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UNOBTRUSIVE MEASURES IN THE
ASSESSMENT OF SEX-SPECIFIC
DIFFERENCES IN CONVERSATIONAL
INTERACTION

By

Robert Maierhofer

A DISSERTATION

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In memory of my mom.
She would've been proud.

ABSTRACT

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This purpose of this study was to unobtrusively investigate the relationships between sex of speaker, sex of listener, and self-other focus; and sex of speaker, age of speaker on self-other reference. In addition to studying these two-way interactions, the main effects of sex of the speaker, age of the speaker, and sex of the listener were evaluated in terms of self-other focus. Two collateral studies were also presented which examined the orientation of the speaker and the topic coded.

A review of the literature identified numerous interactional differences that exist between same and mixed-sex dyads, and various age categories, with a general consensus on the self-other dichotomy. Equally evident in the literature was a conspicuous absence of studies using nonreactive procedures and studying naturally-occurring behavior. The inconclusiveness of the research on interactional

patterns of same and mixed-sex dyads and the overreliance on orthodox research methodologies provided the impetus for this study.

Four hundred and eighty conversations were surreptitiously collected by five trained raters. The conversations were sampled from throughout the state of New Hampshire, utilizing 64 different locations. Aside from noting pronoun usage, sex of the dyad, location, and age of the interactants, the coders recorded the topic of the conversation.

The research design was a 3x2x2 factorial design. The independent variables were: sex of the speaker, sex of the listener, and age of the speaker. The dependent variables were self reference and other reference. Anecdotal comments were solicited from the raters to be included in the analysis of the results.

The four formal hypotheses were not statistically significant. The prediction that male-male dyads would have the greatest self-focus was not substantiated ($p = .06$). Instead, the pattern seemed to be one of increased self-reference for same-sex dyads.

The clearest and most consistent finding of this research concerned the relationship between the age of the speaker and self-other focus. In three separate instances, significant relationships were determined to exist between the speaker's age and self-other reference. More specifically, the relationship showed the youngest age group to be

the most self-focused, while the older age groups were more other-focused. This finding was determined to be consonant with most theories of social development.

The study concluded with a restatement of the significant findings and suggestions for future research. Before more definitive conclusions can be stated regarding sex-differences in social interaction, more rigorous studies need to be done, especially those utilizing naturally-occurring behavior and nonreactive measures.

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INTRODUCTION

Leona Tyler noted in her classic work, the Psychology of Human Differences, (1974) "no topic in psychology is of more perennial interest than that of sex differences" (p. 239). Attesting to that interest, sex differences have been scrutinized across a number of different variables, including: achievement, personality, motivation, cognition, aggression, and social orientation (Bennett & Cohen, 1959; Broverman, I., Vogel, S., Broverman, D., Clarkson, F., & Rosenkrantz, P., 1972; Garai & Scheinfeld, 1968; Maccoby & Jacklin, 1974; Terman & Miles, 1936). As one might anticipate, this intense focus of research attention has yielded eminently equivocal results. Even though the most recent definitive work in the field (Maccoby & Jacklin, 1974) has distilled the results of 1600 studies on sex differences down to an austere, "four fairly well established differences," their findings have been challenged on methodological grounds (Block, 1976). Moreover, the authors expressed their own reservations by noting the underrepresentation of certain age groups, limitations on measuring certain constructs, and more problematic, the possibility that sex differences might ultimately be situation specific.

In spite of the ambiguity and lack of precision which characterizes most of the research findings on sex differences, certain basic dichotomies persist. Notably, there is a sizable amount of research evidence which suggests that one critical aspect of sex differentiation is related to the style of social interaction of men and women (Bennett & Cohen, 1959; Broverman et al., 1972; Garai & Scheinfeld, 1968; Gilligan, 1982; Maccoby, 1966; Maccoby & Jacklin, 1974). Consequently, it is believed that women typically interact in a manner which emphasizes the contextual aspects of the relationship, attending to feelings of cooperation, caring, acceptance, and, more globally, the interdependence of the individuals. Males, oppositely, tend to demonstrate interpersonal behavior which frequently subordinates the expressive or personal dimension in favor of highlighting feelings of self-regard, mastery, competitiveness, separateness, and objectivity. The more specific qualities of this social differentiation have been defined in numerous empirical studies which have noted the behavior of men and women across a number of different variables (task designs, conformity experiments, perception of stimuli, friendship formation, content of conversation, and quality of ethical decision-making) and in interactions composed of different groups (families, same and mixed-sex groups, dyads, triads, groups that vary by status, and jury groups). In spite of all the research attention given to

sex-specific aspects of social interaction, very few studies have considered this phenomena using naturally-occurring dyads and nonreactive procedures (Aries, 1976; Deaux, 1978; Thune, E., Manderscheid, R., Silbergeld, S., 1980b). This study will incorporate these features in its design.

Theory

The theorists to be presented in this paper do not represent the totality of perspectives on gender-specific social orientation, but the following summary does discuss those who are most often cited in the literature. More than cursory attention will be given to this section in that some of the descriptors associated with the following dimensions will later be utilized in the design of the study.

David Gutman (1965), working within the psychoanalytic tradition, has used two terms originally coined by Schachtel (1959) to express the salient dimensions of male/female functioning. Given the variable instinctual pressures which are exerted on men and women (Freud, 1925), and the marked differences in their social environments, he feels that men tend to develop along allocentric lines, while women mature along autocentric lines. Continuing, Gutman feels that these unique orientations manifest themselves most clearly with respect to formulations of space and time, variable apprehensions of the self and other,

and divergent representations of the future. Gutman wrote:

In the allocentric sphere, relations with others share the general unpredictability of all allocentric events. There others are alien, intent on private goals; the allocentric others are a class of objects, to be tested and investigated as such. Objectifying others thus, we also objectify ourselves, and thereby come to experience our own separateness. (p. 235)

This portrayal is a marked contrast to the autocentric sphere which:

pools individuals into larger groupings of nuclear family, extended family, neighborhood, clan. When the self drives its 'name' from the groupings to which it belongs, the distinctions between self and other are blurred over. We identify ourselves with a name--and we thus identify and recognize ourselves in the other who derives his name from our common affiliation...In this situation, self and others are not experienced as 'me' distinct from 'them' but as my group apart from those others. (p. 235)

David Bakan (1966), reasoning in a more general, philosophical vein, postulated two constructs, agency and communion, which he felt identified the fundamental modalities between and within humans. Similar to Gutman's concepts, agency and communion have distinct masculine, feminine overtones (Brown & Marks, 1969), but unlike Gutman's, his are not strictly derivative of gender differences. Instead, agency and communion represent levels of human existence, from the cellular to the societal, and which, optimally, continue to exist in balance throughout the lifespan (Carlson, 1971).

According to Bakan:

The terms agency and communion characterize two fundamental modalities in the existence of living forms, agency for the existence of an organism as an individual and communion for the participation of the individual in some larger organism, of which the individual is a part. Agency manifests itself in self-protection, self-assertion, and self-expansion: communion manifests itself in the sense of being at one with other organisms. Agency manifests itself in isolation, alienation, and aloneness: communion with contact, openness, and union.

Agency manifests itself in the urge to mastery: communion in non-contractual cooperation. Agency represents itself in the repression of thought, feeling and impulse; communion in the lack and removal of repression.... (1966, p. 15)

When these factors cease to exist in relative equilibrium, as in the case of "unmitigated agency," the organism or society will be vulnerable to self-destructive forces.

Yet other researchers, toiling in another discipline, have nominated two constructs which are, implicitly and explicitly, similar to the ideas of Bakan and Gutman.

These theorists (Parsons & Bales, 1955) advance the belief that the family can be viewed as a small group or subsystem of society and, as such, it is subject to the same forces of differentiation that affect other groups. According to these writers, an example of this differentiation is present in the socialization of children, which they view as one of the two essential functions of parents. This dichotomy has been labelled instrumental versus expressive.

While Parsons and Bales note, and others have shown

elsewhere (Chodorow, 1974; Mead, 1935), the allocation of these roles is not innate, rather "the bearing and nursing of children establishes a strong presumptive primacy of the relation of mother to the small child and this in turn establishes a strong presumption that the man, who is exempted from these biological functions, should specialize in the alternative instrumental direction" (1955, p. 23). Proceeding from this point, the authors illustrate how industrial societies comply with this initial biological difference and, in fact, exaggerate it through a sharpened articulation of occupational versus domestic milieus and the attendant demise of the extended family, which also more starkly delineates the discrete responsibilities of the parents.

As a final comment on this last perspective, and before considering how it has been operationalized in the empirical studies, it will be interesting to note the descriptors which these sociologists have attached to the terms "expressive" and "instrumental."

Ego, therefore, will be considered instrumental leader of the nuclear family if the ethnographer's report offers statements of the form: Ego is boss-manager of the farm; leader of the hunt, etc....Ego is the final court of appeals, final judge and executor of punishment, discipline and control over the children of the family.
Ego will be considered expressive leader of the family if the ethnographer's report offer statements to the form of the following: Ego is the mediator, conciliator of the family, ego smooths over disputes, resolves hostilities in the family.

Ego is affectionate, solicitous, warm, emotional to the children of the family; ego is the 'comforter' the consoler, is relatively indulgent, relatively unpunishing. (1955, p. 318)

Different researchers, working in different disciplines, have produced a surprising degree of unanimity regarding those dimensions salient to sex-specific social functioning. Prior to a review of how sex differences in social functioning, particularly self versus other focus, have been treated in the empirical research, the need for the current study will be considered.

Need

Aside from the general inconclusiveness of existing research, two other factors argue for a closer reexamination of gender-specific patterns of social interaction. Recently, the women's movement has compelled individuals and institutions to reconsider their roles in society and, in some cases, to abandon stereotypic expectations and values in favor of more idiosyncratic expression. Evidence of this rethinking is central to Carol Gilligan's thesis in her new book, In A Different Voice: Psychology Theory and Women's Development (1982). She reviews the history of mainstream developmental psychology and concludes by indicting it of a value system informed only by male norms and, therefore, disparaging of females' vision of maturity. It is reasonable to assume that this social movement and

the radical revisionism that it may imply, will impact the nature of social interactions (Aries, 1976; Booth, 1972; Gibbs, M., Auerbach, D., & Fox, M., 1978).

Secondarily, the findings in this area warrant further investigation in lieu of the conspicuous absence of methodologies which utilize naturally-occurring dyads and unobtrusive measures. Research in social dynamics, as in most areas of psychology, has been relegated to the social psychologist's laboratory and to contrived manipulations of subjects. In the 1966 edition of Unobtrusive Measures: Nonreactive Research in the Social Sciences (Webb, E., Campbell, D., Schwartz, R., & Sechrest, L., 1966), the authors noted: "Today, some 90% of social science research is based upon interviews and questionnaires" (p. 22). Updating their book in 1981, the writers considered the intervening years as follows:

The mistaken belief in the operational definition of theoretical terms has permitted social scientists a complacent and self-defeating dependence upon single classes of measurement--usually interviews or questionnaires. In the 15 years since the first edition of this volume was prepared, we do not think that such dependence has changed much. (1981, p. 34)

A similar line of criticism is echoed by Carlson (1970) in her article surveying personality research in two major journals. Reviewing 266 "substantive articles" occurring in a year's publication, she found an excessive overreliance on undergraduates as subjects (73%), a predominance

of studies based on experimental procedures using some kind of manipulation, and high rates of deception of subjects (71%). Reflecting on these procedures, Carlson wrote: "Personality psychology would seem to be paying an exorbitant price in potential knowledge for the security afforded by preserving norms of convenience and methodological orthodoxy" (1970, p. 207). This price is likely to be especially inflated in research on sex differences because the very process of interview-like investigations is often fraught with subtle undercurrents and procedures (status dynamics, sex of interviewer, nature of the task) which, by their very nature, yield biased and unreliable results.

Given the equivocal state of research findings on sex differences in social functioning, the recent prominence of the women's movement, and the invariant research methodologies which have characterized much of this study, a new approach seems warranted. Speaking to that goal, Forgas (1976) has written: "In recent years, dissatisfaction with atomistic and often irrelevant experimentation in social psychology has led to growing interest in natural units of behavior, such as social episodes" (1976, p. 199). The present study will try to incorporate some of these suggestions in the assessment of sex-specific differences in conversational episodes.

Purpose

The purpose of this study is not to determine what causes particular orientations in social episodes, but to reinvestigate the proposition which holds gender to be integral to this equation. Therefore, this study has sought to unobtrusively determine if 'self/other' differentiation, thought to effectively discriminate male/female social functioning, persists in the language behavior of naturally-occurring, same and mixed-sex dyads. This dichotomy has been selected over other possible dimensions due to the abundance of research and theoretical material which identifies this distinction as fundamental, and due to its adaptability to a coding system using raters in the field. Secondly, age of the coded interactant will be noted to determine how it correlates with 'self/other' pronoun use. These results will be discussed in light of the empirical studies which have measured this relationship and the general contributions of developmental theory (Erikson, 1950; Loevinger & Wessler, 1970). For instance, pronoun use can be matched with the age of the speaker to determine if the orientation of the individual is consonant with the 'otherness' of generativity (Erikson, 1950), or the self-indulgence of late adolescence, or if the contextual definition for women supersedes the impact of any age category (Gilligan, 1982).

While these results will be discussed with regard to previous empirical research and theory, the work is unique in its effort to utilize a design which stresses the importance of unobtrusive measures and naturally occurring dyads. Overriding these contributions, however, is the additional value of the research when the results are evaluated within the purview of a new perspective on human development. Essentially, this view holds that men and women do, in fact, speak with different voices, but value judgements within the field of psychology have tended to portray those differences as demeaning of female development, while endorsing the male style (Gilligan, 1982).

Hypotheses:

- 1) The 'self-focus' of the dyads will vary significantly from one another, with male-male dyads using the most self-references and female-female dyads using the fewest number of self-references.
- 2) The 'other-focus' of the dyads will vary significantly from one another, with female-female dyads using the most other-references and male-male dyads using the fewest other-references.
- 3) 'Self-focus' will vary significantly as a function of the sex and age of the speaker, with 18-30 year old males using the most self-references and 31-50 year old females using the fewest self-references.
- 4) 'Other-focus' will vary significantly as a function of the sex and age of the speaker, with 30-50 year old females using the most other-references and 18-30 year old men using the fewest other-references.

Exploratory Studies:

In addition to the testing of the formal hypotheses, two collateral studies were undertaken. Using the topics coded by the raters, these statements were further evaluated for the orientation of the statement and the specific topic. Of particular interest was the sex of the dyad and the sex of the speaker relative to the topic; and the orientation of the statement given the sex of the dyad and the age of the speaker. These findings were discussed in light of the results of the hypothesis testing.

Overview:

In chapter II, the literature on sex-specific differences in social interaction will be reviewed. This coverage will be extensive, outlining some of the methodologies utilized and reflecting the substantial research attention given to this area. In chapter III, the design and methodology of this study will be clarified, including a discussion of reliability and procedures for data analysis. Chapter IV will present the results of the hypothesis testing as well as the results of the supplementary analyses. The study will be concluded in chapter V, with particular attention to its strengths, limitations, and implications for future research.

CHAPTER II

REVIEW OF THE LITERATURE

As noted in chapter I, a number of empirical studies have been performed to evaluate the theory of Gutman, Bakan and Parsons and Bales. While some have sought to directly assess the credibility of their theory, others have taken a more global approach, investigating sex differences in social interaction as only one factor among several independent variables. Because of the substantial amount of research that has been devoted to this topic, the following review is selective. It will be organized around the following descriptors: 1) sex differences in social interaction will initially be restricted to individuals reacting to various experimental stimuli, and friendship formation, followed by a review of the few studies on sex differences in groups; 2) sex differences which have been identified as a function of game theory; 3) sociolinguistic studies of male/female differences in conversation. Although the literature to be presented in the last part of this review is most similar to the actual design of this study, the broad scope of this review is vital to both the construction of the design as well as the question to be answered.

Experimental Stimuli, Friendships, and Groups

Sex-related differences in the perception of others and physical space have been studied by several researchers (Carlson, 1971; Exline, 1963; Falbo, 1975; Holahan & Holahan, 1977, 1979; Kohn & Fiedler, 1961; Wood, 1966). In an early study (Kohn & Fiedler, 1961), the researchers predicted that factors of gender and age would yield reliable differences in the perception of other people. Consistent with their hypotheses, the authors found that women tended to view others in more favorable, less differentiated ways, while the effect of age was less pervasive and seemed to be significant only in the perception of self, younger siblings and important adults. Discussing the females' tendency to view others more favorably, the researchers conjectured that this may be "because they tend to be treated more kindly by the world and they are less exposed to the disillusioning interpersonal experiences" (1961, p. 163).

Carlson, in a direct effort to measure the credibility of Bakan's and Gutman's constructs, had men and women write brief personality sketches of someone "they knew fairly well" (p. 269). In support of her hypotheses, and the theorists' constructs, she noted males' tendency to represent others in more "objective," "classifying" modes, while women were less likely to use demographic labels. Continuity of this divergence was also revealed with regard to perceptions of the physical environment. Male and

female responses to the statement: "Describe the physical-geographic environment (community, neighborhood, house, area of the country) where you lived longest during the first ten years of your life," (p. 270) showed sex-specific differences regarding the proximal or distal characterizations of the answers. Female representations of this space tended to be more "personal, memories of the inside," while males described their scenes in more objective, physical terms (distal), relying on environmental facts to recall the settings. The author interpreted these differences to be reflective of a more basic communal, agency split and concluded additional support for Bakan's and Gutman's dichotomies.

The results of Carlson's work were reinforced and elaborated by Holahan and Holahan (1977, 1979) and Falbo (1975). In the Holahan study, the researchers reasoned that variable schematizations of the environment may not only be a function of the observer's gender but, moreover, the divergent interpretations may stem from personal characteristics of the individual. Towards this end, the authors included a measure of psychological masculinity and femininity (Spence & Helmreich, 1978), independent of gender. Commenting on the subjects' written responses to descriptions of their childhood and contemporary environments, the authors found clear evidence of sex-linked schematizations, with males emphasizing "asocial," "impersonal," and

"individualistic" dimensions, while females focused on more "personal attitudes, values, and opinions" and referred more often to friends or qualities of friendship (1979, p. 232). These results were interpreted as consonant with the positions of Gutman and Bakan. With respect to the psychological aspects of gender, masculine traits were again most frequently associated with impersonal and asocial descriptors, while the high scores in personalization of the environment and social emphasis were achieved by androgenous types. The authors felt that this finding suggested that masculine traits, when combined with feminine traits, augmented rather than attenuated the latter.

Holahan's study essentially replicated Falbo's (1975) earlier work on person and space-related perception. Using Tajfel's (1969) notion of functional salience, the study predicted that females and those with feminine traits would be more attuned to person-related stimuli, while males and those with masculine traits would focus on spatial characteristics. While the relationship between gender and person-related dimensions were straightforward and as expected, the association between psychological masculinity and femininity and the dependent variable was unanticipated. In fact, the salience of person-related dimensions was most highly correlated with those individuals who conformed least to their appropriate gender, and not in the direction of high feminine traits. This unexpected relationship was not clearly understood by the authors, but it suggests that

more future studies on sex-differences need to consider this psychological aspect.

While the previous studies have highlighted the primacy of gender or masculine, feminine traits as determinative of the qualities of social interaction, it is important to state that this view is not unanimously shared by all researchers. A popular alternative explanation suggests that observed sex-differences in social interaction may be related to power or status processes (Meeker & Weitzel-O'Neill, 1977; Ridgeway, 1978; Thune, E., Mander-scheid, R., & Silbergeld, S., 1980a, 1980b). Briefly summarizing this position, it holds that one's social performance is largely evaluated on the individual's external status or perceived competence. Furthermore, the theory assumes that members with higher status need not prove group-oriented motivation, while lower-status individuals must concentrate on other-focus. Since it is assumed that men, by virtue of their gender, are granted a higher status, the theory holds that reduced other-focus by males can be understood as a function of their higher status and not by narrower conceptions of gender (Berger, Cohen, & Zelditch, 1972).

This conception has been empirically tested by researchers (Thune et al., 1980a, 1980b) with compelling evidence for the role of status dynamics. The authors found that a group of married partners (males representing

higher status) divided along expected socioemotional, instrumental lines, while a mixed group of professional teachers (status assumed equal) showed no such stereotypic split. These conclusions, indeed, demonstrate a need for further research on the impact of status and power factors on social interaction, nevertheless, numerous studies indicate that stereotypic dichotomies of sex-specific roles are often more variable in families than other groups (Waxler & Mislner, 1970).

