THE DEVELOPMENTAL AND GENDER RELATED USE OF LISTENER RESPONSIVENESS AND INTERRUPTION BEHAVIOR

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THE DEVELOPMENTAL AND GENDER RELATED USE OF LISTENER RESPONSIVENESS AND INTERRUPTION BEHAVIOR.

BY

© TAMMY ANN MARCHE, B.SC.

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Abstract

The developmental and gender related use of two conversational techniques, listener responsiveness and interruption, were investigated in three age groups (grades 4, 9 and college). In addition, the influences of dominance tendencies and sex-role orientation of individuals and their partners on each of these techniques were also explored. Twenty-minute structured dyadic conversations of 90 dyads (30 male, 30 female, and 30 mixed sex) were scored for nine types of back channel cues and four types of interruption. The analyses revealed the developmental findings to be: (1) the number of back channels gradually increased with age, although even young children produced frequent back channels; and (2) the three age groups used interruptions to similar degrees. The sex difference findings included: (1) female-female dyads were the most responsive dyad combination; females were as responsive to females as they were to males, whereas males were sightly more responsive to males than females; and females were also somewhat more responsive than males in male-female interactions; and (2) the three dyad types used interruptions to similar degrees; males interrupted males as much as they did females; however, females interrupted females more than they did males; and females and males interrupted one another to similar degrees in crossed-sexed interaction. Overall, it was

generally the older (grade 9 and college) female-female groups which produced the greatest amount of both back channels and interruptions. The analyses on the personality variables revealed that: (1) an individual's level of dominance did not predict back channel behavior, and predicted only some instances of interruption behavior, and (2) while subjects' masculinity and femininity did not account for a large portion of back channel behavior, when it did, femininity predicted frequent use, while masculinity predicted infrequent use; and whereas sex-role did not predict interruption behavior for those interruptions which were positively correlated with dominance, it did for those which were negatively related to dominance.

Back Channel	Developmental Differences	Dominance
Interruption	Gender Differences	Sex-Role

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Introduction

Language function

What types of conversational skills do individuals require to have full adult competence in language? How do communicative skills change as one grows older? When in language development do conversational sex differences begin to emerge? These are only a few of the many questions that researchers have been interested in when studying language function. Language has been studied for many decades now, and while a great amount has been gained from an emphasis on the formal nature or structure of language (i.e., grammar, vocabulary and pronunciation), language function has only recently received the attention it deserves. Language function refers to the pragmatic meaning of language and how language is used in context. It is felt (e.g., Brown, 1980, and Bruner, 1974) that the way language is used is crucial to understanding how language develops. That is, language use may be the most important feature influencing all aspects of language development.

Development of language function

Two of the perspectives from which researchers examine language use are from a developmental point of view and from a sex-difference perspective. Until recently, however, relatively little research has been

devoted to examining pragmatic language development. For instance, in the study of one type of language function, conversation, most investigations of the development of conversational skills have centered on young children. We do know that preschoolers are capable of engaging in coherent and lengthy conversations with peers and parents. And we also know that children start to pick up the beginnings of some conversational skills very early (Cooper and Cooper, 1984; Dore, 1985; Foster, 1986; Garvey and Berninger, 1981; Johnston, 1985; Kaye and Charney, 1980; McTear, 1984), as well as performing similarly to adults on some skills. For instance, children are as proficient at conversational timing as adults (Menyuk and Klatt, 1975). However, even though children possess some conversational skill they are often not successful in complex communicative tasks, since pragmatic language development is not complete at an early age but instead continues throughout life. Young adults have also been studied, but less extensively than young children. We know very little about language use by older children, adults or the elderly. The little work that has been done on adults has examined special social registers (styles of speech we acquire in our social relationships), while studies with the elderly have focused on language deficits (Gleason, 1985). How children learn the pragmatic language system of adults, and how this system changes as

they become adults, and then grow older, is still poorly understood.

Sex differences in language function

Much of research on language use has concentrated on sex differences more so than on development. Studies in the early 1970's examined the relationship between speech and gender, after it was realized that differences in sex roles are reflected in language patterns (Henley and Thorne, 1975). For instance, Robin Lakoff (1973; 1975; 1977) stimulated a great deal of research interest with her proposal of a "woman's language". Lakoff maintains that women's speech contains many more devices such as tag questions and intensifiers than men's speech. She feels that women possess special technical vocabularies (e.g., cooking terms), along with impoverished vocabularies in other areas (e.g., sports, business terms). She sees women's speech as containing more traditional or correct pronunciation than men's speech, and as being more polite. Lakoff also maintains that women avoid forceful statements, and make great use of expressions that convey hesitation and uncertainty. Although Lakoff asserts that men and women really speak different languages, she presents no real empirical evidence to support her claim.

Researchers have, however, provided some evidence for sex differences in both language structure and function.

For instance, sex differences have been found in syntax (e.g., Kramer, 1975), phonology (e.g., Labov, 1966; Trudgill, 1975), as well as content (e.g., Barron, 1971; Gleser, Gottschalk and Watkins, 1959; Harding, 1975; Landis, 1927; Landis and Burtt, 1924; Langer, 1970a; 1970b; Moore, 1922; Wood, 1966). As an example, and in support of Lakoff's claim, it has been well documented that women use "correct" or standard pronunciation more than men do, in many different languages (e.g., Anshen, 1969; Fasold, 1968; Fischer, 1958; Labov, 1966; 1972; Milroy, 1976; Sankoff and Cedergren, 1971; Shuy, Wolfram and Riley, 1967; Trudgill, 1975), and that women show more intonation and pitch variability than men (e.g., Coleman, 1971; Crystal, 1969; Herbst, 1969; McConnell-Ginet, 1978; Sachs, 1975; Takefuta, Jancosek and Brunt, 1972), as well as using fewer nonstandard forms (e.g., Wolfram, 1969; Fischer, 1958; Levine and Crockett, 1966; Shuy, Wolfram and Riley, 1968; Garvey and Dickstein, 1972). The above is not meant to provide an exhaustive list of studies finding sex differences in structure since language function, not structure, is the focus of the present paper.

While there are indeed consistent sex differences in structure (form and content), many more differences have been found in language function or in the way language is used. Some even feel that research on gender and language

use is the most fruitful research in the area of sex differences in language (Thorne, Kramarae and Henley, 1983). The research findings in this area have dealt mostly with conversational discourse, as opposed to other forms of language function (e.g., narratives), and are quite plentiful. The following are a few of the findings: females have been found to use more polite forms (Hartman, 1976), and to laugh more often than males (Coser, 1960; Duncan and Fiske, 1977; Haas, 1978). Females use more adjectives (Brandis and Henderson, 1970; Hartman, 1976), more words that imply motivation and emotion, more auxiliary words, negations and self-references (Gleser, Gottschalk and Watkins, 1959) than males. They use particular terms of endearment (dear, honey) in a wider range of settings than men (Elbe, 1972). They use more intensifiers (so, such, quite) (Key, 1972), more fillers (uhm, ah, you know) (Hirschman, 1973; Eakins and Eakins, 1978), and a higher proportion of qualifying statements than men (Eakins and Eakins, 1978; Hartman, 1976; Strodbeck and Mann, 1956; Swacker, 1975). Females have also been shown to use a great many more tag questions than males (Crosby and Nyquist, 1978; Hartman, 1976; Holmes, 1984; Lakoff, 1973; 1975; 1977), and to use more linguistic forms that connote uncertainty when men are present than when men are absent (McMillan, Clifton, McGrath and Gale, 1977).

Men, contrary to stereotype, have been found to talk as much, or more than women, when the sexes converse (Argyle, Lalljee and Cook, 1968; Bernard, 1972; Eakins and Eakins, 1976; Hilpert, Kramer and Clark, 1975; Kenkel, 1963; Leet-Pellegrini, 1980; Strodtbeck, 1951; Strodtbeck, James and Hawkins, 1957; Strodtbeck and Mann, 1956; Swacker, 1975; Winitz, 1959; Wood, 1966). Males use more directives (Hennessee and Nickelson, 1972; Soskin and John, 1963), speak longer per turn (Duncan and Fiske, 1977; Elyan, 1977), speak louder (Elyan, 1977), and use longer sentences (Swacker, 1975). However, among children, girls have been found to talk more in mixed-sex groups (Brownell and Smith, 1973; Entwisle and Garvey, 1972), and to use longer utterance length (Maccoby, 1966; Winitz, 1959).

Some researchers believe that such sex differences in this area of language function depict a power differential. For instance, Fishman (1977; 1978a; 1978b; 1980; 1983) maintains that women must engage in most of the active support work in order to maintain and facilitate conversation and discussion. In her studies, females were found to ask two and a half times more questions (which strengthen the possibility of a response), fill more silences, and use twice as many attention-getting beginnings (e.g., "this is interesting") than males. Men were found to produce over twice as many

statements than women. Statements do not demand a response. Although women raised 62% of all the topics, they only raised 38% of those which evolved into conversation. Fishman feels women use such speech to ensure men's responses to their topics of talk and to ensure getting listened to. It must be noted, however, that Fishman has not reported any statistics or showed data of any kind to support her conclusions.

Women have not only been found to engage in most of the conversational support work, but they have also been shown to have little control in how conversation develops. For instance, male experts were rated by judges as structuring conversational beginnings significantly more than did female experts, or either partner of equally uninformed pairs, and as tending to control the closings more than did female experts, or either partner of equally uninformed pairs (Leet-Pellegrini, 1980). It has also been found that communicators, regardless of sex, speak for a greater proportion of the total conversation when the listener is female as opposed to male (Markel, Long and Saine, 1976). Similarly, it has been found that a male speaker is listened to more carefully than a female speaker, even when they make identical presentations (Gruber and Gaebelin, 1979). Another consistent finding has been that females allow males to dominate the available talking time without interruption (Edelsky,

1981; McMillan, Clifton, McGrath and Gale, 1977; Soskin and John, 1963; Spender, 1979; Swacker, 1975; Zimmerman and West, 1975). In other words, men are more likely to interrupt women than women are likely to interrupt men (Argyle, Lalljee and Cook, 1968; Eakins and Eakins, 1976; McMillan, Clifton, McGrath and Gale, 1977; Natale, Entin and Jaffe, 1979; Octigan and Niederman, 1979; West and Zimmerman, 1977; Willis and Williams, 1976; Zimmerman and West, 1975).

There are, however, discrepant findings in the literature concerning sex differences in discourse. For instance, some studies have found no sex-associated use for tag questions (Baumann, 1976; Johnson, 1980), or qualifying statements (qualifiers) in adult conversation (Baumann, 1976; Hirschman, 1973). And some studies have found tag questions to be more characteristic of male than female speech (Dubois and Crouch, 1975; Crouch and Dubois, 1977). Some evidence even suggests that the tentativeness represented by tag questions may be age-related instead of sex-related (Hass and Wepman, 1973;; Hartman, 1976). And some studies even suggest that "tentativeness" is not the sole meaning or function of tags (e.g., Johnson, 1980). Other contradictory studies include Duncan and Fiske's (1977) finding that men have a greater rate of filled pauses than women, and Markel, Long, and Saine's (1976) finding that the average duration of utterances are

shorter for males than for females. Finally, one study examining politeness in three male and three female fourteen year olds found females interrupting males four times more often (Connor-Linton, 1987). It may be the case then, that such inconsistencies between studies are the result of different conversational techniques having different functions in different social situations. For instance, some researchers (e.g., Mishler, 1975) have proposed that asking questions is a method people use to control conversations. Laughter does not always encourage further talk but can also put others down. And tag questions should not always be interpreted as a means of security but may instead be used to facilitate conversational interaction. And even when men and women use similar frequencies of tags for instance, the reason they use tags may be very different (Holmes, 1984). More work, therefore, is obviously needed in this area in order to explain and eliminate such inconsistencies.

Like the many research papers concerning language function, I too examine pragmatic communicative competence from the two major perspectives, that of development and sex differences. As one may notice from the above findings, a great amount of research on language function has concentrated on conversation, which is also the focus of this paper. However, I specifically examine rules of conversational discourse.

Conversational discourse rules

Conversational participants must understand and obey the interaction rules of their culture in order to communicate successfully (Wiemann and Knapp, 1975). In normal social interchange, people participate in the transition from the role of speaker to listener, and back again, smoothly and easily. Turn-taking is only one set of discourse rules that one must acquire in order for conversation to be managed successfully. Turn-taking, however, does not always go smoothly, for instance when one speaker interrupts another (Peterson, 1986; Sacks, Schegloff, and Jefferson, 1974). Children are taught "not to interrupt" at a very young age. Children are also instructed to "listen when spoken to". Both interrupting a speaker, and not indicating that you are listening to what they have to say, can show impoliteness and lack of respect. Breaking these communicative norms which have been set down by society can have serious consequences, such as inhibition of social interaction. No one enjoys spending time with someone who constantly interrupts and takes no interest in what they have to say. In any successful conversation, every participant is thus expected to obey the conversational rules (Sacks, Schegloff, and Jefferson, 1974). These rules include following the turn-taking system which specifies only one speaker at a time. Thus, interruption is prohibited.

Auditors are also expected to help maintain and facilitate conversation by displaying listener cues, which provide speakers with feedback they need to continue talking.

Since the conversational devices of interruption and listener responsiveness appear to be crucial for discourse they are examined in this research. The following is a detailed discussion of the research findings and hypotheses concerning each technique.

Developmental and gender related use of listener responsiveness.

Listener response cues (Dittmann, 1972; 1977; Fries, 1952; Kraut, Lewis and Swezey, 1982; Miller, Lechner and Rugs, 1985) or back channel communications (Yngve, 1970; Duncan, 1972; 1973; 1974) are small visual and verbal comments made by an auditor while a speaker is talking. They are not attempts to claim a speaking turn, they do not constitute a turn, nor are they seen as an interruption of the current speaker's turn (Duncan, 1972; Schegloff, 1972). Both participants view back channel cues as ending immediately after these brief utterances are emitted. Back channel communications consist of both linguistic and nonlinguistic forms. The verbal forms include brief responses (e.g., yeah, I see, mm-hmm, uh-huh), requests for clarification, repetitions of the

speaker's words and brief sentence completions. The nonverbal forms consist of responses such as head nods, gazes and brief smiles (Duncan, 1974).

Function and importance of listener responses

Back channel communications display continued attention, interest, involvement and co-participation in the interaction (Brunner, 1979; Davis and Perkowitz, 1979; Zimmerman and West, 1975). They let speakers know that an auditor is keeping up with them, and has understood what was just said (Dittmann, 1972; 1977). They aid the flow and organization of the interaction by determining who will listen and who will speak (Goffman, 1955; Jaffe and Feldstein, 1970; Scheflen, 1968). They also serve to signal the speaker that the auditor does not wish to take the speaker role, and to encourage the speaker to continue talking (Duncan, 1974). Through the cues that indicate the level of the auditor's understanding, speakers are also able to adjust their communicative endeavour so that their ideas come across more clearly (Brunner, 1979). That is, this feedback aids the speaker in providing more comprehensible information to the listener (Kraut, Lewis, and Swezey, 1982), therefore helping to coordinate understanding and maximize comprehensibility between the listener and the speaker. Kraut and Lewis (in press), for example, have shown that feedback can help regulate

organization of what a speaker has to say. Listeners were shown, in Kraut et al.'s (1982) study, to understand speakers' summaries of movies better the more feedback the speakers had been provided. Thus, "speakers can use listener feedback to tailor what they say to what listeners need to know" (Kraut et al., 1982: 728), and therefore to aid communication (Thompson, Webster, Klumpp and Bertsch, 1958). Other studies have examined how the quality of speech is influenced by feedback in conversation. When feedback is withheld from speakers their speech becomes less coherent and structured (Kent, Davis and Shapiro, 1978), and less efficient on some measures (Krauss, Garlock, Bricker and McMahon, 1977; Krauss and Bricker, 1967; Krauss and Weinheimer, 1964; 1966). The speakers become upset and disordered (Rosenfeld, 1967), and they are less accurate in their communication (Feffer and Suchotliff, 1966; Leavitt and Mueller, 1951). For instance, Krauss and his colleagues found that speakers needed more words to describe an object successfully when back channel communication to speakers was disrupted. Back channel cues also indicate how the auditor feels about what the speaker has just said (e.g., amusement, agreement, scorn, disagreement, shock) (Brunner, 1979), while also helping the interactants define the state of their relationship (Kraut, Lewis and Swezey, 1982; Wiemann and Knapp, 1975).

The ability to use listener or responsive cues is not only essential in aiding communication but is also very important socially, even for the young child. The importance of developing this skill has been highlighted in studies which indicate that responsive cues of attention are a powerful reinforcer (Hersen and Barlow, 1976). Responsiveness has also been shown to increase attraction to one's partner (Rosenfeld, 1966; Stohl, 1981). In the study by Rosenfeld (1966), subjects tried to obtain approval from other naive subjects by eliciting more back channel responses. It was found that the use of these responses was significantly related to the approval of others. Other studies have found that gazing or eye contact and smiling, in some situations, can produce attraction (e.g., Ellsworth and Ludwig, 1972; Hersen and Barlow, 1976) and are signs of affiliation (Kraut and Johnston, 1979). Children prefer to interact with others who are more "contingently responsive" (Konner, 1975). And interacting adults are more attracted to partners whose utterances are relevant to what they were previously talking about (Davis and Perkowitz, 1979).

Development of listener responsiveness

When there is a lack of feedback by the auditor, interaction will definitely be hampered. It is, therefore, quite obvious that the development of active

"hearership" is essential to enhancing conversational competence. Unfortunately, most of the research on listener responsiveness has been of a structural nature. For instance, studies have examined where, in the stream of speech, these listener cues fit (Dittmann, 1972; Dittmann and Llewellyn, 1967; Rosenfeld, 1972), and how they are related to the changing of the speaker turn or various speaker signals (Dittmann and Llewellyn, 1968; Duncan, 1974; Wiemann and Knapp, 1975).

Developmentally, nonverbal back channel cues have received some attention. For instance, gaze has been found to play a major regulatory role in mother-infant interactions (Bateson, 1975; Bruner, 1975; Jaffe, Stern and Perry, 1973; Snow, 1977; Stern, 1974; Stern, Jaffe, Beebe and Bennett, 1975). Gazing is also used to discern signals that indicate when the other is about to relinquish the "floor" (Craig and Gallagher, 1982; Gallagher and Craig, 1981). An increase in gazing has been found from ages four, five and six, to seven, eight and nine, with a slight decrease at ten, eleven and twelve years of age, and an increase for adults (Levine and Sutton-Smith, 1973).

Dittmann (1972) was the first to look at both verbal and nonverbal listener cues from a developmental perspective. He initially examined the listener response repertoire of college students speaking to one another,

which he then compared to the repertoire of children who were in grades kindergarten, one and two. These children were observed in the classroom during unstructured activity. While a few listener responses were observed Dittmann felt that, up to the second grade, there was nothing regular about their appearance. He then made an extended investigation of children in grades one, three and five who were observed in school (but not in school-like situations). He found very little difference in rate of response from grade to grade, and listener responses were almost absent except in high pull situations ("situation pull" being defined as "a judgement of how strongly one might expect listener responses to be used by more mature conversationalists under similar circumstances" (Dittmann, 1972: 411)). He also collected conversations of both children and adults in laboratory settings where different degrees of social pull on rate of listener response were examined. Older subjects were found to produce significantly more back channel cues than the younger group. Dittmann concluded this study by maintaining that younger subjects produce very few listener responses compared to adolescents and adults.

Dittmann (1977) reasons that although the turn-taking capability of young children makes it look as if information were being exchanged, in reality each child does not pay attention to what the other is saying. This

is because, he believes, children starting school are only capable of "socialized speech", and the more personal speech that involves being able to take the point of view of others and empathizing with the speaker's need for feedback is still beyond them (Piaget, 1926). This complicated role-taking ability and caring for others, according to Sullivan (1954), does not appear till preadolescence. Dittmann also points out that children talk in short bursts where there is really no need for feedback to help the speaker continue talking.

This reasoning and the results of his first study prompted Dittmann (1977) to look for listener responses at later stages in development. Children in grades six, seven and eight were observed while listening to one another and adults (teachers) in both free-flowing and instructional conversation. Listener responses were found to be infrequent when children were conversing with one another and with teachers. However, children were found to be more responsive to teachers than to other children. And while adults were found to be very precise in their timing of listener responses, emitting them within milliseconds after the speaker had finished, children tended to be a little late in responding. A gradual increase with age in the use of listener responses was also found. Dittmann (1977) maintains that although they have not established the exact age at which the adult

patterns of listener responsiveness are fully established, they have located the time when children's conversational behavior begins to change into the conversational behavior of adults. He feels that the beginning of these adult patterns occurs around adolescence.

