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ABSTRACT

This study investigates the power of the sex-role social norm in determining dominance: is dominance determined by personality "type" (from Myers-Briggs) or by the sex-role expectation? Thinking (T) and feeling (F) types were paired, including all possible combinations of sex and T-F. Thirty-two dyads, 16 opposite sex and 16 same sex, discussed a thinking and a feeling problem. With opposite-sex dyads (a) males talked more than females on the T task and (b) feeling types talked more than thinking types on the F task. With same-sex dyads T types tended to talk more than F types on both tasks; this was especially true for T females on the T task, and even more so on the F task. It was concluded that dominance behavior was dependent on the interaction between (a) whether S was with same or opposite sex, (b) personality type, and (c) nature of task. (Author)

DOMINANCE AS A FUNCTION OF SEX-ROLE EXPECTATION OR PERSONALITY TYPE IN FEMALE-MALE INTERACTIONS

By

ROBIN C. ALTER

A THESIS PRESENTED TO THE GRADUATE COUNCIL OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

UNIVERSITY OF FLORIDA
1973

To my Father,

who always used to say

I should've been a "dumb broad,"

and I never knew whether or not

he was kidding

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Abstract of Thesis Presented to the Graduate Council of the University of Florida in Partial Fulfillment of the Requirements for the Degree of Master of Arts

DOMINANCE AS A FUNCTION OF SEX-ROLE EXPECTATION OR PERSONALITY TYPE IN FEMALE-MALE INTERACTIONS

By

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June, 1973

Chairman: Hani Van De Riet
Major Department: Psychology

Research on dominance in female-male interactions, although scant, supports the theory that culturally defined sex-role expectations affect the pattern of interaction between women and men. This study investigated the power of the sex-role social norm in determining dominance: is dominance determined by personality "type" (from Myers-Briggs) or by the sex-role expectation? Thinking (T) and feeling (F) types were paired, including all possible combinations of sex and T-F. Thirty-two dyads, 16 opposite sex and 16 same sex, discussed a thinking and a feeling problem. With opposite-sex dyads (a) males talked more than females on the T task ($p < .05$) and (b) feeling types talked more than thinking types on the F task ($p < .05$). With same-sex dyads T types tended to talk more than F types on both tasks ($p < .15$); this was especially true for T females on the T task ($p < .05$), and even more so on the F task ($p < .001$). It was concluded that dominance behavior was dependent on the interaction between (a) whether S was with same or opposite sex, (b) personality type, and (c) nature of task.

INTRODUCTION

> The passivity that is the essential characteristic of the "feminine" woman is a trait that develops in her from the earliest years. But it is wrong to assert a biological datum is concerned, it is in fact a destiny imposed upon her by her teachers and by society.
>
> --De Beauvoir, 1964

Most of the research on male-female differences from the 1930s to the present concludes that, in fact, males are different from females. These differences fall on several dimensions, such as males being active, females passive; males being strong, females weak (Terman and Tyler, 1954). These differences hold up in the way males and females act (Johnson and Knapp, 1963; Terman and Miles, 1936; Guttman, 1965; Douvan and Adelson, 1966; Bardwick, 1971), the way they think about themselves (Smith, 1939), and in the conceptions that they have of their own and the opposite sex (Goldberg, 1969). In short, research has generally substantiated the cultural sex stereotypes, that women are emotional, passive, nurturant, and men are active, instrumental, and aggressive. Psychology has accepted these stereotyped behavior patterns, rather than trying to discover the origins and effects of such behavior. In an article entitled "The Social Construction of the Second

Sex," Jo Freeman (1971) attributed this attitude of psychology towards women "in part to the general conservatism and reluctance to question the status quo, in part to the pervasive permeation of psychoanalytic thinking throughout American society. The result has been a social science which is more a mechanism of social control than of social inquiry" (p. 123).

Sex is a convenient variable. It is visible and differentiable. Two-thirds of a sample of women is sufficient to conclude that most women are such and such. For example, two-thirds of all boys do better on the math section of the college boards and two-thirds of the girls do better on the verbal section (Freeman, 1971). Bales' studies show that in small groups two-thirds of the men were task-oriented leaders and two-thirds of the women were social-emotional leaders (1958). Such conclusions, however, leave out a sizeable proportion of either sex, namely one-third. Also, the general findings of all psychological testing indicate that individual differences are greater than sex differences (Freeman, 1971); that is, sex is only one criterion that can differentiate human beings.