Studies have also attempted to highlight salient differences in sex-linked social interaction by investigating the gender of those involved (Aries, 1976; Ickes & Barnes, 1978; Ickes, Schermer, & Steeno, 1970; Piliavin & Martin, 1978; Walker, 1981). Underlying this manipulation is the belief that individuals, when grouped entirely with members of their own sex, will be more likely to express those themes and patterns of interaction most preferred by that sex. Aries (1976), in an attempt to isolate the content and manner of interaction unique to males and females, organized six groups: two of which were all-male, two all-female, and two mixed. After five sessions of "trying to get to know each other better," she noted that the all-male group interacted in a manner significantly distinct from the all-female. Most apparent, the males established a more stable dominance order and tended to talk to the group as a whole unit, while women were more flexible with regard to leadership functions and more inclined to focus

on one-to-one relationships. Differences were also recorded with respect to the content of the material discussed. Citing the dimensions of intimacy and openness, the study found:

Males in the all male group talked very little of themselves, their feelings or their relationships with significant others. In the all-female group, on the other hand, members shared a great deal of information about themselves, their feelings, their homes, and their relationships with family, friends and lovers. (p. 12)

Her study also identified a difference between the sexes in terms of their preoccupation with themes of competition and aggression while males were very concerned with sizing up other males and discovering who was the most knowledgeable about movies, books, travel, etc....., women were more apt to disregard distinctions and, in general, downplay differences in favor of common feelings and shared experiences. Interestingly, this study found that in the mixed groups, men showed more expressive behaviors, but this change seemed to be purchased at the expense of greater role restrictiveness for women.

Piliavin and Martin (1978) used Parsons and Bales' expressive and instrumental constructs to distinguish the relative impact of group composition and one's gender on an individual's group behavior. Similar to Aries' study, the authors formed all-male, all-female, and mixed groups and had the members discuss three social problems. Contrary to the previous study, however, these researchers

hypothesized that the overriding necessity of having both instrumental and expressive functions present in a group would tend to suppress expressive modalities in all-female groups in favor of more instrumental ones, while all-male groups would show a similar reversal of orientation. Discussing the studies' failure to support the "suppression hypothesis", the authors noted that the:

strongest and clearest finding in this study is that the behavior of individuals in groups...is determined to a much greater degree by his/her sex, than by the composition of the group in which they are interacting. Women engaged in more socio-emotional behaviors than did the men, while men engaged in more task behaviors than woman. (p. 293)

Data from the mixed-sex group showed both genders maintaining their stereotypic dispositions, with no significant deviations.

Friendships

Lionel Tiger's (1969) belief that men have a biologically transmitted and culturally reinforced propensity to form bonds with other men which are inherently more stable and stronger than females, has served as an impetus for research in the area of same-sex friendships (Booth, 1972; Gibbs et al., 1978; Wheeler & Mezlek, 1977) and provided another vantage point to observe sex-differences in social interaction. Booth (1972) surveyed the similarities and differences of men's and women's social participation in

friendship dyads, voluntary associations, and kin relations and found no support for Tiger's hypothesis, and some evidence which directly contradicted the theory. More specifically, the study did not find any overall differences in the number of friendships for men and women, but female associations were "affectively richer and more spontaneous" (p. 186) than males. Gibbs et al.'s (1978) study, like Booth's, attempted to challenge Tiger's formulation by investigating the qualitative aspects of same-sex friendships. The authors predicted female friendships would have higher altruistic and empathic components than males, while males would have a stronger companionship dimension (the qualities were strictly defined in the study). Secondly, and in conjunction with Tiger's theory, it was believed that men would view women as more unfriendly than other men. Analyzing the responses to sentence stems, the authors found no differences in the qualities of friendship desired by either sex. Rather, the data showed both genders to be primarily attracted to relationships where the dominant ethic was one of empathy, "the sharing of one's innermost thoughts and feelings with a trusted other" (p. 263). Discussing the study's failure to discriminate between sexes and the values sought in relationships, the researchers cited the subjects' age and the university setting: "Students are deeply involved in the processes of mutual self-discovery and self-definition which are articulated largely through close

interpersonal relationships" (p. 270). With regard to the second prediction, the authors were surprised to observe results suggesting that male-male friendships, more often than female's, were mediated by hostility. Both men and women viewed females as more friendly and more capable of forming empathic, altruistic relationships, a direct, strong, rebuttal to Lionel Tiger.

Other researchers, investigating the nature of interaction in same and mixed-sex friendships have specifically considered the impact of age in their work (Candy, 1977; Powers & Buttena, 1976; Weiss & Lowenthal, 1973). Weiss and Lowenthal (1973), analyzing the complexities and friendship patterns of individuals during four stages of the life cycle found sex-differences more predictive of these facets than stage differences. They found that at all stages of the life cycle, men emphasized "commonality", defined as those qualities that explicitly state a sharing or common base to the relationship. If being similar is important, either in personalities, interests, ideas, values, and attitudes, or in the sharing of attitudes or experiences, then the emphasis of friendship belongs in this dimension (p. 773), while women, on the other hand, stress the importance of "reciprocity" (defined as: helping or supporting is the focus, whether it be a dependency, an understanding or an acceptance of each other, a confiding in, or simply a trusting of one another...requires a

higher degree of involvement or commitment on the level of emotional expression (p. 773). Furthermore, on a measure which characterized the type of relationships which individuals had, versus those they ideally wanted, the authors found that not only do "women develop closer, more emotionally oriented relationships with their friends than do men, but this more involved interaction is experienced as a desired relationship more often than it is actualized (p. 774).

Candy's (1977) study of friendship functions in six age groups of men and women identified three primary bases for relationships and found some significant correlations between age and these three factors: 1. intimacy-assistance, 2. status, and 3. power. For instance, women from adolescence through their fifties rated friendships as unimportant for status reasons, while women over sixty years of age found status integral to relationships. Although males showed no significant differences between age groups and functions of friendship, they did demonstrate a steadily growing value for intimacy-assistance as age increased. Overall, intimacy-assistance was more valued by women in their same-sex relationships than by men, however, no significant correlations were found for functions of friendship and mixed-sex dyads.

Powers and Buttena (1976) restricted their study to the role of friendship in old age. Contrary to the general stereotype, they found that males had more social contacts

than females, and did so more often, but that these contacts were very limited in their diversity. The authors speculated that the preponderance of male suicide in old age may, in part, be related to this constricted object choice, while

the greater female versatility in the choice of the objects of intimate relationships may partly explain the greater female adaptability to survival. Perhaps it is the diversity in all forms of social contact, not just in intimate relationships, that contributes to greater female adaptability in later life.
(p. 745)

Before concluding this section and beginning a review of the game-theory literature, a finding which has run throughout much of the work to this point will be made explicit. A number of the studies cited have found female social interactions, friendships, or perspectives to be more open, intimate, richer in affect, expressive of emotion, personal, empathic, and so on. Although it is not strictly accurate, many of these behaviors can be subsumed under the label of self-disclosing. This behavior has been the subject of a great deal of research attention (Cozby, 1973), and although the conclusions are generally unclear, there is more agreement when the behavior is further specified in terms of possible sex differences.

While Cozby's review (1973) found that there were as many studies showing no sex differences in the amount of disclosure, as finding females to be higher disclosures, no studies reported higher rates for males. This ambiguity is

not expressed by Jourard (1971) who identifies what he considered to be the "lethal aspects of male inexpressiveness." Kraft and Vraa (1975) found all-female communication groups to be significantly more revealing than a similar mixed-group. Morgan (1976) speculated that the failure of self-disclosure research to yield more consistent results could be traced to a failure to consider the intimacy level of the topic. He reasoned that sex differences would be more distinct when correlated with highly intimate material and not significant when the subject was less personal. The findings indicated males to be significantly less likely to disclose when the topic was of a highly sensitive nature.

Chernulik (1979) further dissected the behavior of self-disclosure and found women to be more emotionally expressive, but differentiated this facial activity from a conclusion of greater emotionality. This distinction is similar to Hoffman's (1977) finding that while women are vicariously more empathic than men, they do not appear to be more adept at assessing another person's affective, cognitive, or spatial perspective.

These few studies suggest that when self-disclosure behavior is correlated with sex-difference, reliable distinctions may emerge, but the generalizability of these findings may be very limited.

Game Theory and Sex-Differences

Studies employing various games (Prisoner's Dilemma, the Executive Game, Chicken, Acme-Bolt Trucking Game) afford another perspective from which one can analyze self-other orientation in social interaction. Using these activities, researchers have focused on a number of different behaviors, including: conformity, conflict processes, decision-making, coalition formation, leadership dynamics, problem-solving, and cooperation, in an effort to understand how they correlate with various characteristics of the individual or the group, including: status variables, gender, factors of age and size of the group. Prior to considering the contributions these studies have made to the literature of sex-differences in social interaction, a famous study, in a related vein, is cited.

An early and well-known study in this area was conducted by Strodbeck and Mann (1955). The study attempted to determine if the instrumental/expressive dichotomy, specified by Parsons and Bales, would carry over from primary groups to a type of ad hoc problem-solving group--a 12 person jury deliberation. Given the random process of jury selection, it was felt that the subjects would be markedly differentiated in terms of age, occupational role, and SES variables and, therefore, any significant interaction of these factors and patterns of interaction would be especially highlighted.

Discussing the results, the authors found their hypotheses supported, with women behaving more in a socioemotional manner, while men demonstrated more task behavior. This labelling was predicated on an analysis of verbal interactions using Bales' interactional scoring format, which found women more likely to "agree," "show tension release," and show "solidarity," while men were more inclined to "give opinion," "give suggestions," and "give orientation." Summarizing the data, the authors felt they had demonstrated continuity of the instrumental/expressive dichotomy from primary groups to jury deliberations.

If the task of jury deliberation can be grossly conceptualized as an exercise in problem resolution, then the specific behaviors of conformity, cooperation, and coalition formation should be more than peripherally related to this task and, hence, warrant further inspection.

The Prisoner's Dilemma (PD) game has consistently shown sex-differences regarding player strategies (Hottes & Kahn, 1974; Kahn, Hottes, & Davies, 1971; Rapoport & Chammah, 1965). Essentially, the game highlights the dimensions of cooperation and competition and requires the participants to blindly try and match or predict his/her opponent's responses. Rapoport and Chammah labelled the choices "individual rationality" versus "collective rationality" (1963, p. 831).

Kahn et al. (1971) conjectured that the sex-linked variation in strategy could be attributed to the divergent goals of the sexes, with males more attuned to strategic considerations (i.e., winning and losing), while females stressed the social aspects of the situation (i.e., sex and physical attractiveness of the opponent). Hottel and Kahn (1974) extended the work of Kahn et al. (1971) by investigating how sex-specific strategies varied when the players were allowed opportunities for conversation. It was assumed that male-male scores would improve because they would use the occasion to discuss strategy, while female-female scores would show little variation because they would ignore strategic consultations in lieu of more interpersonal matters. Discussing the results, the authors found all their hypotheses supported. While the males quickly figured out how to win and maximize their points, the females seemed to eschew any approach to the game which was associated with winning.

While the females' behavior might appear 'irrational' from a male perspective, it is only if one assumes the goal of maximizing outcomes (points, money, credit). However, it has been suggested by a number of writers that females are not achievement oriented, but socially oriented or accommodative. If so, maximizing outcomes would be only tangentially related to this goal of achieving a pleasant situation. (1974, p. 271)

These conclusions were also supported by Vinacke (1959) in game situations involving all-male and all-female triads. In competitive situations, the patterns of

coalition formation showed sex-linked variations, with females coalescing when it was disadvantageous and failing to come together when it was to their favor.

A reasonable interpretation to the overall picture is that females are less concerned with winning, as such, and more concerned with arriving at a fair and friendly solution to the problem. The task for them appears to be to determine a way in which no one suffers at the expense of anyone else. (1959, p. 357)

This pattern was also shown to endure (Bond & Vinacke, 1960) when the groups were no longer homogeneous with respect to sex. Again, females adopted an "accommodative" strategy and males relied on an "exploitive" design.

Wiley (1974) dissented partially from the findings presented by previous researchers and found that the opportunity for communication showed the most significant impact on male-female levels of cooperation. This finding is listed as a partial reservation because, ultimately, it was related to the existence of traditional sex roles, with men being protective of women and women acquiescing to the male's presumed strength.

This brief review of game theory research seems to be generally consonant with the literature regarding sex differences in social orientation. Across different behaviors and in groups homogeneous regarding sex, strong sex-linked preferences persist. These conclusions, however, must confront an important methodological criticism before they warrant unequivocal endorsement. Namely, it has been

suggested by other researchers (Hansson, Allen, & Jones, 1980; Milton, 1959; Sistrunk & McDavid, 1971; Uesugi & Winacke, 1963; Wiley, 1974) that the sex differences which these studies document may be more symptomatic of the role appropriateness of the task (Milton, 1959) or the masculine bias which pervades these numerical games (Wiley, 1974) than gender differences. Although few studies have considered this point (Sassen, 1980; Uesugi & Vinacke, 1963), it is a very tenable criticism and one which is receiving increasing attention as women seek to avoid the negative labelling often associated with these evaluations of their performances (Gilligan, 1982).

Contributions of Language Studies

As the previous portion of this chapter has indicated, one's gender influences various aspects of social behavior. Recently, social linguists and those investigators concerned with the function and structure of language have shown an increasing appreciation of this fact through the direction of their research. The following statement by Barron (1971) effectively explicates their rationale:

If the distinctions suggested by empirical studies of nonlinguistic sex differences correspond in meaning to distinctions adherent to language categories, and if corresponding linguistic and nonlinguistic distinctions manifest themselves within persons in a straightforward fashion suggested by the common meaning features which they share, then nonlinguistic differences which distinguish males and females will predict to analogous language differences of the sexes. (p. 27)

The remainder of this literature review will examine those empirical and non-empirical studies which have focused on gender as integral to functional language distinctions, with particular attention paid to differences in 'self-other' focus. No attempt will be made to examine the research on structural aspects.

Ethnographic/Anecdotal Research

Although the amount of empirical research in this area is increasing, the field is strongly characterized by introspective and anecdotal methodologies, with few experimental studies (Thorne & Henley, 1975). It is generally conceded that Otto Jespersen's text: Language: Its Nature, Origin and Development (1922) was the first to provide an extensive treatment of sex differences. Relying on old ethnographies, novels, and statements by prominent individuals, he provided several generalizations regarding both functional and structural differences. In his chapter on "The Woman," he surmized that sex differences were most likely a function of the division of labor.

The importance which Jespersen attached to the division of labor and its impact on language topic have been reaffirmed by more contemporary authors (Bernard, 1972; Harding, 1975; Klein, 1965; Komarovsky, 1962; Kramer, 1974; Langer, 1970). In a case study of 58 blue-collar marriages, Komarovsky (1962) noted the sharp, divergent

interests held by husbands and wives and how they contributed to barriers in communication: "What does she have to talk about? Dirty diaper stuff. I don't care about that. She talks about the children, but we both see what is happening. We are both there..."(p. 149). Or the wife: "Regular guys don't mess around with women except when they want what a woman's got to give them. Men and women are different. The fellows got their interests and the girls got theirs, they each go their separate ways" (p. 150). Langer (1970) observed a similar demarcation of conversational interests during the three months of working and observing at the telephone company. There women avoided religion and politics while in the men's department these topics were commonplace. Bernard (1972), following the work of Parsons & Bales (1955) labelled the distinctions "expressive talk" versus "instrumental talk" and Kramer (1974) found further evidence of the dichotomy by analyzing 156 cartoons in the "New Yorker,"

Men hold forth with authority on business, politics, legal matters, taxes, age, household expenses, electronic bugging, church collections, kissing, baseball, human relations and--women's speech. Women discuss social life, books, food and drink, pornography, life's troubles, caring for a husband, social work, age, and lifestyles.
(p. 83)

Other researchers (Harding, 1975; Klein, 1965) have shown that sex-specific topics are not simply peculiar to Western industrial cultures. Harding (1975), in an ethnographic study of an agrarian village in Spain wrote:

Our work cuts channels in our world of words, creating certain clusters of topics and concerns. Thus the division of labor between the sexes in Oroel becomes a division of their use of language as well.

In their talk and thought, village men are primarily occupied with the land and what pertains to it--crops, the weather, prices, wages, inheritance, work animals, and machinery. In casual dialogue, a man is interested in what a person thinks, and what a person knows, and does as a larger social and economic being in the public sphere. His main verbal focus, however, is on his own concerns, not anyone else's.

The talk and thought of women are wrapped around people and their personal lives. The first thing a woman wants to know when she meets someone is about her family. In her daily life in the home and village, a woman is likewise more interested in how someone feels than in what someone thinks, in who a person is, and what a person does in private, rather than the public sphere. If a man's world of words revolves more around objects and his own concerns, a woman's revolves more around subjects, around persons and their concerns.
(pp. 286-87)

Haas (1979), surveying the folk wisdom and anecdotal evidence of spoken language differences, summarized the findings as follows:

Women's speech is said to contain more euphemisms, politeness forms, apology, laughter, crying, and unfinished sentences. They are reputed to talk more about home and family and to be more emotional and positively evaluative. Further, women's speech is stereotyped as nonassertive, tentative, and supportive. Women are also said to talk more than men.

Men, on the other hand, are reputed to use more slang, profanity, and obscenity and to talk more about sports, money and business. They are reputed to make more hostile judgments, and to use language to lecture, argue, debate, assert and command.
(p. 623)

Empirical Language Studies

While introspective and ethnographic methodologies are particularly well suited to descriptive analyses of language differences, recently linguists have sought to provide empirical validation for these hypotheses. The following material will highlight some of the procedures and conclusions of the empirical studies. As will be evident throughout this discussion, many of the researchers have, explicitly or implicitly, organized their studies around the theoretical dichotomies sited at the outset of this review (Bales, Gutman, Bakan) and several of those methodologies have been preserved by the linguists.

Hirschman (1973) analyzed six dyadic conversations between females and males to determine if the episodes differed for certain speech characteristics, and "flow of conversation." Although her conclusions must be cautiously regarded given the extremely small sample, she listed the following results: 1) male conversants were more likely to argue, while females tended to elaborate on each other's utterances, 2) females used a greater number of pronouns involving the other person, while males showed the

reverse, 3) no difference in the number of qualifiers (e.g., maybe, sort of, I think), and 4) females interrupted each other more than any other pair.

Building on the findings from her earlier work, Hirschman (1974) hypothesized that females would be more supportive in conversational behavior, while males would be more assertive. Assertiveness was measured by instances of interrupting, talking a lot, not losing the floor to an interrupter, few qualifiers (maybe, sort of, I think), and few fillers. Supportiveness was measured by the frequency of affirmative words (yeah, right, mm hmm) and asking questions to draw out the other speaker. Discussing the results which did not support her hypothesis, the author cited the socially awkward experimental procedures, the possibility that the constructs, as operationalized, were inaccurate, and the severely restricted sample size.

Gleser, Gottschalk, and Watkins (1959) sought to correlate factors of gender and intelligence to specific word choice. Each subject gave a five minute speech on "any interesting or dramatic life experience he/she could recall," and the words were subsequently classified as to their grammatical or psychological function. While most I.Q. differences were correlated with grammatical categories, the researchers found that females "used a very significantly higher percentage of words implying feeling, emotion, or motivation, whether positive, negative or

neutral" (1959, p. 188). On the other hand, men showed greater use of words implying time, space, quantity, and destructive action.

This 'objective-emotional' dichotomy has been reported by other researchers employing various stimuli to elicit sex-specific language styles (Swacker, 1973; Warshay, 1971; Wood, 1966). In a multi-faceted experimental procedure, Wood (1966) investigated correlations between sex of speaker, sex of recipient, and success or failure of the communication with the number of words uttered and lexical characteristics of the clues given by the speaker. Of interest to this review, Wood found that the differences in the clues given were most related to the sex of the speaker with no significant speaker-recipient interaction. More specifically, female hints were typified by their "creatively interpretive," (1966, p. 129) impressionistic style, while males relied on a more empirical approach, suggesting observable, physical referents to the photographs in question. Wood concluded that the divergent styles might be related to Bales' notion of role differentiation.

Warshay (1971) had 263 college students write descriptions of events important to them and analyzed the transcripts for specific sex differences. Reporting the results, she found males to be "more active, more ego-involved in what he does and less concerned with others" (p. 8), while females were less time-oriented and referred

more to others. In a later study utilizing the same data, Warshay (1979) correlated age and marital status with sex differences in language style and found that being married had an effect similar to being female in that both were related to affectivity in language. Age appeared to increase instrumentality and affectivity when they were already predominate.