Miller, Lechner, and Rugs (1985) have been the only others, to my knowledge, who have concerned themselves with the development of listener responses. Their results are interesting in that they are not entirely consistent with those of Dittmann (1972; 1977). Miller et al. had preschool children listen to an experimenter as he discussed different topics. Like Dittmann, they found that older children, compared to younger children, were more likely to use listener responses. These responses only included the nonverbal cues, i.e., gazes, head nods, and smiles. The verbal responses, uh-hums and yeses, were not significantly related to age. A greater percentage of the older preschoolers, however, were more likely to use head nods, smiles, uh-hums and yeses during their interaction with adults. Younger children were less likely than older children to make comments that were relevant to the adult's communication. However, although Dittmann (1972) reported that listener responses were virtually absent in young school aged children conversing with one another and rare with teachers, Miller et al. (1985) found that even their youngest preschoolers were

using some listener responses. It is possible that differences in method contributed to these somewhat contradictory findings. For instance, while Dittmann generally (except in the laboratory studies) scored for listener responses during observation which, he admits, probably underestimates the actual amount of such cues, Miller et al. (1985) videotaped the preschool-adult interactions.

Since young children have been shown to be capable of providing back channel cues under high pull situations and often respond to eliciting queries, it would seem that they understand the meaning of such cues, and are capable of providing listener responses from a very early age. This assertion is confirmed by a study which found that children can be prompted to converse through the use of back channel communication (Tough, 1973). Children as young as two years of age have been found to be capable of producing feedback signals (e.g., "o.k.") which indicate that the speaker's message was received (Masur, 1978). Thus, the research question I am interested in is not when children learn the meaning of back channel communication, but instead when they learn to spontaneously use back channel cues in their conversations.

While Miller et al. (1985) and Dittmann (1972, 1977) examined the development of both verbal and nonverbal cues, the present research takes a detailed look at verbal

back channel responses only. Miller et al. looked at two verbal cues (uh-hums and yeses). These responses comprise only one of the types of back channel communications proposed by Duncan (1972). Along with these brief responses, other types of back channel communications include requests for clarification, repetitions of the speaker's words and brief sentence completions. This study examines the frequency of use of each one of these categories over a small portion of the early life span (grades 4, 9 and college), in order to determine the extent of development of listener responses during this time period.

Sex differences in listener responsiveness

It is generally believed that females use more responsive cues than males. Sex differences have been found for both nonverbal and verbal communicative behaviors. For instance, in the nonverbal realm, females, from four years of age to adulthood, have been found to gaze more at their partners than males, (Argyle, 1967; Argyle and Dean, 1965; Ashear and Snortum, 1971; Exline, 1963; Exline, Gray, and Schuttee, 1965; Exline and Winters, 1965; Frances, 1979; Hall; 1978; Ickes and Barnes, 1977; Levine and Sutton-Smith, 1973; Libby, 1970; Mehrabian, 1972). They also engage in eye contact for a longer period of time than men (Duncan and Fiske, 1977;

Exline, Gray and Schuette, 1965; Ickes and Barnes, 1977), they tend to smile more than males in dyadic interactions (Duncan and Fiske, 1977; Frances, 1979; Ickes and Turner, 1983), and for longer durations (Duncan and Fiske, 1977). Evidence also suggests that females are better at using nonverbal cues than are males, and in their ability to detect these cues in others (Hall, 1978).

From the verbal back channel communications perspective, it is also believed that females tend to be more supportive than males, and put forth more conversational effort (Alvy, 1973; Fishman, 1977, 1978a, 1978b, 1980, 1983; Strodtbeck and Mann, 1956). For instance, Fishman maintains that women used minimal responses (e.g., yeah, umm, huh) for support work (e.g., encouragement), whereas these responses displayed lack of interest in males. This belief that women do much of this active support work in conversations, however, is supported by studies that find women provide many more listener responses than males (Alvy, 1973; Hirschman, 1973; Strodtbeck and Mann, 1956). For instance, in a mock-jury study, Strodtbeck and Mann (1956) found that males produced only about half as many agreements and supports as females. Females also tend to laugh more frequently (Duncan and Fiske, 1977; Haas, 1978) than males, and harder (Coser, 1960). McLaughlin, Cody, Kane and Robey (1981) examined dyadic storytelling between

unacquainted, undergraduate strangers and found that females spent much more time as the recipients of stories than males did. They also found that females displayed more indices of appreciation ("Wow!", "You're kidding!", "How horrible!"), and added and predicted detail more often than males. It has also been found that women experts used more assent terms than male experts (Leet-Pellegrini, 1980), and that women provide support for topics developed by others (Fishman, 1978a; Hirschman, 1974; Strodtbeck and Mann, 1956).

There are, however, some contradictory findings in this area as well. For instance, while McLaughlin et al. (1981) found females to display more appreciation cues and to add and predict detail more than males, they also found an unanticipated result. Males had a greater rate of interest token use ("Really?", "Oh?", "Is that so?"). It has also been found that when males and females are appointed to leadership roles in small discussion groups, female coordinators engage in less supportive behavior while male coordinators increase their supportive behavior (Babinec, 1978). And as mentioned previously, Connor-Linton (1987) found females interrupting males four times more frequently in his small subject sample.

Dittmann (1972) initially reports a very small sex difference in listener responses in his laboratory studies, with females responding more (24%) than males

(19%). He notes later (Dittmann, 1977), however, that when the sample size was doubled the difference disappeared. In his later study Dittmann unfortunately did not record whether a girl or boy was doing the talking or who was listening. There was also no difference between groups of different sex composition. Dittmann (1977) did, however, find a sex difference in responsiveness to teachers (in the sixth and eighth grades but not in the seventh grade). The all-boy groups and the mixed-sex groups had response rates of seven percent in the sixth and seventh grades but jump to a response rate of sixteen percent in the eighth grade. The all-girl groups, however, drop in responsiveness to teachers between grades six and seven and maintain this low level in grade eight. Towards one another, the all-girl groups and mixed-sex groups increase in responsiveness over the three grades while the all-boy groups remain the same. Dittmann (1977) even suggests that since all-boy groups and mixed-sex groups were both more responsive than all-girl groups, and also engage in lengthier conversations, boys look like the leaders in social sophistication, especially in relation to adults. No sex differences in the use of responsive cues were found for preschool children. Both boys and girls were as equally likely to use each of the responsive cues investigated in Miller et al.'s (1985) study.

Thus, the second aim of this research paper is to determine whether sex differences in listener responsiveness exist during the time frame which I study.

Developmental and gender related use of interruption behavior.

An interruption event has been defined as an instance of simultaneous speech that involves "a deep intrusion into the internal structure of a speaker's utterance" (West and Zimmerman, 1983: 104). Operationally defined, "candidate interruptions are incursions initiated more than two syllables away from the initial or terminal boundary of a unit-type" (West and Zimmerman, 1983: 104), a unit type being a word, phrase, clause or sentence. They penetrate the boundaries of a unit-type before the last lexical constituent of a possible terminal boundary (Eakins and Eakins, 1978).

Function of interruption behavior

Our society places a great deal of emphasis on interruption behavior. Children are taught, at a very early age, not to interrupt a person who is speaking. They learn that interrupting a conversational partner displays ignorance about the rules of turn-taking in

conversation, which specifies that only one party should speak at a time (Sacks, Schegloff and Jefferson, 1974), and is indicative of poor conversational management (Peterson, 1986). Traditionally it has been felt that when interaction rules are violated, information about the individual's orientation toward his or her conversational partner is conveyed (Wiemann and Knapp, 1975). That is, interruptions are generally believed to display rudeness and a lack of respect for the speaker. Interruptions usually restrict the rights of speakers, so that if they are the conversational participant who is developing a topic, their contribution will be restricted. It is also assumed that individuals who engage in interruption assert that they have more of a right to control the topic of conversation than their partner. For instance, Zimmerman and West (1975) feel interruptions operate as topic-control mechanisms, and they also believe that interruptions allow speakers to exert control and dominance over their conversational partner. Since one can change topics and introduce new ideas by utilizing interruption this person is seen as having "control" (Greif, 1980). Thus, people who constantly interrupt and misuse their conversational partner are usually seen as authoritarian and domineering. Large scale trampling of speaker rights, even if that speaker is a child, is not approved of culturally (West and Zimmerman, 1977). Hence,

such simultaneous speech has the potential to disrupt current speakers' turns and the construction of conversational topics, while violating speakers' rights to fully utilize their turn (West and Zimmerman, 1977; Zimmerman and West, 1975).

That interruptions are a sign of dominance (Farina, 1960; Hetherington, Stouwie and Ridberg, 1971; Jacob, 1974; 1975; Meltzer, Morris and Hayes, 1971; Mishler and Waxler, 1968; Saslow, Matarazzo, Phillips and Matarazzo, 1957) or control (Farina and Holzberg, 1968; Hadley and Jacob, 1973; Lennard and Bernstein, 1969) is well documented. That is, interruptions have usually been viewed as a device for exercising power and control in conversations. For instance, Rogers and Jones (1975) found that the persons with the more dominant personalities attempted more interruptions.

Some have gone as far as saying that interruptions in conversation have micropolitical significance (Eakins and Eakins, 1978; Leet-Pellegrini, 1980; Octigan and Niederman, 1979). For instance, Zimmerman and West (1975: 105) maintain that "It should not be surprising ... that the disruption of power in the occupational structure, the family division of labour, and other institutional contexts where life chances are determined has its parallel in the dynamics of everyday interaction." West and Zimmerman (1977) feel that repeated interruption of

one's conversational partner is a way of establishing and maintaining a status differential.

However, some researchers are suggesting caution in assuming that the term interruption is well defined and nonproblematic (Auer, 1983; Orestrom, 1983), and always reflects or signals dominance. Natale, Entin and Jaffe (1979), for instance, have found that people with a high need for social approval interrupt more often, indicating that interruption may not always represent a contest for the floor. Other evidence suggests that speech interruptions may have different psychological relevance (e.g.s, discomfort, heightened involvement, positive states, dominance) during different stages of the conversation (Gallois and Markel, 1975; Long, 1972; Stephenson, Ayling and Rutter, 1976). Alequire (1978) even feels that interruptions not only serve as control functions but can serve as support functions as well (e.g., participation in the current topic, elaboration of the speaker's ideas and enthusiastic assent). Therefore, "it would be a mistake ... to infer that each interruption event is a miniature battle for ascendancy" (Meltzer, Morris and Hayes, 1971: 392). Some interruptions, then, may serve to express joint enthusiasm or a positive state of excitement instead of representing a violation of speaker-switching roles, or a contest for the conversational floor (Natale et al., 1979). Thus, vocal

interruptions may be either positive (emotional) or negative (competitive) depending on situational determinants. It may be the case that simultaneous speech which results in takeover of the speaker-turn (successful interruptions) represents conversational floor grabbing (Natale et al., 1979), while other interruptions represent enthusiasm. It appears, then, that interruptions may be used for different purposes. It therefore seems necessary to classify interruptions into various types in order to begin tapping into the different functions of interruptions.

Ferguson (1977) related the propensity to interrupt to the relative dominance of interactants and found that overall measures of interruption (sum of all interruption categories) were not affected by the dominance measure, contrary to the traditional view. However, she did find that those subjects who rated themselves as highly dominant used a lot of overlap interruptions (instances in which simultaneous speech occurs at the completion of the original speaker's utterance). She also found that those subjects who used a lot of silent interruptions were rated as highly dominant by the main subject. Silent interruptions do not involve simultaneous speech, but the first speaker's utterance is incomplete, and the person interrupting takes over the speaker role. This distinction in the definition of interruption has not been

made in many of the studies conducted in this area. As Beattie (1981) mentions, Ferguson's (1977) study suggests that interruption should not be viewed as a unitary phenomenon. "Different categories of interruption are affected by different variables and only some seem to be related to variables which might be thought to reflect dominance. The use in many previous studies of an undifferentiated concept of interruption as a measure of dominance would seem to be highly questionable" (Beattie, 1981: 33). The present research utilizes the classification system of Ferguson (1977) and Beattie (1981) in its attempt to look at developmental changes and sex related differences in interruption behavior. The Ferguson classification of interruption was chosen over the Zimmerman and West (1975) definition, used in many previous studies, in an attempt to obtain higher reliability than had been obtained in a previous study conducted in our lab (Robertson, 1987).

Development of interruption behavior

From the developmental perspective, there is a scarcity of research on interruption behavior. We know that preschoolers understand conversational turn-taking (Garvey and Berninger, 1981), and that they are quite proficient at interruption when conversing with peers (Esposito, 1979; Peterson, 1986) and with parents (Greif,

1980; West and Zimmerman, 1977). Children as young as three and four years of age also know that interruption is a sign of poor conversational management (Peterson, 1986). That is, preschoolers do not lack knowledge about the rules of turn-taking, and they know what it means to interrupt and be interrupted by a conversational partner. A great deal of research attention has also been devoted to examining the interruption behavior of young adults (West and Zimmerman, 1977; 1983; Zimmerman and West, 1975). However, the frequency with which preschoolers engage in interruptions has not been compared to the frequency of interruptions of older children or adults. One would expect that as people grow older, and as this rule becomes deeply ingrained into their conversational repertoire, the frequency of interruption of a conversational partner would decrease. It is still not known at what age this conversational skill begins to take on an adult appearance. Using Ferguson's (1977) classification of interruptions, I try to explore these issues by examining the developmental changes in different types of interruptions over the early life span.

Sex differences in interruption behavior

Since it has been shown that even preschoolers often interrupt one another and are aware of what such behavior means, much of the research on interruption behavior has

not been developmental, but has instead concentrated on sex differences. Studies have shown that children are not only skillful users of interruption, but they also learn sex-typed patterns associated with this device. Preschoolers have been found to interrupt each other equivalently when engaged in same-sex dyadic interactions. However, boys interrupt girls significantly more than girls interrupt boys. That is, in the studies that examined preschool interruption behavior the large majority of interruptions were by boys (Esposito, 1979; Peterson, 1986).

This interest in gender related interruption behavior was initiated by similar findings in the adult literature. Dyadic conversations between acquainted college students were recorded in public places (e.g., coffee shops, drug stores) and private residences. It was found that virtually all the interruptions and overlaps were by the male speakers (Zimmerman and West, 1975). It is generally felt that these findings relate to power and control in the way our societal institutions are arranged (West and Zimmerman, 1977; 1983; 1985; Zimmerman and West, 1975). Similar patterns emerged, although to smaller degrees, when previously unacquainted persons in same-sex and cross-sex dyadic conversations were observed in a laboratory setting (West, 1979; West, 1982; West and Zimmerman, 1983). It was then suggested that this pattern

was a "basic feature of interaction between males and females in our culture" (West and Zimmerman, 1983: 103). Zimmerman and West concluded that "men deny equal status to women as conversational partners with respect to rights to the full utilizations of their turns" (Zimmerman and West, 1975: 125).

It is felt that such treatment by males towards females is similar to adult-child conversations where the child usually has restricted rights to speak or be listened to (Sacks, 1972). For instance, conversational management techniques were observed in interactions between parents and preschool children engaged in semi-structured play. It was found that fathers tended to interrupt and speak simultaneously more with their children than mothers did. Both mothers and fathers were also more likely to use both these techniques more often with their daughters than with their sons (Greif, 1980). Both effects were marginally significant. Similar results were found by West and Zimmerman (1977) when they recorded a set of parent-child interactions in a physician's office. Preschool girls then, learn that they are more interruptable and are less important than boys, from both peers and parents. Boys learn that it is more appropriate to interrupt a girl than another boy, and girls learn that it is never appropriate to interrupt a boy (Peterson, 1986). Thus, it seems that from a very early age children

may learn to use interruption as a conversational tool to indicate status and power. From a developmental perspective it is possible that boys interrupt girls less than men interrupt women because this sex-differentiated socialization probably has not yet been totally developed (Esposito, 1979).

General agreement exists that by interrupting women far more often than they are interrupted by women, men attempt to dominate women in spontaneous conversation. And a great deal of support exists for the Zimmerman and West (1975) finding that men interrupt women far more than women interrupt men (Argyle, Lalljee and Cook, 1968; Eakins and Eakins, 1976; McCarrick, Manderscheid and Silbergeld, 1981; McMillan, Clifton, McGrath and Gale, 1977; Natale, Jaffe and Entin, 1979; Octigan and Niederman, 1979). For instance, male faculty members have been found to contribute more interruptions to departmental faculty meetings than females (Eakins and Eakins, 1978). Listeners are also more likely to speak simultaneously when a speaker is female, and males are more likely to speak when a female is talking (Willis and Williams, 1976). Bernard (1968) found, without citing evidence, that women engaged in mixed-sex group conversations usually had a harder time getting the floor, and when they did were more likely to lose it to successful interruption by a male. It is also interesting

to note that "normal" families have been found to be characterized by father dominance which is accepted by other members of the family. The "clinic" family, however, is characterized by a mother dominance which is not accepted by other family members. These families are also characterized by a significantly greater number of total interruptions than the normal family (Leighton, Stollak and Ferguson, 1971).

However, probably due to such factors as differences in definition of interruption or differences in interactive setting (e.g, dyad vs. group) others have found contrasting findings. In Leet-Pellegrini's (1980) study the notion of conversational competitiveness between men was supported by certain findings, while other findings indicated that a shift in co[redacted]xt can either depress or enhance a female show of dominance. Results for intrusions did not provide the striking finding that was observed by Zimmerman and West (1975) whereby males routinely interrupted females. Beattie (1981) also, in contrast to West and Zimmerman (1977), did not find sex differences in either the frequency or type of interruption in tutorial discussions. This was because, he felt, women were interrupting more than they had been in previous studies because "the social context demands that interactants make a good impression" (Beattie, 1981: 31). Dindia (1987) found that men did not interrupt more

than women, and that women did not get interrupted more than men. And she also found that women did not interrupt less assertively; they did not respond less assertively to interruptions, nor did they have less assertive behaviors interrupted than men. Females also do not always give up their speaking turn, become silent when interrupted or let men passively interrupt them as previous studies have observed (e.g., Zimmerman and West, 1975), but instead they sometimes compete with men in cross-sex interactions (Scheel, 1979; Ober, 1978). That is, women have been found to interrupt the interrupter (McCarrick, Manderscheid and Silbergeld, 1981).

One of the goals of this paper then, is to replicate studies which have discovered sex differences in interruption behavior.

The influence of internal factors on back channel and interruption behavior.

Researchers have not only found communicative patterns to be affected by external factors such as age, but internal factors, especially personality traits, have also been shown to play a part in a person's communication behavior. For instance, males have been found to take longer speaking turns than females (Argyle et al., 1968;

Swacker, 1975). And longer total talking time is related to measures of high dominance for both males and females (Rogers and Jones, 1975). Long utterances have also been found to be related to self-descriptions of aggressiveness in both males and females (Frances, 1979). Particular traits then, may be related to the differences found in communicative behaviors. Two of the personality traits which have been linked to conversational behavior are dominance and sex-role orientation, and their role in predicting back channels and interruption behavior in one group of teenagers and college students is explored here.

Dominance measure

Dominance has been described as "a subject's tendency to influence or control the behavior of others when interacting with them." (Ferguson, 1977; 299). Many communicative measures have been linked to dominance. For instance, total time holding the floor (Rogers and Jones, 1975), frequency of participation (Shaw, 1959) and amount of social interaction (Haythorn, 1953) have all been found to be positively related to dominance. The present study examined whether dominance predicted back channel behavior and interruption behavior. The dominance measure used in this study was the dominance scale of the California Psychological Inventory.

The relationship between back channel behavior and

dominance of either the speaker or the listener has not been previously examined. Back channel behavior has, however, been linked to other personality variables. For instance, Natale, Entin and Jaffe (1979) have examined the relation between speech and social anxiety and back channel behavior. They found no relation between the conversational partner's personality and the use of back channel cues by an individual. But they did find that the use of back channel responses by individuals was positively related to their fear of negative evaluation. That is, the more a person feared negative evaluation the more back channels they produced. "The positive social function of back channel responses is apparently strong enough to answer to a person's need to be positively evaluated" (Natale et al., 1979; 875). Back channelling is not regarded as a way of controlling the behavior of a conversational partner as dominance is. Since this behavior does provide a supportive function in conversation, it is hypothesized that listener responsiveness would either be negatively related to dominance or not related to dominance at all.

As for interruption behavior, recall from the previous section that many studies (e.g., Meltzer, Morris and Hayes, 1971; Saslow, Matarazzo, Phillips and Matarazzo, 1957) have indeed found dominance to predict interruption behavior. For instance, Rogers and Jones

(1975) found that individuals with more dominant personalities attempted more interruptions than did individuals with less dominant personalities. Other researchers, however, have not found interruption to be related to dominance. For instance, Ferguson (1977) found that overall measures of interruption were not related to dominance, but that only certain types of interruption were. Since this study utilizes Ferguson's definition of interruption, it is hypothesized that dominance will not be related to the overall measure of interruption but to only certain types of interruption. That is, based on Ferguson's findings dominance is expected to be positively related to overlap interruption and silent interruption.

