOTHER WAS SPEAKING OR WHETHER YOU THOUGHT THE FATHER WAS SPEAKING BY BLACKENING SPACE #1 IF YOU THOUGHT THE FATHER WAS SPEAKING AND SPACE #2 IF YOU THOUGHT THE MOTHER WAS SPEAKING. ON ANSWER SHEET #2, PLEASE RECORD YOUR JUDGMENT AS TO WHETHER THE INFANT WAS MALE OR FEMALE BY BLACKENING SPACE #1 IF YOU THOUGHT THE INFANT WAS A GIRL AND SPACE #2 IF YOU THOUGHT THE INFANT WAS A BOY.

Mother-, Father-Infant Speech Study

DIRECTIONS: Please read each excerpt and record your decisions as to the sex of the speaker and the sex of the infant on the answer sheet. PLEASE DO NOT WRITE ON THIS FORM.

1. You didn't want much of that a minute ago..._____says my _____ gives me lots....For such a little one, you come up with the big ones, huh?... _____'s looking more like _____ now. You're a lucky _____ looking like your _____ instead of your _____.

2. Let's see if _____ can go through the whole thing without a cry. Spoke too soon. Record is still two in a row. _____ has to be able to go through more than two diaper changes without a scream or a holler or a hoot. _____ really tightens up _____ stomach you know?

3. _____'s been a real good _____. I'll tell you, you've been a real good _____... Who are you sticking that tongue out at? Are you sticking that tongue out at me? Umm, tastes good... Don't cry... Hi, Sweets!... Are you going to cry? No. "I'm going to smile I believe, _____." What's that little eye doing?

4. Say something. What's that coming?... Say something. Can you say "Hi, _____"... You going to the bathroom? ...Yea, look at that face of yours, it's turning all red, turning all red... Look at your _____ over here. What have you got to say to your _____? Talk to your _____. Say "Hi, _____."

5. What has this country done to our babies? What else can we give you? Pizza, want a pizza? I think we can get a nipple big enough to fit a mushroom or a piece of pepperoni, huh? Still hungry? Round 2, so far the bottle won the first round. _____ didn't eat that much. _____ just attacks the damn thing, I mean the darn thing.

6. Well, _____ wasn't following the lights yesterday. _____ sat and looked... Then ___ got bored with it... Heavy, you're getting heavy. Oh, what's the matter? Okay, here goes. Are you ready to go into the water? It's okay. You've got a funny look on your face.

7. "Oh my _____. This is such hard work and all I wanted was a little more food. You keep insisting on these burps. Oh, what do I do? I'm just so hungry, so hungry. I've only had 32 fluid ounces, you're starving me." Here we go, have a little more _____. What the heck. Oh, take it slow, take it slow. We sure got rid of those hiccups, didn't we? Yea, we got rid of the hiccups, for sure. We don't want to get rid of all the milk, now, so we better go a little bit slower. Yea, it's better if you take it slower.

8. Are you looking forward to Grandma and Grandpa coming? Yea, they're coming soon. Yea, they're coming especially to see you. Aren't you lucky? You have a nice Grandma and Grandpa. Yes, you do. Your Grandma's gonna be surprised at how big you've gotten, too. Yea, you smile likethat for them too, okay? Are you gonna smile like that for them?

9. We can't stay here all day even though I think you'd like to... How come you're all wet? On no, baby, don't cry. No, my goodness, my goodness. I'd cry too if my clothes were all wet. Oh, stinky baby. We'll get you out of those wet clothes.

10. _____ loves Pluto... That's what happens when you don't burp... Are your pajamas all wet?... One arm in... Good _____. One arm in. Oh, _____. Two arms in. "Oh my, I'm getting so hungry."... Oh, goodness gracious. Try once more. Oh, my goodness gracious. These hiccups, oh my. What do you think _____, want to try to eat? All right, let's try to eat.