Barron (1971) asserting that the wealth of evidence on sex differences in non-linguistic behavior was likely to have an analog in linguistics, hypothesized that

the speech of men would be characterized by action and projection of themselves as actors upon the environment, while the language of women would be concerned with internal states and behaviors which would integrate other persons with themselves into the social situation. (p. 29)

In order to test her assumptions, she used grammatical case as a unit of analysis and collected videotaped samples of language interaction from eight different suburban and inner city classrooms. Analyzing the tapes for particular cases, Barron found four of the seven cases predicted significant differences in the anticipated direction, while two of the remaining three cases were in the predicted direction, but not significant. She summarized her results as follows:

Women produced a significantly greater proportion of explicit participative cases than men thus demonstrating their greater concern with internal psychological states. The greater involvement

of men with implementation of action by means of objects was shown by their greater use of instrumental and source cases. Men produced a significantly greater proportion of objective cases, thus verbally emphasizing things acted upon. (p. 39)

The author felt the results conclusively demonstrated sex-linked differences in content, patterns, and emphasis of language use.

Dutch researchers (Brouwer, Gerritsen, & De Haan, 1979), seeking to enhance and expand the methodologies used by sociolinguists in the assessment of sex-specific language differences, observed the ticket buying behavior of railroad passengers. Specifically, the authors considered how factors of: sex of speaker, sex of addressee (ticket seller), age of speaker, and time of purchase would correlate with the number of words used and forms of language expressing insecurity (repetitions, hesitations, self-corrections, requests for information). Data was surreptitiously tape recorded for 587 ticket transactions and while no explicit hypotheses were stated, the authors predicted that women would appear less secure in their language behavior than men.

Discussing their results, the authors found minimal support for the greater insecurity of female versus male speech. In fact, the independent variable which correlated highest with the dependent measures was sex of addressee (ticket seller), and this was true for both sexes.

The authors concluded by emphasizing the importance of the sex of interviewer or addressee in future research projects.

A sizable body of research revolves around Lakoff's (1973) assertion that a "women's language" exists as a sub-entity of human language and, more importantly, that feminine language is marked by its trivial nature, avoidance of strong statement and uncertainty (Baumann, 1976; Crosby & Nyquist, 1977; Dubois & Crouch, 1975; McMillian, Clifton, McGrath, & Gale, 1977; Newcombe & Arnoff, 1978; Siegler & Siegler, 1976). While her claims are based on examinations of her own speech (introspective) and that of acquaintances, she does specify those dimensions which distinguish it from male speech. Namely, women tend to use weaker expletives than men (oh dear, goodness, versus shit, damn), adjectives which trivialize female speech (charming, adorable, lovely, versus male or 'neutral' adjectives; great, terrific, neat), and more tag questions which convey uncertainty ("John is there, isn't he?" versus the more direct form, "Is John there?").

Dubois and Crouch (1975), aside from leveling a number of methodological salvos at Lakoff's hypothesis, zero in on the prominence of tag questions in female language. The authors reviewed videotapes of a question-answer session from a professional conference, with particular attention to the use of tag questions, and found that of the 33

examples, all were spoken by men. Although the authors note the many methodological shortcomings of their informal study, they maintain that the data support a need for further inquiry into Lakoff's claim.

Siegler and Siegler (1976) used parallel designs to test the hypothesis that: 1) assertive statements would be more often attributed to males and less to females, and 2) forms associated with males would be rated more intelligent and those associated with females less so. Discussing the responses made by 48 undergraduate males and 48 undergraduate females to a paper and pencil test, the authors found the direction of the findings "in complete accord with Lakoff's theory, with tag questions most attributed to women, and strong assertions most often attributed to men..." (p. 169). Furthermore, the researchers found a significant positive correlation between the rated level of assertion and beliefs about the intelligence of the speaker, with male assertive statements judged as more intelligent than females. Consonant with Lakoff's hypothesis, McMillan et al. (1977) reasoned that women, more than men, would use more syntax categories indicative of uncertainty than would males and that these incidents would increase when men were present. In a third hypothesis, the authors felt that men would also interrupt women more than women would interrupt men.

Data was gathered from videotape sessions of all male, all female, and mixed problem-solving groups. The experimenters conducted a content analysis of the tapes for four syntactic categories; 1) intensifiers--"just," "so," "vastly", 2) modal constructions--expresses doubtfulness about occurrence of an event, "may," "might," "could", 3) tag questions--"The war in Angola is tragic, isn't it?", and 4) imperative constructions--questions substituted for commands, "Will you please close the door?" versus "Close the door." and number of interruptions. The independent variables were the sex of the subject, the sex composition of the group, and the dependent measure was the frequency of occurrence of each category.

Analyzing the results of their study, the experimenters found that women used all four syntax categories significantly more frequently than men and that three of the four forms (intensifiers excluded) were used noticeably more often when males were present. Male language showed no significant variation from group to group. With regard to the interruption hypothesis, the researchers found that males were twice as likely to cut-off women as women would interrupt men and, furthermore, when women did interrupt, they were more likely to break in on another woman.

It is interesting to note, however, that although the results seemed to confirm Lakoff's hypothesis, the authors speculated that the findings might be more reflective of

the norms and values esteemed in women's subculture. Stated more directly, they felt one could judge these results as expressing 'uncertainty' from a male perspective, while it is equally arguable that this language style is simply reinforcing the female emphasis on interpersonal closeness and emotionality. Interestingly, this interpretation is very similar to the one offered by Hottes and Kahn (1974) in their discussion of "irrational" female behavior in competitive games.

Newcombe and Arnoff (1978) had two males and two females tape record messages using, or not using, three of Lakoff's linguistic variables (qualifiers, tag questions, and compound requests) which are believed to convey politeness and insecurity. College students were then asked to "give their impressions of the person talking" (p. 1297) and specifically, if he/she seemed assertive, polite, or warm. The authors predicted that the use of three linguistic forms and not sex of the speaker would predict higher ratings of warmth, unassertiveness, and politeness. As anticipated, and supportive of Lakoff's intuition, the results showed that person perception was most significantly correlated with style of speech and not sex of speaker. These findings were replicated when older age adults from the community were substituted for the college-age raters.

Summary

This literature review has intentionally presented a broad examination of the issues relevant to the study of sex-differences in social interaction, with particular emphasis on the 'self/other' distinction. The summary has encompassed the behavior of various individuals and groups regarding: language styles and themes, competitive games, friendship dynamics, and reactions to inanimate stimuli. Of equal importance, this presentation has also attempted to highlight some of the procedures specific to this research.

While dominant themes do exist in this area, at best they are fragile and highly dependent upon the methodological procedure which has defined them. Secondly, the assumptions which persist as conventional knowledge or 'folk wisdom' are frequently dispelled when more rigorous and exacting procedures are utilized. And, finally, the review has also documented an overreliance on certain research practices and samples and a disregard for techniques which could clarify and enhance existing knowledge.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

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

Sample

In an 18 week period, February 28 to the middle of July, 1983, five trained coders collected a total of 480 conversational episodes. The conversations were gathered throughout the state of New Hampshire and from 64 possible locations, including: laundromats, bars, restaurants, malls, hospitals, recreational areas, banks, bus stations, and libraries. The following restrictions further defined the sample selected: 1) neither interactant could be less than 18 years of age, 2) English-speaking dyads only, 3) groups consisting of more than two individuals were ineligible for coding, and 4) no person could be coded more than once. Additionally, the coders were restricted to certain quotas, requiring a percentage of speakers from given sex and age categories, addressing same and opposite sex listeners. Coders were also limited to the frequency which they could utilize each location.

Instrumentation

Subsequent to a pilot study which field tested different formats of the instrument, the following model was adopted. Each coder received a 4x6 inch spiral notebook with directions to subdivide each page into a 5x3 matrix. The five rows corresponded to independent groups of personal and impersonal pronouns, while the three columns represented the eight second intervals to be coded. Aside from noting the frequency of each pronoun group used during each successive eight second interval, raters were asked to code the topic of the interaction using the following stem: "He/she talked about," and to specify some descriptive data, such as, ages and sexes of the interactants, date, time, location, and coder identification number. A diagram of the instrument and procedures for training the raters are included on the following page and in appendix A.

Reliability

Reliability refers to the accuracy and consistency of the measuring instrument. With regard to this project, it was important to determine how accurately the individual coders could correctly rate spoken dialogues. Towards this end, practice dialogues were developed for study and discussion by the group, followed by monthly administrations of sample vignettes to be rated by each coder. In an effort to approximate the actual data collection process, two

8 second intervals	I	II	III
<u>Self</u> : I, Me, My, Mine, Myself			
<u>Other</u> : He, His, Him Himself, She, Her, Hers, Herself, They, Their, Theirs, Themselves, Them			
<u>Selves</u> : We, Our, Ours, Us, Ourselves			
<u>Neuter</u> : It, Its, Itself			

Dyad: M/M, F/F, M/F, F/M

Age: 18-30, 31-50, 51-+

Date: Month/Day/Year

Time: (2400 hours)

Location:

Topic: "He/She talked about..."

I.D. number:

FIGURE 3.1: Coding Instrument

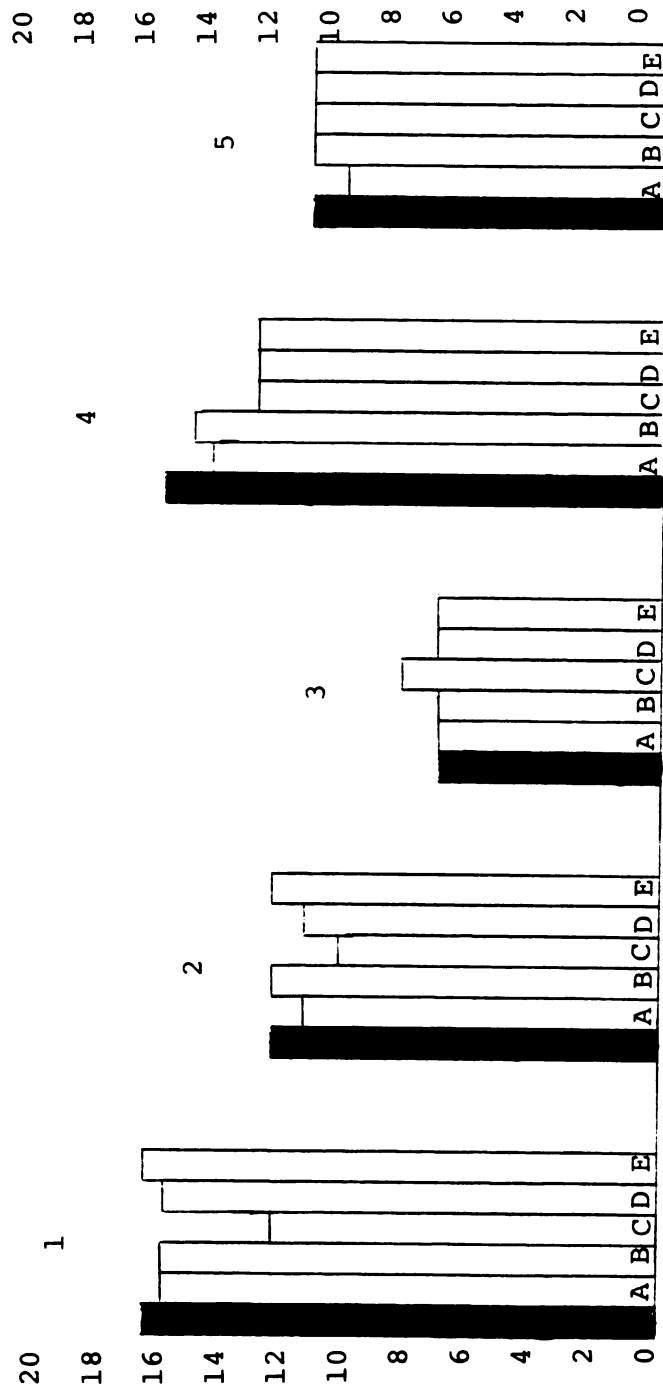
individuals would read the scripts to the coders. The written material was developed by an interested volunteer, contingent upon guidelines set forth by this writer. In general, the dialogues (appendix B) were designed to reflect casual conversation between two individuals, with a conscious effort made to include a representative sample of all possible pronouns. A total of 20 scripts was developed for the establishment of reliability, each monthly measure consisting of five vignettes.

Of a possible 247 pronouns spoken, the following percentages of correct coding were achieved: coder A, 97.1%, coder B, 96.7%, coder C, 91.4%, coder D, 93.5%, and coder E, 93.5%. In general, there was a marked improvement in coder accuracy over the four administrations, evidence that continued practice with the instrument was yielding more precise notations. On only two occasions did coders error by noting a pronoun which did not occur. This misjudgement was treated as an error of omission and subtracted from the coder's total score. Furthermore, on the four occasions when no pronouns were spoken, all coders accurately noted this fact, indicating a consistent accuracy for charting absence of pronouns.

The following graphs depict each rater's total number of responses in contrast to the actual number of pronouns present. Each of the four pages represent a separate administration of five vignettes. In sum, the percentages

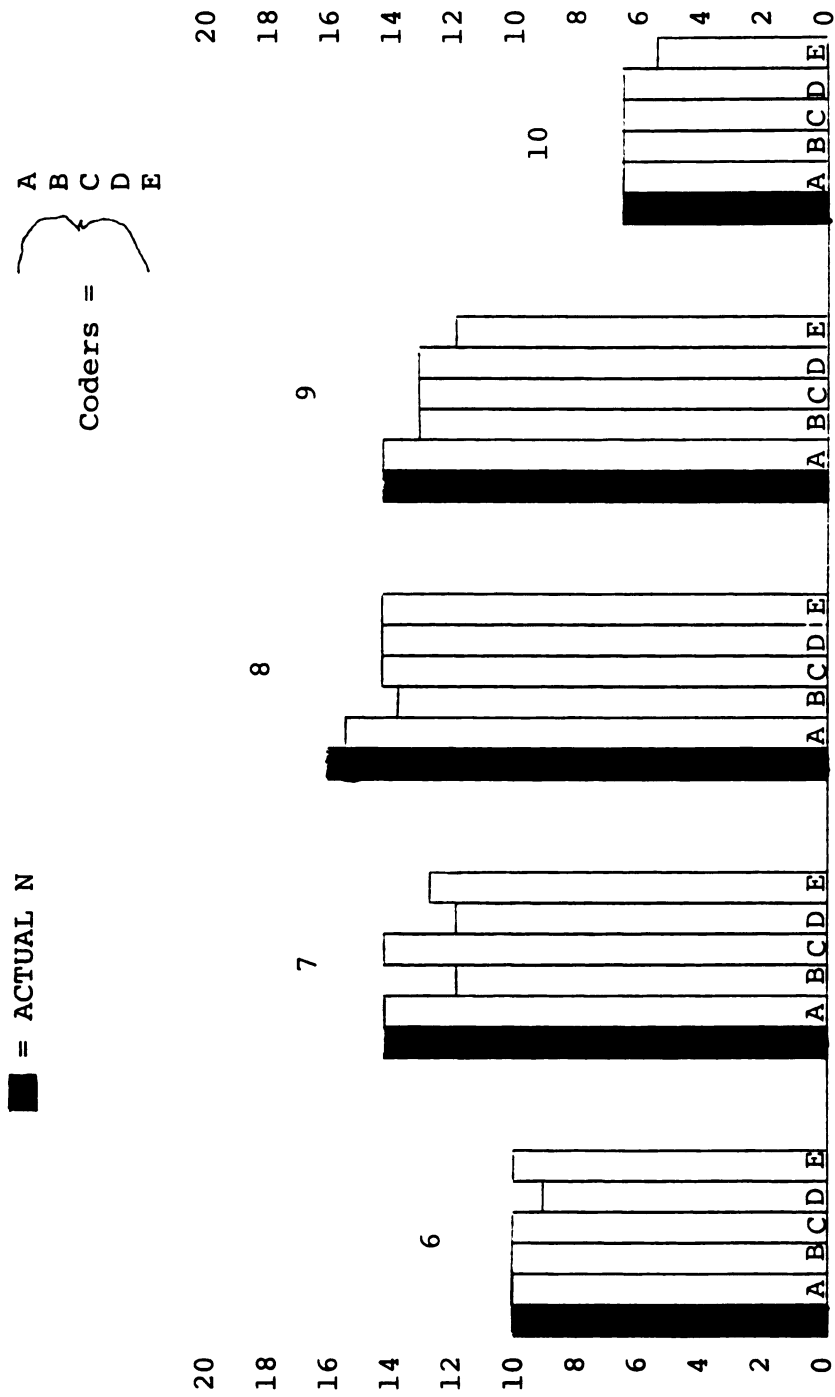
■ = ACTUAL N

Coders =
 {
 A
 B
 C
 D
 E



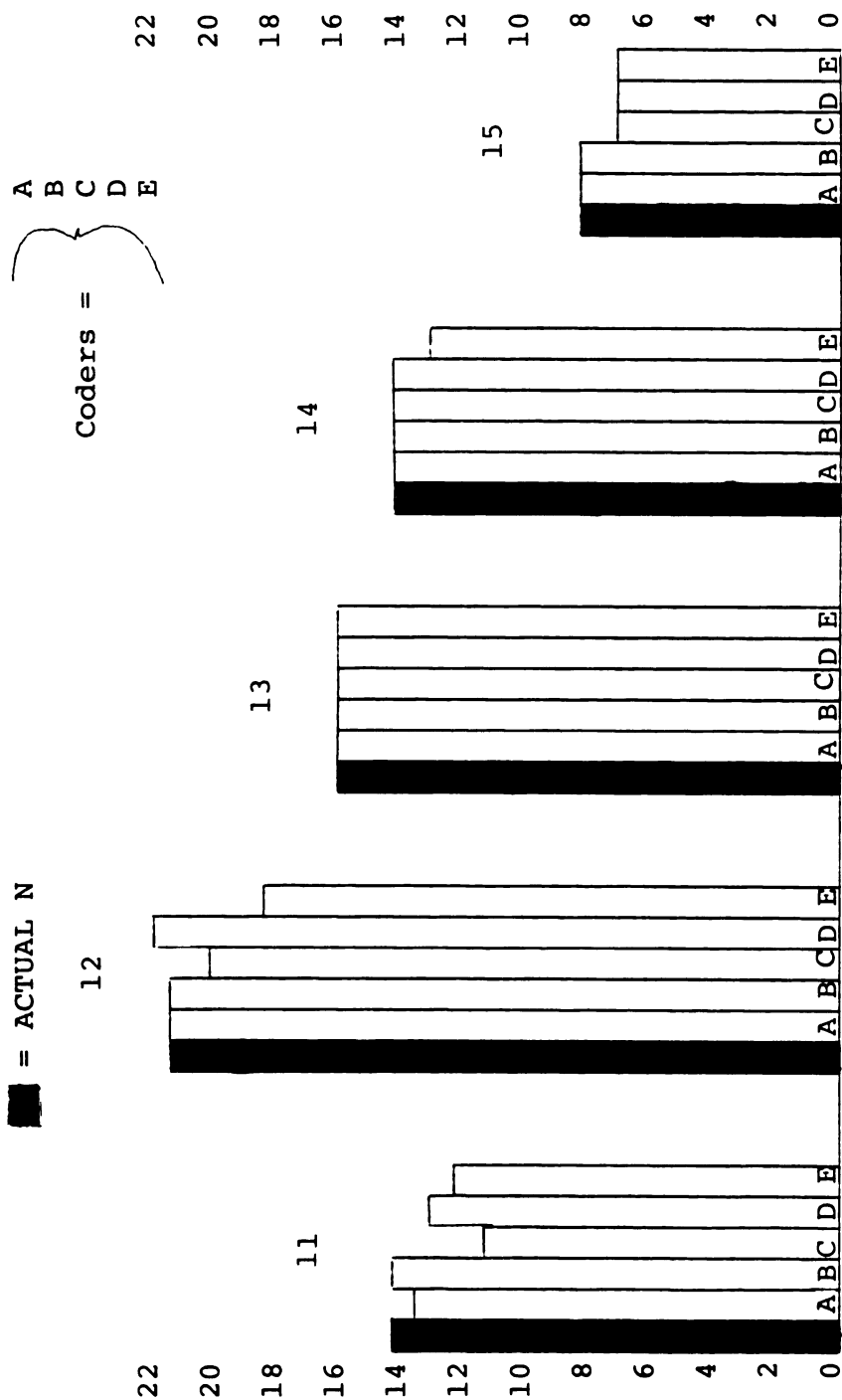
Vignettes 1-5

Figure 3.2: Reliability Administration I.