Sex-role measure

Sex-roles or sex-stereotypes "and the attitudes held in respect of them constitute our social representations of men and women as distinctive social groups, the formulae for masculinity and femininity" (Smith, 1985; 27). Some researchers (e.g., LaFrance, 1981) have found that by taking sex-role into account, the original sex differences found in some communicative behaviors are no longer significant. So sex-role may be the component responsible for sex differences in conversational behavior. In the present study, sex-role was measured using the Bem Sex Role Inventory Scale. The Bem Sex Role

femininity scale includes traits such as sensitive, affectionate, compassionate, and understanding, while traits such as aggressive, dominant and assertive are contained in the masculinity scale (Bem, 1974; Spence and Helmreich, 1978). That is, socially desirable socioemotional traits are typical of the feminine males and females, whereas socially desirable self-assertive instrumental traits are typical of masculine males and females. Androgynous individuals are those persons who feel they have both socioemotional and self-assertive instrumental traits. It is believed that the masculinity and femininity measures are independent of each other and of the person's biological sex. Any person can be feminine, masculine, or both. And the traits individuals use to describe themselves determine their sex-role orientation (Bem, 1974; Spence and Helmreich, 1978). The Bem Sex Role Inventory 'masculinity' and 'femininity' score of both the subjects and their partners were correlated with their back channel and interruption scores.

There has not been much research exploring the contribution of sex-role to an individual's back channel behavior. Past research has pointed to biological sex as the main contributor to differences in listener responsiveness between the sexes, with females having generally been found to be more responsive in conversation

than are males. As was already mentioned, individuals who use back channel behavior are seen as supporting and maintaining conversation rather than dominating it. Individuals, then, who are more responsive, helpful, and sensitive to the needs of others are more likely to use back channel cues. These qualities describe feminine individuals. Thus, it is hypothesized that the more feminine individuals are, the more back channels they will produce, and that the more masculine they are, the fewer back channels they will produce.

As for the interruption measures, researchers have also tried to link sex-role orientation to interruption behavior. LaFrance (1981), for instance, examined the relationship between sex-role and various communicative behaviors, one of them being interruption. LaFrance found no sex differences for interruption. And due to problems in the study it is difficult to determine the effect of sex-role on differences in interruption behavior. In a more controlled study by Robertson (1987), neither sex nor sex-role were found to predict interruption frequency. It should be noted that the Zimmerman and West definition of interruption was used in both studies.

Due to the utilization of Ferguson's definition of interruption in this study, there are two hypotheses. The first hypothesis is that those forms of interruption which are found to be positively related to dominance in this

study, will be produced more often by individuals with high masculinity scores. And individuals with high femininity scores will be expected to engage in infrequent use of these interruptions. The second hypothesis is that for those forms of interruption which are found to be negatively related to dominance in this study, it is hypothesized that femininity will predict frequent use, and masculinity infrequent use. And for those forms of interruption which are not related to dominance, a hypothesis was not generated since it was not known what type of relationship this form of interruption was representing.

Summary

This research utilizes a cross-sectional design which examines the conversational skill of a portion of the early life span. Due to subject accessibility and time, only three age groups were chosen. Since a great deal of work has been done on preschoolers and very young children, this study examines conversational skill after this time period up to adulthood. The age groups consist of children in grade four, teenagers in grade nine, and adults in university. The developmental and sex-typed use of the two conversational devices, listener responsiveness and interruption behavior, are assessed across this

portion of the life span. The five major aims of the study again are:

(1) to determine the extent of development of listener responses during this time frame.

(2) to determine if sex differences in the use of listener responses exist during this portion of the life span, and how such behavior differs between these age groups.

(3) to determine how interruption behavior changes over these three age groups, specifically, comparing the frequency of interruption at the different ages.

(4) to determine if sex differences in interruption behavior exist; if so, how it differs between age groups.

(5) and to determine if stereotypical attitudes and personality dominance predict the use of back channel behavior and interruption behavior.

Method

Subjects

The subjects were chosen from three different age groups; fourth graders (average age of 9 years), ninth graders (average age of 14 years), and undergraduate students attending Memorial University (average age of 19 years). There were sixty participants per age group, for a total of one hundred and eighty subjects.

The school children attended middle class schools[1] in St. John's (St. Michael's Elementary, St. Augustine's Elementary, St. Pius X Junior High). Since university students are usually middle class, middle class elementary students and high school students were chosen. Middle class students were used in order to eliminate any differences between age groups which might be due to differences in social class. Permission to participate (refer to Appendix 1) was obtained from the parents. Thirty students, fifteen male and fifteen female, were randomly chosen from each age group. Teachers were then asked to pair each student with a friend (of an assigned sex) from the remaining participants.

Thirty university students, fifteen female and fifteen male, were obtained through advertizing. Each student was asked to take along a friend, who was approximately their age and who was also attending university. All university students were paid for their participation.

A 'friend' was defined for the elementary and high school teachers and the college students as being someone with whom the student spent a great deal of time with.

Equipment

The materials and equipment included an audio

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[1] These schools were considered middle class by the Roman Catholic School Board for St. John's.

recorder, a topic discussion form (refer to Appendix 2), the dominance measure of the California Psychological Inventory (refer to Appendix 3) and the Bem Sex Role Inventory (refer to Appendix 4). The study took place in a room in the schools of both groups of school students, and in an experimental room on campus for the university students.

Procedure

Before the study began each of the first thirty participants in each age group was randomly assigned to engage in either a same-sex or opposite-sex dyadic interaction, such that there were ten female-female, ten male-male and ten female-male dyads per age group.

A day or two before the participants took part in the study the elementary and junior high school students were paired with a friend, by their teacher. And each participant was also informed of who their partner was at this time. This conversational partner was on the list of available students for the study, and permission from parents for all participants was obtained. Each student participated only once.

The university subjects were contacted by phone. Each participant was informed of the nature of the study and that it required that they take along a friend approximately the same age. The friend's gender requested

depended on the dyadic interaction to which the subject had previously been assigned. Those participants in the mixed-sex groups were asked to take someone beside a boyfriend or girlfriend. All college students were also asked to supply the name of their partner before testing time to insure that no person would be used twice in the study.

Each dyad was taken separately into a room and the two students were then seated adjacent to one another. All subjects were informed that I was interested in studying how people make decisions, and each participant was handed a sheet containing various discussion items (refer to Appendix 2). I read through the discussion topics with the elementary school students only. All participants were also informed that their names would not be associated with the tapes.

Participants were asked to discuss any or all topics for as long as they liked, and to diverge to their own topics if they wished. I then left the room and conversation was recorded for approximately twenty minutes. All participants, except grade 4 students, were ensuingly asked to fill out the dominance measure of the California Psychological Inventory (CPI) and the Bem Sex Role Inventory (BSRI). Both the CPI and the BSRI are not reliable with younger children. The subjects were then thanked and dismissed.

The subjects were not debriefed following the experiment. However, the elementary schools and the high school were later sent a brief report of the findings. The university students were informed to drop by my office at the end of the following semister if they were interested in the hypotheses and findings of the experiment.

Scoring system

Each of the ninety dyadic conversations was transcribed by the author, and then scored by the author for interruptions and back channel responses according to the system described below.

Back Channel Responses

(1) Brief Oral Signals of Attention, Acknowledgement and/ or Agreement:

Duncan (1974) defines these signals as consisting of verbal responses by the auditor which are easily identifiable and which indicate to the speaker attention, acknowledgement and/ or agreement. These responses may be used either singly or in multiple forms (e.g., yeah, yeah). Some of the more frequently used responses are: mm-hm, yeah (yes), right (that's right), I know, oh and oh my gosh.

Example:

S: "And up to this point he's been put to sleep like ahh whenever he gets really depressed and stuff"

A: "Um-hmm."

S: "they take him off the spot."

(2) Elicited Oral Signals of Attention, Acknowledgment and/or Agreement:

These responses are the same responses as in category one except this type of back channel response is elicited from the auditor by the speaker through such prompts as "right?" or "o.k?". This type of response is not one of the classes examined by Duncan (1974) but was identified when scoring the pilot data.

Example:

S: "...I was getting the biggest laugh out of it, right?"

A: "Um-hmm"

S: "he came over and ..."

(3) Request for Clarification & (4) Embedded Requests for Clarification:

Duncan (1974) defines requests for clarification as a few words or a phrase that the auditor utters when the speaker pauses, which indicate that the auditor did not understand or hear what the speaker said. They are also used when the auditor is attempting to assess the truth

value of what the speaker is saying. Some examples of requests for clarifications are: Really?, Did you?, Is that right?, Are you serious?, and What?. Elicited requests for clarification also fall in this category. During the scoring it was necessary to distinguish between those requests for clarification which occurred while the speaker was still talking (embedded requests for clarification), and those which occurred after the speaker's sentence was completed (requests for clarification). It should also be noted that all the phrases falling into this category were scored as requests for clarification, although we were aware that some may not have functioned as genuine requests for clarification, but instead may have been similar to instances in category one above.

Example:

S: "Jim where are the balloonists?"

A: "The what?"

S: "The balloonists."

(5) Sentence Completions:

Sentence completions are defined by Duncan (1974) as occurring when a speaker's sentence is completed by an auditor. The original speaker continues with his turn since the auditor does not continue beyond this brief completion. These phrases are not treated as

interruptions since the auditor does not attempt to take the floor away from the speaker, but appears to be only interested in aiding the speaker with his/her turn.

Example:

S: "... If she realized like you know she'll know that I need money but she won't realize that I spent"

(pause < 1 sec.)

A: "That much."

S: "That much right."

(6) Brief Restatement:

With this type of response the auditor restates in a few words the thought just expressed by the speaker. As with sentence completions the auditor does not continue beyond these few words and the speaker continues with his/her train of thought.

Example:

S: "... I've been trying to phone Pat these last few days and there's no answer."

A: "No answer."

S: "No, she hadn't phoned her in awhile..."

(7) Auditor Laughter

With this type of response the auditor conveys not only attention and interest in what the speaker is saying but also amusement. It is clear that the auditor never

wishes to interrupt or take the floor away from the speaker.

Example:

S: I don't want to be too ignorant so I looks at her once every minute.

A: "LAUGH"

S: Let her know I might be listening, right. ...

(8) Joint Laughter

By participating in laughter with the speaker the auditor is displaying attention, interest and amusement. Again no intention to interrupt or take the floor is apparent.

Example:

S: So when she was going out with Phil she said he was always too tired to go out after work, she said now since they broke up he's out all the time.

A & S: "LAUGH"

(9) Multiple Back Channels.

This category consists of those responses which involve more than one back channel by the auditor.

Example:

S: ... He said, oh, one of my friends went in there the other day and Mrs. worked there asked him to come up to her apartment.

A: "LAUGH" And you're serious?

S: I'm serious. ...

Interruptions

(1) Overlap:

This type of speaker switch involves simultaneous speech, as a result of which the initiator of the simultaneous speech succeeds in taking the floor. However, there is no break in continuity in the original speaker's utterance. That is, the speaker's thought is completed (Ferguson, 1977).

Example:

S1: But to stay home and do nothing at least
[I'm doing some work here.
S2: And sit around]
and while I'm watching T.V. and talk to me, I can't believe it, like how ignorant."

(2) Simple Interruption:

The first person's utterance is disrupted as the interrupter speaks simultaneously and succeeds in taking the floor from the original speaker (Ferguson, 1977).

Example:

S1: Well, it's not going to do him any good, complaining to everyone, unless he wants
[to take

S2: No]
because I'm still not going to do what he wants.

(3) Butting-In Interruption:

Again as in simple interruptions and overlaps there is simultaneous speech present (although this is not always necessary). There is also a break in continuity of the current speaker's utterance; however, unlike the previous two types of speaker switches, the initiator of simultaneous speech does not succeed in taking the floor. That is, here the person initiating the interruption stops before finishing what they have to say (Ferguson, 1977). Example:

S1: ... Although I don't think anybody would do that unless they're going against what she says [and I
S2: Ya, but]
S1: can't see anybody going against that.

(4) Silent Interruption:

There is no simultaneous speech involved in this type of interruption and the original speaker's utterance is incomplete as the interrupter succeeds in taking the floor (Ferguson, 1977). If S2 waits more than one second to begin his/her turn after S1 stops talking, the instance is not scored as an interruption.

Example:

S1: But before you knew all this stuff, before you knew that she was (pause < 1 sec.)

S2: That was Tina.

A second person, trained in using the scoring system, scored approximately 20% of the transcripts. Six of the first transcripts, six of the middle transcripts and six of the last transcripts scored by the author were used to calculate reliability. Reliability was computed by means of number of agreements over number of disagreements plus agreements. The reliability obtained on each of the 13 categories is: Brief/Simple Back Channel 98%, Elicited Simple Back Channels 97%, Requests For Clarification 100%, Embedded Requests For Clarification 100%, Sentence Completions 89%, Brief Restatements 91%, Auditor Laughter 100%, Joint Laughter 100%, Multiple Back Channels 100%, Simple Interruptions 87%, Overlap Interruptions 91%, Butting-In Interruptions 95%, and Silent Interruptions 94%. While the person scoring for reliability was blind to the hypotheses it was not possible for the author to be so.

Results - Conversational Measures[2]

Frequencies of the nine back channel measures and the four interruption measures were tabulated for each member in each of the 90 dyads. Dyads were used as the unit of analysis, and not individual members.[3] Dyad scores, consisting of the summed frequencies of behavior of both members of a dyad, were computed for each of the 13 measures.[4]

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[2] In the two result sections and two discussion sections which follow both marginally significant results and significant results are presented, as well as, a discussion of the meaning of main effects even when significant interaction effects are found. The inclusion of such findings was felt to be necessary since the purpose of the present thesis is exploratory, and as such it is my aim to obtain as much as possible from the study so as to generate new ideas for future research. In no way is it my intention to assign equal weight to the marginally significant results or the main effects as to the higher order significant effects.

[3] Two members of a dyad are not independent (i.e., what one member of a dyad does influences what the other does). In order to utilize the traditional analysis of variance this dependency has to be eliminated, since one of the assumptions of the ANOVA is independent data.

[4] Since the more people talk the greater their chances of being interrupted, the average amount of talking time was assessed in six male-male and six female-female, randomly chosen, conversations. Two dyads were chosen from each of the three age groups. Females were found to speak an average of 152 words/minute, whereas males produced 132 words/minute. This was not considered a large enough difference to bias the results. Therefore, conversational strategies were not standardized with respect to amount of talking time.

Total back channel measure

The total back channel score (i.e. total of all nine back channel measures) was tabulated, and these scores were analyzed by means of a two-way analysis of variance. The variables were age of dyad (grade 4, grade 9, college) and sex of dyad (male-male, female-female, male-female). Both main effects were significant; age of dyad, $F(2,81) = 7.66$, $p < .01$; sex of dyad, $F(2,81) = 3.52$, $p < .05$; as was the interaction between the two variables, $F(4,81) = 3.01$, $p < .05$. Table 1 provides the mean frequencies and standard deviations for the back channel measure.

First, examining the age of dyad effect (refer to the row of Age Group Averages in Table 1), post-hoc Neuman-Keuls analysis revealed that the college dyads produced significantly more ($p < .01$) back channels than the grade 4 dyads. However, the college group did not back channel significantly more than the grade 9 group; nor were the grade 9s significantly different from the grade 4s in the mean amount of back channels produced. That is, while there was no dramatic change in back channel behavior from grade to grade, there was a significant difference in the amount of listener responses produced by the youngest subjects compared to the oldest. This indicates that there is a gradual increase in back channels with age, and that young adults are much more responsive in dyadic conversation than young children. However, this does not

imply that young children are unresponsive. The grade 4 students produced on average 2.5 back channels per minute compared to the 4.1 back channels per minute produced by the college group. It would seem then, that children as young as nine years of age frequently use listener responses in dyadic conversation.

Post-hoc Neuman-Keuls analysis examining group differences from the sex of dyad effect (refer to the column of Sex Group Averages in Table 1) revealed that the female-female group was significantly different ($p < .05$) from the male-male group. The female-female dyads provided significantly more back channels than the male-male dyads. The comparison between the female-female and male-female dyads came close to reaching significance ($Qobt = 3.34$, $Qcrit = 3.37$). Examining the mean number of back channels produced by these two groups, it is clear that the female-female group engaged in a great deal more back channeling than the male-female group. The number of back channels produced in the male-male dyads, however, was not significantly different from that produced in the male-female dyads. So the females paired together produced many more back channels than either the males paired together or the male-female pairs. And the male-male and male-female groups were very similar in their back channel behavior. Thus, the female-female grouping is by far the most responsive dyad combination.

It is also of interest to know how behavior changes depending on whether the interaction is same-sexed or opposite-sexed.[5] Table 2 provides the mean frequencies and standard deviations of the males' and females' back channel behavior in same-sex and opposite-sex interactions. The total number of back channels produced in a same-sex dyad was divided by 2, and this average was used as an estimate of the amount of back channels produced by each member in that dyad. The Mann-Whitney U test was utilized in the comparison of the back channel behavior of males in the male-male dyads to that of the males in the male-female dyads. Males in same-sex interactions did more back channeling than males conversing with females; this difference was marginally significant ($p = .09$). Comparing the females' responsive behavior in same-sex interactions to that in opposite-sex interactions, the Mann-Whitney U test revealed no significant difference between these groups ($p = 0.27$). So while the females were just as responsive to their female partners as they were to their male partners, the males were less responsive to their female partners than their male partners. The difference in back channel

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[5] Since the members in the same-sex dyadic interactions were not the same individuals who participated in the opposite-sex interactions, a direct comparison of the behavior of individuals across dyad types was not possible. Therefore, any conclusions based on the present indirect comparison are tentative.

behavior between the males and females in the male-female dyads also reached marginal significance ($p = .09$). That is, females were somewhat more responsive than males in opposite-sex interaction.

Overall then, the above analysis revealed that it was the female-female dyads which were the most responsive. Males were a little more responsive to males than females. However, females were as responsive to males as they were to females, and tended to be more responsive than males in crossed-sex interaction.

Returning to the analysis, recall that there was an interaction between age and gender of dyads, in addition to the main effects discussed above. Post-hoc Neuman-Keuls analysis was again used to examine the difference in the group means in this interaction (refer to the appropriate rows and columns in Table 1). The college female-female group produced significantly more back channels than the grade 4 male-female ($p < .01$) and grade 4 female-female ($p < .01$) groups, as well as the grade 9 male-male ($p < .01$) group. The grade 9 female-female group provided significantly more back channels than either the grade 4 male-female ($p < .05$) and grade 9 male-male ($p < .05$) groups. Overall, the most responsive group changed with age: from male-male dyads at grade 4 to female-female dyads at older ages. The least responsive group also changed with age: from male-female pairs at

grade 4 to male-male pairs at grade 9, and then back to male-female pairs in college.

Summarizing the findings on the back channel measure, it was found that young children frequently produced back channels in dyadic conversation, and that the number of back channels gradually increased with age, at least to young adulthood. Female-female dyads were much more responsive than either male-male or male-female dyads. And while the male-male group was the most responsive dyad type in grade 4, by grade 9 the female-female dyads produced the larger amounts of back channels. Overall, it was the older female-female dyads who were the most responsive. Females were also as responsive to females as they were to males, whereas males were slightly more responsive to males than females. And females were also somewhat more responsive than males in male-female dyadic interactions.

Total interruption measure

The total interruption score (i.e., sum of all four interruption measures) for each dyad was tabulated, and these scores were analyzed by means of a two-way analysis of variance. The variables were, as with back channels, age of dyad (grade 4, grade 9, college) and sex of dyad (male-male, female-female, male-female). Neither main effect was significant; however, the interaction between

the two variables was. Table 3 provides the mean frequencies and standard deviations for the total interruption measure.

The nonsignificant age of dyad effect revealed that the three age groups produced similar amounts of interruptions (refer to the row of Age Group Average in Table 3). This indicates that the frequency of interruptions in dyadic conversation remains relatively stable during this time period. As one gets older then, interruption behavior does not decrease, as was hypothesized. It would seem that we learn from a very early age (i.e., before nine years) what the acceptable level of interruption is in dyadic conversation. The two studies mentioned earlier (Esposito, 1979 and Peterson, 1986) which have examined preschooler dyadic conversation also found no age of dyad effect. However, since both studies used different definitions of interruptions than the present study it is difficult to compare frequency of interruption between studies. Whether preschoolers, then, produce similar frequencies of interruption in dyadic conversation as older children or adults, or whether it is during the early primary school years that children learn what this acceptable level is, will have to be determined in future studies. It is quite obvious, however, that the adult pattern of interruption frequency in dyadic conversation is developed at a very early age.

The nonsignificant sex of dyad effect revealed that all three dyad types produced similar frequencies of interruptions (refer to the column of Sex Group Average in Table 3). That is, it did not matter whether participants were in a same-sex or opposite-sex interaction, the mean number of interruptions produced in a twenty minute conversation remained the same. This is contrary to findings of previous research which find many more interruptions in crossed-sex interaction than same-sex interaction.