In fact, sex, as a determinant of behavior, is a highly elusive variable in psychological research. Rosenthal (1963) has clearly demonstrated that we can greatly influence the behavior of another organism, be it a rat or a person, merely by our hypothesis regarding that behavior. Most of

us are opinionated as the the natures of men and women, and so the validity of research on male-female differences is questionable. The Rosenthal experiments also bring out the effect of social expectation. In many ways people behave the way they are expected to behave (Weisstein, 1971). If the social expectations for women are brought into the laboratory situation by the experimenter and by the subject, we must examine the social conditions out of which people emerge. Where do they come from? How do they operate? How do they affect behavior?

In an early article on "Dominance, Personality, and Social Behavior in Women," A. Maslow (1939) said, "External circumstances change inner personality and also consequently change behavior to some extent" (p. 35). By this he meant that there is an intervening variable between direct experience and behavior, which is a change in the inner personality. External influences change a whole human being; they change her personality structure, which in term changes her tendency to behave in a certain way. Individuals do not simply exist as individuals, they exist in definite social contexts, and their ideas, feelings, and consequent behavior are a product of their social experience.

When does the social experience for women qua woman begin? Societal prejudices have an effect much earlier than most people imagine, for "parents raise their children in accord with the popular stereotypes from the very first"

(Bem and Bem, 1971, p. 87). Boys are encouraged to be aggressive, competitive, and independent, whereas girls are rewarded for being dependent and passive (Barry, Bacon, and Child, 1957; Sears, Maccoby, and Levin, 1957).

Girls receive more affection, more protectiveness, more restrictions, and more control. Parents demand achievement from their boys, have higher expectations of them in general. "With sons, socialization seems to focus primarily on directing and constraining the boy's impact on the environment. With daughters, the aim is rather to protect the girl from the impact of the environment. The boy is being prepared to mold his world, the girl to be molded by it" (Bronfenbrenner, 1961, p. 260).

In one study of mothers with their 6-month-old infants, girls were touched more and spoken to more than were the boys. When these same girls were 13 months old, they were more reluctant to leave their mother's side. When a physical barrier was placed between mother and child, the girls tended to cry and motion for help. The boys made more active attempts to get around the barrier (Goldberg and Lewis, 1969).

Several social psychologists have proposed that analytic thinking is related to "early independence and mastery training," of "whether and how soon a child is encouraged to assume initiative, to take responsibility for himself, and to solve problems by himself, rather than rely on others for the direction of his activities" (Farber, 1963, p. 31). The

research indicates, however, that such encouragement is usually reserved for male children. Hubert and Britten (1957) found that from infancy boys are encouraged to be more active than girls, that mothers are more prone to pick up girls and they will leave a boy to cry longer than they will a girl.

Independence or dependence training is crucial in the development of intelligence. In Piaget's system, intelligence is the assimilation of sensori-motor reflexes and learned habits (Piaget, 1966). A child who is not left alone to test out his or her sensori-motor capabilities will be hampered in his psychological and intellectual growth (Clapp, cited by Freeman, 1971). In one study girls who were good at spatial tasks were those whose mothers left them alone more (Bing, cited in Maccoby, 1963). In another study mothers of analytic children had encouraged their initiative, while non-analytic children had mothers who had fostered dependence and discouraged self-assertion (Witkin et al., 1962). The female child then is at an immediate disadvantage as far as intellectual growth is concerned by having her physical movements constrained. Levy (1943) has even observed that overprotected boys tend to develop intellectually like girls.

By nursery school age, boys are already more inquisitive about how and why things work (Smith, 1933). In the first and second grade boys give more suggestions on how to improve a fire truck and girls have more to say about the

nurse's kit, but by third grade boys have more suggestions regardless of the toy in question (Torrance, 1962). In a study by McDavid (1959), elementary school girls were more likely to solve a puzzle by imitating an adult, whereas the boys were more likely to search for a new solution. Another puzzle-solving study shows young girls asking for help and approval more than the boys, and, when given the opportunity to return to the puzzle a second time, the girls were more prone to return to the ones they had already solved, whereas the boys were more prone to return to ones they had been unable to solve (Crandall and Rabson, 1960).

Boys have higher activity levels than girls (Bardwick, 1971); they are encouraged to have a higher activity level. More active children have to learn motoric control in order to solve problems successfully in school. Thus girls have an advantage early in life by being more restrained and well controlled. They get off to a better start, but end up last. In a review of the intellectual differences between young boys and girls, Eleanor Maccoby (1966) states that there are no intellectual differences between the sexes until about high school, or, if there are, girls are ahead of boys. At high school girls begin to slack off on a few intellectual tasks, such as arithmetic, and beyond high school the achievement of women, measured in terms of productivity and accomplishment, drops off even more rapidly. The change in their performance occurs at a very significant

time in their lives. It occurs during adolescence when peer group pressures to be "feminine" and "masculine" increase and the conceptions of these categories become more and more narrow (Neiman, 1954).