11. You're the cutest, little starer, yes you are, the cutest little starer. Are you having a nice, mid-morning breakfast. It's around lunchtime, you know, and you still haven't finished breakfast. Been munching all morning long. That'd better do or I don't know what we'll do. Yea, I don't know what we'll do. Okay, try a little burp now. How was that? That was pretty good and you want more already, huh?

12. You are a doll face. Talk to _____, talk to _____. What a big smile you've got. You've got a beautiful smile. You are gorgeous. You are so sweet. You gonna talk to _____? Yea, talk to _____. Can you say "Hi, _____." You're such a pretty little _____. "Look at those socks and feet and legs. Bathroom time.

13. _____ just doesn't want to. I know why you're grunting ... You've got a surprise for us, don't you? _____ looks like a little munchkin, a chubby munchkin, huh? Putting on chubbies with all the chow-chow? You want to say something? What a good _____.

14. A nice resounding burp, _____. How about one of those? Whee...over the shoulder. Oh, way up high. Oh, a sneeze. You're working on it. We'll try it this way. We'll try this down here and this here and lean forward just a little bit.

15. Oh, so tired. Eyes closed. Hold still. Gotta change the diaper. A little smile. Oh a frown, little frown. ... A couple more minutes and we'll change you. I don't know, you rest so often. Oh, baby face. _____ made my breakfast for me. Isn't that nice of your _____?

16. Giving up, are you? "Hi _____, my name's Teddy." There, Teddy Bear's on his side. Both of you going to sleep?... Stay warm. You gonna stay warm? Nice and warm? Give me a big smile. What else do you have to say this morning? What else? Come on, how about smiling for me? Oh, just a smile, come on.

17. Gonna talk to _____? You gonna talk to _____? Oh, all those noises. What? See the pretty baby in the mirror? See the pretty baby? Yea, you're smiling at the baby, aren't you? You're such a big smiler. Yes you are.

18. "Oh _____ hurry. I don't want to get cold." You gotta have a bath today. There they are, look at those kittens... "Oh hurry _____, hurry." Oh, not a crummy tee shirt. This is a bad one. There. You're such a good _____. Here we go. Want to burp?

19. Where are you going? You gonna be a deep sea diver, huh? Sliding down into the water... What you got your toes clenched for, huh? You like splashing around in the water? It seems like it. You have such a rough day.

20. Oh, stretch, stretch, stretch. Come back. Did you burp? That's pretty puky. It'll be all right, _____. _____'s so tired... Oh, you're so hungry. "Oh, hurry _____." Here we go, _____. Over here. Now, get your tongue out. There, that's a _____. Good _____. Want to go to Grandma's tomorrow?

21. How are you doing big _____? Are you doing pretty good? Yea, you really are doing well today. How come? How come? Are you gonna talk to _____ today? Make some noises for _____, can you? What kind of noises can you make? Can you make some noises? Sure you can. Can you do that?

22. You look so cute. Pretty good, huh?... You smelling your toes? They smell pretty?... Look at this dry skin... Nice and clean... Yea, for a little while. For a little while then _____'ll realize that _____'s hungry again, then start screaming.

23. You're busy all the time aren't you? Gotta find something to do. Yea. Doesn't take much to keep you happy does it? _____ says, "Just give me a hand, and I'm happy or the nightgown." _____'s going to be a boxer. Look at _____ fists. You gonna be a boxer, _____? Is that a good flavor?

24. Good kid. Ready to wet again, aren't you? "Yep, soon as I can." Made it, made it through another diaper change. Want to say a few words to the audience? Go ahead, say a few words. Don't be bashful, go ahead. Tell them how glad you are to be here.

25. That's a cute smile on that face of yours. That's a real cute smile. What are you doing? We gotta cover you up. Look at that white tongue. Oh, still sleepy? You still sleepy? What a good _____. You gonna smile for _____? You gonna smile for _____, huh? You ready to eat some more?