Even though similar frequencies of interruption are produced across the three dyad types, the individual members' behavior in a same-sex interaction may differ from that in an opposite-sex interaction. Refer to Table 2 for the mean frequencies and standard deviations of the males' and females' interruption behavior in same-sex and crossed-sex interaction. The males' and females' behavior in the different dyad combinations was compared (refer to footnote 3). When the mean amount of interruption initiated by males engaged in male-male interactions was compared to males in male-female interactions, the Mann-Whitney U test revealed no significant difference ($p = 0.30$). That is, males did not interrupt females any more than they interrupted males. However, the Mann-Whitney U test did reveal that females engaged in same-sex interaction interrupted their partner significantly more

($p = .05$) than females conversing with males. That is, females were more likely to interrupt a female partner than a male partner. The males' and females' mean interruption score in the male-female dyads was also compared. And the Mann-Whitney U test revealed no significant difference ($p = 0.91$). In other words, males interrupted females as often as females interrupted males. This result was unexpected since it contradicts the majority of findings in this area, which find males routinely interrupt females. While a definite conclusion is not possible due to the indirect comparison involved, it looks as if females, for some reason, feel freer to interrupt other females than males. That is, while males treat females the same as they do males with regards to interruption, females behave differently towards males compared to females by decreasing their interruption behavior.

Thus, the nonsignificant main effects revealed that the frequency of interruption remained the same across the three age groups and the three sex groups studied. And while males behaved similarly in same-sex and opposite-sex dyadic interactions, females decreased their interruption behavior from same-sex to opposite-sex interactions. That is, they interrupted males less than they interrupted females.

The interaction between the two variables, age of

dyad and sex of dyad, was significant; $F(4,81) = 4.12$, $p < .01$ (refer to the appropriate means and standard deviations in Table 3). And post-hoc Neuman-Keuls analysis revealed that the only significant comparison ($p < .05$) was between the grade 9 female-female and grade 9 male-male groups. It was the female-female grade 9 group which initiated the most interruptions overall, while their male-male counterparts interrupted the least. Taking a closer look at Table 3: the male-male group interrupted the most in grade 4, while in grade 9 it was the female-female group, and in the college sample both the male-male and female-female groups produced the larger amounts of interruption. The male-female group interrupted the least in grade 4 and college, whereas the male-male group did so in grade 9.

Thus, as with the back channel interaction effect, no consistent pattern emerged for interruptions. It was notable, however, that while the behavior of the three sex groups in grade 4 and college did not differ significantly from one another, the male-male and female-female grade 9 groups were doing very different things with regards to interruption. The females in this age group were interrupting each other the most, whereas the males did so the least. Note that this was also the pattern for this age group with the back channel measure.

Summarizing the main findings for the interruption

measure, it was found that the three age groups used interruptions to similar degrees, as did the three dyad types. Males interrupted males as much as they did females; however, females interrupted females more than they did males. Females and males interrupted one another to similar degrees in crossed-sex interactions. And interruption behavior was not significantly different in any of the interaction groupings, except for the female-female dyads in grade 9 who used more interruptions than the male-male dyads in this age group.

Individual back channel and interruption measures

The frequency of use of each of the nine back channel measures and the four interruption measures was then individually analyzed using a multivariate analysis of variance. The independent variables were again age of dyad (grade 4, grade 9, college) and sex of dyad (male-male, female-female, male-female). There was a significant age of dyad x sex of dyad interaction, Wilks Approximate $F(52,269) = 1.45$, $p = .03$. Refer to Table 4 for the mean frequencies and standard deviations of the significant and marginally significant variables contributing to this effect. Follow-up univariate F-tests were calculated, and the significant variables were multiple back channel, $F(4,81) = 4.73$, $p = .002$, simple interruption, $F(4,81) = 4.49$, $p = .003$, and butting-in

interruption, $F(4,81) = 3.52$, $p = .01$. Other variables were marginally significant: brief back channels, $F(4,81) = 2.26$, $p = .07$, brief restatement, $F(4,81) = 2.06$, $p = .09$, and silent interruption, $F(4,81) = 2.07$, $p = .09$.

Looking first at differences between the groups in the multiple back channel measure, post-hoc Neuman-Keuls analysis showed that the grade 9 female-female group used significantly more multiple back channels than any of the other eight groups ($p < .01$; for all eight comparisons). Multiple back channel behavior was similar among the other eight dyad combinations. That is, the number of multiple back channels produced in a twenty minute dyadic conversation is not very different across the dyad types and the age groups studied here, with the exception of the grade 9 females. The post-hoc analysis on the simple interruption measure revealed that the grade 9 female-female group initiated significantly more ($p < .01$) of these interruptions than the grade 9 male-males, whereas there was no significant difference in simple interruption behavior between the other groups. Simple interruption then, was used to the same extent by the majority of sex and age group combinations studied. Only at grade 9 were there differences, with female-female dyads using it more than their male counterparts. The post-hoc analysis on the butting-in interruption measure revealed that grade 9 male-male groups used this technique significantly less

than grade 4 male-male groups, who engaged in the majority of butting-in interruptions. The butting-in interruption behavior then, was also not very different among the various groupings, except for the grade 4 male groups who butted-in the most and the grade 9 male groups who utilized this technique the least.

Examining the group means of the three variables that were marginally significant, the male-female grade 4 dyads produced the least amount of brief back channels, whereas both the female-female grade 9s and college students used this back channel the most. As for brief restatements, the female-female grade 4s scored lowest on this measure, whereas the college female-female group was the most responsive. The grade 4 male-female group also engaged in the smallest amount of silent interruptions, whereas the grade 9 female-female group utilized this technique the most.

Thus, brief back channels, brief restatements, multiple back channels, simple interruptions, butting-in interruptions and silent interruptions were the main contributors to the interaction effect. The grade 9 female-female groups heavily used brief back channels, multiple back channels, simple interruptions, and silent interruptions, while the college female dyads heavily used brief back channels, and brief restatements. The grade 4 male-males used butting-in interruptions the most. Simple

interruption and butting-in interruption were utilized the least by the grade 9 male-male group. The grade 4 male-female dyads produced few brief back channels and silent interruptions, and the grade 4 female-females seldom used brief restatements.

The main effect of age of dyad was significant, Wilks Approximate $F(26,138) = 2.48$, $p = .00$. Table 5 provides the mean frequencies and standard deviations for the significant and marginally significant variables contributing to the age of dyad effect. Follow-up univariate F-tests were calculated, and the significant measures are brief back channel, $F(2,81) = 3.23$, $p = .05$, elicited brief back channel $F(2,81) = 5.78$, $p = .01$, sentence completions, $F(2,81) = 7.30$, $p = .001$, auditor laughter, $F(2,81) = 7.28$, $p = .001$, joint laughter, $F(2,81) = 4.74$, $p = .01$, and multiple back channel, $F(2,81) = 4.29$, $p = .02$. Three other variables were marginally significant, embedded requests for clarification, $F(2,81) = 2.96$, $p = .06$, requests for clarification, $F(2,81) = 3.02$, $p = .05$, and overlap interruption, $F(2,81) = 2.48$, $p = .09$.

Neuman-Keuls post-hoc analysis was used to examine significant group differences on each of these significant contributors. This analysis revealed that the college group used brief back channels more ($p < .05$) than the grade 4 group. However, the college group was not

significantly different from the grade 9s in the amount of brief back channels used, nor were the grade 4 and grade 9 groups very different in their use. That is, there was a gradual increase in the use of brief back channels with age, such that the older group used this back channel much more than the younger group. The college group also used significantly more elicited brief back channels than did either the grade 4 ($p < .01$) or grade 9 ($p < .01$) groups. While the grade 4 and grade 9 groups used similar amounts of this type of back channel, this usage almost doubled by the time one was in college.

The grade 4s differed significantly from both the grade 9 ($p < .01$) and college groups ($p < .01$) in their use of sentence completions. The grade 4s used significantly more of this back channel than the other two groups, indicating that sentence completions appear early in development but are not utilized as much when one is older. The grade 4s again differed significantly from the grade 9s ($p < .01$) and college ($p < .01$) groups in their use of auditor laughter, with grade 4s laughing less than the other two groups. The two older groups, however, used auditor laughter to the same extent. Similar results were obtained for the joint laughter measure; grade 4s engaged in significantly less joint laughter than either the grade 9 ($p < .05$) or the college ($p < .01$) groups, which did not differ from each other. Thus, it seems that laughter, as

a back channel cue, really only becomes utilized to any great degree at later ages.

The grade 9s also used significantly more multiple back channels in their conversations ($p < .05$) than grade 4s did; however, the college groups' use of multiple back channels did not differ significantly from either the grade 4 or grade 9 groups' use. While the age effect here is not as apparent as it was on the other measures, it should be noted that the multiple back channel variable is an imprecise category which contains many different types of back channels. Therefore, it is difficult to determine what is happening in this miscellaneous back channel category.

Examining the group means of those variables which just missed significance, both overlap interruption and requests for clarification tended to increase with age. The developmental pattern in the embedded request for clarification measures is less clear; this cue increased from grade 4 to college with a slight dip in grade 9.

To summarize then, brief back channels, elicited brief back channels, and to a smaller degree, overlap interruption increased in frequency with age, whereas sentence completions decreased. Auditor laughter and joint laughter increased in frequency up to grade 9, and then retained this level to college. Multiple back channel, requests for clarification and embedded requests

for clarification also showed patterns of increased use with age, although these patterns were less regular. So these seven back channels and one interruption technique are the main conversational measures producing the age of dyad effect. Brief restatement, simple interruption, butting-in interruption and silent interruption did not increase with age. Thus, there is an obvious developmental pattern for listener responsiveness that clearly does not exist for interruption behavior.

The main effect for sex of dyad was also significant, Wilks Approximate $F(26,138) = 1.73$, $p = .02$. Refer to Table 6 for the mean frequencies and standard deviations of the significant and marginally significant variables contributing to this effect. Univariate F-tests clarify the measure for which this effect occurs: the significant F-test is for joint laughter $F(2,81) = 4.62$, $p = .01$. Two other variables came close to significance, brief back channel, $F(2,81) = 2.56$, $p = .08$, and silent interruptions, $F(2,81) = 2.96$, $p = .06$.

Post-hoc Neuman-Keuls analysis revealed that the female-female group laughed together significantly more than did either the male-male ($p < .05$) or the male-female ($P < .05$) groups. These same-sex and opposite-sex male groups were similar in their joint laughter response. Looking at the group means in this table, it would seem that female-female pairs not only laugh the most, but also

laugh together quite frequently, compared to the other two groups.

Examining the variables that were marginally significant, we can see that although the frequencies of brief back channels are not that different between the dyad types, the female-female group again produced the most, whereas the other two groups used brief back channels to similar degrees. The female-female group also used slightly more silent interruptions than the male-male or male-female groups.

Summarizing the results on the individual back channel and individual interruption measures, it was generally the older (grade 9 and college) female-female groups which produced the greatest amount of brief back channels, elicited brief back channels, brief restatement, auditor laughter, joint laughter, multiple back channels, simple interruptions, and silent interruptions. The grade 4s used the most sentence completions, and the male-male dyads in this age group used the most butting-in interruptions. There was no particular grouping that consistently came out lowest on these conversational measures. However, it was generally the grade 4 male-female and female-female groups which produced the smallest amounts of brief back channels, silent interruptions and brief restatements, whereas the grade 9

male-male group used butting-in and simple interruptions the least.

Discussion - Conversational Measures

The back channel measure

To summarize the findings for the total back channel measure, back channels were found to gradually increase with age, and even children in grade 4 were found to use a fair number of listener responses in their conversations. The female-female dyad was the most responsive dyad type. Females were also found to be as responsive to male partners as they were to female partners, whereas males were slightly less responsive to female partners than male partners. And in mix-sex groupings males were somewhat less responsive to females than females were to males.

The developmental findings

The finding that back channels increased with age is consistent with the developmental studies completed so far in this area. Both Dittmann (1972, 1977) and Miller, Letchner and Rugs (1985) found older subjects producing many more back channels than younger subjects. In Miller et al.'s study, however, it was only nonverbal cues that increased with age. That is, age was not significantly related to the use of uh-hums or to the use of yeses.

Since Miller et al.'s subjects were all preschoolers, the age range may not have been large enough to capture a significant developmental trend. Recall that the present study did not find significant differences between the grade 4s and the grade 9s, and the grade 9s and college. That is, there is only a gradual increase in verbal back channels with age, and as a result large age ranges are needed before a significant effect will be found.

It was also found that children learn to spontaneously use listener responses in their conversation somewhere before nine years of age. All back channels examined were used to various degrees by the grade 4s. The exact age at which the development of listener responses begins will have to be determined by later studies. We do know that brief back channels, which were by far the most frequently used back channel cue in all three age groups, are used by preschoolers. Some uh-huhs and yeses were found in preschooler conversation in the Miller et al. study. It would seem that at least one type of back channel cue begins to develop very early in the child's communicative development. And it is also possible that some back channels begin to develop before others. Future research needs to examine the preschool to early elementary school period in order to detail the initial stages of development of the various back channel cues.

It was also discovered that different back channel cues have different developmental patterns. That is, all back channel cues do not increase by the same rate or reach the adult level of usage at the same point in time. All back channels examined here, except brief restatement, showed some type of relationship with age. Recall that brief back channels and elicited brief back channels increased with age, whereas sentence completions decreased. Auditor laughter and joint laughter increased in frequency up to grade 9 and then retained this level to college. Multiple back channel, request for clarification and embedded request for clarification also showed an increase in frequency with age, although these patterns were not as clear cut. It would seem, then, that some back channels are developed before others. For instance, auditor and joint laughter seemed to have reached their developmental peak by grade 9, whereas brief back channels continue to develop at least to college age. And it would also seem that some back channels, such as sentence completions, become less important as a listener feedback cue as one grows older. Thus, while overall responsiveness continues to increase at least to young adulthood, certain back channel techniques may be developed earlier. Future research needs to explore such issues as why some back channels are used less often with

increasing age, and why some cues reach the adult usage level before others.

Individuals then, seem to become increasingly aware of the importance of listener feedback in dyadic conversation. Why this development takes so long is not known. Many factors such as cognitive, linguistic and social development probably influence the development of listener responsiveness. For instance, one of the important influences on listener response development may be the individual's increasing ability to take the point of view of others and to empathize with the speaker's need for feedback. These factors, which may influence the development of active hearership, need to be examined in order to understand how and why listener responsiveness develops as it does.

Recall that the main conclusions of Miller et al.'s study were that preschoolers use back channel cues in their conversations with adults, and that back channels usage increases with age. These conclusions are consistent with the present findings; however, some of Dittmann's assertions are not. Dittmann's (1977) most general conclusions were that younger subjects produced very few listener responses compared to adolescents and adults, and that adult patterns of listener responses do not occur till adolescence. However, the grade 4 children in the present sample produced on average 2.5 back

channels per minute. Although this was approximately half the amount of back channels produced by the college group, the grade 4s were definitely not unresponsive. This finding is consistent with Miller et al.'s study since they found even their youngest preschoolers using some listener responses. Young children then, do not lack active hearership.

Dittmann (1972) felt that the reason why young children emit so few back channels was because they tend to engage in activities, not conversations. While some conversations in the grade 4 sample were better than others, all the nine year olds were capable of engaging in conversation. Dittmann also felt that young children produce very few listener responses because they are only capable of "socialized speech", and thus cannot engage in the more personal speech which involves being able to take the point of view of others. This assertion is at odds with Miller et al.'s belief that their research findings fit well with previous studies concerning the ability of children to coordinate and consider the perspectives of others. They felt that the verbal responses which their older preschoolers produced tended to focus on the adult's frame of reference.

Miller et al.'s findings are consistent with research concerning egocentrism and listener feedback. The ability to accommodate to the listener's informational needs is

known as role-taking, and is believed to be a main component in the development of good communication skills. Children have been shown to have the ability to coordinate and consider the perspectives of others by altering their speech when conversing with individuals with different needs. That is, children often take listener characteristics into account when producing messages (Borke, 1971; Charlesworth and Zahn, 1966; Fishbein, Lewis and Keiffer, 1972; Kurdek and Rodgen, 1975; Maratsos, 1973; Meissner and Apthorp, 1976; Menig-Peterson, 1975; Shatz and Gelman, 1973; Shantz and Watson, 1971). As a few examples, preschoolers give different kinds of messages to blindfolded listeners than to sighted listeners (Maratsos, 1973; Meissner and Apthorp, 1976), to listeners who are knowledgeable about a game than those who are not (Menig-Peterson, 1975), and to adults than to young children (Shatz and Gelman, 1973). Other studies have also found that speakers as young as five try to respond when the listener requests more information, even though they may not actually provide more information (Cosgrove and Patterson, 1979; Glucksberg and Krauss, 1967; Karabenick and Miller, 1977). Four-and five-year olds, under some conditions, can improve their messages when feedback is given (Copple, Coon and Lipscomb, 1977; Cosgrove and Patterson, 1979; Peterson, Danner and Flavell, 1972). And even two-year-olds have been found to

respond sensibly to 'What?' (request for clarification), which has been taken as evidence that very young children understand communication failure (Valian, Caplan, and de Sciora, 1977). Much more research, then, needs to explore when children are capable of taking the point of view of others to a large enough degree that they can frequently use listener responses in conversation.

There also does not seem to be a particular time in development when the conversation typical of children begins to turn into conversation typical of adults, as Dittmann maintained. Since there is a gradual increase in responsiveness with age there is also a gradual changing of child behavior into adult behavior. The present study also did not investigate whether back channel behavior is developed by college age or whether it continues to develop beyond that point. Future research needs to examine middle aged and elderly groups in order to outline the continued developmental pattern of back channel behavior after college age.

It might have been the case that Dittmann's children were quite capable of perspective taking but that other factors produced the infrequent use of listener responses in children younger than adolescence. That is, Dittmann's study differs in many ways from Miller et al.'s study and from the present one, and these differences may account for his findings. For instance, the present study and

Miller et al.'s study both examined back channel cues in dyadic interaction. Recall that Miller et al's preschoolers listened to an experimenter as he discussed different topics. However, while Dittmann examined dyadic conversation in his college participants, the children were mostly observed in groups in the classroom listening to one another and teachers. Although some studies were conducted in the lab Dittmann does not mention what percentage of the total findings were lab research and classroom observation. And he did mention that the classroom observation produced fewer listener responses than the lab. Structured dyadic conversation may be more of a high pull situation than group discussion. That is, conversation between two people may 'pull' more listener responses than conversation between persons in a group discussion. And Dittmann did find more back channel cues in high pull situations (i.e., straight conversations and instructions) than low pull situations (i.e., action responses like board games). Since I used only conversation and Dittmann used different pull situations, I should get more listener responses than Dittmann, as was the case.

Both the present study and Miller et al.'s study also utilized structured situations, whereas Dittmann's studies involved both free-flowing (unstructured) and instructional conversation. Other factors such as

Dittmann's scoring system for back channel frequency and data collection methods were unlike those used in Miller et al.'s study and the present study. So there do indeed appear to be situationally determined factors in the appearance of listener responses. That is, it would seem that the numbers and types of back channels found depend on many different factors, such as method of scoring, dyad versus group setting, topic of conversation, etc.

Thus, it appears that at least in structured dyadic interaction between middle class participants, back channels appear very early in conversation, and as individuals grow their frequency of listener responses increases. This development begins before nine years of age and continues at least to young adulthood.

The sex difference findings

In previous studies (e.g., Alvy, 1973, Hirschman, 1973; Strodtbeck and Mann, 1956) females have been found to be generally more responsive than males. This finding receives some support from the present study. The female-female dyads were found to be much more responsive than either the male-male or male-female dyads. That is, those conversations involving men were less responsive than conversations between women. Recall that this was only true of the female-female groups in grade 9 and college. In grade 4 the male-male groups were the most responsive.

Dittmann (1977) found that his all-boy groups and mixed groups were more responsive than his all-girl groups for children who were in grades 6, 7, and 8. Dittmann explains that most of the teachers were women, and boys were probably more drawn to them than girls. But it may be the case that boys start out being the most responsive but somewhere before adolescence girls take the lead in social sophistication. So it would seem then, that at least by adolescence, females provide more back channels in their conversations with other females than those provided in either male-female or male-male conversations.

Support for females' greater responsiveness also comes from the present finding that females were also somewhat more responsive than males in mixed-sex interactions. That is, in crossed-sex conversations females did provide more back channels than males. However, this finding was only marginally significant, and does not come close to replicating some of the overwhelming results found in other studies. For instance, recall that Strodtbeck and Mann (1956) found males producing only about half as many agreements and supports as females. And Fishman (1977, 1978a, 1978b, 1980, 1983) maintained that women do all of the conversational support work. Also, recall from the introduction section that other studies found contrasting findings (e.g.s, Babinec, 1978; McLaughlin et al., 1981).

There may be many reasons for the lack of overwhelming results in the present study and contrasting findings in other studies, such as different topics of conversation, dyad versus group settings, scoring methods, etc. For instance, some studies examine group conversation (e.g., Strodtbeck and Mann, 1956) while others use dyads (e.g., Fishman, 1977), some use unacquainted subjects (e.g., McLaughlin et al., 1981) while others use intimates (e.g., Fishman, 1977), and some examine conversation among children (e.g., Dittmann, 1972, 1977) while others explore adult discourse (e.g., Fishman, 1977). So different contexts and different situations probably influence the degree of sex differences found in listener responsiveness.