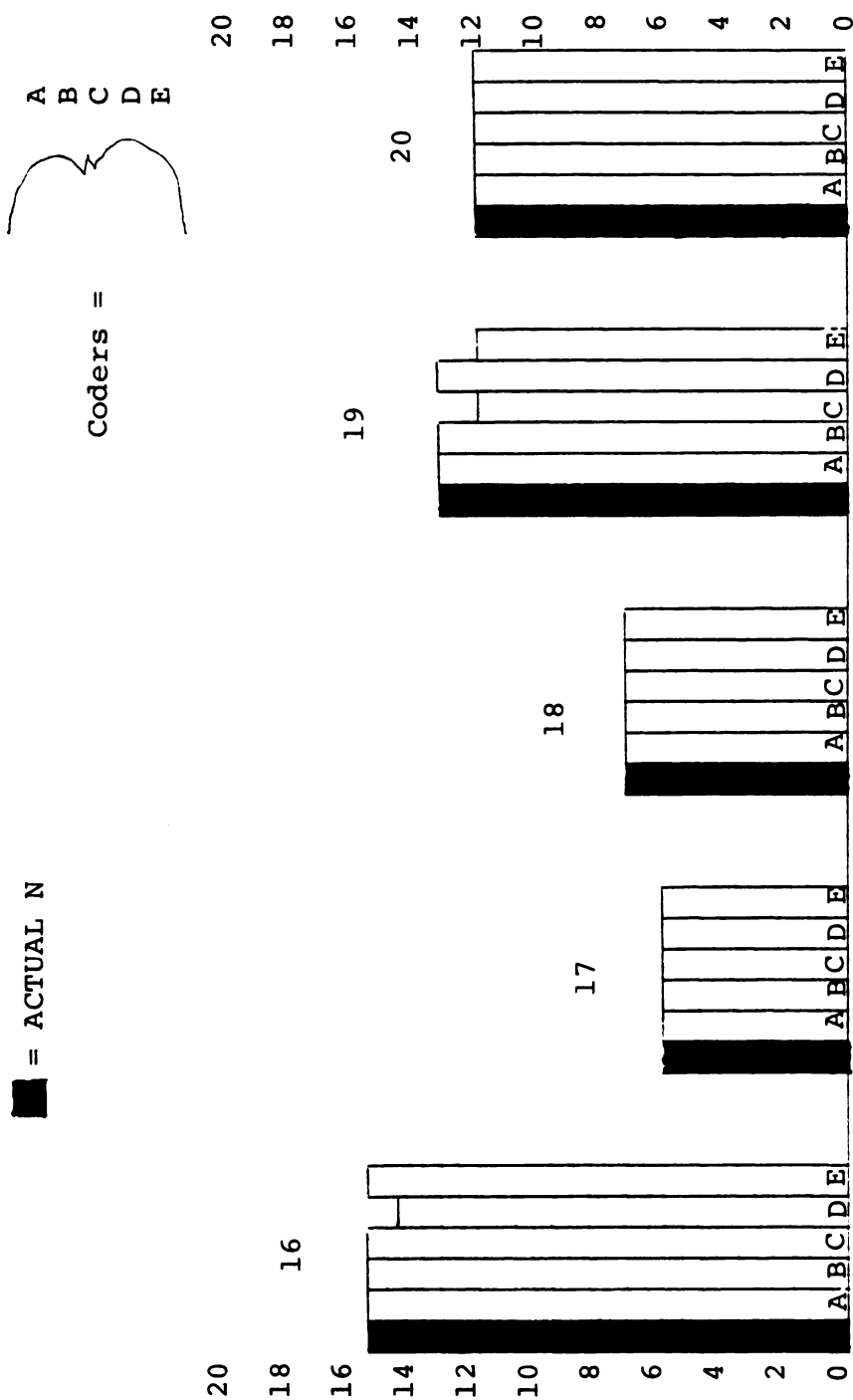
Vignettes 6-10

Figure 3.3: Reliability Administration II.



Vignettes 11-15

Figure 3.4: Reliability Administration III.



Vignettes 16-20

Figure 3.5: Reliability Administration IV.

achieved by each coder attests to his/her accuracy in coding the dialogues. These figures are particularly impressive when one notes the frequency of pronoun occurrence in the reliability samples ($M = 12.3$) versus the average occurrence of pronouns in the actual data ($M = 8.35$).

Research Procedures

Three men and two women were hired and trained to gather the data. Central to the selection of these individuals was the fact that they were known to this writer, felt to be conscientious and of high integrity, while also sufficiently mobile, with frequent access to many different settings. Upon completion of training (appendix A), raters were given a codebook, copy of the training manual, and a scoresheet for dyad and location summaries. In addition to the monthly reliability checks, frequent contact between this writer and the raters was maintained.

Data collection could be done at any time and at any location, providing that the coded individuals met the study's criteria and that the location frequencies were not violated. Three coders were responsible for collecting 120 cases each, while the other two were responsible for 60 dialogues apiece. Raters gathering 120 cases were asked to approximate a rate of one case per day to insure an even distribution over the duration of the study.

In the field, using discontinuous time probe sampling (Sackett, 1978), observers were instructed to unobtrusively position him/herself within hearing distance of a codable dyad and to chart 24 seconds of the 'speaker's' conversation. 'Speaker' was initially defined by the toss of a coin, but quota restrictions and concerns for anonymity eventually led to the designation of 'speaker' as that person most easily codable and/or necessary for the rater's quota. Dialogues coded in excess of the fixed quota were saved and submitted with the other data.

In order to assure that the individuals were engaged in conversation, with each person contributing to the exchange, the initial 8 seconds of 'speaker' talk had to be followed by 8 seconds of 'listener' talk. Therefore, while the total amount of time required to gather 24 seconds of rated material could vary from episode to episode, no case could be coded faster than 40 seconds. Furthermore, a 10 minute maximum time limit was established as the cutoff in coding any conversational episode. A case was considered complete once the rater had charted the pronoun use, descriptive data, topic, and made the appropriate entries on his/her scoresheet.

Research Design

This study used a 3x2x2 factorial design to determine the degree to which 'self-focus' and 'other-focus' were related to the sex of the speaker, sex of the listener,

and age of the speaker. The factor age had three levels, while sex of listener and sex of speaker had two levels, male and female.

The dependent variable 'other-focus' represented a summation of all third-person pronoun references, with the more familiar second-person pronouns (you, your, yourselves) and all nominative, objective, and possessive case plural, first person-pronoun references (we, us, ourselves). 'Self-focus' was defined by adding all instances of first-person pronoun use, nominative, objective or possessive case (I, me, mine, my, myself). In total, 480 conversations were recorded with each sex-of-speaker by age-of-speaker by sex-of-listener cell containing 40 independent and randomly selected episodes. The following table graphically depicts the research design:

		<u>Sex of Listener</u>	
		<u>MALE</u>	<u>FEMALE</u>
<u>Sex of Speaker</u>	<u>MALE</u>	Age 18 - 30 n = 40	n = 40
		Age 31 - 50 n = 40	n = 40
		Age 51 - + n = 40	n = 40
<u>FEMALE</u>		Age 18 - 30 n = 40	n = 40
		Age 31 - 50 n = 40	n = 40
		Age 51 - + n = 40	n = 40

Figure 3.6: Design of Study.

In addition to the analysis of the main hypotheses, two collateral investigations were done. Of interest in these studies was a comparison of the topic coded with the sex of the dyad and the sex of the speaker and a comparison of the age of the speaker and sex of the dyad with the orientation of the topic.

Subsequent to the collection of all the data, 381 of the 480 conversations rated were determined to have topics coded. These topics were, in turn, written out (appendix D) and along with coding instructions (appendix C) given to three raters for their judgements as to the topic focus of the statement as well as the orientation of the statement. Topic could be categorized under one of ten headings: (1) Sports, (2) Entertainment/Arts, (3) Business/Work, (4) Tech/Mech, (5) Domestic Economy, (6) Human Factors, (7) Social Issues/Current Events, (8) Acts of Nature/Man-made Geography, (9) School, or (10) Indeterminate. Orientation of the statement contained five possible responses: (1) self focus, (2) other focus, (3) self and other focus, (4) object focus, (5) indeterminate. Descriptions of the categories, written examples, and conventions for decision-making were thoroughly outlined in a training session and in copies of the coding instructions given to each rater.

In order to establish reliability for this second group of raters, one page out of the 17 pages of statements was arbitrarily selected on which to compute a percentage

of agreement between the three raters. Of the 24 judgments made regarding the orientation of the statement, there was 100% agreement among all three raters ($^{24}/_{24}$). With regard to the topic of the statement, all three coders were in agreement 95.6% of the time ($^{22}/_{23}$), with only one case disputed by one coder (only 23 topics were considered, rather than the expected 24, because an uncodable topic was deleted). In establishing an overall reliability figure for the remaining 357 statements, only those cases which were agreed upon by two of the three raters were noted as a correct judgement. Again, speaker orientation was more reliably noted by the raters ($^{341}/_{357}$, 95.5%) than was topic of statement, where two out of the three raters agreed 91.3% ($^{326}/_{357}$) of the time. Both figures indicate more than sufficient agreement between the raters and the items coded.

Research Hypotheses

Four research hypotheses were generated to empirically test whether a significant difference ($p < .05$) in 'self/other' orientation existed as a function of the sex of the dyad and the sex and age of the speaker.

The null hypotheses may be stated as follows:

Null Hypothesis I: The frequency of 'self-focus' will not vary as a function of the sex of the dyads.

Null Hypothesis II: The frequency of 'other-focus' will not vary as a function of the sex of the dyads.

Null Hypothesis III: The frequency of 'self-focus' will not differ as a function of the sex of the speaker and the age of the speaker.

Null Hypothesis IV: The frequency of 'other-focus' will not differ as a function of the sex of the speaker and the age of the speaker.

Procedures for the Analysis of the Data

The major focus of this study was to determine if 'self-other' reference, measured by pronoun use, varied as a function of the sex of the interactants and the sex and age of the speaker. The data used for this analysis was unobtrusively gathered by five raters coding conversations in public locations.

To test the four hypotheses, a three-way, fixed-effects analysis of variance was used, investigating the two-way interaction of speaker age and speaker sex on the dependent variable 'self-other' and the effect of sex of speaker and sex of listener on 'self-other' orientation. In addition to these hypothesized predictions, the main effects of all three independent variables will be reported.

Conditions necessary for the use of analysis of variance include the following: a normal distribution of the dependent variables, homogeneity of variance, and independence. Given the large sample size, a normal distribution was assumed by invoking the central limit theorem. Independence was also assured because it was not possible for one subject to affect the rating of another subject.

Equality of variance between the groups was felt to be robust to any possible violation given the equal cell sizes of the comparisons and the large sample sizes. The alpha level for the hypothesis testing was set at .05.

Additional analyses were also done that provided descriptive data beyond the formal hypothesis testing. Regarding the collateral studies, the chi square test of independence was done to determine if observed cell frequencies varied significantly from expected cell frequencies. Of particular interest was the orientation of the statement relative to the sex of the dyad and the speaker's age; and the topic of the conversation relative to the sex of the dyad and the speaker's sex.

Summary of Procedures

Five trained coders, over an 18 week period, unobtrusively rated the conversational interactions of 480 naturally-occurring dyads. The sample was gathered from throughout the state of New Hampshire, utilizing a total of 64 different locations. Ultimately, 12 distinct groups were defined by the sex of the speaker, age of the speaker, and sex of the listener, with 40 subjects in each group. To assist the coders with their documentation, each person was given three 4x6 inch spiral notebooks, a training manual, and a subject by location scoresheet. Coders were responsible for coding the relevant pronouns used during 24 seconds of conversation, sex and age of the interactants,

topic of the interaction, and additional descriptive data. For the three coders collecting 120 conversations each, a rate of once conversation per day was encouraged.

Aside from the initial training, the coder's ability to accurately and consistently rate pronoun use was assessed monthly. A total of 20 vignettes containing 247 pronouns were read to each coder by interested volunteers. Percentages of correct responses were calculated for each coder across the four separate administrations.

In addition to the consideration of the four main hypotheses, two collateral studies were performed involving the orientation of the speaker and the topic of the conversation coded. Trained raters judged 357 statements for orientation and topic and these decisions were, in turn, compared with the sex of the dyad, sex of the speaker, and age of the speaker.

The design for this study was a 3x2x2 factorial one. The three independent variables were: sex of the speaker, sex of the listener, and age of the speaker, with three levels for the age of the speaker, and two levels for the factor of sex. The dependent variables were self-referenced pronouns and pronouns suggesting 'other-focus.' Because of the multiple comparisons which were made, analysis of variance was used to analyze the data. Compliance with the assumptions necessary for this statistical test was assured given the large sample size, the independence of the data collected and the homogeneity of the variance.

Additional analyses were done for the collateral studies. These analyses involved the chi square test of independence and detailing the relative frequencies and absolute frequencies of topics used. The results of the data analysis are reported in chapter IV.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter is divided into four sections for the purpose of reporting the results of this investigation. The first section presents some anecdotal comments made by the raters regarding the process of data collection. The second section reports the descriptive statistics followed by the results of hypothesis testing and, finally, further analyses of interest.

Anecdotal Comments

Given the relatively novel data collection process used in this study, written comments were solicited from each rater following the completion of his/her assignment. Raters were asked to describe those aspects of the 18 week project which he/she found particularly noteworthy. The following paragraphs will briefly summarize those comments.

The observation made most emphatically by all coders was how rare it was to observe older men (51 years and up) speaking with women (any age). In fact, this phenomenon contributed to a three week extension of the data collection period so that raters could fulfill this quota. Furthermore, coders noted that it was not a matter of these dyads not being observed in public, but rather, not observing older men speaking to women in the places observed.

In a related vein, coders commented on, and the supply of extra cases substantiated, the relative ease of coding 31-50 year old men speaking to men, and 31-50 year old women speaking to women. In general, coders found the middle age categories easiest to fill (previously noted in the pilot study), particularly when the sex of the speaker and the sex of the listener were the same.

All raters expressed difficulty trying to approximate a collection rate of one case per day, particularly in the early weeks of the project when cold weather limited the availability of varied locations. Correspondingly, the warm months of May and June, when many quotas were still open, accounted for 56% of the total data gathered.

Finally, raters mentioned the high level of background noise which pervades much of the environment, a level which they had not appreciated until attempting to code conversations in public space.

Descriptive Statistics

A total of 480 conversations were gathered by five trained coders, with two observers collecting 60 dialogues each, and the other three collecting 120 apiece. The 480 conversations were collected from 64 different locations, with the following settings listed as the ten most frequently utilized:

Table 4.1Ten Most Coded Locations

<u>Location</u>	<u>Absol. freq.</u>	<u>Rel. freq.</u>
1. Restaurants	(83)	(17.3)
2. Malls	(32)	(6.7)
3. Sidewalks	(31)	(6.5)
4. Taverns	(27)	(5.6)
5. Libraries	(25)	(5.2)
6. Education Office	(23)	(4.8)
7. Grocery Store	(16)	(3.3)
8. Parks	(14)	(2.9)
9. Town Meetings	(13)	(2.7)
10. Church	<u>(12)</u>	<u>(2.5)</u>
	276	57.5%

While the design of this project specified quotas for various categories, including: sex of speaker, sex of listener, age of speaker, and location utilized, the age of the listener was not subject to restriction. Cross-tabulating the ages of the speaker by the ages of the listener, it is of interest to note that in all three categories of speaker age, the age of the listener is most correlated with the age of the speaker. In other words, individuals in the same age range are far more likely to interact with one another than dissimilar age groups.

Table 4.2

<u>Age of Speaker by Age of Listener</u>				
Age of Speaker				Age of Listener
	18-30	31-50	51-+	
	18-30			160
	115 71.9%	36 22.5%	9 5.6%	33.3%
	31-50			160
	35 21.9%	109 68.1%	16 10.0%	33.3%
	51-+			160
	18 11.3%	51 31.9%	91 56.9%	33.3%
	168 35.0%	196 40.8%	116 24.2%	

The following table specifies the range, mean, and standard deviation for the five classes of pronouns coded. It is important to recall that the dependent measure, 'other-focus,' resulted from a combination of those categories with an asterisk.

Table 4.3Distribution of the Dependent Variables

<u>Pronoun</u>	<u>Range per 24 seconds</u>	<u>Mean</u>	<u>Stand. dev.</u>
Self total:	0-13	3.09	2.42
*He/She total:	0-12	2.32	2.46
*You total:	0-10	1.22	1.45
*We total:	0-8	0.57	1.22
It total:	0-6	1.10	1.22
Other total:	0-14	4.12	2.68

Results of Hypothesis Testing

A three-way, fixed effects analysis of variance was used to determine the results of the hypothesis testing. To facilitate reading, a restatement of the null hypotheses in nonstatistical form will be presented along with the results of the analysis. Following the presentation of the formal hypotheses, other analyses of interest will be reported, including two collateral studies.

Null Hypothesis I: The frequency of 'self-focus' will not vary as a function of the sex of the dyads.

The statistical test used to determine whether male-male, male-female, female-male, or female-female dyads differed in their rate of 'self-focus' was not statistically significant $F(1, 468) = 3.48, p = .06$. Table 4.4 reports the means and standard deviations of the four dyads. The null hypothesis was not rejected. That is, all four dyads have similar rates of 'self-focus.'

Table 4.4
Cell Means and Standard Deviations for 'Self-focus'
by Sex of the Dyad

Male-male $\bar{X} = 3.22$ s.d. = 2.51	Male-female $\bar{X} = 2.91$ s.d. = 2.44
Female-male $\bar{X} = 2.88$ s.d. = 2.44	Female-female $\bar{X} = 3.38$ s.d. = 2.29

Null Hypothesis II: The frequency of 'other-focus' will not vary as a function of the sex of the dyads.

Male-male, male-female, female-male, female-female dyads were not found to differ in their rates of 'other-focus,' $F(1, 468) = 2.15, p = .14$. In other words, the null hypothesis was not rejected and one can assume that the four dyads have similar rates of 'other-focus.' The following table reports the means and standard deviations of the four groups. Sex of speaker is always listed first, sex of listener second.

Table 4.5
Cell Means and Standard Deviations for 'Other-focus'
by Sex of the Dyad

Male-male $\bar{X} = 3.88$ s.d. = 2.36	Male-female $\bar{X} = 4.07$ s.d. = 2.77
Female-male $\bar{X} = 3.82$ s.d. = 2.55	Female-female $\bar{X} = 4.73$ s.d. = 2.94

Null Hypothesis III: The frequency of 'self-focus' will not differ as a function of the sex of the speaker and age of the speaker.

The null hypothesis III was not rejected, $F(2, 468) = 1.36, p = .26$. Regardless of the speaker's sex and the speaker's age, one can assume that no difference exists for their rate of 'self-focus.' Table 4.6 illustrates the relevant cell means and the standard deviations.

Table 4.6

Cell Means and Standard Deviations for 'Self-focus'
by Sex and Age of Speaker

	18-30	31-50	51-+
Male	$\bar{X} = 3.76$ $n = 80$ $s.d. = 2.95$	$\bar{X} = 3.01$ $n = 80$ $s.d. = 2.38$	$\bar{X} = 2.43$ $n = 80$ $s.d. = 1.80$
Female	$\bar{X} = 3.32$ $n = 80$ $s.d. = 2.52$	$\bar{X} = 3.25$ $n = 80$ $s.d. = 2.47$	$\bar{X} = 2.80$ $n = 80$ $s.d. = 2.10$

Null Hypothesis IV: The frequency of 'other-focus' will not differ as a function of the sex of the speaker and age of the speaker.

The statistical test used to determine if 'other-focus' would vary in lieu of the speaker's sex and age was not statistically significant $F(2, 468) = 2.73, p = .06$. The following table (4.7) illustrates the cell means and standard deviations. The null hypothesis was not rejected.

Table 4.7

Cell Means and Standard Deviations for 'Other-focus'
by Sex and Age of Speaker

	18-30	31-50	51-+	
Male	$\bar{X} = 3.19$ $n = 80$ $s.d. = 2.38$	$\bar{X} = 4.04$ $n = 80$ $s.d. = 2.65$	$\bar{X} = 4.71$ $n = 80$ $s.d. = 2.47$	240
Female	$\bar{X} = 4.13$ $n = 80$ $s.d. = 2.87$	$\bar{X} = 4.43$ $n = 80$ $s.d. = 2.91$	$\bar{X} = 4.27$ $n = 80$ $s.d. = 2.58$	240

Further Analyses of Interest

The results of the hypothesized predictions were not significant for the two-way interactions concerning 'self' and 'other' focus. Prior to reviewing the results of the collateral studies, the main effects from the analysis of variance table will be reported.