26. What's going on in here?... Taking a swimming lesson? Gee, look at the size of that belly? _____'s expanding like crazy. You like the water?... It's like being by poolside, right?... _____ sure opens _____ eyes wide, you know?... _____ doesn't know if _____ should be enjoying it or _____ should be scared.

27. You're really different from yesterday. Smiles... _____ says, "I'm a whole new person today, since I went to the bathroom."... Hey _____, want to talk to your _____? You're so relaxed. It's nice to see you so relaxed for a change. Is that a yawn or a smile? That was definitely a smile.

28. You're going to be just fine, aren't you _____. You're an awful hungry, hungry, hungry little _____. The problem is you're always hungry. You're going to eat us out of house and home, maybe. Is that what you're trying to do, eat us out of house and home? You sure do look cute, yes you do.

29. A great big smile. One more, let's see it. Stick your tongue out and smile. Can you say something to us? Are you ticklish? Not ticklish, huh? Stick your tongue out and smile. Can you say something to us?

30. Is that what we're going to do, get another chair for you? What do you have to say for yourself? You're getting so excited. What are you getting so excited about? Oh, my goodness. What? You want to talk so badly. What? What are you going to say? You just want to talk.

31. Are you ready to be awake for awhile? Yes, you little sleepyhead? Time for you to be awake. What? What do you want to tell _____? "Goo" to you too. What? What's the problem? What's your problem? What you little fussbudget? What's wrong? What's the problem? You just want to be picked up again. You can't be picked up all the time. _____'s got other things to do.

32. "Can I rest, just for a little bit? Oh, just so hungry." _____'s ready for seconds, _____. "Skip the burps. I want my second course." Here you go... Hurry _____ hurry... Was that a hiccup?... You're so expressive... This is gonna be a quick one _____ cuz Mom and Dad have to go eat breakfast.

33. Oh wow, great smile! If I pull your ear like this, will you smile? How about your cheeks? Who's that sitting over on the couch? Is that your _____? Can you see _____? Can you see _____ through the covers? You've heard that voice before. You can see _____ can't you?

34. You stink don't you?... Want to hug your Teddy Bear? Teddy Bear's talking to you... Kiss him on the lips. Oh, good kiss. Want to hug him? Oh, Teddy's hugging _____. Kiss him on the nose. We'll just sit here and talk to you. Do you think Teddy Bear will crush you? Do you think Teddy Bear will sit on you?

35. What's with the two hats, huh? Are you just gonna be an _____? Maybe that's it... You better like _____. _____'s with you a lot more than me. I think _____'s starting to focus now. I mean, not just today over yesterday, but it just seems like the last couple of days _____ would follow something a lot easier.

36. How can you get that worried look? _____, there's nothing to worry about. Nothing to worry about at your age. You're really drinking that down. You make me feel like I didn't give you anything... _____'s going to end up drinking that whole thing. _____, your _____'s good to you.

37. Oh goodness. What's the matter, honey? Oh, we let you sleep today too long, huh? You gonna let us sleep tonight? Oh, honey. Tell me about it. Let me see, do you have wet pants? Do you? Let me check and see. Oh, wet pants, wet pants. No wonder you're unhappy. Okay, we'll go change you.

38. It's Easter. You know, little Easter bunnies and Easter baskets and carrots and candy. Too much for you these days, huh? You'll know soon and then you'll have lots of fun. Right now you just enjoy baths and eating. Sleeping, eating, changing your diapers and baths and rocking in your chair, that's what you like huh?

39. You have fat cheeks. Wake up... Let's see, little _____... How do you expect to get your hand out? Tell me, how do you expect to get your hand out?... You sure are strong. Tell me what I can do for you?... You cute little doll, you. You're cute. Hey sweets. You going to talk with _____?