Besides the various differences in subjects and procedures among the studies in this area two more important factors which might have influenced the present findings need to be mentioned. One is the issue of variability in listener responses. Some studies have used very small subject samples. For instance, Fishman (1977) only used three subject pairs. Both Dittmann and Miller et al. found considerable individual differences in the number of responsive cues used. Such wide variability was also found in the present study. For instance, there was one conversation where the female produced eighty back channels and the male twenty-eight, and one where the male

produced sixty-five and the female nine. So Fishman could have, by chance, obtained three very responsive females and three unresponsive males. Since there is such wide variability in males' and females' responsiveness, very large sample sizes are necessary. That is, it is quite possible that small subject samples are not representative of what is really happening. Recall that Dittmann (1977) found a very small sex difference in responsiveness in his child sample in his earlier study, but discovered that this difference disappeared when he doubled his sample size. The present study also only had thirty male-female dyads. So it might have been the case that if our subject sample had been doubled our marginally significant difference would have disappeared.

A more interesting reason for the present lack of overwhelming results in crossed-sex interaction, however, may not be because of the number of subjects, but instead because of the age of subjects involved. Miller et al. (1985) and Dittmann (1977) examined back channel behavior in preschoolers and young children, respectively, and found no sex differences. Studies which do find significant sex differences in crossed-sex interaction, however, use adult populations, generally college students. It is possible that sex differences in listener responses do not appear until adulthood. Since the present study examined two younger age groups, along with

a college population, it is possible that the nonsignificant sex effects in the two younger groups played down the significant sex effect in the college group the result of which was a marginally significant effect for crossed-sex interaction overall. Examination of the mean number of back channels by the males and females in the ten male-female dyads in each age group, in the present study, provides some support for this assertion. In grade 4 the males produced on average 17.1 back channels while the females produced 21.4 back channels ($t = -.454$; NS). In grade 9 the males produced on average of 32.0 back channels while the females produced 33.3 back channels ($t = -.154$; NS). So in the two younger age groups back channel behavior is not very different between males and females. However, in the ten male-female college dyads males produced 26.1 back channels on average whereas the females produced 40.9 back channels ($t = 1.44$; NS). While all three comparisons were nonsignificant, the difference between the college groups was much larger than the other two groups. And it may be the case that if more than 10 dyads had been used the findings for the college group would have been significant. This then may be a very plausible explanation as to why studies with young children find no sex differences whereas studies with adults find large differences between the sexes. It may be the case that

male children and adolescents are just as responsive as their female counterparts, but that for some reason as male teenagers turn into male adults they decrease their responsiveness which forces the females to increase theirs. There may be many reasons for such a change and only future research can enlighten us as to what may be happening here.

These then are only a few of the possible reasons why the present crossed-sex results are not as strong as in previous studies. Future research needs to examine crossed-sex interaction across this portion of the life span with larger sample sizes in order to determine whether sex differences in listener responses only occur in older populations. And all other conditions under which sex differences also appear need to be examined.

It was also found that females were as responsive to males as they were to females, but that males were slightly more responsive to males than they were to females. Recall that these results were only marginally significant. Nevertheless, females tend to be somewhat more responsive than males in both same-sex and crossed-sex interaction. These findings, then, would seem to be consistent with the conclusions of many previous studies that females must carry more of the conversational workload by being more supportive than males, and by keeping the conversation going.

However, all the results, except the finding that female-female dyads are the most responsive, were only marginally significant. Perhaps other reasons for females' greater responsiveness should be looked for. For instance, if we take the finding that female-female dyads become most responsive at later ages, and the possibility that sex differences in crossed-sex interaction only emerge in the older groups, we can draw a tentative conclusion that sex differences exist because females become much more responsive at older ages than males. It is not that the adult males are incapable of being responsive but that females, for some reason, increase their responsiveness in dyadic conversations as they grow older. This does not necessarily mean that females become more responsive because they have to in order to keep the conversation going. If this is the case, why then should two females conversing together feel they have to be so supportive, when there should be no fear that the other female will not help with the conversational workload? And why would they not increase their responsiveness when speaking to males compared to their responsiveness when conversing with females? Perhaps, then, it is not that males make females carry all the workload in conversation but that females feel more of a personal need to be more intimate and more responsive.

Thus, there can be many reasons for females' greater responsiveness. Another might possibly be the difference in quality of male-male conversations compared to female-female conversations. In the ninety conversations examined it was my strong impression that males and females in grade 4 produced conversations similar in quality. However, in grade 9 and college male-male conversations were artificial, unnatural and stilted (this was especially true of the grade 9 male-male group). This may be due to either one of two factors. One may be the different types of friendships males and females have at this time. Men's friendships have been shown to be somewhat superficial (Lewis, 1978; Powers and Bultena, 1976), whereas women's friendships are highly intimate (Armstrong, 1968; Weiss and Lowenthal, 1973). That is, female friends say they talk more about intimate and personal topics and in more depth than male friends do (Aries, 1976; Johnson and Aries, 1980). While no objective measure was taken it was my impression that the grade 9 and college female-female groups related the conversational topics to personal interests and intimate feelings much more than the male-male groups did. Talk which is more personal and intimate is probably more likely to elicit listener responses than superficial talk. The second reason for differences in quality of conversation may be due to the artificial nature of the

conversational setting. It is unlikely that male-male conversation is generally unnatural and stilted, and more likely that the experimental situation some how effected male interaction differently than it effected female interaction. That is, the finding in the present study that females produce more back channels may be related to the nature of the task setting, which effected conversational intimacy differently for males and females.

In summary then, at least in structured dyadic conversation between middle class participants it does look as if females are more responsive than males. It also seems that different contexts and situations influence the degree of sex differences found. More research needs to explore the conditions under which these differences exist, and possible reasons why.

Summary

As Dittmann mentions, listener responses serve two functions, one for the benefit of the speaker and the other for the listener's benefit. Listener responses let speakers know that auditors are interested in what they are saying, are keeping up with them and understand what is being said. Through the use of such cues, speakers can provide more comprehensible information to listeners. Acquiring this skill is very important in aiding

communication, and that children begin to develop it before nine years of age emphasizes this.

We know that listener responsiveness begins to develop very early and continues to at least adulthood. We also know that females tend to be more responsive at later ages. However, many more research questions need to be explored. For instance, how are back channel cues and sex differences in their use learned? It is quite possible that individuals learn to use back channel cues and even sex-associated uses of these cues by modeling adult behaviors. These behaviors, then, would be based upon socialization techniques. That is, women are socialized and rewarded for being responsive and supportive, whereas men are less so. However, as was already mentioned, too much emphasis is probably being placed on tying these results to a power differential between men and women, and not enough on exploring other possible reasons for these differences. More attention also needs to be paid to possible implications of such results. For instance, individuals who provide more listener feedback may well encode the information better, and as a result understand what is being said better. If this is the case then females probably understand what males say better than males understand what females say. If such implications are true then helping males provide

more listener feedback may facilitate communication between males and females.

Some other possible research interests are the following: Can individual differences in responsiveness be explained through adult behavior models or through personality variables? Since children provide fewer listener responses than adults, does this imply that children and adults process the speech they hear differently? Is responsiveness related to perspective-taking skills? Are children who are concerned about being liked more likely to use back channel cues? Does young children's tendency to be socially responsive predict their later use of response cues?

Dittmann mentions some specific issues with which researchers need to be concerned. These include whether the listener's conversational partner is of the same sex, of the same age or younger or older, a stranger or a friend, someone they like or dislike, someone of the same social background and so on. Attention also should be paid to the topic of talk, the spatial arrangement, the response pull, etc. So while we know something about the development and sex-typed use of listener responses, there are still many questions that need to be answered through careful study.

The interruption measure

To summarize the findings for the interruption measure, the three age groups used similar frequencies of interruptions, as did the three dyad types. Females interrupted females more than they did males, and males interrupted females as often as they interrupted males. Females and males interrupted one another to similar degrees in crossed-sex interactions. And interruption behavior was similar in all interaction groups, except for the grade 9 female-female dyads who used more interruptions than the grade 9 male-male dyads.

The developmental findings

As was mentioned in the introduction, there is a scarcity of research on the development of interruption behavior. We do know that preschoolers understand rules of turn-taking (Garvey and Berninger, 1981), and are skilled at interruption when conversing with peers (Esposito, 1979; Peterson, 1986) and with parents (Greif, 1980; West and Zimmerman, 1977). Children as young as three and four years of age also know that interruption is a sign of poor conversation management (Peterson, 1986). That is, children are taught early not to interrupt their conversational partner. It was hypothesized that as children grew older and as this interaction rule became

deeply ingrained into their conversational repertoire, that the frequency of interruption of a conversational partner would decrease. However, the frequency of interruptions remained relatively stable over the time period studied. On average there were approximately 28.69 interruptions per twenty minute conversation, or 1.43 interruptions per minute. It may well be that this is the level of interruption which can be engaged in without hampering communication. This acceptable level of interruption in dyadic conversation then, is learned at a very early age (i.e., before the child is nine years old). Whether preschoolers produce similar frequencies of interruption in dyadic conversation, or whether it is during the early primary school years that children learn what this acceptable level is, will have to be determined in future studies. However, it is quite obvious that the adult pattern of interruption frequency in dyadic conversation is developed very early. One would also expect that, since interruption frequency in dyadic conversation appears to remain stable for the first twenty years of life, it also remains unchanged during the rest of the adult's development. However, this is a question for future research.

All four interruption measures were used by the three age groups. That they were used by the grade 4s implies that simple, overlap, butting-in and silent interruption

all begin to develop before 9 years of age. Simple, butting-in and silent interruption were also found to have no significant relationship with age (refer to the age of dyad results for the individual interruption measures in the Results section). This indicates that these measures reached the adult usage level by the time the child was 9 years old. Recall that overlap interruption was a marginally significant contributor to the age of dyad effect. That is, overlap interruption increased by a small degree with age.

Children then, use interruptions as frequently as adults do, and, as well, use the same forms of interruption as adults do. Thus, children learn to inhibit interruption very early in their communicative development, i.e., they learn that there are constraints on usage.

Overall, silent interruption was the most frequently used form of interruption, butting-in interruption was the next, then overlap interruption, with simple interruption being used least often. Silent interruption was used almost three times more than simple interruption. And this pattern was generally true of all three age groups. Ferguson (1977) and Beattie (1981), however, found that overlap interruption was the most common form of interruption, with simple, butting-in, and silent interruption coming in second, third and fourth,

respectively. In Beattie's sample overlap interruption was more than four times as common as silent interruption, the least common kind. Beattie used a college population who were engaged in group discussion, and Ferguson used college females who were engaged in dyadic conversation. However, the overall pattern found in the present study was also true of the college population used. It is possible then, that different types of interruption have different functions in different situations. Exactly what situations produce differential use of interruption is in need of research.

The sex difference findings

The frequency of interruption in male-male, female-female, and male-female dyads was also found to be very similar. That is, no matter what the dyad composition of the group, the total number of interruptions produced was on average one and a half interruptions per minute. This finding is consistent with a few studies. Trimboli and Walker (1984) found that sex composition had no effect on the number of interruptions. Natale, Entin, and Jaffe (1979) found that sex composition was not a significant predictor of total number of interruptions, number of successful interruptions, percentage of successful interruptions, and mean duration of interruptions. Some studies examining same-sex dyads have also found that men

do not interrupt men more than women interrupt women (Rogers and Jones, 1975; Roger and Schumacher; 1983, and LaFrance, 1981), which is consistent with the present finding.

Interruption behavior was similar in all the interaction groups, except for the female-female grade 9s who used more interruption than the male-male grade 9s. This probably had to do with the different quality of conversations between the female-female and male-male dyads. As was mentioned previously, same-sex grade 9 male conversations were much more artificial and unnatural than same-sex grade 9 female conversations. This probably is the result of differences in the quality of friendship between the two groups, or, even more likely, an artifact of the research design. Because of their more intimate and personal discussions females may feel freer to interrupt than males do, or, alternatively, increased enthusiasm in a discussion may simply lead to increased levels of interruption as well. And recall from the introduction that some interruptions have been found to express joint enthusiasm or a positive state of excitement (Natale, Entin and Jaffe, 1979).

Some studies (e.g., Zimmerman and West, 1975) have found interruption to be initiated very rarely in same-sex conversations. Other studies (e.g., Dindia, 1987) find many more interruptions in crossed-sex interaction than

same-sex interaction. And at least one researcher has concluded that men and women rarely interrupt a partner of the same sex, but that interruptions tend to occur between two people in unequal but contested relationships (McCarrick, Manderscheid, and Silbergeld, 1981). However, different situations seem to give different results. For instance, the three all-female tutorial groups in Beattie's (1981) study did not differ significantly from the other seven mixed-sex groups in terms of interruption. As has been said, the present study also found the frequency of interruption in same-sex interaction to be similar to that in crossed-sex interaction. And 1.43 interruptions per minute in same-sex interaction is not considered infrequent interruption. That is, in this sample, men frequently interrupt one another, as do women.

While this accepted level of interruption might be maintained in conversation this does not mean that both parties contribute an equal number of interruptions. For instance, the majority of studies (e.g., Zimmerman and West, 1975) report symmetrical distributions of interruption in same-sex interaction, and asymmetrical distributions in crossed-sex interaction. The present study did not examine the distribution of interruptions in same-sex interaction, but did so with the crossed-sex interactions. Recall that most studies (e.g., Zimmerman and West, 1975) find that in crossed-sex interaction males

interrupt females much more than females interrupt males. And this has been found to occur in both preschool (Esposito, 1979, Peterson, 1986), and adult (e.g., Zimmerman and West, 1975) conversation. It has also been concluded that children learn this sex-associated use of interruptions from a very early age while they are learning other conversational skills (Esposito, 1979; Peterson, 1986). If the males in the present sample believed that females were more interruptable than males, then the males in the male-female dyads should have produced the majority of interruptions. And the males in the crossed-sex dyads should have also produced many more interruptions than the males in the same-sex dyads. However, females interrupted males as often as males interrupted females in crossed-sex interaction. And males did not interrupt females any more than they interrupted males. That is, males did not treat females any differently than they treated males. This indicates then that, at least in the present sample, males do not feel that females are any more interruptable than males, or that what women have to say is less important than what men have to say. That is, males were not using interruption to maintain a status differential as previous studies have concluded. This is consistent with recent studies finding symmetry in opposite-sex interactions (Kennedy and Camden, 1983).

It was the females, however, who seemed to believe that females were more interruptable than males. That is, females were more likely to interrupt a female partner than a male partner. Females have been found to treat males differently than males treat females in other situations too. For instance, in Connor-Linton's (1987) study of an adolescent discussion group, females were found to address five times more turns to males than to other females. However, males selected male and female addressees equally. There may be many reasons for this differential treatment by females which the present study and other studies have found. Maybe females are more concerned with making a good impression when they are with males than when they are with females, and thus interrupt less. That is, maybe they do not want males to think they are aggressive and domineering. Or maybe they have come to learn that they get 'punished' less when they interrupt a female than when they interrupt a male (e.g., interrupting a male too often may result in the ending of conversation). Or maybe it is the differences in friendship quality again. Although both males and females were paired with friends, female-female friendships may be different from male-female friendships, and this in turn would affect their conversations. For instance, the heterogeneous sex composition of a group has been found to have an inhibiting effect on dyadic communication (Benney,

Reisman and Starr, 1956). The way in which members of a dyad converse is affected by the degree of intimacy between the members of the dyad (Hornstein, 1985). Another possible reason for the females' differential treatment may be because women may feel more comfortable conversing with females than they do with males, and thus feel less intimidated to engage in interruption. There are therefore, many possible reasons why females treat males differently with regards to interruption. Before we can tie this finding into any micropolitical connections much more research needs to be done.

One would assume that, if children were learning the sex-associated use of interruption from a very early age, men would interrupt women more than boys interrupt girls. However, this was not what was found in the present sample. Examining the crossed-sex interactions, in grade 4 the males interrupted the females on average 13.6 times whereas the females interrupted the males 9.8 times. In grade 9, the males interrupted on average 10.8 times whereas the females interrupted 10.5 times. And in the college group, the males interrupted the females on average 12.4 times, whereas the females interrupted the males 15.5 times. All the differences were nonsignificant. It would seem that there may be much more occuring in crossed-sex interaction than the previous studies would have one believe. That is, the conclusion

that males routinely interrupt females does not appear to hold true for every situation, context, or subject sample.

It has also been maintained by some researchers that females may attempt more unsuccessful interruptions than males, and that males may make more successful interruptions. Butting-in interruption was the only unsuccessful interruption scored in the present study, whereas the other three, simple, overlap and silent, were considered successful interruptions. Overall, males and females used similar frequencies of butting-in interruption; a total of 416 for the males and 422 for the females. None of the differences between males and females in their use of either simple interruption, silent interruption or overlap interruption were significant. Therefore, it appears that males and females engage in successful and unsuccessful interruption to similar degrees.

Thus, the most striking finding from this study is that, at least for this subject sample, sex does not appear to predict who will interrupt more in a mixed-sex dyad. That is, there was no difference in interruption behavior between males and females in crossed-sex interaction. While this contradicts the majority of studies in this area the present findings are, however, consistent with other studies. For instance, Beattie (1981) found no sex differences in either the type or the

frequency of interruption used in his examination of tutorial discussion groups. However, status appeared to have a significant effect. That is, the high status individuals in the discussion groups (i.e., the tutors) were interrupted significantly more often than they interrupted. Beattie felt that the reason why no sex differences were found was because females were interrupting more than they had in previous studies (i.e., the West and Zimmerman studies), and therefore were interrupting as frequently as men. He concluded that "when the social context demands that interactants make a good impression (for example, in tutorials), women can and do use interruption as frequently as men" (Beattie, 1981; 31). That is, "women certainly seem to possess the interactional competence to engage in interruption as frequently and as effectively as men do." (Beattie, 1981, 33). LaFrance (1981) also found no sex differences for interruptions, but she believed that the lack of findings was because of the short period of interaction used. LaFrance recorded conversation for seven minutes, and only examined the middle three minutes. The present study, however, used the complete twenty minutes of interaction. A recent study by Dindia (1987) also found that women did not get interrupted more than men, and that men did not interrupt more than women. And recall that white, middle class, adolescent females were found to interrupt males

four to one in the discussion context that Connor-Linton (1987) examined. This last study also found that the males' main concerns were issues of social approval and acceptance, as well as domain of negotiation, whereas the females were much more concerned with actual competition for the floor.

Other studies have produced results that contrast with some of Zimmerman and West's conclusions. For instance, women do not always give up their speaking turn, become silent when interrupted or passively let men interrupt them, but sometimes compete with men in cross-sex interactions (Scheel, 1979; Ober, 1978). McCarrick, Manderscheid and Silbergeld (1981) found women to interrupt the interrupter. Dindia (1987) found that women did not have less assertive behaviors interrupted; they did not respond less assertively to interruptions, nor did they interrupt less assertively. And in Leet-Pellegrini's (1980) study, being a male in mixed-sex conversation was insufficient to activate a show of dominance. It was the interaction of expertise and sex that brought about the sex effect. Markel et al. feel that the belief that the female communicator (the young female undergraduate anyway) is passive and subordinate warrants rethinking. They also found no evidence that males used any of the communication behaviors they investigated to "lessen the communication role of another" more than do females

(Markel et al., 1976: 363). This contradicts past research which showed males as generally more dominant than females in mixed-sex interactions. They do suggest that perhaps different tasks contribute to the different findings. That is, they feel it may be that females dominate socioemotional tasks, such as the one used in their study, but limit their involvement in more formally structured tasks. So there may be many situational factors which cause asymmetry in conversation. For instance, it has also been found that the dyad member who has the strongest opinion for the topic of discussion will hold the floor more (Carment, 1961). Differences between studies then, (i.e., different situations, contexts, topics of discussion, subject samples, etc.) appear to be producing different results. Therefore, it is possible that "sex differences in the violation of the turn-taking system are not a universal feature of conversation" (Beattie, 1981; 33).

There are two possible reasons why the present study found different results from the majority of past studies. One is differences in the present study compared to the other studies, and the second is possible problems in the present study itself. The largest difference between this study and the majority of other studies is the definition of interruption used. Beattie has been the only other researcher to date to have used Ferguson's method of

scoring for interruption (he used a slightly modified form, however). Many (e.g., Esposito, 1979) have used the original Zimmerman and West (1975) definition of interruption. They defined interruptions as "penetrating the boundaries of a unit-type prior to the last lexical constituent that could define a possible terminal boundary of a unit-type" (Zimmerman and West, 1975; 114). Others have used related definitions, such as the viewing of interruptions as the occurrence of simultaneous speech, where the interruption is assigned to the participant who initiated the speech while not possessing the conversational floor (Jaffe and Feldstein, 1970; Meltzer, Morris and Hayes, 1971). Recall that some researchers believe that using an overall interruption score is problematic because interruptions most likely serve a number of functions. Some types of interruption may be related to dominance. For example, Ferguson found total interruptions (the sum of all interruption categories in the present study) were unrelated to dominance while overlap interruption and silent interruption were. The females who used the majority of overlap interruptions rated themselves as highly dominant. And those females who used silent interruptions frequently were usually ranked low in dominance by the main subject (the subject who participated in all recording sessions). Other functions served by interruption include joint enthusiasm,

social approval, discomfort, and heightened involvement. Does this mean then that when Zimmerman and West found males overwhelmingly interrupting females that some of those interruptions may have been due to other factors such as heightened involvement? Perhaps. Beattie mentions that the definition of interruption that Zimmerman and West used corresponds most closely with the category 'simple interruption'. Interestingly, simple interruption did not distinguish male and female interactants in the present study or in Beattie's study. It would seem then, that one can not continue to make micropolitical statements until the specific functions of the different types of interruption used by males and females are examined more closely. And it may also be that the types of interruptions used by males and females vary from situation to situation. Therefore, future research needs to utilize some type of classification system in its work on interruption behavior in many different situations, contexts, subject samples, etc. The present study chose to use Ferguson's classification system in an attempt to obtain higher reliability than had been previously obtained in our lab. However, it has since come to my attention that more comprehensive and easier to use classification systems for interruption are now available (e.g., Roger, Bull and Smith, 1988) and, therefore, should be used in upcoming research.