For the dependent variable, 'self-focus,' no statistically significant differences were found for the main effects, sex of speaker $F(1, 468) = .071, p = .79$, or sex of listener, $F(1, 468) = .175, p = .67$. However, for the main effect, age of speaker, a significant result $F(2, 468) = .06, p = .003$ was found. A review of the three group means indicates that the youngest age group was most likely to be self-focused ($\bar{X} = 3.54$), with the middle-aged group second ($\bar{X} = 3.13$), and the oldest group least self-focused ($\bar{X} = 2.61$).

For the dependent variable, 'other-focus,' there was no statistically significant finding regarding the sex of the speaker and rate of 'other-focus,' $F(1, 468) = 1.50, p = .22$. In other words, the average rate of 'other-focus' for males ($\bar{X} = 3.98$) was not statistically different from the female speaker average ($\bar{X} = 4.27$). For the main effects, age of speaker and sex of listener, both were found to be statistically significant in terms of 'other-focus.' Female listeners were found to elicit, or simply hear, more instances of 'other-focus' $F(1, 468) = 5.11, p = .02$ than

men and the youngest age speakers were found to be significantly less 'other-focused' ($\bar{X} = 3.66$) than the middle-aged group ($\bar{X} = 4.23$) or the oldest group ($\bar{X} = 4.49$), $F(2, 468) = 4.19$, $p = .01$.

Collateral Studies

In order to further explicate the relationship between the age of the speaker, sex of the speaker, and sex of the listener on 'self-other' orientation, a second analysis was undertaken using the orientation coded for the speaker. While the orientation could be coded either: 1. self only, 2. other only, 3. self and other, 4. object, or 5. indeterminate, for purposes of this analysis, the indeterminate rating was deleted, yielding a total of 368 scored statements.

A chi square test of independence was used to investigate the relationship between the sex of the dyad and the orientation coded. No significant differences were found, $\chi^2 = 8.43$; $df = 9$, $p = .49$. Investigating the relationship between the sex of the speaker and age of speaker on orientation coded, a significant chi square was found when the speaker was a female, $\chi^2 = 20.05$; $df = 6$, $p = .002$. The following table illustrates the expected frequency of the dependent variable in relation to the obtained value. The four columns represent the various orientations and the rows equal the three age groupings of the female speakers.

Table 4.8Expected by Obtained Frequencies, Orientation by FemaleSpeaker, Age of Speaker

	Self	Other	Self/Other	Object	
<u>F</u> 18-30	$\frac{F_o = 20.0}{F_e = 15.6}$	$\frac{F_o = 17.0}{F_e = 17.0}$	$\frac{F_o = 14.0}{F_e = 8.6}$	$\frac{F_o = 29.0}{F_e = 38.6}$	80
<u>F</u> 31-50	$\frac{F_o = 19.0}{F_e = 15.6}$	$\frac{F_o = 21.0}{F_e = 17.0}$	$\frac{F_o = 5.0}{F_e = 8.6}$	$\frac{F_o = 35.0}{F_e = 38.6}$	80
<u>F</u> 51-+	$\frac{F_o = 8.0}{F_e = 15.6}$	$\frac{F_o = 13.0}{F_e = 17.0}$	$\frac{F_o = 7.0}{F_e = 8.6}$	$\frac{F_o = 52.0}{F_e = 38.6}$	80
	n=47	n=51	n=26	n=116	240

Analyzing the relationship between the sex of the speaker and the orientation coded, the overall chi square was not significant ($\chi^2 = 4.65$; $df = 6$, $p = .19$). However, it is of interest to note the differences between the expected frequencies and obtained frequencies in the 'self-other' categories. Table 4.9 summarizes those ratios. Males were more likely to have their statements rated 'self-focus only,' while women were above expectation in the rate at which their statements were judged 'other only.'

Table 4.9

Expected by Obtained Frequencies, Orientation

<u>Sex of Speaker</u>	<u>by Sex of Speaker</u>				
	Self	Other	Self/Other	Object	
<u>Male</u>	$\frac{F_o = 70.0}{F_e = 61.6}$	$\frac{F_o = 42.0}{F_e = 49.0}$	$\frac{F_o = 26.0}{F_e = 27.4}$	$\frac{F_o = 56.0}{F_e = 55.8}$	194
<u>Female</u>	$\frac{F_o = 47.0}{F_e = 55.3}$	$\frac{F_o = 51.0}{F_e = 43.9}$	$\frac{F_o = 26.0}{F_e = 24.5}$	$\frac{F_o = 50.0}{F_e = 50.1}$	174
	n=117	n=93	n=52	n=106	368

A significant relationship (chi square = 16.91; df = 6, p = .009) was found for the age of the speaker and the orientation coded. The following table illustrates the frequency obtained in each cell relative to the frequency expected. Again, reviewing only the distribution of self and other categories, an exaggerated 'self-focus' is associated with the youngest age, while 'other-focus' is more related to the middle-age (31-50 years) group.

Table 4.10Expected by Obtained Frequencies, Orientation

<u>Age of Speaker</u>	<u>by Age of Speaker</u>				
	Self	Other	Self/Other	Object	
<u>18-30</u>	$\frac{F_o = 49.0}{F_e = 39.7}$	$\frac{F_o = 25.0}{F_e = 31.5}$	$\frac{F_o = 23.0}{F_e = 17.6}$	$\frac{F_o = 28.0}{F_e = 36.0}$	125
<u>31-50</u>	$\frac{F_o = 42.0}{F_e = 41.0}$	$\frac{F_o = 39.0}{F_e = 32.6}$	$\frac{F_o = 15.0}{F_e = 18.2}$	$\frac{F_o = 33.0}{F_e = 37.1}$	129
<u>51-+</u>	$\frac{F_o = 26.0}{F_e = 36.2}$	$\frac{F_o = 29.0}{F_e = 28.8}$	$\frac{F_o = 14.0}{F_e = 16.1}$	$\frac{F_o = 45.0}{F_e = 32.8}$	114
	n=117	n=93	n=52	n=106	368

In a final analysis, the topic of conversation was examined with regard to the sex of the speaker and the sex of the listener. Given the nine possible categories in which a statement could be classified, cell frequencies were often too small to allow for reliable interpretations of overall statistical tests. Therefore, the following presentation of the topic data will rely only on frequency and percentage distributions.

The following table (4.11) lists those topics discussed relative to the sex of the speaker.

Table 4.11
Sex of Speaker by Topic

<u>Males:</u>	<u>Topic</u>	<u>Absol. Freq.</u>	<u>Rel. Freq.</u>
	1. Human Factors	42	25.9%
	2. Business/Work	31	19.1%
	3. Tech/Mech	18	11.1%
	4. Entertainment/Arts	17	10.5%
	5. School	12	7.4%
	5. Social Events	12	7.4%
	5. Sports	12	7.4%
	6. Domestic Economy	10	6.2%
	7. Natural Geography	8	4.9%
		<u>162</u>	<u>100%</u>
<u>Females:</u>	<u>Topic</u>	<u>Absol. Freq.</u>	<u>Rel. Freq.</u>
	1. Human Factors	56	36.4%
	2. Business/Work	26	16.9%
	3. Entertainment/Arts	18	11.7%
	4. Domestic Economy	16	10.4%
	5. School	10	6.5%
	6. Tech/Mech	8	5.2%
	6. Social Events	8	5.2%
	7. Natural Geography	7	4.5%
	8. Sports	5	3.2%
		<u>154</u>	<u>100%</u>

The following table (4.12) lists each topic and the corresponding percentage distribution between male and female speakers.

Table 4.12Topic Distribution by Male/Female Speakers

<u>Topic</u>	<u>Males</u>	<u>Females</u>
Sports (17)	70.6%	29.4%
Entertainment/Arts (35)	48.6%	51.4%
Business/Work (57)	54.4%	45.6%
Tech/Mech (26)	69.2%	30.8%
Domestic Economy (26)	38.5%	61.5%
Human Factors (98)	42.9%	57.1%
Social Events (20)	60.0%	40.0%
Natural Geography (15)	53.3%	46.7%
School (22)	45.5%	45.5%

Table 4.13 illustrates the percentage of topic occurrence relative to the sex of the dyad. Both absolute and relative frequencies are given.

Table 4.13

Topic Frequency by Same and Mixed Sex Dyads

<u>Male-male</u>		<u>Male-female</u>	
Business/Work (19)	22.6%	Human Factors (24)	30.8%
Human Factors (18)	21.4%	Business/Work (12)	15.4%
Tech/Mech (15)	17.9%	Entertainment/Arts (11)	14.1%
Social Events (8)	9.5%	School (9)	11.5%
Sports (7)	8.3%	Domestic Economy (6)	7.7%
Entertainment/Arts (6)	7.1%	Sports (5)	6.4%
Domestic Economy (4)	4.8%	Natural Geography (4)	5.1%
Natural Geography (4)	4.8%	Social Events (4)	5.1%
School (3)	3.6%	Tech/Mech (3)	3.8%
n = 84		n = 78	

<u>Female-female</u>		<u>Female-male</u>	
Human Factors (29)	38.2%	Human Factors (27)	34.6%
Business/Work (17)	22.4%	Business/Work (9)	11.5%
Entertainment/Arts (13)	17.1%	Domestic Economy (8)	10.3%
Domestic Economy (8)	10.5%	Tech/Mech (7)	9.0%
Social Events (3)	3.9%	Natural Geography (7)	9.0%
School (3)	3.9%	School (7)	9.0%
Sports (2)	2.6%	Entertainment/Arts (5)	6.4%
Tech/Mech (1)	1.3%	Social Events (5)	6.4%
Natural Geography (0)		Sports (3)	3.8%
n = 76		n = 78	

Summary

Four hypotheses were tested. A three-way, fixed effects analysis of variance found no statistically significant ($p < .05$) differences between 'self-other' orientation given the sex of the dyad or the sex and age of the speaker. Investigating the impact of the main effects, a significant difference $F(2, 468) = .06, p = .003$ was found for age of the speaker and rate of self-reference, with the youngest group (18-30) most likely to be self-focused. Significant differences were also found for the main effects of age of speaker and sex of listener on the dependent variable 'other-focus,' with the youngest group least 'other-focused' and females more likely than males to elicit, or simply hear, 'other-focused' comments.

In a pair of collateral studies undertaken to further investigate the relationship between sex of dyad, sex of speaker, and age of speaker on self-other differentiation, no significant differences were found for the sex of the dyad or the sex of the speaker on orientation coded. Significance was found for the age of the speaker relative to the orientation coded (chi square = 16.91; $df = 6, p = .009$), with the youngest age category (18-30) showing a greater than expected self-orientation.

Finally, tables were developed to show the percentage distribution of coded topics relative to the sex of the

dyad, sex of the speaker, and percentage of topics discussed by males and females.

The conclusions presented in this chapter will be further discussed in chapter V.

CHAPTER V

SUMMARY

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

The purpose of this study was twofold: primarily, to investigate the language behavior of same and mixed-sex dyads relative to its focus on self and other, and secondarily, to conduct this research using a nonreactive approach, unobtrusively sampling naturally-occurring dyads. The impetus for the initial inquiry grew out of a substantial source of theoretical and empirical opinion suggesting sex differences in degree of self and other orientation. More specifically, the theorists Bakan (1966), Gutman (1965), and Parsons and Bales (1955) all coined terms to represent these polarities, with the male self-focus termed allocentric, agency, and instrumental, and the female other orientation labelled autocentric, communion, and expressive. These theoretical positions were further examined by other researchers in empirical studies and also served to inspire more general research in the area of social interaction. The empirical work germane to this study was reviewed across the following areas: 1. perception of the environment, 2. game theory, 3. friendship formation, 4.

sex-differences in groups, and 5. sociolinguistic studies of male-female differences in conversation. While the findings of these studies were always limited to the sample and methodology utilized, a number of them supported the 'self-other' dichotomy (Aries, 1976; Barron, 1971; Hirschman, 1973; Hottes & Kahn, 1974; Strodbeck & Mann, 1955; Warshay, 1971).

The decision to investigate this specific area of sex-differences has solid precedents in theoretical and empirical research. Oppositely, the methodology utilized in this study evolved from a conspicuous dearth of studies using nonreactive procedures. This oversight is likely to be especially problematic in this area of study given the bias (status dynamics, nature of task, sex of the interviewer) which frequently accompanies the more orthodox methodologies. The current study sought to reexamine the self-other controversy employing a nonreactive design.

Four hundred and eighty conversations were gathered from throughout the state of New Hampshire, sampling from 64 different locations. The subjects were required to be at least 18 years of age, English-speaking, and only interacting with one other person. Of the five coders, three were contracted to gather 120 episodes apiece, while the remaining two collected 60 segments each. All coders were meeting predefined quotas based on the sex of the dyad, age and sex of the speaker, and locations sampled. Once a subject was coded, he/she could not be rated again.

Subsequent to a pilot study which field tested the possibility of surreptitiously rating dialogues in public and various formats of the instruments, the following model was adopted. Using a 4x6 inch notebook, with each page divided into a 5x3 matrix, raters coded independent groups of pronouns used over three successive 8 second intervals, the sex and age of the dyad, location, time of day, date, topic, and identification number. Data collected beyond the specified quotas was saved and submitted with the other data.

Aside from the initial training session and rating of practice dialogues, four additional reliability estimates were gathered during the four months of the project. A total of 20 vignettes were read to the coders by interested volunteers to determine how accurately the observers could record spoken dialogues. The reliability estimates for the observers ranged from 91.4% to 97.1%, with no rater operating below 91% efficiency.

The design for this study was a 3x2x2 factorial one with two dependent variables. The independent variables were the sex of the speaker, sex of the listener, and age of the speaker. The dependent variables were 'self-focus' and 'other-focus,' determined by summing across various pronoun groupings. Of particular interest to this study were the two-way interactions between sex of speaker and sex of listener and between sex of speaker and age of

speaker. In addition to the results of the formal hypothesis testing, findings were presented for the main effects and for the results of two collateral studies.

Results

A three-way, fixed effects analysis of variance procedure was used to determine if there was a sex of speaker-sex of listener effect and sex of speaker-age of speaker effects of 'self-other' orientation. In all four instances, no significant differences were found for the two-way interactions and the null hypotheses were not rejected. Possible statistical significance was further investigated using analysis of covariance. Specifically, the total number of pronouns in each class was held equal to determine if significance was obscured by uneven frequencies of pronouns. When 'I' and 'he' were the covariates, significant sex of speaker, sex of listener interactions were found, with female-female dyads achieving the highest mean rates. This statistical technique, however, is procedurally suspect given uncertainty about homogeneity of within group regression.

Investigating the main effects, three significant differences were found. The youngest age group (18-30) was determined to vary significantly ($p = .003$) from the other age groupings in terms of their high rate of 'self-focus.' This finding was reaffirmed when the youngest age group was

shown to be significantly ($p = .01$) less 'other-focused' than the other age categories. Female listeners were also found to elicit, or simply hear, more other-references than male listeners ($p = .02$).

Results of the collateral studies were not significant for the sex of the dyad and sex of the speaker relative to the orientation coded. Again, significant differences were found ($p = .009$) for the age of the speaker relative to the orientation coded, with the youngest age group (18-30) showing an exaggerated 'self-focus' while an above expectation total was achieved by the 31-50 year age group.

Results from the investigation of topic coded were also summarized. Because of the large variety of potential topic categories, cell sizes were frequently too small to permit statistical analyses. Frequencies and notable results from this area will be presented in the discussion section.

Discussion

None of the four hypotheses tested achieved statistical significance. The first hypothesis, investigating the relationship between the sex of the dyad and 'self-focus,' was ruled out at the .06 level. Further examination of the individual cell means suggested that same-sex dyads (male-male, $\bar{X} = 3.22$; female-female, $\bar{X} = 3.38$) were most likely to use self-references in conversation. While

no one researcher in the previous review noted this type of phenomenon, individual researchers developed his/her own rationale as to why male dyads (Barron, 1971; Strodbeck & Mann, 1955) or all-female dyads (Aries, 1976; Caldwell & Peplau, 1982; Kraft & Vraa, 1975) would tend to be more 'self-focused.'

A second unanticipated finding, unanimously reported by the raters, concerned the apparent lack of communication between older men and women of any age, given the locations sampled in this study. This finding appears consistent with the work of Powers and Buttena (1976) who found that older men had more social contacts than women, but these contacts were extremely limited in their diversity, focusing primarily on family, children, and friends.

Aside from the hypothesized predictions and the raters' anecdotal comments, the clearest and most consistent finding of this research concerned the effect of age on 'self-other' focus. In general, the youngest age category served to depress the rate of 'other-focus,' while there was a direct relationship between older age groupings and 'other-focus.' This finding is based on results of data from the main effects and the collateral study. Observing the main effect of age on 'self-focus,' significance was found at $p = .003$ level, with 18-30 year olds most self-referenced. Correspondingly, the rate of 'other-focus' was significant for the age of speaker at $p = .01$ level, with

younger ages inversely related to the frequency of 'other-focus.' Regarding the collateral study, data from the effect of age on orientation coded was significant at the $p = .009$ level, with the youngest age category evidencing an exaggerated 'self-focus.' In all three instances, the youngest group was most likely to be 'self-focused,' while the older age categories tended to be more 'other-focused.' While the empirical studies sighted in the previous review found sex differences more predictive of 'self/other' focus than age differences, the 'self-focus' of the youngest age group is a well-documented tenet of developmental psychology (Blos, 1962; Erickson, 1950; Freud, A., 1966; Loevinger, 1976).

Topic

Many researchers have studied same and mixed-sex conversations in an effort to determine how topic of the interaction varied with the sex of the dyad (Carlson, Cook, Stromberg, 1936; Haas & Sherman, 1982; Landis, 1926; Moore, 1922; Stoke & West, 1931; Watson, Breed, Posman, 1948). Given the multiplicity of category headings used by the various researchers, it is difficult to make comparisons between the studies. This discussion will focus on the findings of this research regarding topic coded and cite previous research when meaningful.

This research found both male and female speakers most likely to discuss 'human factors,' but females favored this topic (36.4%) more than men (25.9%). Considering the sex of the dyad and the topic coded, 'human factors' appeared most frequently for female-female (38.2%), female-male (34.6%), and male-female (30.8%). Only male-male dyads spoke most often about 'business/work.' Females' substantial attention to 'human factors' is consonant with earlier studies which found women most likely to discuss "personalities" (Carlson et al., 1936) or other people (Stoke & West, 1931). Males' predominant interest in 'business/work' is also supported by earlier research (Carlson et al., 1936; Landis, 1926; Moore, 1922). While this study found male dyads more likely than female dyads to discuss 'business/work,' the difference was negligible, particularly in light of previous work which found large differences (Landis, 1926; Moore, 1922). Although some of this difference is certainly attributable to varying category definitions, the considerable number of years separating these studies, and the concomitant changes in social values requires careful evaluation.

When topics were analyzed for sex preference, three large differences were found. Male speakers were significantly more likely to discuss 'sports' (70.6%) than women (29.4%) as well as 'technical/mechanical' subjects (male = 69.2% and females = 30.8%). Stoke and West (1931) found a

similar difference and reported: "Men still show greater interest in things and sports..." (p. 126). Women (61.5%), more than men (38.5%), were likely to discuss the topic coded 'domestic economy,' primarily concerned with all aspects of home or apartment living. More extensive generalizations of these findings would be misleading.

Limitations

The value of nonreactive procedures is largely in the removal of intrusive experimental conditions which might serve to bias or confound the treatment effect one is seeking to measure. By minimizing these demand characteristics, however, one often gives up a great deal of control over specific subject characteristics which might be contributing to the outcome measured. With regard to this study, such a limitation was present. Raters had no knowledge of the type of relationship between the subjects they coded, no information as to their marital status, socioeconomic status, or level of education. While certain of these factors were more critical in this project than others, the fact that they were not measured restricts the conclusiveness of the findings. In conjunction with this criticism, the results are also restricted to 'loud-talkers.' On numerous occasions, attempts to code a conversation failed because the interactants were not audible. One can make a tenable case that the 'self-other' focus of 'loud-talkers' would systematically vary from those who speak more quietly in public.