40. Look how warm and cozy. Oh there. All better now. With no burps though. Your burping mechanism is haywire. Oh, there we go. That was a good one, honey. Say, "_____ I'm all right." Such a hiccup, so loud. Hi Tiger. Hi, little. Oh you looking at the trees? "Oh, I'm so angry at _____. Where's my breakfast? Where's my breakfast?"

Scoring Key for Identifying the Parent Who Was Speaking

1.	2	21.	2
2.	1	22.	2
3.	1	23.	2
4.	1	24.	1
5.	1	25.	1
6.	2	26.	1
7.	1	27.	1
8.	2	28.	1
9.	2	29.	1
10.	2	30.	2
11.	1	31.	2
12.	1	32.	1
13.	2	33.	1
14.	1	34.	1
15.	2	35.	1
16.	1	36.	2
17.	2	27.	7
18.	2	38.	2
19.	2	39.	1
20.	2	40.	2

Scoring Key for Identifying the Sex of the Infant

1.	1	21.	2
2.	1	22.	1
3.	1	23.	1
4.	1	24.	1
5.	1	25.	1
6.	1	26.	1
7.	2	27.	2
8.	2	28.	2
9.	1	29.	2
10.	2	30.	2
11.	2	31.	2
12.	1	32.	2
13.	1	33.	2
14.	2	34.	2
15.	2	35.	1
16.	2	36.	1
17.	2	37.	1
18.	2	38.	1
19.	1	39.	1
20.	2	40.	2

Mother-, Father-Infant Speech Study

Part II

Directions: Please read the descriptions of each of the categories below and on the basis of your judgment as to which parent was speaking, select the category which best describes the reason for your choice and place an X in the appropriate column on the attached answer sheet. Similarly, based on your judgment as to the sex of the infant, select the category which best describes the reason for your choice. CHOOSE ONLY ONE CATEGORY FOR YOUR JUDGMENT AS TO WHICH PARENT WAS SPEAKING AND ONE CATEGORY FOR THE SEX OF THE INFANT FOR EACH OF THE EXCERPTS.

Categories

I. Male/Female Differences as they relate to:

A. Sex-role function--in particular, division of labor by sex. Example: You might believe that one parent is more likely to do the caretaking of the infant more than the other parent.

B. Personal attributes, behaviors, anatomy, dress, etc. Example: You might believe that one sex expresses feelings more than the other sex.

C. Occupation
Example: You might associate certain occupations with one sex more than the other sex.

II. Language

A. The words used seem distinctly masculine or feminine. Example: You might believe that certain adjectives such as pretty, sweetheart, toughie, etc. are used by one sex more than the other or that certain adjectives are used to describe one sex more than the other.

B. The structure of the sentence(s)
Example: You might believe that one sex makes statements that sound like questions, or that certain phrases sound more like those used by one sex more than the other.

III. Context of the situation--Something about the setting or assumptions you made about the setting helped you in making a judgment about the sex of the speaker or the sex of the infant. Example: You might believe that because a particular time of the day was alluded to in the excerpt, that one sex would be more apt to be home at that time than the other sex.

IV. Other--This category is to be used when your reason does not fit into any of the above categories. If you check this on your answer sheet, please state below it what your reason is.

Answer Sheet for Mother-, Father-Infant Speech Study

Part II

Example: If the reason you decided the mother was speaking had to do with a task that was mentioned, you would put a checkmark under Category I. If you thought the infant was a girl based on the occupation that was mentioned, you would check Category I again beside "infant." PLEASE REMEMBER THAT IF YOU CHECK CATEGORY IV--OTHER, YOU MUST NOTE BELOW WHAT YOUR REASON IS.