Another main difference between the present study and studies which find sex differences is in the type of statistical analysis used. Dindia (1987), who also found no sex differences in interruption behavior in cross-sex interaction, feels that "the conclusion that there are sex differences in interruption behavior is based on empirical evidence that employs faulty statistical analysis" (345). She believes that these studies have put the data from all members in a group or from both members in a dyad into the same analysis, and then analyzed the data with methods that assume independent observations. "If the correlation between dyadic partners is ignored, incorrect statements may be made regarding the significance of the findings (Kraemer and Jacklin, 1979). Specifically, when the correlation between partners is positive, the statistical test is too liberal and a researcher may conclude that an effect is significant when it is not. When the correlation is negative, the test is too conservative and a researcher may conclude that the results are not significant when they are (Kenny and Judd, 1986)" (346). Dindia also complains that these studies ignore the effect of sex of partner and the interaction of sex of subject and sex of partner, while only testing for the effect of sex of subject. When a significant effect is found it may be the result of the sex of partner or the interaction, but Dindia maintains that studies attribute it to sex of

subject. And she also feels that nonsignificant results are interpreted as no sex differences when significant partner or interaction effects may exist.

Dindia provides the example of Kennedy and Camden (1983), who found no significant differences in the number of male-female and female-male interruptions in crossed-sex interaction. However, Dindia maintains that the assumption of independent observations was violated and they may have incorrectly found nonsignificance. In the Zimmerman and West (1975) and the West (1979) studies no statistical tests were employed. Dindia feels that "we do not know if it is the sex of subject (males interrupt more than females), sex of partner (females get interrupted more than males), or an interaction of the two (males interrupt females more than females interrupt males) that caused the more male-female than female-male interruptions" (348). Therefore, since the present study controlled for such factors and, according to Dindia, many previous studies have not, this is a possible explanation for the differing results.

Other possible reasons for the contrasting results may involve the different factors such as different contexts in which studies were conducted. For instance, recall that Leet-Pellegrini (1980) found that the idea of conversational competitiveness between men was supported by certain findings. However, other findings indicated

that a female show of dominance can either be depressed or enhanced by a shift in context. Other factors such as how the dyad members were seated, for instance, can influence the results. In the present study dyad members were seated adjacent to one another in order to reduce competitiveness; however, many studies like Zimmerman and West (1975) do not mention what their seating arrangements were.

There are many other differences between the present study and studies like the Zimmerman and West studies. For instance, Zimmerman and West used a variety of social contexts (i.e., public places and private residences), whereas this study used a laboratory setting. In the study in which a laboratory context was used (i.e., West and Zimmerman, 1983), the situations are still not comparable since they used unacquainted subjects and the present study used friends. Relationships in the earlier study (Zimmerman and West, 1975) varied from intimacy to first-time acquaintanceship, and the topics of conversations also varied. The number of dyad types used and the number of interruptions found are small compared to the present study. For instance, in their first study Zimmerman and West (1975) found only a total of 29 interruptions and overlaps for the 20 same-sex conversations, and 57 for the crossed-sex interactions, for a total of 86 interruptions. And in their 1983 study

of five parent-child interactions, Zimmerman and West found only a total of 14 interruptions. This compares to the 2582 occurrences of interruption examined in the present study. It is possible that small numbers of interruption are not representative of the population.

Other reasons for the nonsignificant findings in the present study may be because of problems in the study itself. One of these relates to sample size. Overall there were ninety dyads, but only ten dyads per group, and therefore the results may be nonrepresentative. The laboratory setting may have been too unnatural and thus may have affected the subjects' conversational behavior. It may have been the case that they were conscious of the tape recorder and therefore were very careful of how they acted and what they said. However, other studies have used the laboratory setting and still found sex differences (e.g., West and Zimmerman, 1983), while others have used natural settings and have found no sex differences (e.g., Beattie, 1981). It is also possible that the sex of the experimenter also played a part. All participants knew that I would be listening to their conversations, and it may be the case that the males tried to make a good impression.

Summary

In summary then, Zimmerman and West have interpreted their results in terms of power relationships between men and women. They have suggested that "repeated interruption by one's conversational partner might be not only a consequence of one's lesser status but may also be a way of establishing and maintaining that status differential" (1977; 103). They feel that males dominate both in macro-institutions in society and in at least one type of micro-institution, the conversation. However, one thing that seems obvious from the above discussion is that such findings and conclusions are not as pervasive as West and Zimmerman believe them to be. Future research then, has to examine and try to understand why some of the research literature supports the notion that males are much more dominant and assertive communicators in our society than are females, and why some research does not.

Results - Personality Measures

In order to analyze the relationship between the conversational measures and the personality measures, individual scores rather than dyad scores were used.[6]

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2 The analyses on the individual scores for the dominance measure involved a nonparametric test.

Dominance measure

For each subject, the nine back channel measures and four interruption measures, as well as the totals for both the back channel and interruption measures of the 120 grade 9 and college participants, were compared with his or her score on the dominance test. The two-tailed Spearman Rank Order Correlation Coefficient (r_s) test revealed that overall (i.e., both age groups) only the silent interruption measure was significantly correlated with dominance, $r_s = .19$, $p = .04$, $N = 120$. That is, when the two age groups were combined, the more dominant participants used more silent interruptions. Examining each age group separately, it was basically the grade 9 students' behavior, rather than the college students' behavior, which contributed to this overall effect. Silent interruption was found to be correlated with dominance in the grade 9 sample, $r_s = .34$, $p = .01$, $N = 60$. However, while Silent interruption was not related to dominance in the total college sample, it was marginally significant for the males in this age group, $r_s = -.35$, $p = .06$, $N = 30$. Examining the grade 9s even further, none of the 15 conversational measures were related to dominance in the male sample, whereas silent interruption was significantly related to dominance in the female sample, $r_s = .51$, $p = .01$, $N = 30$. That is, the more dominant a grade 9 female, the more she used silent

interruption. Therefore, it was the grade 9 females who contributed the most to the overall effect (note 18.1% of the variance).

The findings from the combined sample give the impression that there are no other substantial relationships between conversational behavior and dominance. However, quite a different picture emerges when the age groups are looked at separately. Simple interruption was not related to dominance at all in the combined sample; however, it was highly related to dominance in each age group, but in opposite directions. In the grade 9 sample there was a highly significant positive correlation, $r_s = .33$, $p = .01$, $N = 60$, while in the college group the correlation was negative, $r_s = -.31$, $p = .01$, $N = 60$. That is, the more dominant grade 9 students were, the more they produced simple interruptions, whereas the less dominant college students were, the more they produced this type of interruption. The female sample was responsible for the college effect, $r_s = -.43$, $p = .02$, $N = 30$. However, neither the male nor female group was solely responsible for the relationship between dominance and simple interruption in the grade 9s.

There was a marginally significant relationship between requests for clarification and dominance in the college sample, $r_s = .23$, $p = .08$, $N = 60$. This effect was due entirely to the males in this age group, $r_s = .47$,

$p = .01$, $N = 30$. The request for clarification measure was also marginally significant in the grade 9 sample, $r_s = .23$, $p = .07$, $N = 60$. Neither the male nor female grade 9 samples showed this relationship when looked at separately. And when the two age groups were combined, the relationship between requests for clarification and dominance disappeared.

The only other effect found in the college group was in the males' use of the elicited brief back channel measure, $r_s = -.28$, $p = .13$, $N = 30$. While this correlation was nonsignificant, a subsequent multiple regression analysis revealed elicited brief back channel to be a predictor of dominance. The more dominant the male college students were, the fewer elicited brief back channels they produced.

A couple of significant correlations appeared in the grade 9 sample which did not show up in the college sample; overlap interruption, $r_s = .26$, $p = .04$, $N = 60$, and total interruption, $r_s = .32$, $p = .01$, $N = 60$, were found to be related to dominance. The butting-in interruption measure was also marginally significant, $r_s = .23$, $p = .07$, $N = 60$, as was the brief restatement measure, $r_s = .23$, $p = .07$, $N = 60$. When the grade 9 male and grade 9 female subgroups were examined separately, neither one of these three measures remained significantly related to dominance. And when the grade 9 and college

samples were combined these relationships also disappeared.

In summary then, the males' interruption behavior, in both age groups, was not significantly related to dominance. Silent interruption was marginally significant in the male college sample, with the more dominant males using less silent interruption. Only one back channel, requests for clarification, was significantly related to dominance, and this was in the male college sample, with the more dominant males using more requests for clarification. The females' interruption behavior, however, was much more related to dominance. The more dominant female college students were, the fewer simple interruptions they used, whereas the more dominant grade 9 females were, the more silent interruptions they used. And none of the back channels were related to dominance in either the grade 9 or college female groups. Therefore, only one back channel, requests for clarification, had any significant relationship with dominance. And only simple and silent interruptions had strong relationships with this personality measure.

Sex-role measure[7]

A stepwise multiple regression analysis was performed on the back channel measures and interruption measures, separately. An overall regression analysis involving both age groups was unable to reveal what was happening at the lower levels (e.g., grade 9 males). This was because both age groups were behaving very differently with regards to both back channel and interruption behavior. Each age group then, was subjected to a separate regression analysis, as was each male and female subsample.

Back channel analysis

The regression analysis was used to evaluate the contribution of the subject's masculinity, the subject's femininity, the partner's masculinity, the partner's femininity, the sex of the subject and the sex of the partner (predictors) to the use of the following back channel behaviors (dependent variables): brief back channel, elicited brief back channel, embedded request for clarification, sentence completion, brief restatement, auditor laughter, request for clarification, multiple back channel and total back channel.

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[7] The grade 9 and college students were classified as either masculine, feminine or androgynous. In the present sample there were 56 masculine individuals, 21 feminine individuals, and 43 androgynous individuals.

Grade 9 sample :

Refer to Table 7 for an outline of the predictors for each of the back channel cues, along with the corresponding p value from the F-test, and the percentage of variance accounted for by each predictor.

Sex of subject was a significant predictor for the grade 9 use of brief back channel [$F(1,58) = 5.41$; $p = .02$], embedded request for clarification [$F(1,58) = 8.44$; $p = .01$], multiple back channel [$F(1,58) = 13.00$; $p = .0006$], and total back channel [$F(1,58) = 5.86$; $p = .02$]. The females produced on average more brief back channels (Females: M = 24.37; Males: M = 14.83), more embedded request for clarification (Females: M = 0.50; Males: M = 0.07), more multiple back channels (Females: M = 1.70; Males M = 0.47), and more total back channels (Females: M = 35.17; Males: M = 23.80) per dyad than the males. The partner's femininity also predicted multiple back channels for the male subsample [$F(1,28) = 8.13$; $p = .01$]. The more feminine the males' partners were, the fewer multiple back channels the males produced. None of the variables predicted the female use of multiple back channels. The subject's masculinity score predicted the females' use of the total back channel variable [$F(1,28) = 6.84$; $p = .01$]. The more masculine the females were, the fewer total back channels they produced. None of the variables, however, predicted the males' use of total back channels.

Sex of partner was a significant predictor for the use of sentence completions in the overall sample [$F(1,58) = 6.86$; $p = .01$]; however, this effect was the result of only the male behavior [$F(1,28) = 4.36$, $p = .05$]. Males completed more sentences for their female partners than their male partners (Females: M = 1.80; Males: M = 0.80). The subject's femininity predicted the females' use of sentence completions [$F(1,28) = 4.47$; $p = .04$]. The more feminine the females were, the more sentence completions they used.

None of the independent variables predicted the use of elicited brief back channels, auditor laughter, or requests for clarification for the grade 9s overall, or for the male and female subsamples.

College sample :

Refer to Table 8 for an outline of the predictors for each of the back channels cues, along with the corresponding p value from the F-test, and the percentage of variance accounted for by each predictor.

Sex of subject predicted the use of elicited brief back channel [$F(2,57) = 5.59$; $p = .01$] and total back channel [$F(1,58) = 4.08$; $p = .05$]. The females produced more elicited brief back channels (Females: M = 40.87; Males: M = 29.87), and more total back channels (Females: M = 2.83; Males: M = 1.60) on average than the males. The

partner's masculinity [F(1,58) = 4.54; p = .02] also predicted the college students' use of elicited brief back channels. Only the male subsample, however, contributed to this effect [F(1,28) = 6.44; p = .02]. The more masculine the males' partners were, the more elicited brief back channels the males produced. Or, in other words, the more masculine the partners, the more that speakers demanded confirmation of what they were saying by such explicit pulls as "right?"

While none of the variables predicted the use of brief back channels in the combined college sample, or in the male subsample, the partner's femininity did predict the use of this variable in the females [F(1,28) = 4.95; p = .03]. The more feminine the females' partners were, the more the females produced brief back channels.

The subject's masculinity predicted the use of embedded requests for clarification in the overall college sample [F(1,58) = 5.15, p = .03]. The female behavior, however, was the only contributor to this effect [F(1,28) = 8.29; p = .01]. The subject's femininity also predicted the female's use of embedded requests for clarification [F(2,27) = 7.02; p = .004]. That is, the less masculine and more feminine the females were, the more embedded requests for clarification they produced. None of the variables predicted the males' use of embedded requests for clarification.

The subjects' masculinity also predicted the use of brief restatement in the college sample [$F(1,58) = 4.44$; $p = .04$]. This effect was due totally to the male behavior [$F(1,28) = 4.65$; $p = .04$]. The less masculine the males were, the more they used brief restatements. None of the variables predicted the use of brief restatement by the females.

The partner's masculinity predicted the use of request for clarification in the combined college sample [$F(1,58) = 4.49$; $p = .04$]; however, neither the male nor the female subsample showed this effect. The more masculine the college students' partners were, the more requests for clarification they produced. None of the variables predicted the use of requests for clarification for the males. And only sex of partner did so for the females [$F(1,28) = 4.96$; $p = .03$]. The females asked for more requests for clarification (RCs) from their male partners than their female partners (RCs Females Made to Males: $M = 4.70$; RCs Females Made to Females: $M = 1.75$).

None of the independent variables predicted the use of sentence completion, auditor laughter, or multiple back channels for the college sample overall, or for the male and female subsamples.

Summary

To summarize the findings for the back channel measure in the grade 9 group, it was found that the grade 9 females used more brief back channels, embedded requests for clarification, multiple back channels, and total back channels than the grade 9 males. The more masculine the grade 9 females were, the fewer total back channels they produced, and the more feminine they were, the more sentence completions they used. And the more feminine their partners were, the fewer multiple back channels the males produced. Grade 9 males also completed more sentences for their female partners than their male partners.

Sex of subject and sex of partner then, accounted for the majority of significant predictors of back channel behavior in the grade 9 group.

The college females used more elicited brief back channels and total back chanhels than the college males. The more masculine the college students' partners were, the more requests for clarification they produced. The females requested more clarification from their male partners than from their female partners. And the less masculine and more feminine the females were, the more embedded requests for clarification they produced. The more feminine the college females' partners were, the more the females produced brief back channels. The more

masculine the males' partners were, the more elicited brief back channels the males produced. And the less masculine the males were themselves, the more they used brief restatement.

Therefore, the subject's and partner's masculinity, as well as the sex of the subject, seem to be the major predictors of the college students' back channel behavior. None of the independent variables predicted the same back channel cues in both age groups, except sex of subject which predicted total back channel in both grade 9 and college. It is therefore obvious that very different things are happening in the two age groups. That is, the personality factors which influence the use of back channel cues at fourteen are not the same factors which predict back channel behavior at college age.

Interruption analysis

A stepwise multiple regression analysis was also used to evaluate the contribution of the subject's masculinity, the subject's femininity, the partner's masculinity, the partner's femininity, the sex of the subject and the sex of the partner (predictors) to the use of the following interruption behaviors (dependent variables): simple interruption, overlap interruption, butting-in interruption, silent interruption, and total interruption.

Grade 9 sample :

Refer to Table 9 for an outline of the predictors for each of the interruption measures, along with the corresponding p value from the F-test and the percentage of variance accounted for by each predictor.

Sex of subject predicted the use of simple interruption in the grade 9 sample [$F(2,57) = 13.16$, $p = .000$]. More females than males (Females: M = 2.87; Males: M = 0.90) produced simple interruption. Sex of partner predicted simple interruption behavior in both the male [$F(1,28) = 5.23$; $p = .03$] and female [$F(1,28) = 7.42$; $p = .01$] subsamples. Both males (Females: M = 1.60; Males: M = 0.55) and females (Females: M = 3.75; Males: M = 1.10) were more likely to use simple interruption when their partner was female than when their partner was male.

Sex of subject also predicted the use of overlap interruption [$F(1,58) = 4.66$, $p = .04$]. Females produced more overlap interruption than males did (Females: M = 2.77; Males: M = 1.67). While none of the variables predicted the males' use of overlap interruption, the partner's masculinity [$F(1,28) = 4.75$; $p = .04$] and femininity [$F(3,26) = 5.56$; $p = .004$ variance], as well as the sex of the partner [$F(2,27) = 4.90$; $p = .02$], predicted the females' use of overlap interruption. The more masculine and the less feminine the females' partners were, the more overlap interruption the females produced.

And females also used more overlap interruption when they were conversing with a female partner (Females: M = 3.15; Males: M = 2.00).

Only sex of partner predicted the use of butting-in interruption in the overall sample [F(1,58) = 6.70; p = .01]. Grade 9 students used more butting-in interruption when they conversed with a female partner than a male partner (Females: M = 5.10; Males: M = 2.50).

Sex of partner predicted only the females' use of silent interruption [F(2,27) = 6.42; p = .01]. The females used more of this interruption when their partners were female than when they were male (Females: M = 7.95; Males: M = 4.20).

Sex of subject predicted the use of total interruption (sum of all interruption categories) in the grade 9s [F(2,57) = 8.12; p = .001]. Females used more interruptions overall than males (Females: M = 17.40; Males: M = 9.43). The sex of the subject's partner also predicted the use of total interruption [F(1,58) = 10.35; p = .002]. This effect was due to the female subsample [F(1,28) = 6.86; p = .01]. Females used more interruption when their partner was female than when their partner was male (Female: M = 20.85; Male: M = 10.50). None of the variables predicted the use of total interruption in the male subsample.

College sample :

Refer to Table 10 for an outline of the predictors for each of the interruption measures, along with the corresponding p value from the F-test, and the percentage of variance accounted for by each predictor.

None of the variables predicted simple interruption behavior in the total college sample, or in the male subsample. However, the subject's femininity [$F(1,28) = 7.24$; $p = .01$], subject's masculinity [$F(2,27) = 7.99$; $p = .002$] and the partner's masculinity [$F(3,26) = 7.90$; $p = .001$] predicted the use of simple interruption in the female subsample. The more feminine and less masculine the females were, and the less masculine their partners were, the more they used simple interruption.

None of the variables predicted overlap interruption behavior for either the total college sample or the male subsample. The partner's masculinity was, however, a significant predictor of the females' use of overlap interruption [$F(1,28) = 8.11$; $p = .01$]. The more masculine the females' partners were, the less the females overlapped them.

The partner's femininity predicted butting-in interruption for the college sample [$F(1,58) = 8.34$; $p = .01$]; however, this was only the result of the males' behavior [$F(1,28) = 9.23$; $p = .01$]. Besides the partner's femininity, the partner's masculinity predicted butting-in

interruption in the male sample [F(2,27) = 8.11; p = .002]. The more masculine and the more feminine the males' partners were (i.e., androgynous), the more the males butted in. In the female subsample, the subject's femininity predicted their use of butting-in interruptions [F(1,28) = 6.07; p = .02]. The more feminine the females were, the more they used this interruption.

None of the variables predicted the use of silent interruption in either the overall sample or in the female subsample. However, the subject's femininity [F(1,28) = 5.05; p = .03] and the sex of the partner [F(2,27) = 6.54; p = .01] predicted the males' use of silent interruption. The more feminine the males were, the more they used silent interruption. And males used more silent interruption when they conversed with a male partner than a female partner (Males: M = 6.70; Females: M = 4.80).