Serious limitations also exist with regard to the interpretation of the dependent variables. Again, studies conducted in the field, observing natural units of behavior, are fraught with problems as to how such behavior is to be interpreted. Without the opportunity to conduct post-treatment interviews or have some degree of communication with the subjects, the interpretation of the behavior relies entirely on the dependent variables. Summing across first-person or third-person pronouns is certainly an imperfect measure of self-focus or other-focus (Cole, Francis, Dayley, 1983). Absent from such a measure is a second judgement as to the greater 'tone' or meaning of the statement. This project attempted to control for this misrepresentation of the dependent variables by analyzing the orientation of the statement. Interpretations of this data must adhere strictly to what was actually measured and not exaggerate the scope of the dependent variables.

A third limitation exists with the reliability estimates for the raters. Ideally, the reliability vignettes should have been read to all the coders at the same time, by the same volunteer, under the same conditions. Because the coders were geographically spread across the state of New Hampshire, such uniformity in the reliability measures was not possible. Because of these varying conditions, the reliability estimates must be interpreted with caution.

Finally, the research procedures would have been improved if more coders could have been hired to collect the data. Given the restrictions on the eligible subjects, the total of 120 episodes per rater was too severe. Reducing the per rater data requirement by hiring more coders would have also insured more representational data.

Recommendations for Further Research

The assumption that clear and identifiable gender differences exist regarding the use of language remains a topical and important area of investigation for social scientists. As traditional sex roles and social values are increasingly questioned, a firmer understanding of how sex differences evolve and how they operate in society would serve to add coherence to the entire debate. As Carol Gilligan (1982) has written, this new understanding might imply a thorough reevaluation of the value judgements implicit in traditional developmental psychology research.

Towards this goal, it is important that research methodologies be expanded. Investigators in the area of sex differences are not hesitant to insist on the need for studies which emphasize naturally-occurring human behavior (Aries, 1976; Carlson, 1970; Deaux, 1978; Forgas, 1976; Haas & Sherman, 1982). However, as Webb and his colleagues (1981) have stated, social science research continues to be dominated by the more orthodox methodologies of questionnaires and interviews. Consequently, the power of research findings in this area remains diluted and inconclusive.

Recommendations and suggestions for further research include reconsideration of the current study, but correction of the shortcomings discussed in the previous section. Specifically, it would be important to preserve the nonre-active design and the use of natural units of behavior, but to clarify the dependent variables and increase the precision of the measurement. Other-focus, as measured by pronoun use, could be expanded to include references to relatives (aunt, uncle, grandparents), proper names, and more nonspecific designations like friend, neighbor, family. Self-focus and other-focus could also be more precisely specified by having coders rate pronouns and content of conversation. Davidson and Duberman (1982) have specified three levels of interactional patterns which they feel characterize most conversations:

Topical: Conversations are on an external level. Discussions center on such topics as politics, current events, work or movies which are external to the individuals and the dyadic relationship.

Relational: Conversations are on an interactional level. Discussions center on exchanges between the two people in terms of the friendship.

Personal: Conversations are on an internal level. Discussion centers on the feelings and thoughts about oneself and one's private life. (1982, p. 813)

The system might also incorporate some of the conventions used by Bales (1955), Gibbs (1978) or Weiss and Lowenthal (1973) to characterize the interactions. Such a system, if developed, would have to be specific enough to identify

the behavior in question, but not so cumbersome as to be unwieldy in the field.

The research of the social linguists also indicates directions for further inquiry. Just as Langer (1970) studied conversations of men and women working at the phone company, self-other distinctions could also be investigated in specific settings. Of particular interest might be an examination of language behavior of men and women in typically male or female dominated environments (military or athletics). This situation-specific focus could be further refined, as was done in the study of ticket-buying behavior (Brouwer, Gerritsen, & DeHaan, 1979) to see if sex differences vary across common, everyday interactions. Additionally, it would be useful if experiments could be designed using naturally-occurring dyads to determine if women use language characterized by more emotion and affect (Gleser, Gottschalk, & Watkins, 1959; Haas, 1979) or to clarify the language behavior of mixed-sex groups. Aries (1976) and Holohan (1979) both feel that mixed-sex interactions are more likely to produce a decreased emphasis on male language patterns, while others (Berger, Cohen, & Zelditch, 1972; Landis, 1922) found the opposite to be true. Finally, stricter control of the age categories could be achieved by increasing the range of upper limit and decreasing the range of the lower comparison. In light of this study's finding that older men tend to be less likely

to talk with women, this emphasis on more discrete age categories is warranted.

The language behavior of men and women is, verly likely, related to a number of complex factors. By expanding and diversifying the methodologies used to account for this phenomenon, it is increasingly probable that language use and the sex differences which accompany it will be accurately understood.

APPENDICES

APPENDIX A

Instrument

Training Procedures

Practice Dialogues

Coding Instrument

8 second intervals	I	II	III
<u>Self:</u> I, Me, My, Mine, Myself			
<u>Other:</u> He, His, Him Himself, She Her, Hers, Herself, They, Their, Theirs, Themselves, Them			
<u>Selves:</u> We, Our, Ours, Us, Ourselves			
<u>Neuter:</u> It, Its, Itself			

Dyad: M/M, F/F, M/F, F/M

Age: 18-30, 31-50, 51-+

Date: Month/Day/Year

Time: (2400 hours)

Location:

Topic: "He/She talked about..."

I.D. number:

Approaching the Setting

1. Since coding should be done at as many different settings as possible, one should carry the code book at all times. The books will be given to each coder upon the completion of training.
2. Upon entering a setting that has the potential to yield data, the coder is advised to position him/herself in such a fashion as to maximize the likelihood of coding dyads, while simultaneously remaining unobtrusive. Frequently, the use of a newspaper or book serves as sufficient cover for the coder. During training, this issue will be covered in more detail.
3. While flipping a coin can certainly compromise one's anonymity, it is important that the person to be coded is chosen as arbitrarily as possible. A simple solution to this problem might be to eliminate the 'flip' and to discretely withdraw a coin from one's pocket. Depending on the side up (H/T), the observer can choose which person to chart. Furthermore, if one is positioned such that more than one dyad is codable, a second 'flip' will dictate which of the dyads should be rated.
4. Since all of the interactions must be timed precisely, it is important that the coder have a clear view of his/her watch. Depending on one's preference, it may be easier to wear the watch on the wrist not involved in the marking. The coding will require the use of a watch with a second hand.
5. While it is important that the pronoun categories be noted immediately, the remaining sections can be filled in at a more convenient time, especially if the particular moment is not suited to more extensive writing.
6. Although coding across a broad range of settings is encouraged, one should keep in mind that those areas which have a high degree of background noise, fast moving traffic, or those that provide little anonymity for the observer will be more difficult in which to listen.
7. Aside from the code book, it is recommended that the coder, at all times, carry a pencil, coin, and watch with a second hand. The pencil is preferable to a pen given a certain amount of erasing which will be routine.

Coding

The following comments are designed to assist the coder by clarifying the task of data collection. Prior to discussing each category to be marked, it will be useful to provide a general overview of the assignment.

Essentially, each coder is requested to code the frequency of certain utterances, sex and age of speaker and listener, and a few other observable facts. The total amount of timed data gathered from any dyad will be 24 seconds, divided into three 8 second intervals. Given the importance of gathering data from a variety of different settings, coders are encouraged to carry their coding equipment with him/her at all times. While the ideal rate of data collection is one conversation per day, for a consecutive 120 days, this rate is only offered as a pace to be approximated. At three week intervals, coders will use stamped, preaddressed envelopes to return his/her data. Periodically during the duration of the project, consultations will take place and an additional reliability check will be done.

Categories

1. Sex of dyad; there are four possible responses to this category, a) Male-male (MM), b) Male-female (MF), c) Female-female (FF), and d) Female-male (FM). Female-male is distinguished from male-female in that FM assumes that the female is the speaker, while MF implies that the male is the speaker. As in all instances, 'speaker' will be determined by the toss of a coin. The sex of dyad will, therefore, be noted in one of the following ways: MM, MF, FF, FM. The sex of the speaker is always listed first.

2. Date; the date should reflect the time the interaction was recorded. Only numbers should be used, listing month, day, and year. For example, April 1, 1983 would appear: 4/1/1983.

3. Time of day; to the nearest 5 minutes, and using the 2400 hour clock as the standard of measure, note the time when the conversation occurred. For example, 1:00 p.m. would be 1300; 9:00 a.m. would be 0900, and 4:30 p.m. would be 1630.

4. Age; there are three possible responses to this category, 18-30, 31-50, and 51-+. In each instance, the coder should record the estimated age of the speaker first and the approximate age of the listener second. If either of the interactants is felt to be under the age of 18, the episode should be disregarded.

5. Location; the area where each conversation was recorded should be noted. Primarily, location should emphasize the physical setting where the conversation took place, i. e., bar, hotel lobby, restaurant. However, in those situations where a physical setting is hosting a function not directly related to the setting (a gymnasium serving as the meeting place for a social work conference), both the physical setting and the function should be noted. Secondly, it is not necessary to use the proper name of the setting, a generic designation will be sufficient. Therefore, if the conversation was recorded at Jake's Restaurant, restaurant will be an appropriate label.

6. Topic; after 24 seconds of conversation has been recorded, the observer, in his/her own words, should summarize the topic focused on by the coded interactant. The summary of each interaction should be limited to one sentence and each sentence should begin with the following stem: "He/She talked about...". It is best to try and make these summaries a direct reflection of the material discussed and impulses to editorialize or to be literary should be avoided. A simple recording of the facts. While infrequent, interactions may occur where there is no single focus to the conversation and in these instances, one should write "uncodable."

7. Pronouns; after one has determined the speaker to be coded, the observer should attend to and mark each pronoun used during the eight second interval. While it is not necessary to note the exact pronoun used, each should be accurately placed in the correct pronoun group. Contractions of the pronoun should be coded to reflect the pronoun base (i.e., I'm code I; we've code we; they're code they). Should one encounter the situation where the speaker is quickly repeating one pronoun over and over as in, "you, you, you," the coder should only note one pronoun.

8. Identification numbers; the last entry to be made by each coder should be his/her identification number. These will be assigned during training and should appear on every slip of data submitted.

Special Considerations

1. Timing of the pronoun category; after each 8 second interval, a minimum of 8 seconds must ensure prior to coding the second segment. While the total amount of time required to gather 24 seconds of coded material will vary from episode to episode, no conversation could be coded faster than 40 seconds (i.e., 8 seconds on 8 seconds off,

8 on, 8 off, 8 on). Midway through a coding, should the speaker be interrupted or stop talking and another person begin talking, that fragment of the interval is disregarded and any prior 8 second segment is preserved. Coding of the disrupted segment will begin again, from 0 seconds, when the coded interactant takes the floor. The 8 second interval should begin immediately after the coded interactant has finished a coded exchange. Recall, it is perfectly possible that a coded 8 second interval will not show any pronouns used. This should be marked with an asterik (*).

2. Location scorekeeping; in order to encourage a diversity of locations utilized, a maximum of three different episodes can be recorded from the same location per sex and age grouping of the dyad. Therefore, for the grouping MM, (18-30), no more than three conversations could be coded from location 'restaurant.' To assist the coders with this location scorekeeping, each rater will be provided with a large chart which will easily identify the frequency of locations used per age and sex of dyad.

3. Ineligible subjects; as closely as possible, coders should be attuned to those interactions involving only two people. When the speaker is addressing more than one person, the situation should be disregarded. At no time should the coder rate the conversation of someone personally known to him/her. Never code the same person twice. Do not code any interaction if either person is felt to be less than 18 years old.

4. Anonymity; given the importance of coder anonymity throughout this project, it is recommended that the rater not discuss the work he/she is doing least potential locations be compromised. This warning also implies that the vast majority of data coding will have to be done while not in the company of a friend or other person.

5. Rate of coding; providing that one was able to secure the necessary mix of age, sex, and location for each interaction coded, one would only need to gather one conversation per day to meet the quota of 120 interactions. However, given the probability that some groupings will be more difficult to secure than others, the coder is advised to record conversations as often as possible and in as many different locations as possible.

Practice Dialogues

Spk 1: Have you seen Peter?

Spk 2: No I haven't and I'm worried. I know he wasn't feeling well since he lost his job with Data General. I hope he hasn't done something rash. (code)

Spk 1: What do you mean by that?

Spk 2: I'm not sure, but the last few weeks he just hasn't seemed to be himself. (no code--no 8 second interim)

Spk 1: You're not implying something like, well, you know, that he could have hurt himself. He wouldn't do anything like that. What do you think?

Spk 2: I don't know, but remember whe he lost his job with that trucking company--he went on a four day bender, wrecked his car, and disappeared for three days. (code)

Spk 1: Now I'm frightened. Should we call Mary and ask her? Seems like they're always together and I'm sure she'd have some idea or know who to contact.

Spk 2: Good idea, but they're no longer seeing each other, which is another reason that I'm doubly concerned. Let's call his cousin, John. (code)

Topic: He talked about his concern for Peter, who is missing.

Spk 1: So what do you want to do tonight?

Spk 2: I'd love to go over to Streator and listen to that new band, maybe meet some women. Seems like we haven't been there for ages. (code)

Spk 1: And you know why we haven't been over there for ages, because every time we go over there, you get into a fight or somehow end up getting us thrown out of the bar.

Spk 2: Only twice, and besides, each time a fight occurred that big goon from LaSalle was the one who started things going. Seems like that guy gets away with murder. Never remember a time when the bouncer asked that jerk to leave. (code *)

Spk 1: Cool it, Mr. Innocent! Seems that I remember a time or two when that guy wasn't even there and we were still being ushered towards the door. Let's face it, you drink too much!

Spk 2: What!

Spk 1: You heard me!

Spk 2: You're crazy!

Spk 1: O.K., I'm crazy, so what do you want to do this evening?

Spk 2: Let's go over to Andy's and see if his cousin is still visiting. I think she's in love with me and wants to get to know me better. (code)

Topic: He talked about what he wanted to do for the evening, primarily, meet women.

Spk 1: I don't know what's gonna happen with this economy.

Spk 2: Seems to me that things are about to turn around and... (no code--not enough seconds)

Spk 1: You're kidding! With close to 11% unemployment, factories shutting down left and right, auto and home sales slumping, and you think it's about to turn around! 'Spose you also think the Red Sox are about to win the pennant!

Spk 2: No, honestly. The GNP is up, trade deficits are starting to equal out, and inflation is down to a minimum 4% a year. If interest rates continue to fall, seems that things will be normal by the first of the year. (code *)

Spk 1: I wish I shared your optimism, but living in Detroit it's difficult to be optimistic about much. Just last week, the mayor of Detroit, Coleman Young, declared a national economic disaster in Michigan.

Spk 2: It's not fair though to generalize from Michigan to the rest of the nation. You, yourself, know that MI is by far the worst off of all the states and hardly representative of what's going on in, say Arizona. (code first 8 seconds)

Spk 1: Correct. But while Michigan may be the most desperate of all the states, you can't tell me that California's 1.7 billion dollar deficit makes it a picture of economic health and vitality.

Spk 2: But California's problem is unrelated to the recession being experienced by the rest of the country. They voted in that crazy proposition 2½ and will live to regret that folly. (code)

Topic: He talked about how he felt the economy was about to get better.

Spk 1: And how is your sister?

Spk 2: Kate, oh Kate's not so good anymore. Ya know it seems that when people get to be our age, they just start to fall apart. (code)

Spk 1: I know what you mean. My heart isn't so good, my nerves are always jittery, my lumbago always seems to bother me when it rains.

Spk 2: But compared to me, you're in good health. I still haven't felt good since my husband died. I sometimes think my emotions bother me more than my physical problems. (code)

Spk 1: Well if we can only have a few more good years, I guess that's the best we can hope for. You remember Fred Goodwin, he just had a heart attack.

Spk 2: Oh, no, what a tragedy. How's his widow? (no code)

Spk 1: Edith's taking it pretty hard, but her kids are there and I know that they'll be a big source of support for her. We must be sure to stop over there soon.

Spk 2: I'd like that. I know that when Paddy died it made me feel good to have our friends stop over and visit. Just seems that too many of us are leaving too soon.

Topic: She talked about:

Spk 1: Well, did you buy the truck?

Spk 2: Not yet. I swear, I'm the most wishy-washy person I know. I wake up in the morning and think, I'm gonna do it and by noon I've changed again. (code)

Spk 1: Don't be so hard on yourself. It's not like it's an easy decision. You're talking about spending quite a chunk of change.

Spk 2: Maybe you're right, but damn, it doesn't seem like it should be this hard. I remember when I bought my first truck. That was easy -- \$150.00 out the door. (code)

Spk 1: But today's trucks are a bit different than the ones back then. Today, you're deciding between all kinds of options, zillions of different ways to finance them, and constantly worried that it will rust out before the first year is up.

Spk 2: You're a good sport to mention those things. I'm gonna head over to the GMC dealer after work and see if he won't take my new offer. Wish me luck.

Topic: He talked about:

Spk 1: But why do you just walk away when that happens?

Spk 2: I'm not sure. Seems that's been a problem with me for as long as I can remember. My dad used to be the very same way. (code)

Spk 1: So does that mean you have to act like him?

Spk 2: Of course not, but it's a habit I need to try and break. (no code)

Spk 1: Well, I fail to see how walking out helps to break the habit.

Spk 2: Listen -- I have a very difficult time dealing with women. Obviously I'm not doing very well with our relationship and, furthermore, I don't find this discussion to be helpful. (code)

Spk 1: Seems to be that's the same as walking away, you're just not moving your feet. Are you afraid to talk about this stuff with me? Do I threaten you?

Spk 2: Carol, you don't threaten me. If anything, I feel more myself when we're together. It's just when things start to heat up -- I feel closed in. (code)

Topic: He talked about:

Spk 1: The King Tut exhibit was just spectacular.

Spk 2: We never got to see it. I'd love to go to the city soon. (no code--no 8 seconds)

Spk 1: There's so much to do there. The museums, the operas, shops, the symphony, weird places to eat, and, if nothing else, just watching all the bizarre people.

Spk 2: The last time we went to NYC, we saw Othello. What a splendid time. If only John hadn't locked the keys in the car. But it was fun. (code)

Spk 1: Oh, I remember that time. And neither of you had a spare set and you ended up staying in a hotel until you could get some help.

Spk 2: Maybe that's the reason we haven't been back since.

Spk 1: Let's plan to take a day and go into the city just by ourselves. We could go in on the train, spend the entire afternoon doing whatever we want, and be back by supper.

Spk 2: Great idea! We can get this Sunday's paper and look at all the things happening this month. We could even send away for tickets if we saw something good. (code)

Spk 1: Let's plan to do it over Spring break. We'll have lots of free time then, the weather will be warm, the sales will be on, and we could even take a ferry ride.

Spk 2: I can't wait! But what will I do for money? Maybe I'll have to break into my college money. I hate to do it, but it's for a good cause. (code)

Topic: She talked about:

Spk 1: What courses are you taking?

Spk 2: A full load. History, Spanish, modern American lit., and chemistry. Chemistry's a real bitch! The instructor just stands up at the board and starts writing when the bell rings. (code *)

Spk 1: Is that Ms. Peterson?

Spk 2: That was her name. She's now Mrs. Thomas Laing. Lady took quite a turn. (no code--lack of 8 seconds)

Spk 1: She's 'sposed to be a tyrant. I dropped the class the first week. I couldn't get past the instructions for lighting the bunson burner.

Spk 2: Thanks for the good news. So far we've had homework every night, along with the two labs a week. I'm afraid I may not be able to hack it. (code)

Spk 1: Hang in there. If anyone can do it, it's you. Remember Jerry Glanz? He had that same course and he passed it, and you're smarter than he is.

Spk 2: Maybe, but his dad's a chemist and I'm sure that Jerry had lots of extra help that I can't count on. Besides, Jerry wanted to be a chemist. (code)

Topic: She talked about:

Spk 1: Did you buy anything today?

Spk 2: Nothing much, just a few bargains from the leather shop. That new mall is sure a nice addition to this area. Wonder if the old mall will be able to survive the competition? (code *)

Spk 1: I don't know if Newington will survive the competition, but my big fear is that Susan's schoolwork may not survive it.

Spk 2: What do you mean?

Spk 1: Ever since it opened, she's been spending all her extra time over there and I'm worried.

Spk 2: Don't worry. It's just a passing thing. She'll be her old self in no time. Are you going over to the Miller's tomorrow night? (code)

Spk 1: Not that I know of .. what's the occasion?

Spk 2: Guess it's their 20th anniversary and their kids are throwing a surprise party. (no code)

Spk 1: What a nice idea! I only wish our kids could remember one anniversary of our's. For that matter, I wish Tom could remember our anniversary.

Spk 2: Jen, you're not complaining are you? You've got three great kids, a thoughtful, if frequently forgetful, husband, and me.