		Category I Male/Female Differences	Category II Language	Category III Context	Category IV Other*
1	Parent				
	Infant				
2	Parent				
	Infant				
3	Parent				
	Infant				
4	Parent				
	Infant				
5	Parent				
	Infant				
6	Parent				
	Infant				
7	Parent				
	Infant				
8	Parent				
	Infant				
9	Parent				
	Infant				
10	Parent				
	Infant				
11	Parent				
	Infant				

*Other:

		Category I Male/Female Differences	Category II Language	Category III Context	Category IV Other*
12	Parent				
	Infant				
13	Parent				
	Infant				
14	Parent				
	Infant				
15	Parent				
	Infant				
16	Parent				
	Infant				

*Other:

BIBLIOGRAPHY

NOTES

1. Enzer, N. Personal communication, August 20, 1979.

BIBLIOGRAPHY

Anastasi, A. Psychological testing. Toronto, Ontario: The Macmillan Company, 1968.

Belsky, J. The effects of context on mother-child interaction: A complex issue. The Quarterly Newsletter of the Laboratory of Comparative Human Cognition, 1971, 1(3), 29-32.

Bem, S. The measurement of psychological androgyny. Journal of Consulting and Clinical Psychology, 1974, 42(2), 155-162.

Bem, S. On the utility of alternative procedures for assessing psychological androgyny. Journal of Consulting and Clinical Psychology, 1977, 45(2), 196-205.

Bem, S., & Lenney, E. Sex typing and the avoidance of cross-sex behavior. Journal of Personality and Social Psychology, 1976, 33(1), 48-54.

Bodine, A. Sex differentiation in language. In B. Thorne & N. Henley (Eds.), Language and sex: Difference and dominance. Rowley, Mass.: Newbury House Publishers, 1975.

Brend, R. Male-female intonation patterns in American English. In B. Thorne & N. Henley (Eds.), Language and sex: Difference and dominance. Rowley, Mass.: Newbury House Publishers, 1975.

Broen, P. The verbal environment of the language-learning child. American Speech and Hearing Association Monograph, 1972, 17.

Brooks-Gunn, J., & Matthews, W. S. He & she. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1971.

Cherry, L. Teacher-child verbal interaction: An approach to the study of sex differences. In B. Thorne & N. Henley (Eds.), Language and sex: Difference and dominance. Rowley, Mass.: Newbury House Publishers, 1975.

Cherry, L., & Lewis, M. Mothers and two-year-olds: A study of sex-differentiated aspects of verbal interactions. Developmental Psychology, 1976, 12(4), 278-282.

Clarke-Stewart, K. A. Interaction between mothers and their young children: Characteristics and consequences. Monographs of the Society for Research in Child Development, 1973, 38(6-7, Serial No. 153).

Cohen, S. E., & Beckwith, L. Maternal language in infancy. Developmental Psychology, 1976, 12(4), 371-373.

Conklin, N. F. Toward a feminist analysis of linguistic behavior. The University of Michigan Papers in Women's Studies, 1974, 1(1), 51-73.

Downey, P. The invisible woman--Where is she? Graduate Woman, March/April 1979, 8-13.

Emmerich, W. Variations in the parent role as a function of the parent's sex and the child's sex and age. Merrill Palmer Quarterly, 1962, 8, 3-11.

Farwell, C. B. The language spoken to children. Human Development, 1975, 18(4), 288-309.

Fein, R. A. Consideration of men's experiences and the birth of a first child. In W. Miller & L. Newman (Eds.), The first child and family formation. North Carolina: Carolina Population Center, 1978.

Fillmer, H. T., & Haswell, L. Sex-role stereotyping in English usage. Sex Roles, 1977, 3(3), 257-263.

Friedlander, B. Z., Jacobs, A. C., Davis, B. B., & Wetstone, H. D. Time-sampling analysis of infants' natural language environments in the home. Child Development, 1972, 43, 730-740.

Garcia-Zamor, M. Child awareness of sex-role distinctions in language use. Paper presented at Linguistic Society of America, December 1973.

Gilley, H. M., & Summers, C. S. Sex differences in the use of hostile verbs. Journal of Psychology, 1970, 76, 33-37.