The partner's femininity predicted total interruption behavior in the college group overall [F(1,58) = 5.83; p = .02], but did not in either the male or female subsample. That is, the more feminine the college students' partners were, the more they interrupted. Only the subject's femininity predicted the females' use of total interruption [F(1,28) = 5.829; p = .023]. The more feminine the females were, the more they used total interruption. None of the variables predicted total interruption behavior in the male subsample.

Summary

The grade 9 students used more butting-in interruption when they conversed with a female partner than a male partner. The grade 9 females produced more simple interruption, more overlap interruption, and more interruptions overall than the grade 9 males. These females used more simple interruption and more overlap interruption when they were conversing with a female partner than a male partner. The more masculine and less feminine the females' partners were, the more overlap interruption the females produced. None of the independent variables predicted the grade 9 males' interruption behavior.

Sex of subject and sex of partner then, played the major roles in predicting the interruption behavior in the grade 9s. However, these variables mostly predicted the females' interruption behavior.

To summarize the findings for the college sample, the more feminine the college students' partners were, the more they interrupted. The more feminine the college females were, the more they used butting-in interruption and total interruption. The more feminine and the less masculine the females were, and the less masculine their partners were, the more they used simple interruption. And the more masculine the females' partners were, the less the females overlapped them. The more feminine the

college males were, the more they used silent interruption. The males also used more silent interruption when they conversed with a male partner than a female partner. And the more masculine and the more feminine the males' partners were, the more the males butted-in.

Sex of subject then, played no role in predicting the interruption behavior of the college students. Generally, the partner's femininity and the partner's masculinity, as well as the subject's femininity were the best predictors of the college students' interruption behavior.

Thus, both back channel and interruption behavior in the grade 9 sample can generally be predicted by either the sex of the subject or the sex of the partner. However, by college age, these independent variables are no longer the best predictors. The sex-role orientation of the subjects and their partners have much more of an influence on the back channel and interruption behavior of the college students.

Discussion - Personality Measures

Dominance measure

Recall that it was hypothesized that, since back channel behavior does provide a supportive function in

conversation, listener responsiveness would either be negatively related to dominance or not related to dominance at all. In the grade 9 and college samples studied here, dominance was not correlated with the total back channel measure. All individual back channel measures, except request for clarification, showed no significant relationship with dominance. The relationships between dominance and the elicited brief back channel measure and the brief restatement measure, however, were marginally significant.

Request for clarification was only significantly related to dominance in the male college sample; and it was also marginally significant in the grade 9 sample. Recall that both relationships were positive; that is, the more dominant individuals were, the more request for clarification they produced. This does not support the hypothesis. However, request for clarification appears to be different than the other types of listener response cues in that the main function of the other back channel cues (brief back channels, elicited brief back channels, sentence completions, brief restatements, auditor laughter, joint laughter, and multiple back channels) is to aid the speakers by letting them know that the auditors are listening and understand what they are saying. Requests for clarification, on the other hand, benefit auditors more than they do speakers. Instead of just

providing feedback they ask for information. The use of these cues requires listeners to stop speakers before they finish their turn in order to clarify something the speaker said. In this way they resemble interruption more than do the other back channel cues. Individuals, then, probably need to be assertive communicators in order to utilize requests for clarification; and this may be why this measure is related to dominance.

Brief restatement was also positively related to dominance in the grade 9 sample. That is, the more dominant the grade 9 students were, the more they briefly restated what their partners said. Although this finding also opposes the hypothesis, it was only marginally significant. Again, it may be the case that brief restatement is doing something different than just providing simple feedback. Brief restatement are much stronger forms of responsiveness than are uh-hums or laughing for instance. Since the college students' use of brief restatements was not related to dominance, it may be the case that the grade 9s use this measure differently than other age groups. That is, they may not be using brief restatement as a form of responsiveness at all, but as some way of controlling their partners' behavior. It was also noted during scoring that some brief restatements were hard to distinguish from actual turns. Future

research then, needs to examine more closely the differential use of this measure in different age groups.

Elicited brief back channel was the only other form of back channel which was related to dominance, although the relationship only reached marginal significance. Recall that the less dominant the male college students were, the more elicited brief back channels they produced. While the relationship is negative as was predicted, this finding only partially supports the hypothesis. The less dominant male college students were, the more they had to be prompted by their partner in order to produce brief back channels. It was assumed that the less dominant they were, the more supportive they would be on their own, without any prompting by their partner. This reasoning was based on the assumption that less dominant individuals are necessarily supportive and responsive individuals. Individuals, however, can be both low in responsiveness and dominance.

To conclude, then, due to the possibility that the request for clarification and brief restatement measures may not always be used for purely responsive functions (i.e., are not always back channels) the findings concerning these measures do not provide strong evidence against the hypothesis. Because the total back channel measure, as well as most of the different forms of back channels, were not related to dominance, there is strong

support for the hypothesis. Thus, an individual's level of dominance does not predict his or her back channel behavior.

It was hypothesized that dominance would not be related to the overall measure of interruption, but to only certain types of interruption. The present study provides much support for this hypothesis. Dominance was not found to be related to total interruption in either the college sample or the combined sample. That total interruption was not related to dominance in the college group is consistent with previous research in this area (i.e., Beattie, 1981; Ferguson, 1977). Dominance was, however, related to total interruption in the grade 9 sample. This effect did not hold true for either the male or female subsamples. It would seem then, that for the grade 9 students as a group, dominance predicts the use of total interruption. Thus, interruptions are being used for different purposes in the grade 9 and college groups.

Dominance was also related to particular forms of interruption. The strongest relationships with dominance were for simple and silent interruption in the females. The more dominant female college students were, the less simple interruption they used, whereas the more dominant grade 9 females were, the more silent interruption they used. Ferguson (1977), however, who used a female college population, found that those subjects who rated themselves

as highly dominant used more overlaps. Overlap interruption was not related to the dominance ratings of the college females used in this study. Overlap interruption was only related to dominance in the grade 9 sample. Ferguson also found a relationship between dominance and silent interruption, but the subjects' dominance levels were rated by the main subject and not by themselves. Neither butting-in interruption nor simple interruption was correlated with either of the dominance measures used in Ferguson's study. While butting-in interruption was not related to dominance for the college females used in this study, simple interruption was. The less dominant the female college students were, the more simple interruptions they used.

As for the males' interruption behavior, it was not significantly related to dominance. Only silent interruption was marginally significant in the male college sample, with the less dominant males using more silent interruption. Thus, the males appear to be using interruption for some other purpose besides dominance.

The only other significant relationship in the present study was for that of butting-in interruption, which was negatively related to dominance in the grade 9 sample. This result, however, did not hold for the male and female subsample, or for the combined age groups.

Overall, the findings provide much support for the hypothesis that dominance is related only to certain types of interruption. These findings, then, are consistent with the Beattie and Ferguson studies. However, the specific findings concerning which types of interruption are related to dominance are not consistent across studies; indeed, there are major differences between the present study and the previous studies. For instance, neither of Ferguson's two measures of dominance was the same as the dominance measure used in this study. There are also smaller differences between the studies. For instance, Ferguson's study differed in that unstructured conversation, the use of a main subject in each dyad and different seating arrangements were used.

The finding that dominance was not significantly related to the males' interruption behavior is interesting in that most studies to date maintain that males use interruption as a means of dominating their partner and controlling conversation. Recall that Zimmerman and West found that college undergraduate males produced more interruption than college undergraduate females in mixed-sex dyads. And from this they concluded that males were the dominant members in crossed-sex interaction. Beattie (1981) equated the present definition of simple interruption with Zimmerman and West's (1975) definition of interruption. In the present study, the less dominant

college students were, the more simple interruption they produced. Based on this, males should be viewed as the less dominant dyad member. However, this finding was only true of the combined male and female sample. In other words, when the male college students were considered separately, the relation between dominance and interruption disappeared. It might be the case that if the sample size had been larger (i.e., N > 30) the effect would have held for the male group alone. However, it is also possible that for males, dominance is not a significant predictor of interruption. Interruption has been found to have other functions besides dominance (e.g., heightened involvement). Some forms of interruption may also only be mistimed attempts to take the floor. Whatever the reason for males' use of interruption, it is misleading for researchers, at this time, to maintain that dominance tendencies always predict interruption behavior.

Overall, then, it would appear that the forms of interruption serve different functions for males and females, and for grade 9 and college students. This assertion is strengthened by the present finding that simple interruption was highly related to dominance in each age group, but in opposite directions. The more dominant grade 9 students were, the more they produced simple interruption, whereas the less dominant college

students were, the more simple interruption they produced. It is not the case that a type of interruption will have the same relationship with dominance in every sex and age group, or for that matter in every situation or context.

It is clear from the above discussion that the relationship between dominance and interruption is much more complex than previous studies would indicate. This relationship should not have been expected to be so simple since interruption in conversation is affected by many personality and social variables, which probably vary across situations. For instance, it has been found that more intelligent subjects interrupt less than less intelligent subjects, that highly neurotic subjects interrupt more than less neurotic subjects, and that introverts interrupt and speak simultaneously less than extroverts (Rim, 1977). Frequency of interruption has also been found to be inversely related to social anxiety, to speech anxiety and to fear of negative evaluation, but positively related to confidence as a speaker (Natale, Entin and Jaffe, 1979). It seems possible that different types of speech interruption have different relationships to personality. Many factors play a part in determining how dominance and interruption will be related. As Beattie (1981) states "interruptions are a social phenomenon affected by many variables ..." (18). Thus, the relationship interruption has with any particular

measure varies due to its complex interaction with other social and personality variables.

To conclude, the major findings were that simple and silent interruption had the strongest relationships with dominance, and this was due only to the female sample. Thus, not all instances of simultaneous speech and interruption were related to dominance, as was hypothesized.

Sex-role measure

It was hypothesized that the more feminine individuals were, the more back channels they would produce. The femininity score of subjects accounted for the grade 9 females' use of sentence completions, and the college females' use of embedded requests for clarification. Both relationships were positive. That is, the higher the femininity score of the female, the more back channels (i.e., sentence completions or embedded requests for clarification) the females (i.e., grade 9 or college, respectively) produced. There were no back channel cues used by either the two age groups or the subgroups for which femininity predicted infrequent use. Thus, these findings provide support for the hypothesis.

It was also predicted that the more masculine individuals were, the fewer back channels they would produce. The masculinity score of the subject accounted

for the grade 9 females' use of total back channels, the grade 9 males' use of brief restatement, the college females' use of embedded requests for clarification, and the college males' use of brief restatement. All four relationships were negative. That is, for these particular back channel cues and subject samples, the more masculine the individuals were, the fewer back channels they produced. No back channel cues were used by either the two age groups or the subgroups for which masculinity predicted frequent use. Thus, these findings also support the hypothesis.

Overall, those back channel cues which were predicted by sex-role orientation of the subject provide support for the hypothesis. That is, for all the back channels for which sex-role of subject was a predictor, femininity predicted frequent use and masculinity infrequent use. However, it should be noted that the masculinity and femininity score of the subject accounted for only 6 of the possible 54 different relationships [i.e, 9 back channel cues x 3 types of subject samples (grade overall, male subsample, female subsample) x 2 grades (9 and college)]. That is, while the subjects' masculinity and femininity did not account for a large portion of their back channel behavior, when it did, femininity predicted frequent use and masculinity infrequent use.

No particular hypothesis was made regarding the subjects' back channel behavior based on the sex-role orientation of their partners. Examining the data we find that the femininity score of the subjects' partners accounted for 2 of the possible 54 relationships, and the masculinity score of the subjects' partners also accounted for 2 relationships. The more feminine the grade 9 males' partners were, the fewer multiple back channels the males produced; and the more feminine the college females' partners were, the more the females produced brief back channels. The more masculine the college students' partners were, the more requests for clarification they produced; and the more masculine the males' partners were, the more elicited brief back channels they produced. Based on only these four findings it is difficult to determine exactly how the sex-role orientation of an individual's partner influences that individual's back channel behavior. This is not to say, however, that sex-role of partner is not important; we have to consider the number of back channels in these relationships. For instance, the finding that the more feminine the college females' partners were, the more the females produced brief back channels, is only one out of a possible 54 findings. However, the brief back channel category was one of the most frequently used back channels. Thus,

while it was only one relationship, it accounted for much of the college female back channel behavior.

Sex-role, then, proved to be a predictor of an individual's back channel behavior. Recall from the results section that sex of subject and sex of partner were also predictors of back channel behavior. Sex of subject predicted the grade 9's use of brief back channels, embedded requests for clarification, multiple back channels and total back channels, and the college student's use of elicited brief back channels and total back channels. Sex of partner predicted the grade 9 males' use of sentence completions and the college females' use of requests for clarification. Thus, both sex and sex-role were predictors of an individual's back channel behavior.

Examining Tables 7 and 8, it is interesting that sex is a much more salient factor in conversational behavior for teenagers than sex-role is, and that this changes by the time one is in college, with sex-role becoming a much more important predictor of back channel behavior than biological sex. That is, while biological sex predicted 6 of the 9 relationships which emerged in the grade 9 sample (67%), it only predicted 3 of the 12 relationships (25%) which showed up in the college group. And while sex-role predicted only 3 of the 9 relationships which appeared in the grade 9 group (33%), it predicted 9 of the 12

relationships in the college group (75%). Notice, for example, that sex of subject predicted the grade 9s' use of brief back channel, embedded request for clarification, multiple back channel, and total back channel, but only remained a predictor of the total back channel measure in the college sample. In the older group, the subject's masculinity predicted the use of embedded requests for clarification measure, while neither sex nor sex-role predicted the use of brief back channel or multiple back channel.

The finding that sex-role is a better predictor of the college students' back channel behavior than biological sex is interesting, since most previous research in this area has found the main contributor to differences between the sexes in back channel behavior to be biological sex. It might be the case that previous research was also tapping into sex-role rather than sex per se. For instance, previous female samples might have been more sensitive and responsive to their partners' femininity, say, than their male subjects were. That is, females may have been responding to femininity whereas males may have not. If the majority of subjects were feminine then more females than males would use back channels. Examining Tables 7 and 8, the brief back channel category (which was by far the most frequently used back channel) was predicted by sex of subject in the

grade 9 sample, but was only predicted by the partners' femininity in the female college sample. The more feminine the females' partners were, the more the females produced brief back channels. None of the variables predicted back channel use in the males. Thus, females in the college group were more responsive when their partners were feminine. That is, it might be the case that females responded more in previous studies not because they were female, but because they were responding to some other feature of the situation, like their partners' femininity, that the males were not responding to.

Why then, is biological sex the only predictor of grade 9 back channel behavior, with females producing more of these cues than males? As I have said previously, I believe this is due to other factors such as the research design, or the different quality of conversation between grade 9 females and grade 9 males. I do not feel that this finding is indicative of either the males' or females' belief that it is the females' job to carry the conversational workload. The point here being that there can be many other factors responsible for females' greater use of back channels, other than their biological sex per se.

It is obvious, then, that both biological sex and sex-role play a part in predicting back channel behavior. These two variables, however, did not account for all of

the variance in listener responsiveness. Future research needs to explore which other factors, besides sex and sex-role, are involved in producing back channel responses.

To conclude, support was found for the hypothesis; for those back channel cues for which sex-role of subject was a significant predictor, femininity produced frequent use, whereas masculinity produced infrequent use.

Sex-role was also hypothesized to predict two aspects of interruption behavior in the teenage and college groups studied here. Specifically, the first prediction was that those individuals with high masculinity scores would produce more of those forms of interruption which were found to be positively related to dominance. Individuals with high femininity scores were expected to engage in infrequent use of these interruptions. The grade 9s' use of simple interruption, overlap interruption, total interruption, and butting-in interruption, as well as the grade 9 females' use of silent interruption, were all found to be positively related to dominance. However, neither the femininity score of the subject nor the masculinity score of the subject predicted the use of any of these interruptions in the subject groups just mentioned. That is, masculinity did not predict frequent use nor did femininity predict infrequent use. For those forms of interruption which were positivley related to dominance, then, sex-role of subject was not a significant

predictor. This is contrary to what was predicted. This finding was due to the fact that those interruptions which were positively related to dominance were found in only the grade 9 sample, and sex-role did not predict many behaviors in this age group.

The second hypothesis was that those forms of interruption which were negatively related to dominance were expected to be produced frequently by individuals with high femininity scores, whereas infrequent use was predicted of individuals with high masculinity scores. The college males' use of silent interruption and the college females' use of simple interruption were the only two instances where interruption was negatively related to dominance. The femininity score of the subject predicted both cases. The more feminine the college females were, the more they used simple interruption, whereas the more feminine the college males were, the more they used silent interruption. The masculinity score of the subject also accounted for the college females' use of simple interruption. The more masculine the females were, the fewer simple interruptions they used. Thus, these findings are consistent with the above hypothesis. That is, for those interruptions which were negatively related to dominance, femininity predicted frequent use, while masculinity predicted infrequent use. In other words, those types of interruptions which are not used as a means

of dominating a partner are produced more by feminine individuals than masculine individuals. This makes sense since masculine persons describe themselves as assertive, forceful, dominant and aggressive, while feminine individuals have lower self-ratings on these characteristics (Bem, 1974). Masculine individuals then, would be more likely to use those interruptions which were positively related to dominance and not those which were negatively related, whereas the opposite would be expected of the feminine individuals.

No particular hypothesis was put forward regarding an individual's back channel behavior based on the sex-role orientation of his/her partner. For those types of interruptions which were positively related to dominance, those partners high in femininity would probably be interrupted more than partners low in femininity. Partners low in masculinity would probably be interrupted more than partners high in masculinity. For those forms of interruption which were negatively related to dominance or not related to dominance at all, no specific predictions could be made with regard to individuals' interruption behavior based on the sex-role orientation of his/her partner.

Recall that the grade 9 use of simple interruption, overlap interruption, butting-in interruption and total interruption, as well as the grade 9 females' use of

silent interruption, were positively related to dominance. However, neither the subjects' partners' femininity score nor the subjects' partners' masculinity score predicted interruption behavior in these particular groups. Thus, the assumption was not supported. This was again due to the fact that those interruptions which were positively related to dominance were used only by the grade 9 sample, where sex-role was not a strong predictor of behavior.

Thus, sex-role of subject and sex-role of subject's partner did not predict interruption behavior in the subject for those interruptions which were positively related to dominance, but did predict the subject's behavior for those forms of interruption which were negatively related to dominance.

Also recall from the Results section that sex-role was not the only predictor found for interruption behavior. Sex of subject predicted the grade 9 females' use of simple interruption, overlap interruption, and total interruption. Sex of subject, however, played no role in the interruption behavior of the college students. Sex of partner predicted the grade 9 use of butting-in interruption, the grade 9 females' use of simple interruption and overlap interruption, the grade 9 males' use of simple interruption, and only the college males' use of silent interruption. The grade 9 females were found to produce many more of these interruptions (i.e.,

simple, overlap and total) than the grade 9 males did. This is an interesting finding in light of the fact that previous studies have found men doing more of the interrupting. Note too that all three of these interruptions were positively related to dominance. The grade 9 females were using more interruptions, and also seemed to be using them as a means of dominating their partners.

It was also found that both grade 9 males and females were more likely to use simple interruption when their partner was female than when their partner was male. The females used this form of interruption as a way of dominating their partner, but recall that simple interruption was not related to dominance in the male grade 9 group. While both males and females were interrupting their female partners more than their male partners, females were doing so to dominate their partners while males were not.

Grade 9 females were also found to use more silent interruption, overlap interruption and total interruption when their partner was female than when their partner was male. However, the males in the grade 9 group produced similar frequencies of these interruptions when speaking to females and males. Grade 9 students also used more butting-in interruption when they conversed with a female partner than with a male partner. Butting-in interruption

was found to be marginally related to dominance. Both males and females, however, were doing this.

In the college group, males used more silent interruption when they conversed with a male partner than a female partner. Silent interruption was marginally related to dominance in this group, such that the less dominant these males were the more they used this interruption. If males were using interruption to dominate women then the study should have found the college males using more silent interruption with females rather than with males. Thus, we have no evidence, in this study, that males use interruptions as a means of dominating their female partners. However, it looks as if females are the ones who are using interruptions to dominate their female partners.

Overall then, as it was with back channels, sex of the subject and sex of the partner played a larger role in predicting interruption behavior in the grade 9 sample than sex-role did; while sex-role orientation played a larger role in predicting interruption behavior in the college students. However, for both interruption or back channel behavior, not all the variance is accounted for simply by sex and sex-role. Future research, then, needs to examine all possible variables, besides sex and sex-role, which help predict interruption behavior.

Other questions, such as why sex-role replaces sex as a predictor of interruption behavior and back channel behavior as one gets older, also need to be addressed. Studies with larger subject sizes and studies which include all the possible sex-role combinations (i.e., androgynous, masculine, feminine, and undifferentiated) must be included in upcoming research on psychological factors contributing to both back channel and interruption behavior.

Conclusion

The main objectives of the present research were to examine the developmental and gender related use of two conversational techniques, listener responsiveness and interruption behavior. Besides these developmental and sex difference issues, the study also explored how listener responsiveness and interruption behavior were affected by two personality variables, dominance and sex-role. The use of these two conversational measures was examined in three different age groups (grade 4, 9 and college) and three different dyad types (male-male, female-female, and male-female).