Topic: She talked about: (no code given the lack of a consistent topic)

APPENDIX B

Reliability Dialogues

Reliability Dialogues

Spk 1: I hate the New York Yankees.

Spk 2: I hate 'em too. They always win and their manager never admits that the only reason that they don't lose is because they've bought up all the decent players.

Spk 1: Oh, well. What are you gonna do for dinner? We've got plenty of food over at the house and I know that the rest of the family would love to see their long lost Uncle Tony. Why don't ya come on over and see the family?

Spk 2: Thanks, but no thanks. I promised my girlfriend that I'd take her out to dinner and then to a show. Have you seen that new movie with Dustin Hoffman?

Spk 1: You mean, "Tootsie." Yes, I did and I hated it. Would've walked out but Jane was enjoying it. Sure you won't reconsider dinner?

Spk 2: Can we make that meal another time? I'd love to see the family and kids, and play your new Atari game. I hear that one's hard.

Spk 1: I cannot understand how anyone in his right mind could support Reagan.

Spk 2: I agree. He never answers a question the same way twice, and besides, every answer that he does concoct, I disagree with.

Spk 1: 'Spose it's possible that he won't run in 1984? As for myself, I really can't imagine that he's got the physical stamina to make another presidential ratrace.

Spk 2: Except for him it won't be nearly the effort that it will be for the democratic candidate. He's got most of his reelection campaign in place and only needs to tell the PACS to go.

Spk 1: It all seems too silly, here we are, half-way through his first term in office and already people are speculating about his chances in 1984. No sooner do we elect them than we're talking about the next election.

Spk 2: It's almost as if the important event was the run for the office and not the period in office. For myself, I'd just as soon see the term be six, not four.

Spk 1: Where are you gonna go for vacation?

Spk 2: We're gonna head up to Northern Maine and do some camping and canoeing. I hear that the lakes up there are 'sposed to be clean enough to drink out of.

Spk 1: That's a beautiful area, especially around the Presque Isle section. Be careful, though, you don't want to be up there much before May, you'll be scrapping ice off your windows.

Spk 2: Not to worry. Don't plan to be up there until after the first of June. By then the black flies should be out in force and the small-mouthed bass should be biting like crazy. (*)

Spk 1: Don't your folks live near there?

Spk 2: No.

Spk 1: I thought you told me that your father used to hunt and fish around there as a small boy.

Spk 2: He did, but that was when he used to vacation in that area with his parents. They never lived there, but would go up from the city for two weeks.

Spk 1: Without living there it's hard to judge.

Spk 2: Hard my ass! I see those kids go to school in the middle of winter without gloves or hats. She's an unfit parent and I think the police should be called.

Spk 1: So why don't you do it if you think she's being neglectful. If you believe it's happening and don't do anything about it, are you any better than she is?

Spk 2: You're right. I should and I will.

Spk 1: Hold on now. Do you really think that doing this is most likely to help those kids out? Don't you want to be careful that you don't do something that will make their lives more miserable.

Spk 2: What could possibly make their lives more difficult. She sleeps with half the town, is usually popped by noon, and never shows the slightest interest in anyone but herself.

Spk 1: Suit yourself. But I still feel that notifying the police is not the best solution in these cases. Very likely the police will come in and reprimand her, threaten her, and do nothing by way of seeing that she is capable of doing a better job.

Spk 2: Well it hurts me too much to see it continue. I'm gonna call right this minute and tell them all I know. I think they should be taken away from her.

Spk 1: Were you able to get a flight?

Spk 2: That and more. We'll fly into upper state New York and then they send a car down to pick us up and transport us to the resort.

Spk 1: That's terrific. You were really worried about a connection from the airport to the lodge, weren't you?

Spk 2: Not me so much, but Lee was frantic that we'd have to catch a crop-duster and make a water landing. What a hysteric.

Spk 1: I could just imagine her doing something like that. She'd be popping Valiums from the minute the plane left the ground.

Spk 2: Don't be foolish, the plane wouldn't leave the ground with her, I'd be going by myself. Hmmm...it's not a bad idea.

Spk 1: Did you see the UNH/Boston game?

Spk 2: Yah, I did. I couldn't believe how much the fans were in the game. I can remember when Snively would be half-full and quiet.

Spk 1: That made it really exciting. Usually when we go to hockey games, I'm so cold that I don't pay any attention to the game. Last night was different.

Spk 2: I thought the other team was really rough. Seemed like they got away with a lot more physical play than UNH, especially that number four.

Spk 1: Oh, right! And he was so small. Reminded me of a Kamakaze pilot the way he'd just lower his head and go into the thick of it.

Spk 2: It'll be interesting to see if he's still playing when they meet in the playoffs. I predict he'll either be hospitalized or will have quit the game altogether.

Spk 1: How 'bout some cards this Saturday night, Bernie?

Spk 2: I wouldn't mind playin' with you guys, so long as Tom won't be there. If Tom's gonna play, I'm out. He's just no fun for me.

Spk 1: C'mon Bernie. Be a sport. Isn't it about time that you two made up and stopped acting like my grandchildren. Even they talk to each other.

Spk 2: Eddie, it's not just because of that summer. Even if we'd never travelled together -- I just don't like his company. He's not a nice person.

Spk 1: O.K., so he's not a nice person -- but try to see things from his spot. He's been through a lot these past few years. Play cards with us.

Spk 2: Hey, lots of us have been through hard times these last few years. But that's no reason why he has to act like an asshole. I'm sorry, Eddie, I can't play.

Spk 1: But I think you'd be great for the job.

Spk 2: I'd like to think so and I am cautiously optimistic, but the field is so competitive and I'm just out of college with little work experience.

Spk 1: Don't talk yourself out of it, Phil. I think you have as good a shot as anyone. Actually, with me pushing for you and talking with Mary Ann, you're probably on the inside track.

Spk 2: And that frightens me a little bit. I don't want them to hire me just on your say-so. What if I do get the job and can't handle it and I get you in trouble.

Spk 1: Hold on a little. Don't get too far ahead of yourself. First of all, they certainly won't hire you on my say-so. Maybe, just maybe, I can be a help -- but little more.

Spk 2: 'Spose you're right. I'm just so anxious about the possibility -- doesn't seem to promote straight thinking. I'll be glad when it's all over, one way or another.

Spk 1: Think you'll ever go back there for a vacation?

Spk 2: I'd like to, but I'm sure Paul won't be interested. I think he lost his enthusiasm for the place when he saw the hotel room. Vintage post-Tet offensive.

Spk 1: That's too bad, those islands have so much to offer. Did you get over to the Eastern shore where things are really primitive?

Spk 2: Yes, we did. In fact, we met a couple of the locals who gave us a great tour. Went to their home, ate lunch with them, and went spear fishing with the oldest boy.

Spk 1: Wow, that sounds great! Are you sure Paul wouldn't reconsider a trip there? How can he be so offended by a lousy hotel room? Where's his sense of adventure?

Spk 2: That's just it. Vacations for him should not imply 'adventure.' His idea of vacation 'adventure' is the risk which comes with going into the deep end of the pool without a rubber raft.

Spk 1: So what does it all mean?

Spk 2: Well, first off, means that if that exhaust pipe continues to heat up, there's a good chance of a fire or maybe an explosion.

Spk 1: Explosion! You've got to be kidding! This car isn't even one year old and you're telling me that it might explode! I'm literally driving a bomb?

Spk 2: That's right, captain. Least ways that's my opinion and I've seen plenty of these problems. But suit yourself, if you want a second opinion, go out and get one.

Spk 1: I don't think I'm interested in that. If you say you've seen plenty of this stuff, you ought to know what you're talking about. It's just...

Spk 2: It's just that you expected the car to last more than one year without worrying about an explosion. Sounds like a reasonable expectation, but, remember, this is an American car.

Spk 1: When does your boat-building class start?

Spk 2: Supposedly next Monday, but I don't think enough people have signed up yet. I'd hate to see it cancelled for want of a few people.

Spk 1: I'd hate to see it flop too, but you must admit that Jerry hasn't really advertised it. Why doesn't he buy some radio spots or put up some posters?

Spk 2: Remember, we're talking about Jerry. It's gonna be a major accomplishment if he doesn't forget to attend the class himself. Why don't you sign up?

Spk 1: Me? You must be kidding? Remember the shoeboxes we were all 'sposed to build in the eight grade? The first shoe that went on my box crushed it. Structural defects in the builder.

Spk 2: Don't be so hard on yourself. Besides, it'll be fun. In fact, we could get your brother-in-law to join us. Think he would?

Spk 1: So did she ever call you back?

Spk 2: She did, but I'd almost wish she hadn't. She said she felt our relationship was doomed from the start and doesn't want to see me again.

Spk 1: Ouch! That's gotta hurt. Did she tell you anything specific. You know, like why she thought you two were goin' down the drain?

Spk 2: She did, but I don't buy it. She claimed that our interests were too dissimilar. Funny that we were compatible for the previous three years.

Spk 1: That's interesting. So she didn't mention any other guy -- or more specifically, her boss? I mean, that's your suspicion, isn't it?

Spk 2: It was, but I'm not sure anymore. I tried to talk with her roommates, but they aren't speaking. I think she's sworn them all to secrecy.

Spk 1: Have you heard from Rich?

Spk 2: I haven't, but I guess his wife heard last week. I guess he's O.K. It's hard to believe that anyone could still be living safely in Beirut.

Spk 1: Why do you 'spose he went? I mean, they had just had a new baby, he had just finished his degree, and life looked smooth for a while.

Spk 2: Except he didn't have a job. The American University in Beirut made him a great offer and apparently that was more important than staying with his family or his own safety.

Spk 1: I feel bad for Mary. Living by herself in that tiny apartment, with a newborn and that lousy car. Seems very selfish what Rich did.

Spk 2: I agree, but somehow they seem to survive these separations. Their lifestyle certainly isn't mine, but then they'd probably be bored to tears with our routine and humdrum.

Spk 1: Well I don't blame her for not going out by herself anymore, the streets aren't safe and those kids are a bunch of savages.

Spk 2: And did you ever notice, they don't attack when they're just by themselves, only when a whole gang is together and they know it's safe.

Spk 1: Like I said, savages, travelling in herds like animals, unconcerned with who they might hurt, or what might happen to them.

Spk 2: 'Spose we should try to organize some of the residents in the house and try to help ourselves? I'm not sure what we could do, but I'm damn tired of being afraid.

Spk 1: Great idea, but name me two other people besides you and me who would attend. The whole building is petrified from the recent mugging and I think everyone is too afraid to leave their rooms for a meeting.

Spk 2: So isn't this a grand way to spend our 'golden years,' cowering behind our own apartment doors. Maybe we should emigrate to Japan where older people are respected.

Spk 1: What about you, Tom, what are you gonna do?

Spk 2: Gentlemen, as for myself, I have no intention of remaining in the state of New Hampshire and trying to work in mental health. The work itself is too depressing without the added grief of minimal state aid.

Spk 1: But aren't you just coping out, leaving a place that really needs substantial input to go to less troubled areas? Where's your sense of mission?

Spk 2: Please, I'm a psychologist not a Catholic missionary. Besides, maybe we all ought to abandon this state and let it fall on its face so that peoples' attention will be drawn to the lack of services.

Spk 1: Well and good for revealing the poverty of social services, but in the meantime, what about the families and children who must survive the burden of this proof?

Spk 2: I never said there was an easy solution. Costs will have to be paid for the nickel and dime mentality of New Hampshire's mental health policies. We can only be concerned with minimizing those costs.

Spk 1: Have you put your garden in yet?

Spk 2: We tried last weekend, but only got our flowers in. It's just too wet for vegetables. Don't think we'll have them this year.

Spk 1: You're smarter than we were. We put ours in, vegetables and all, and there's no doubt in my mind that the produce is a washout.

Spk 2: Well, I figured if the rain wouldn't do it, the woodchucks would. They zapped us the year before and last year.

Spk 1: I thought you had trapped all those critters and shipped them out to Adams Point. Exhiled for the duration.

Spk 2: I thought we had too, but I'm convinced they've returned in greater force. My worse fear is that they'll attack, like the "Birds."

Spk 1: So how was the wedding last night?

Spk 2: Short, to the point and without a lot of sap. The priest was a real young guy and seemed in control of events and scheduling. (*)

Spk 1: Oh that's right, that's Father Bass, the new priest from Cleveland. He's 'sposed to be a real good looker.

Spk 2: Maybe that's why Bill seemed a bit uptight at the ceremony. Maybe he felt he was being upstaged by the Holy Father.

Spk 1: That would certainly be in character for him. Personally, I can't imagine this marriage going the distance, he's far too self-involved to sustain a relationship.

Spk 2: Yah, I certainly wouldn't bet against you. But you know what is more amazing, Cheri says he wants kids now and won't wait.

Spk 1: Did you read about that round the world sailboat race?

Spk 2: Oh, that's the one where each sailor goes solo and the trips take like 160 days. Can you imagine all that time by yourself?

Spk 1: I sure could. I think it would be spectacular. Going to all those exotic ports, no phones, no alarm clocks.

Spk 2: Yah, but what about the dangers -- 120 foot waves, pitchpoling stern over bow, icebergs, whales, not to mention getting lost. (*)

Spk 1: Your sense of adventure overwhelms me. What about the beautiful sunrises, just you and the ship and the ocean. Gives me goosebumps.

Spk 2: Gives me motionsickness. Give me our little dinghy on Lake Shadow anyday. Besides, I don't want to be by myself for 160 days.

Spk 1: Well, what did the contractor say?

Spk 2: We can to it, but it's gonna cost an arm and a leg. If we do the digging by ourselves, that will save about \$1,200 bucks.

Spk 1: But you can't do that! How will a pregnant lady and a man with coronary heart disease dig out an olympic-sized pool?

Spk 2: My sentiments exactly. We already told the contractor to go ahead with the digging and to leave us some of the landscaping work.

Spk 1: Well that's a good idea. In fact, you could even get your neighbor, the unemployed gardener, to help out with some of the sodding and stuff.

Spk 2: I mentioned the same thing to Bill, but as you might expect, he wants to do it all by himself. The man is a living machine.

Spk 1: So did you have your day in court?

Spk 2: Not my day, but a good 15 minutes. She and her attorney made quite a team. Took me to the cleaners. But that's the end.

Spk 1: But that's not official, is it? I mean, you still have other appeals you can make or other motions to file. Right?

Spk 2: Wrong. That's it. Signed, sealed, and screwed. She gets the house all to herself and I get weekly visitation and the car.

Spk 1: As if I need to tell you, you were robbed. So much for blind justice. Have you talked with Marsha about any of this?

Spk 2: To tell you the truth, I don't give a rat's ass. Our marriage is over, the house is gone, but I'm free. Vive la difference!

APPENDIX C

Training Manual for Collateral Studies

Coding Instructions

Orientation

For the following list of sentence fragments, you are asked to make two judgements. Complete the first operation before beginning number two.

A. In this task, you must determine if the speaker's focus is: 1. a self focus only, 2. other focus only, 3. self and other focus, 4. object focus, 5. reference cannot be determined. The following category definitions will assist you in your task.

Self focus (1): concerned with something the speaker has done (vacation, injury, work), thought (contemplated, observed), possesses (object, personal quality), or experienced and is of special significance to him/her because of his/her personal involvement. Often related in a fashion which highlights his/her perspective or role in the event. If the fragment were to be extended, the pronouns; I, me, my, myself, mine would be likely to occur explicitly, or to be understood. This coding will be ruled out if there is any reference to involvement with another person.

Examples: He talked about: his new job.
a rifle he just bought.
belief that nuclear war was
certain.
getting ready for Christmas.

Other focus only (2): sentence fragment explicitly states concern or interest or consideration of another person (friend, aunt, Joe, child, baby, woman), or group of people (friends, guests, men, players, teachers). An elaboration of this stem would be likely to include the following pronouns: they, he, she, their, them, or proper names or non-specific labels designating others. Two should not be coded if it can be determined that the noun is representing some larger organization (i.e., Poles, Quakers, Union men). This category will be ruled out if self-focus occurs.

Examples: He talked about: the group refusing to participate.
how her husband seemed to know everything.
the children who never seem to have a curfew.
Bob's new girlfriend.

Self and other (3): code three when it is clear that the speaker is actively involved with another person/people or reflecting on his/her relationship to/with another person/people. An elaboration of the fragment might easily include the following pronouns; I, me, mine, myself, my, he, she, her, his, they, their, us, we, our, or first person pronouns used in conjunction with words indicating 'other,' (i.e., Joe, aunt, friend, sister, neighbor). If two pronouns within a fragment are used, and if it is unclear if one of them is 'self' or 'other,' (context does not inform), if the pronoun is the same sex as the sex of the speaker, code it as 'self' reference, otherwise, code

it 'other' (i.e., He talked about: her not ever seeing him again. Code (3), assuming that the 'him' refers to the speaker. If the 'him' was instead a 'her,' one would code other only (2).).

Examples: She talked about: how hurt she felt by him.
how her parents dislike her.
the players on her team and
how they relate to her.

Object focus only (4): code (4) when the sentence betrays no particular reference to 'self' (1) or 'others' (2) or 'self and others' (3), but rather focuses on an intimate object, concept, or nonhuman life form. An elaboration of this fragment would likely involve the use of the impersonal pronouns (it, its, itself) or be conspicuous for its absence of pronouns. When no pronouns are used in the fragment, but the content of the sentence makes it very probable that the speaker or another person is being referred to, do not code (4) (i.e., He talked about: getting ready for vacation; presume that this 'talk' is not a lecture detached from human involvement. Correct code would be (1).).

Examples: He talked about: AIDS syndrome.
the dispersion of the Jews.
an agreement between big busi-
ness and labor.

Indeterminate (5): code (5) when one is unable, from the context of the sentence or the pronoun usage, to determine if the focus is about 'self,' 'other,' 'self and other,' or 'object.' In these rare instances, it would be

possible for a person or other person to be involved with the statement, or the statement could simply be an idea or pronouncement of fact. Code (5) when one is unable to decide between any of the other possible codings.

Examples: He talked about: the pain of back surgery.
death in the Southwest.
Americans' preoccupation with
'newness.'

Topic

B. Reread the same statements and determine the general topic of the sentence. Assign the appropriate number to the designated space. If you are unable to identify an overall focus of the sentence, code 10. Use the following definitions as nominal guidelines in your task.

Sports (1): Refers to organized professional athletics, to individual exercises, to discussions about how sports are played, athletes in various sports, teams, sports' politics, sports' scandals. Any and all olympic sports would qualify, as would cards, gambling, windsurfing, board games, hiking, boating, and fishing.

Entertainment and Arts (2): Includes activities and events on a large public and smaller scale, i.e., outdoor barbe-cue to Boston Symphony. Aside from the higher forms of art, the category includes: T.V., movies, music, opera, theater, historical celebrations, ballet, museums, books, authors, playwrights, dinner parties, drinking, fairs, carnivals, eating out a restaurant, hobbies, video games, photography exhibits. In general, refers to events or activities for personal or group pleasure without the requirement of competition or gamemanship necessary for the sport (1) category.

Business/Work (3): Topic should reflect some aspect of the work-a-day environment, be it: money, working conditions, nature of the work task, employment, training, career goal, taxes, finances, hiring, products, production, management-worker relations, work laws, school when the reference is regarding becoming trained or knowledgeable for employment,

the economy. Topic is to be distinguished from domestic concerns which might also be concerned with similar issues, but from the vantage point of the home.

Tech/Mech (4): Refers to science, technology, operation of mechanical, technical equipment, maintenance of equipment, repair of items, tools, chemical, electrical, engineering concepts, video equipment, research, space technology, mechanisms of transportation, medical technology, computers, math concepts, the physical sciences, and related concepts. The range of topics includes very sophisticated, state-of-the-art electronics to the mechanics of small engine repair.

Domestic Economy (5): Topic revolves around those statements which concern descriptions of, tasks connected with, or routines of home/apartment life. Is not coded for the occupants of the home or apartment. Specifically, home repair, home decoration, home purchase, yard work, food purchase, domestic finances, laundry, furniture, home design, household products, routines necessary for the establishment and maintenance of home life. In some fashion, explicitly or implicitly, the main focus of the topic must reflect a concern with home or apartment life.

Human Factors (6): In general, refers to those topics which focus on human existence with self and others. Includes the types of relationships which exist between people, feelings, lifestyles, statements regarding human sexuality, religion, morality, personal problems, personal health, life transitions, comments about other people, erations of personality in general. Distinct from code (7), this category should reflect a more personal level of statement.