Gleason, J. B. Code switching in children's language. In Timothy E. Moore (Ed.), Cognitive development and the acquisition of language: New York: Academic Press, 1973.

Gleser, G. C., Gottschalk, L. A., & Walkins, J. The relationship of sex and intelligence to choice of words: A normative study of verbal behavior. Journal of Clinical Psychology, 1959, 15, 182-191.

Gould, L. W. S: A fabulous child's story. Ms, December 1972, 74-76, 105-106.

Greenberg, S., & Formanek, R. Social class difference in spontaneous verbal interaction. Child Study Journal, 1974, 4(3), 145-153.

Haas, M. Men's and women's speech in Koasati. In D. Hymes (Ed.), Language in culture and society. New York: Harper & Row, 1964.

Heider, F. Perceiving the other person. In R. Tagiuri & L. Petrullo (Eds.), Person perception and interpersonal behavior. Stanford, Calif.: Stanford University Press, 1958.

Hirschman, L. Female-male differences in conversational interaction. Paper presented at the Linguistic Society of America, December 1973.

Hollingshead, A. B. Two factor index of social position. New Haven, Conn.: Department of Sociology, Yale University, 1957.

Holzman, M. The verbal environment provided by mothers for their very young children. Merrill-Palmer Quarterly, 1974, 20(1), 31-42.

Jespersen, O. Language: Its nature, development and origin. London: George Allen & Unwin, Ltd., 1922.

Key, M. R. Linguistic behavior of male and female. Linguistics, 1972, 88, 15-31.

Korner, A. The effect of the infant's state, level of arousal, sex and ontogenetic stage on the caregiver. In M. Lewis & L. Rosenblum (Eds.), The effect of the infant on its caregiver. New York: John Wiley & Sons, Inc., 1974.

Kramer, C. Actual and perceived sex-linked differences in adverb and adjective usage. Unpublished paper presented at meetings of the Linguistic Society of America, 1973.

Kramer, C. Women's speech: Separate but unequal? Quarterly Journal of Speech, April 1974, 14-24.

Kramer, C. Folklinguistics. Psychology Today, June 1974, 8, 82-85.

Lakoff, R. Language and woman's place. Language in Society, 1974, 2, 45-80.

Lamb, M. E. (Ed.). The role of the father in child development. New York: John Wiley & Sons, Inc., 1976.

Lamb, M. E. Father-infant and mother-infant interaction in the first year of life. Child Development, 1977, 38, 167-181.

Lewis, M. Parents and children: Sex-role development. School Review, 1972, 80, 229-240.

Lewis, M., & Weinraub, M. Sex of parent x sex of child: Socioemotional development. In R. Friedman, R. Richart, & R. VanderWiele (Eds.), Sex differences in behavior. New York: John Wiley & Sons, 1974.

Lynn, D. B. The father: His role in child development. Monterey, Calif.: Brooks/Cole Publishing Co., 1974.

Maccoby, E. E. (Ed.). The development of sex differences. Stanford: Stanford University Press, 1966.

Maccoby, E. E., & Jacklin, C. N. The psychology of sex differences. Stanford: Stanford University Press, 1974.

Macfarlane, A. The psychology of childbirth. Cambridge, Mass.: Harvard University Press, 1977.

Moss, H. A. Sex, age, and state as determinants of mother-infant interaction. Merrill-Palmer Quarterly, 1967, 13, 19-36.

Moss, H. A. Early sex differences and mother-infant interaction. In R. Friedman, R. Richart, & R. VanderWiele (Eds.), Sex differences in behavior. New York: John Wiley & Sons, 1974.

O'Leary, S. E. Mother-father-infant interaction in the first two days of life. Unpublished doctoral dissertation, University of Wisconsin, 1974.

Osofsky, J. D., & O'Connell, E. J. Parent-child interactions: Daughter's effects upon mother's and father's behaviors. Developmental Psychology, 1972, 7(2), 157-168.