Listener responsiveness was found to begin to develop before 9 years of age and gradually increase in use to young adulthood. The older (grade 9 and college) female-female dyads were the most responsive dyad types. Females

were also found to be no more responsive to females than they were to males, whereas the males were slightly more responsive towards males than females. In crossed-sex interactions females were also somewhat more responsive than males were. An individual's level of dominance was also found not to predict back channel behavior. For those back channel cues for which sex-role of subject was a significant predictor, femininity predicted frequent use and masculinity infrequent use. Overall, it was obvious that age, biological sex and sex-role all have some part to play in explaining back channel behavior.

As for interruption behavior, the three age groups, as well as the three dyad types, were found to use similar frequencies of interruption. While males interrupted males as often as they did females, females engaged in more interruption with females than males. In crossed-sex interactions females and males interrupted one another to similar degrees. Not all instances of interruption were related to dominance. Only simple and silent interruption were significantly related to dominance, and this was only true for the females. The contribution of sex-role to interruption behavior was less clear. Sex-role of subject did not predict interruption behavior for those forms of interruption which were positively related to dominance, but did so for those forms which were negatively related. These findings then tell us that biological sex, dominance

and sex-role (and not age) influence an individuals' interruption behavior.

Due to the fact that these variables (age, sex, sex-role and dominance) did not come close to accounting for all the variance in the two conversational techniques, it seems necessary to consider a wide range of factors. There is probably a complex interaction of personality and social variables producing communicative behavior, which include sex, age, education, occupation, socioeconomic status, cognitive factors, mood, role of status, medium of communication, degree of formality, personality characteristics of interactants, contextual factors such as communication, situation, environment, etc. That is, there may be many variables needed to explain a particular communicative behavior fully, and which variables produce this particular behavior may change from situation to situation. Another important point brought out from the present study is that more attention needs to be paid to the speakers' aims and motivations when using particular conversational techniques. For instance, a greater use of interruptions by males does not necessarily mean that the function of this behavior is to dominate conversation. The functional use of these interruptions for males must first be looked at before we can draw any conclusions from the findings. And what a speaker uses a particular conversational device for may change depending upon the

goals of the speaker at that time. That is, in order to explain the use of a conversational technique we must consider the function of the technique in the actual context in which it was used. Until such research is done, using the proper statistical methods, reliable conclusions cannot be made, especially micropolitical conclusions.

Problems in the study have been mentioned previously in the paper (e.g., small sample size, use of laboratory setting, use of tape recorder, sex of experimenter). However, the results may also have been influenced by the scoring method itself; specifically, by the switching pause length used in scoring. The present scoring system used pause lengths of one second. Studies (e.g., Garvey and Ben Debba, 1974) have found 1 second to be characteristic of a pause in conversation. However, Feldstein (1972) found that for pairs of females engaged in 30-minute conversation, mean duration of switching pause was less than one second (.664). If females have switching pauses shorter than males, the present study may have overestimated the frequency of interruption produced by females. The present study may have also overestimated the frequency of interruption in the older groups, since Garvey and Berninger (1981) have found a reduction of switching pause with age. That is, it may still be possible that frequency of interruption decreases with

age. Future studies need to utilize scoring systems with proper switching pauses for each age group.

I believe, however, that the most important aim of future research is not to draw conclusions from studies which are based on explanation of behavior with variables that do not account for much of the variance. We first need to understand and explain the ways in which conversational techniques interact with a variety of social and personality variables so that we can gain a much better understanding of the way in which language is used. Only when we know exactly what variables influence the use of a certain conversational techniques can we say with any confidence why, or for what purpose, individuals are using these devices.

Table 1
Mean Frequencies and Standard Deviations of Back Channel Behavior Initiated by the Three Dyad Sex Types in Each of the Three Age Groups.

Sex of Dyad		Age of Dyad			
		Grade 4	Grade 9	College	Sex Group Aver.
M - M	M	62.90	40.70	77.00	60.20
	SD	24.60	6.38	45.29	34.81
F - F	M	47.30	88.10	100.20	78.53
	SD	19.92	31.82	34.94	37.27
M - F	M	39.20	68.70	69.10	59.00
	SD	29.20	18.95	38.36	33.02
Age Group Aver.	M	49.80	65.83	82.10	
	SD	26.74	30.64	41.90	

Table 2
Mean Frequencies and Standard Deviations of Total Back Channel Behavior and Total Interruption Behavior Initiated by the Males and Females in the Male-Female Dyads, Male-Male Dyads and Female-Female Dyads

Sex of Dyad Member		Back Channel	Interruption
Males in Male-Female	M	25.07	12.27
	SD	22.90	8.81
Females in Male-Female	M	31.87	11.93
	SD	20.17	8.96
Males in Male-Male	M	29.17	14.98
	SD	17.25	9.98
Females in Female-Female	M	36.65	15.95
	SD	17.23	8.09

Table 3
Mean Frequencies and Standard Deviations of Interruption Behavior Initiated by the Three Dyad Sex Types in each of the Three Age Groups

Sex of Dyad		Age of Dyad			
		Grade 4	Grade 9	College	Sex Group Aver.
M - M	M	39.20	17.50	33.20	29.97
	SD	21.33	16.15	13.75	19.63
F - F	M	21.70	41.70	32.30	31.90
	SD	12.30	17.11	10.72	15.91
M - F	M	23.40	21.30	27.90	24.20
	SD	15.70	16.16	14.63	15.75
Age Group Aver.	M	28.10	26.83	31.13	
	SD	18.61	19.61	13.35	

Table 4
Mean Frequencies and Standard Deviations of the Significant and Marginally Significant Variables Contributing to the MANOVA Interaction Effect for the Individual Back Channel and Interruption Measures

Back Channel		Grade 4			Grade 9			College		
		M-M	F-F	M-F	M-M	F-F	M-F	M-M	F-F	M-F
Significant Variables										
MBC	M	1.20	0.40	1.40	1.00	3.90	1.60	1.70	1.80	1.20
	SD	1.62	0.52	1.96	1.33	2.33	1.17	1.57	1.40	1.32
SI	M	5.00	2.80	5.00	1.10	7.50	2.70	4.30	3.90	3.50
	SD	4.22	3.01	4.78	1.73	4.48	2.45	2.63	2.13	5.04
BII	M	15.50	6.30	8.60	4.30	12.0	6.50	9.80	9.80	8.90
	SD	11.59	4.17	8.30	5.38	5.93	6.84	6.22	4.80	8.33
Marginally Significant Variables										
BBC	M	44.0	31.8	21.5	24.5	51.0	42.1	47.4	62.6	37.6
	SD	25.9	17.3	25.0	12.7	22.7	20.7	39.7	31.1	26.6
BR	M	2.0	0.7	2.0	1.5	2.1	1.7	1.6	3.1	1.7
	SD	1.7	0.8	2.0	1.1	1.7	2.1	1.5	2.8	1.6
STI	M	12.8	10.4	7.5	11	15.9	8.1	13.4	11.9	11.6
	SD	7.5	6.0	4.4	9.0	7.3	5.1	5.0	4.1	4.4

Note: MBC = Multiple Back Channel, SI = Simple Interruption, BII = Butting-In Interruption, BBC = Brief Back Channel, BR = Brief Restatement, STI = Silent Interruption.

Table 5
Mean Frequencies and Standard Deviations for the Significant and Marginally Significant Variables Contributing to the MANOVA Age Effect

Back Channel	Age of Dyad: Grade 4 M	Grade 4 SD	Grade 9 M	Grade 9 SD	College M	College SD
Significant Variables						
Brief Back Channel	32.43	22.74	39.20	18.67	49.20	32.46
Elicited Brief Back Channel	2.37	2.99	2.63	2.13	5.07	4.30
Sentence Completion	4.90	3.15	2.60	1.81	2.93	2.22
Auditor Laughter	3.10	3.87	8.73	7.65	10.00	9.45
Joint Laughter	1.00	1.53	3.53	4.68	4.70	4.76
Multiple Back Channel	1.00	1.36	2.17	1.61	1.57	1.43
Marginally Significant Variables						
Overlap Interruption	3.47	2.87	4.43	3.42	5.43	3.73
Req. for Clar.	2.70	3.04	4.63	4.09	5.20	4.64
Embedded Req. for Clar.	0.73	1.32	0.57	0.72	1.30	1.39

Table 6
Mean Frequencies and Standard Deviations for the Significant and Marginally Significant Variables Contributing to the MANOVA Sex Effect

	Sex of Dyad					
	Male-Male		Male-Female		Female-Female	
	M	SD	M	SD	M	SD
Significant Variables						
Joint Laughter	1.93	1.80	2.07	3.31	5.23	5.8
Marginally Significant Variables						
Brief Back Chan.	38.63	26.09	33.73	24.37	48.47	23.69
Silent Interr.	11.77	7.12	9.07	4.61	12.73	5.78

Table 7
The Predictors, P Values and Percentages of Variance of the Nine Back Channel Cues for the Grade 9 Sample, and the Male and Female Subsamples

Back Channel	Grade Overall	Males	Females
BBC	SS .024 8.5%	---	---
EBBC	---	---	---
ERC	SS .005 12.7%	---	---
SC	SP .001 10.6%	SP .046 13.5%	SF .044 13.8%
BR	---	---	---
AL	---	---	---
RC	---	---	---
MBC	SS .001 18.3%	PF .008 22.5%	---
TBC	SS .018 9.2%	---	SM .014 19.6%

Note: BBC = Brief Back Channel, EBBC = Elicited Brief Back Channel, ERC = Embedded Requests for Clarification, SC = Sentence Completion, BR = Brief Restatement, AL = Auditor Laughter, RC = Request for Clarification, MB = Multiple Back Channel, TBC = Total Back Channel, SS = Sex of Subject, SP = Sex of Partner, SF = Subject's Femininity, SM = Subject's Masculinity, PF = Partner's Femininity, PM = Partner's Masculinity.

Table 8
The Predictors, P Values and Percentages of Variance of the Nine Back Channel Measures for the College Sample, and the Male and Female Subsamples

Back Channel	Grade Overall	Males	Females
BBC	---	---	PF .034 15.0%
EBBC	SS PM .006 .017 16.4% 7.3%	PM .017 18.7%	---
ERC	SM .027 8.2%	---	SM SF .008 .004 22.9% 11.3%
SC	---	---	---
BR	SM .039 7.1%	SM .040 14.3%	---
AL	---	---	---
RC	PM .038 7.2%	---	SP .034 15.0%
MBC	---	---	---
TBC	SS .048 6.6%	---	---

Note: BBC = Brief Back Channel, EBBC = Elicited Brief Back Channel, ERC = Embedded Request for Clarification, SC = Sentence Completion, BR = Brief Restatement, AL = Auditor Laughter, RC = Request for Clarification, MB = Multiple Back Channel, TBC = Total Back Channel, SS = Sex of Subject, SP = Sex of Partner, SF = Subject's Femininity, SM = Subject's Masculinity, PF = Partner's Femininity, PM = Partner's Masculinity

Table 9
The Predictors, P Values, and the Percentages of Variance of the Four Interruption Measures for the Grade 9 Sample, and the Male and Female Subsamples

Interruption	Grade Overall	Males	Females
SI	SP .000 24.2% SS .000 7.4%	SP .030 15.7%	SP .011 20.9%
OI	SS .035 7.4%	---	PM .038 14.5% SP .015 12.1% PF .004 12.4%
BII	SP .012 10.4%	---	---
STI	---	---	SP .005 14.1%
TI	SP .002 15.1% SS .001 7.1%	---	SP .014 19.7%

Note: SI = Simple Interruption, OI = Overlap Interruption, BII = Butting-In Interruption, STI = Silent Interruption, TI = Total Interruption, SS = Sex of Subject, SP = Sex of Partner, SF = Subject's Femininity, SM = Subject's Masculinity, PF = Partner's Femininity, PM = Partner's Masculinity.

Table 10
The Predictors, P Values, and the Percentage of Variance of the Four Interruption Measures for the College Sample, and the Male and Female Subsample

Interruption	Grade Overall	Males	Females
SI	---	---	SF .012 20.5% SM .002 16.7% PM .001 10.5%
OI	---	---	PM .008 22.5%
BII	PF .005 12.6%	PF .005 24.8% PM .002 12.7%	SF .020 17.8%
STI	---	SF .033 15.3% SP .005 17.3%	---
TI	PF .019 9.1%	---	SF .023 17.2%

Note: SI = Simple Interruption, OI = Ov rlap Interruption, BII = Butting-In Interruption, STI = Silent Interruption, TI = Total Interruption, SS = Sex of Subject, SP = Sex of Partner, SF = Subject's Femininity, SM = Subject's Masculinity, PF = Partner's Femininity, PM = Partner's Masculinity.

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Appendix A

Permission Form

FALL 1987

Dear Parent:

I am requesting permission to have your child participate in a study on the development of conversational skills. I am studying when and how children learn important conversational devices such as appropriate turn - taking and good listener skills. I am also interested in learning whether there are any sex differences in the use of these conversational devices.

The study itself is very simple. Your child will be paired with another classmate and both will be taken to a room available in the school for the study. Both students will then be given a list of possible discussion topics and they will be told that they can talk about any topic. I will ask them to carry on their discussions for twenty minutes and then to give me a summary of their conclusions. Their conversations will be audiotaped and whatever they say along with their identities will remain strictly confidential. Students in grade nine will also be asked to fill out two short questionnaires on attitudes toward leadership.

This research project is expected to begin in September, 1987 and should end by December, 1987. Once the research project is completed a summary report will be available to all who are interested. The identities of all the children along with their conversations will be kept strictly confidential.

I would appreciate your permission for your child's participation in this research. Please fill out the second page of this letter and have your child return it to his or her school. Do not hesitate to contact me (726 - 5685), my supervisor Dr. Carole Peterson (737 - 7682) or your child's school if you have any questions. Thank you!

Yours truly,

Tammy Marche
Department of Psychology
Memorial University of
Newfoundland

PLEASE PRINT

Child's Name: _____

School and Grade: _____

Child's Date of Birth: _____

(Day) (Month) (Year)

Please Check One: ( ) My child may participate in this study

( ) My child may not participate in this study

Parental Signature: _____

Today's Date: _____

Appendix B

Topic Discussion Form

(a) In Europe, a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging 10 times what the drug cost him to make. He paid $200 for the radium and charged $2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about $1,000, which is half of what it cost. He told the druggist that his wife was dying and asked him to sell it cheaper or let him pay later. But the druggist said, "No, I discovered the drug and I'm going to make money from it." So Heinz gets desperate and considers breaking into the man's store to steal the drug for his ife. Should Heinz steal the drug? Why or why not? Would you steal the drug? Why or why not?

(b) In Korea, a company of Marines was greatly outnumbered and was retreating before the enemy. The company had crossed a bridge over a river, but the enemy was mostly on the other side. If someone went back to the bridge and blew it up, with the head start the rest of the men in the company would have, they would probably then escape. But

the man who stayed back to blow up the bridge would probably not be able to escape alive; there would be about a 4:1 chance he would be killed. The captain himself is the man who knows best how to lead the retreat. He asks for volunteers, but no one will volunteer. If he goes himself, the men will probably not get back safely and he is the only one who knows how to lead the retreat. Should the captain order a man to go on this very dangerous mission or should he go himself? Why? What would you do?

(c) Many studies have been conducted linking aggressiveness in children to the amount of violence they view on television. No one knows for sure however if viewing violence causes aggressiveness i.e., it may be that aggressive children like watching programs containing violence. A proposal has been made to ban all violence from children's programming e.g., cartoons. Do you agree with this proposal? Why or why not?

(d) An issue that has received much attention lately is capital punishment. In Canada capital punishment is not part of our justice system. Do you think this should be changed? Why or why not?

(e) (for grades four and nine) A baby bonus is given to parents or guardians who have dependents. Some students

your age feel that this bonus should go directly to them to spend as they please instead of going to their parent or guardian. Do you think your baby bonus should go to you or to your parent or guardian?

(for the university students) A few years ago the provincial government stopped providing bursaries for students studying programs outside the province that are offered in Newfoundland. Do you think this was fair to the students (i.e., does it violate their right to chose where they want to get their education)? Can you think of a better solution?

Appendix C
California Psychological Inventory
(Dominance Measure)

Please circle TRUE or FALSE to the following

T	F	1.	I doubt whether I would make a good leader.
T	F	2.	I think I would enjoy having authority over other people.
T	F	3.	I find it hard to keep my mind on a task or job.
T	F	4.	I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.
T	F	5.	When in a group of people I have trouble thinking of the right things to talk about.
T	F	6.	School teachers complain a lot about their pay, but it seems to me that they get as much as they deserve.
T	F	7.	I don't blame anyone for trying to grab all he can get in this world.
T	F	8.	Every citizen should take the time to find out about national affairs, even if it means giving up some personal pleasures.
T	F	9.	I should like to belong to several clubs or lodges.
T	F	10.	I am certainly lacking in self-confidence.
T	F	11.	When I work on a committee I like to take charge of things.
T	F	12.	If given the chance I would make a good leader of people.
T	F	13.	Sometimes at elections I vote for men about whom I know very little.
T	F	14.	I very much like hunting.
T	F	15.	A person does not need to worry about other people if only he looks after himself.
T	F	16.	I can honestly say that I do not really mind paying my taxes because I feel that's one of the things I can do for what I get from the community.
T	F	17.	When prices are high you can't blame a person for getting all he can while the getting is good.
T	F	18.	In school I found it very hard to talk before the class.
T	F	19.	I am a better talker than a listener.
T	F	20.	I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place.

T	F	21.	We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now.
T	F	22.	When the community makes a decision, it is up to a person to help carry it out even if he had been against it.
T	F	23.	I would rather have people dislike me than look down on me.
T	F	24.	I must admit I try to see what others think before I take a stand.
T	F	25.	People should not have to pay taxes for the schools if they do not have children.
T	F	26.	In a group, I usually take the responsibility for getting people introduced.
T	F	27.	I would be willing to describe myself as a pretty "strong" personality.
T	F	28.	There are times when I act like a coward.
T	F	29.	I must admit I am a pretty fair talker.
T	F	30.	I have strong political opinions.
T	F	31.	I think I am usually a leader in my group.
T	F	32.	I seem to do things that I regret more often than other people do.
T	F	33.	Disobedience to any government is never justified.
T	F	34.	I enjoy planning things, and deciding what each person should do.
T	F	35.	I would rather not have very much responsibility for other people.
T	F	36.	I usually have to stop and think before I act even in trifling matters.
T	F	37.	It is pretty easy for people to win arguments with me.
T	F	38.	I have not lived the right kind of life.
T	F	39.	I have a natural talent for influencing people.
T	F	40.	I like to give orders and get things moving.
T	F	41.	I am embarrassed with people I do not know well.
T	F	42.	The one to whom I was most attached and whom I most admired as a child was a woman (mother, sister, aunt, or other woman).
T	F	43.	I'm not the type to be a political leader.
T	F	44.	People seem naturally to turn to me when decisions have to be made.
T	F	45.	I dislike to have to talk in front of a group of people.
T	F	46.	I have more trouble concentrating than others seem to have.

Appendix D
Bem Sex Role Inventory

Age _____
Sex _____

ATTITUDE QUESTIONNAIRE

Instructions: Indicate on a scale of 1 - 7 how well each of the following characteristics describes you using the following scale: (1) never or almost never true; (2) usually not true; (3) sometimes but infrequently true; (4) occasionally true; (5) often true; (6) usually true; (7) always or almost always true.

___ 1. self-reliant
___ 2. yielding
___ 3. helpful
___ 4. defends own beliefs
___ 5. cheerful
___ 6. moody
___ 7. independent
___ 8. shy
___ 9. conscientious
___ 10. athletic
___ 11. affectionate
___ 12. theatrical
___ 13. assertive
___ 14. flatterable
___ 15. happy
___ 16. strong personality
___ 17. loyal
___ 18. unpredictable
___ 19. forceful
___ 20. feminine
___ 21. reliable
___ 22. analytical
___ 23. sympathetic
___ 24. jealous
___ 25. has leadership abilities
___ 26. sensitive to the needs of others
___ 27. truthful
___ 28. willing to take risks
___ 29. understanding
___ 30. secretive
___ 31. makes decisions easily
___ 32. compassionate
___ 33. sincere
___ 34. self-sufficient
___ 35. eager to soothe hurt feelings
___ 36. conceited
___ 37. dominant
___ 38. soft spoken
___ 39. likeable
___ 40. masculine
___ 41. warm
___ 42. solemn
___ 43. willing to take a stand
___ 44. tender
___ 45. friendly
___ 46. aggressive
___ 47. gullible
___ 48. inefficient
___ 49. acts as a leader
___ 50. childlike
___ 51. adaptable
___ 52. individualistic
___ 53. does not use harsh language
___ 54. unsystematic
___ 55. competitive
___ 56. loves children
___ 57. tactful
___ 58. ambitious
___ 59. gentle
___ 60. conventional