Social Issues/Current Events (7): Distinct from code (6), these topics are discussed on a larger, less personal scale. Specifically, war, abortion, the draft, nuclear proliferation, state and local politics, crime, elections, governmental affairs. Generally, the issues of public debate or items covered on the evening news.

Acts of Nature/Man-made Environment (8): Refers to statements about the weather, climate, physical geography, mountains, lakes, rivers, desserts, seascapes, landscapes, towns, malls, physical structures, bridges, roads, tunnels, skyscrapers, interior/exterior non-domestic design, urban geography. Includes references to natural disasters, floods, volcanos, snowstorms, tidal waves.

School (9): Concerns statements to the effect: classwork, extracurricular activities, school social life, comments regarding teachers, classmates, grades, assignments, school schedules, examinations, summer school, student government, fraternities, sororities, dormitory life, and school problems. Similar to number (5), this topic requires that some aspect of 'school' be prominent in the statement, superseding other considerations that might occur in other categories.

Uncodable (10): When you are unable to determine where a certain statement belongs, code (10).

APPENDIX D

Listing of Coded Statements

He talked about:

- 003 how he learned to tend bar. 1 3
- 004 preparing for the end of the teaching term. 1 3
- 005 his future life plans. 1 6
- 006 nutritional aspects of food. 4 10
- 007 his son's new interest in girls. 2 6
- 008 the livability of cities in New Hampshire. 4 8
- 009 a computer program he was writing. 1 4
- 010 his band's performance in a bar. 3 3
- 011 the Arab-Israeli conflict. 4 7
- 013 his relationship with a woman. 3 6
- 014 his psychology exam and diversion tactics. 1 9
- 015 his grade in a course. 1 9
- 016 his summer plans, school and travel. 1 11
- 018 remodeling his bar. 1 10
- 019 the virtues of raising sheep in Vermont. 5 10
- 021 how to conduct a scientific experiment. 4 4
- 022 a dog a friend wanted him to buy. 3 10
- 121 buying parts in the right store. 4 4
- 122 buying non-toxic paint for a cage. 4 4
- 123 comparative quality of tools. 4 4
- 124 the price of beer. 4 10
- 125 finishing work and going home. 1 3
- 126 his friend moving to New York. 2 6
- 217 clients applying for disability benefits. 2 10

He talked about:

- 128 missing the country in the city. 1 8
- 129 his price of tool sets. 1 4
- 130 how to close up the books at the end of the day. 4 3
- 131 checking the teller's figures. 2 3
- 133 the benefits of vitamin therapy. 4 7
- 135 his pride in losing weight. 1 6
- 136 her not feeling persecuted by his behavior. 3 6
- 137 a T.V. show he saw. 1 2
- 138 the interior of the hair salon. 4 8
- 139 the evening's activities and chores. 1 5
- 140 slang terms for currency. 4 10
- 141 videotaping movies and the equipment. 4 4
- 142 driving to Portland, Maine in his Subaru. 1 10
- 264 the cost and installation of tile. 4 4
- 265 the exam he will take. 1 9
- 266 avoiding Weirs Beach on motorcycle weekend. 4 2
- 267 T.V. program being rescheduled. 4 2
- 268 his past vocations. 1 3
- 270 the use of steroids and their side-effects. 4 7
- 271 a family with an M.R. child. 5 6
- 272 a bike and its performance. 4 4
- 273 talking with a store owner to get a bike for his
son. 3 1
- 274 advising a woman on how to fill out a job application.
3 3
- 275 his trip itinerary. 1 10

He talked about:

- 276 his daughter playing Little League. 2 1
- 277 an apartment he wanted to rent. 1 5
- 278 his procedure for testing for diabetes. 1 10
- 279 his lawn chairs and new ones to buy. 1 5
- 280 child's test results. 2 9
- 281 gambling in Florida. 5 2
- 282 how he didn't like the Red Sox. 1 1
- 283 working part-time at Zayre's. 1 3
- 284 different ways to approach a building project. 4 4
- 285 the renovation of a cruise ship. 4 4

She talked about:

- 209 the climate in the room. 4 8
- 210 the time for a patient to begin treatment. 2 6
- 211 a family's adjustments to ill child. 2 6
- 212 her school's readiness for testing. 1 9
- 213 having company for Easter. 5 2
- 214 a favorite author. 1 2
- 215 purchasing items on sale. 5 10
- 216 searching for bargains. 1 10
- 217 her work schedule. 1 3
- 218 her son's problem with his retainer. 2 6
- 219 learning how to handle lots of money. 4 10
- 220 the rigors of graduate school. 5 9
- 221 sitting with another woman to hear better. 3 6
- 222 someone losing the same card twice. 2 10

She talked about:

223 how items in vogue today were passe years ago. 4 10

225 her groceries not spoiling on an errand. 1 5

226 how to locate books by one author. 4 2

227 the school program next door. 4 9

He talked about:

381 a friend's death. 2 6

383 a woman he was with over the weekend. 2 6

385 a friend, his drinking, lies, illness. 2 6

389 visiting friends and their plans 2 10

390 the wealth and history of the area. 4 8

She talked about:

391 her smart baby. 2 6

394 a friend's mean boyfriend. 2 6

397 comedians she liked. 1 2

398 her anger at her family. 3 6

399 being cold and loving those hot climates. 1 8

He talked about:

165 his son and his real estate holdings. 2 3

167 his employees and how well the store will do. 2 3

168 investing in a company. 5 3

169 his hometown and other man's hometown. 3 8

170 his unhappiness at the politics of baseball. 1 1

171 his son and other family members attending Brown. 2 9

172 his son moving to his home. 3 6

173 what she wanted for lunch. 2 10

174 his weight loss. 1 6

He talked about:

- 176 a photograph book as compared with his photos. 1 2
- 177 where she lived and his friends there. 3 8
- 178 going to a clambake and all the food there. 4 2
- 179 locating charcoal fluid or using another's. 4 10
- 180 taking a shower and being refreshed. 1 6

She talked about:

- 181 buying unscented shampoo. 1 10
- 182 losing her job. 1 3
- 183 which shorts he would like her to buy. 3 10
- 184 planning a meeting. 1 3
- 185 her father and his job. 1 3
- 186 how he was gonna apply grass seed. 2 5
- 188 her definition of maturity versus his. 3 6
- 189 her daughter and her swimming ability. 2 1
- 190 not being home before and seeing him. 3 6
- 191 a jogging suit her friend made for her. 3 6
- 192 a store that sold waterbeds. 4 10
- 193 clarifying the format of a report for typist. 3 3
- 194 locating a crisis residence for a woman. 3 6
- 195 a cake she made. 1 5
- 196 going to dinner and restaurant. 5 2
- 197 her anticipation of new baby. 1 6
- 198 her new work hours and why she liked them. 1 3
- 199 neglecting to write a letter on a card. 1 10
- 200 visiting another church in R.I.. 1 2

She talked about:

- 203 her daughter's picture. 2 6
- 205 not expecting to see him. 3 6
- 207 how man's son was sick before vacation. 2 6
- 208 his summer plans and his job. 2 10

He talked about:

- 242 losing his job. 1 3
- 245 going to a store so he could use their headsets. 1 4
- 246 certain tools to do specific jobs. 4 4
- 247 how a cut-off man works. 2 1
- 248 a girl from England he dates. 3 6
- 249 how he planned to go to the furniture store. 1 5
- 251 the classes he teaches. 1 3
- 252 his ski injury and how it affected him. 1 6
- 253 his class he was afraid of failing. 1 9
- 254 how to display new merchandise. 4 3
- 256 a new cup a restaurant would use. 4 3
- 257 his sunburn. 1 6
- 258 asking a girl out and being rejected. 3 6
- 259 his accomplishments at the university. 1 9
- 261 how to locate some reserve books. 4 10
- 262 an operation his nephew had. 2 6
- 263 the polarization due to nuclear issues. 4 7
- 023 his legal problems, mother suing him. 3 6
- 024 players he coached on his basketball team. 3 1
- 025 his flight plans for the day. 1 10
- 026 the communication problems in the mall. 4 10

He talked about:

- 028 his ski trip to Colorado. 1 2
- 029 the equipment in the water plant. 4 4
- 030 living with his girlfriend. 3 6
- 032 a family he knew. 2 6
- 033 his plan for doing library research. 1 9
- 034 how a friend was adjusting to husband's death. 2 6
- 035 a woman he knew. 2 6
- 036 renovating a building. 4 4
- 037 his travel plans. 1 10
- 038 arriving a day early to meet his girlfriend. 3 6
- 039 living in N.Y.C.. 5 8
- 040 how people react to his dog. 3 6
- 041 the effect of climate on physical health. 4 8
- 042 his reasons for leaving teaching. 1 3
- 044 the daily procedures of his business. 1 3
- 361 his new girlfriend. 2 6
- 363 reclining chairs and how much he liked them. 1 5
- 364 about the circus, one man's job. 2 3
- 365 his fast, fancy car. 1 4
- 369 his wife, kids, troubles. 3 6
- 370 parts of speech, what a phrase is. 4 10
- 372 his grandmother's house. 2 5
- 373 the quality of daughter's education. 2 9
- 375 his sister and her horses. 2 6
- 376 the restaurant food. 4 2

He talked about:

- 378 the sign lettering. 4 4
- 379 the difficulty of placing clients. 3 3
- 380 a man calling a family and complaining about their son. 2 6
- 143 travelling to northern N.H. and fishing and eating. 4 2
- 144 the demands of his job and poor day. 1 3
- 145 foreclosing on his mother. 3 6
- 146 five-year olds playing recreational basketball. 2 1
- 147 his brother and brother's new job. 2 3
- 148 playing golf that afternoon. 1 1
- 150 buying an extra part. 1 4
- 151 closing a bank account. 1 3
- 152 her husband and son putting out a fire. 2 10
- 153 arranging transportation for students. 5 10
- 154 having the day off. 1 3
- 155 his appointments for the day. 1 3
- 156 planting fruit trees. 1 10
- 157 his sister's plans for his daughter's wedding. 2 6
- 158 locating a book. 1 10
- 159 his wife's assertiveness in returning meat. 2 5
- 160 his disdain for school board policy and special education. 1 10
- 161 a newspaper editorial. 4 7
- 162 the status of a lawsuit. 4 10
- 163 the laziness of the younger generation. 4 7
- 164 the employment situation for the young. 4 7

She talked about:

- 067 frontage property around their home. 4 5
- 070 helping parents accept a child's handicap. 2 6
- 071 the quality of fast-food restaurants. 4 2
- 073 a math problem to be done. 4 9
- 074 different people she knew and feelings towards them.
3 6
- 075 a paper she had written. 1 10
- 076 needing a job. 1 3
- 078 a friend of hers. 2 6
- 079 her roommate and weekend plans with her. 3 6
- 080 how she was surviving the hot weather. 1 8
- 081 how people react to her dog. 3 6
- 083 rules for the 4-H fashion review. 4 3
- 084 her daughter's reaction to summer camp. 2 6
- 085 her work at a computer company. 1 3
- 086 some photos she had taken. 1 2
- 087 the personality of her Italian mother. 2 6
- 088 the appropriate syntax for sentences. 4 10
- 112 the process of hiring a new employee. 4 3
- 113 buying a bra. 1 10
- 115 her daughter's job attitude. 2 3
- 118 researching family history. 5 6
- 119 how tired she felt. 1 6
- 231 taxes rising. 4 7
- 232 showing him her new office. 3 3
- 233 how to use crystals to keep food fresh. 4 5

She talked about:

- 234 her lack of exercise and weight problem. 1 6
- 235 friends staying at a hotel. 2 10
- 236 how good the meal was. 5 2
- 237 buying a gift for her grandchildren. 3 6
- 238 poorly marked packages. 4 10
- 240 how he cut her off. 3 6
- 308 the location of a student on campus. 2 10
- 309 a particular concert. 4 2
- 310 her husband who had a fight with someone. 2 6
- 311 the increasing number of rapes on campus. 4 7
- 312 truck driving. 5 10
- 313 his wife, her baby. 2 6
- 314 the owner of laundromat and how good his place is.
2 10
- 315 the hospital bills from her baby's hospitalization.
5 5
- 316 her 7th grade history teacher. 2 9
- 317 talking to retired business people for their business
ideas. 2 3
- 318 a carnival she was going to that evening. 4 2
- 319 how items on a bill should be calculated and listed.
4 10
- 320 how she wouldn't get too warm playing catch with him.
3 1
- 321 defrosting the fridge. 4 5
- 323 abnormalities in blood cells. 4 10
- 324 a scary painting that depresses people. 4 2
- 325 the wonder of computers. 4 4

She talked about:

- 326 the procedure to apply for the job. 4 3
- 327 a business she wants to start. 1 3
- 328 doing her laundry. 1 5
- 329 a woman who was a waitress and her boss. 2 6
- 089 her relationship with her mother. 3 6
- 090 her brother and his career problems. 2 3
- 091 where she had grown up in N.H.. 1 8
- 092 the confidentiality of mental health records. 4 10
- 093 shceduling and procedures for agronomy students. 4 10
- 094 a girl she knew and her lifestyle. 2 6
- 095 the placement of a child in a school program. 2 9
- 096 how she would fix a broken xerox. 1 4
- 097 the various stores in the market. 4 10
- 098 a child's recent psychological testing. 2 6
- 099 her work with high tech.. 1 3
- 100 the death and disappearance of a man. 2 7
- 101 the weather in Florida. 4 8
- 105 buying and repairing a house. 5 5
- 106 a person to fill a new position. 5 3
- 109 the state budget. 4 7
- 330 going to aerobics class. 1 1
- 331 how she used to boycott McDonald's before kids. 1 5
- 332 making an appointment. 1 10
- 333 stereo systems. 4 4
- 334 attending a similar workshop elsewhere. 1 10
- 335 buying a Coleman lantern. 1 4

She talked about:

- 336 job options after civil service exam. 1 3
- 337 about a friend who was a country bumpkin. 2 6
- 338 a friend of hers who used to be a thief. 2 6
- 340 a friend's poor health due to smoking. 2 6
- 341 the architecture in southern U.S.A.. 4 2
- 342 a sick friend. 2 6
- 343 how nice canvas bags were. 4 10
- 344 the coach in the lobby. 4 10
- 345 different restaurants. 4 2
- 346 clothes she bought for her grandson. 2 6
- 347 a friend who now walks up to 4 miles. 2 6
- 348 her shopping itinerary. 1 5
- 349 the candy they had bought. 3 10
- 462 cooking vegetables. 5 5
- 463 her husband's business trip. 2 3
- 465 gardening. 5 10
- 466 her new brother-in-law. 2 6
- 467 a problem with a new product. 4 10
- 468 her new furniture. 1 5
- 469 a problem getting a part. 5 4
- 470 her relationship with her husband. 3 6
- 471 colors to choose for car. 5 10
- 472 the T.V. news. 4 7
- 473 her new volunteer work. 1 3
- 474 friends they had in common. 3 6
- 475 her ankle problems. 1 6

She talked about:

- 478 her niece's husband. 2 6
- 479 the church service she attended. 4 6
- 401 her son's wife. 2 6
- 402 her work problems. 1 3
- 403 her pharmacist and the medication he gave her. 3 6
- 406 a friend from Florida who called. 2 6
- 407 report cards. 5 9
- 498 the lack of library materials. 4 9
- 412 her grandchildren and children. 2 6
- 413 vegetable, fruit stands. 4 10
- 414 children today. 4 7
- 416 how cheap her 'ex' was. 2 6
- 418 shops to visit and their locations. 4 2
- 451 an operation she had on her knees. 1 6
- 453 the party the night before. 5 2
- 454 her new boss and his personality. 2 3
- 455 her new relationships in town. 3 6
- 457 about her boyfriend. 2 6
- 458 her problems playing tennis. 1 1
- 459 her summer school plans. 1 9
- 460 what type of saw to use to cut material. 4 4
- 061 her past weekend. 1 10
- 062 a movie she saw. 4 2
- 063 her university career. 1 3
- 064 people she knew. 2 6

She talked about:

066 her work, how a meeting was conducted. 1 3
 351 how to acces the computer. 4 4
 353 restrictions on planting in cemetery. 4 8
 354 Ronald Reagan's hairdresser. 2 3
 355 buying a tea kettle. 3 5
 356 all the food she buys and wastes. 1 5
 357 how funny he would look if he bought those pants. 2 10
 358 the fuel pump Bob was gonna replace in her car. 3 4
 359 how to survive the harsh desert heat. 4 8

He talked about:

441 his increase in taxes. 1 3
 442 his employees who were Brazilian. 2 3
 443 a dog and getting his license. 4 10
 445 the army and its changes. 4 7
 446 Reaganism. 4 7
 447 an old friend from Rhode Island. 2 6
 448 his trip from PA.. 1 2
 449 the movie. 4 2
 450 how to shoot pool. 4 1
 046 visiting his son at college 3 6
 048 a mechanic he knew. 2 6
 049 being the butt of a con man's joke. 3 6
 050 the health services curriculum. 4 9
 051 how to secure a mall space for a store. 4 3
 052 his dental problems. 1 6

He talked about:

- 053 a tailor doing some work for him. 3 10
- 421 his relationship with a musician. 3 6
- 422 his feeling as to how a song should be sung. 1 10
- 423 the need to wear protective gear. 4 10
- 424 his interest in lending musical equipment. 1 10
- 425 his need to raise money for fines. 1 10
- 426 theater actors of the past. 2 2
- 427 his decision to quit his job. 1 3
- 428 an argument he had with his teacher. 3 9
- 429 his college courses and graduation. 1 9
- 430 her parents and how they misjudge him. 3 6
- 431 the party the night before. 5 2
- 432 his job and responsibilities. 1 3
- 433 an old knee injury. 1 6
- 434 son's baseball team. 2 1
- 436 his interest in economics. 1 10
- 437 the problems with her tennis game. 2 1
- 438 a song and a tight band. 4 2
- 439 the park and the birds. 4 2
- 440 different music groups. 4 2
- 286 budget constraints on art exhibits. 4 7
- 287 how much home fuel a friend of his consumes. 2 5
- 288 property taxes. 4 7
- 290 how he couldn't paint in the rain. 1 10
- 291 his friend, a baseball coach. 2 1

He talked about:

- 292 how his wife was gonna divorce him. 3 6
- 293 how he dropped the meat at the last cook-out. 1 2
- 294 the tight job market. 4 3
- 295 his artificial leg and his special needs. 1 6
- 296 buying some shorts. 1 10
- 297 how the walls in his room were decorated. 1 5
- 298 some items in the store he wanted to buy. 1 10

She talked about:

- 301 problems she was having buying a gift for another. 3 6
- 302 telling a client she could go to camp. 3 3
- 303 the house she and her husband are buying. 3 5
- 304 how good doc's nurse was. 2 10
- 305 how she wanted it to get warm for tubing. 1 1
- 306 how hard it was to play by ear. 4 2
- 307 society's preoccupation with beauty and weight control. 4 7

APPENDIX E

ANOVA Tables

ANALYSIS OF VARIANCE, SELF-FOCUS

Source of Variation	Sum of Squares	DF	Mean Square	F	Signif of F
Main Effects	71.096	4	17.774	3.092	0.016
SexS	0.408	1	0.408	0.071	0.790
SexL	1.008	1	1.008	0.175	0.676
Ages	69.679	2	34.840	6.060	0.003
2-Way Interactions	36.717	5	7.343	1.277	0.272
SexS SexL	20.008	1	20.008	3.480	0.063
SexS Ages	15.129	2	7.565	1.316	0.269
SexL Ages	1.579	2	0.790	0.137	0.872
3-Way Interactions	23.179	2	11.590	2.016	0.134
SexS SexL Ages	23.179	2	11.590	2.016	0.134
Explained	130.992	11	11.908	2.071	0.021
Residual	2690.600	468	5.749		
Total	2821.592	479	5.891		

ANALYSIS OF VARIANCE, OTHER-FOCUS

Source of Variation	Sum of Squares	DF	Mean Square	F	Signif of F
Main Effects	104.971	4	26.243	3.752	0.005
SexS	10.502	1	10.502	1.502	0.221
SexL	35.752	1	35.752	5.112	0.024
Ages	58.717	2	29.358	4.198	0.016
2-Way Interactions	56.685	5	11.337	1.621	0.153
SexS SexL	15.052	1	15.052	2.152	0.143
SexS Ages	38.317	2	19.158	2.739	0.066
SexL Ages	3.317	2	1.658	0.237	0.789
3-Way Interactions	16.617	2	8.308	1.188	0.306
SexS SexL Ages	16.617	2	8.308	1.188	0.306
Explained	178.273	11	16.207	2.317	0.009
Residual	3272.975	468	6.994		
Total	3451.248	479	7.205		

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