Parke, R. D., & O'Leary, S. Father-mother-infant interaction in the newborn period: Some findings, some observations, and some unresolved issues. In K. Riegel & J. Meacham (Eds.), The developing individual in a changing world, Vol. 2. The Hague: Mouton, 1975.

Parke, R. D., O'Leary, S. E., & West, S. Mother-father-newborn interaction: Effects of maternal medication, labor, and sex of infant. From Proceedings, 80th Annual Convention, American Psychological Association, 1972.

Pedersen, F. Relationships between paternal behavior and mother-infant interaction. Paper presented at the annual meeting of the American Psychological Association, Chicago, 1975.

Rebelsky, F., & Hanks, C. Father's verbal interaction with infants in the first three months of life. Child Development, 1971, 42, 63-68.

Rothbart, M., & Maccoby, E. Parents' differential reactions to sons and daughters. Journal of Personality and Social Psychology, 1966, 4(3), 237-243.

Rubin, J., Provenzano, F., & Luria, Z. The eye of the beholder: Parents' views on sex of newborns. American Journal of Orthopsychiatry, 1974, 44(4), 512-519.

Sachs, J. Cues to the identification of sex in children's speech. In B. Thorne & N. Henley (Eds.), Language and sex: Difference and dominance. Rowley, Mass.: Newbury House Publishers, Inc., 1975.

Sachs, J., Lieberman, P., & Erickson, D. Anatomical and cultural determinants of male and female speech. In R. W. Shuy & R. W. Fasold (Eds.), Language attitudes: Current trends and prospects. Washington, D.C.: Georgetown University Press, 1973.

Sander, L. W., Stechler, G., Burns, P., & Julia, H. Early mother-infant interaction and 24-hour patterns of activity and sleep. Journal of American Academy of Child Psychiatry, 1970, 9, 103-123.

Saskin, W. F., & John, V. P. The study of spontaneous talk. In R. Barker (Ed.), The stream of behavior. New York: Appleton-Century-Crofts, 1963.

Sears, R., Rau, L., & Alpert, R. Sex-typing and gender-role. In R. Sears, L. Rau, & Alpert, R. (Eds.), Identification and child rearing. Stanford: Stanford University Press, 1965.

Seavey, C. A., & Katz, P. A. The effect of gender labels on adult responses to infants. Sex Roles, 1975, 1(2), 103-109.

Snow, C. E. The development of conversation between mothers and babies. Journal of Child Language, 1977, 4(1), 1-22.

St. Clair, L. A. Some considerations for the study of sex differences in social behavior. Paper presented at the Speech Communication Association's Summer Conference XI, 1975.

Stockard, J., & Johnson, M. Sex Roles. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1980.

Swacker, M. The sex of the speaker as a sociolinguistic variable. In B. Thorne & N. Henley (Eds.), Language and sex: Difference and dominance. Rowley, Mass.: Newbury Publishers, Inc., 1975.

Trevarthan, C. Conversations with a 2-month-old. New Scientist, May 2, 1974, 230-235.

Trudgill, P. Sociolinguistics: An introduction. Middlesex, England: Penguin Books, Ltd., 1974.

Warshay, D. W. Sex differences in language style. In C. Safilios-Rothschild (Ed.), Toward a sociology of women. Lexington, Mass.: Xerox College Publishing, 1972.

Wood, M. M. The influence of sex and knowledge of communication effectiveness on spontaneous speech. Word, 1966, 22(1,2,3), 112-113.

Zalk, S. R., & Katz, P. A. Gender attitudes in children. Sex Roles, 1978, 4(3), 349-357.

Zimmerman, D. H., & West, C. Sex-roles, interruptions, and silences in conversation. In B. Thorne & N. Henley (Eds.), Language and sex: Difference and dominance. Rowley, Mass.: Newbury House, 1975.

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