Girls are aware at a very early age that masculine behaviors are valued; they frequently say that they envy boys. They exhibit a preference for the male role by preferring more male-oriented toys and games (Stokes, 1950). The culture, on the whole, strongly motivates boys to become masculine and rewards them when they do. When a girl reaches puberty, she is told to inhibit any "masculine" behavior she may be disposed toward and become "feminine," but the concomitant rewards are questionable. She begins to do worse and worse in school. On college boards boys do significantly better than girls in math. Girls, however, improve their math scores if the problems are reworded so that they deal with cocking and gardening (socially acceptable areas) even though the abstract reasoning remains the same (Milton, cited by Bem and Bem, 1971). It is not their ability but their motivation which affects their scores. It is not their ability but their motivation which affects their choice of career. By the ninth grade, 25% of the boys, but only 3% of the girls, are considering careers in science or engineering (Flanagan, cited by Kagan, 1964).

If a long training in passivity and dependence has not already damaged a woman's overall motivation to achieve, her

desire to search for new and independent ways of doing things, and her inclination to challenge new and unsolved problems, then the fear of being labeled unfeminine will certainly do the trick. Asch's experiments on peer-group pressure demonstrated the tremendous effect a group of unknown experimental stooges can have on a person's judgments (Asch, 1956). In an area as intangible as sex-role behavior, one can imagine how stifling social expectation can be. "Women are trained to model themselves after an accepted image and to meet as individuals the expectations that are held for women as a group!" (Freeman, 1971, p. 124).

One of the norms of our culture to which a woman learns to conform is that only men excel. This was evident in a study which showed that TAT pictures depicting males as the central character elicited significantly more achievement imagery than pictures of females (Lipinski, cited by Freeman, 1971).

In Freudian theory the essence of femininity lies in repressing agressiveness. A woman cannot tolerate success in intellectual areas because this is unconsciously interpreted as a loss of femininity. Thus, whether or not her success is public, the conflict between success and femininity is so deep that most women, as Rossi has stated (1965), "believe that even wanting to be more than a mother is unnatural and reflects a real emotional disturbance."

According to Mead, "intense intellectual striving (of the kind necessary for the serious pursuit of a career) is viewed as competitively aggressive behavior" (Mead, 1949). Kagan and Moss (1962) found that the "typical female has greater anxiety over aggressiveness and competitive behavior than the male, she therefore experiences greater conflict over intellectual competition which in turn leads to inhibition of intense striving for academic excellence. For most men, however, active striving for success and competitive achievement is consistent with masculinity and therefore enhances their self-esteem."

Social pressures can even affect IQ scores. Corresponding with the drive for social acceptance, girls' IQ scores drop below those of boys' during high school, rise slightly if they go on to college, and go into a steady and consistent decline when and if they become full-time housewives (Bradway and Thompson, 1962). Decreasing IQs correlate with personality traits of dependence, passivity, and shyness (Sontag et al., 1953). Characteristics associated with decreasing IQs are "feminine" characteristics (Maccoby, 1963).

Weiss studied the behavior of women in so-called masculine activities and found that college women tend to limit their achievement when competing with college men. In this way they "avoid the disruption of the rules governing heterosexual encounter" (Weiss, cited by Bieliauskas, 1965).

The powerful effect of social norms is evident in a cross-cultural study in which TATs were given to women in Japanese villages. Women of fishing villages, where the status position of women was higher than in farming communities, were found to be "more assertive, not as guilt-ridden, were more willing to ignore the traditional pattern or arranged marriages in favor of love marriages (DeVos, 1960). Only social context can explain why in the Soviet Union, women make up 33% of the engineers and 75% of the physicians, while in the United States 1% of the engineers and only 7% of the physicians are women (Dodge, 1966).

Thus far, we have been looking at the socialization process whereby women are channeled out of masculine activities and channeled into areas suitable to the "feminine nature." We have also dealt with the process whereby the "feminine nature," as distinct from the "male nature," comes to exist. What happens to those women who somehow manage to avoid becoming passive, dependent, and "dumb"?

An "uppity" woman who chooses to compete with men in "their" world, be it business, a profession, or academia, is subject to social rejection from men as well as women. Riesman (1964) commented that "women, as with many minority groups, bitterly resent and envy those among them who break out of confinement and are frequently shrewish and vindictive toward them" (p. 120). In a study of elementary school children it was found that there was an inverse correlation

between aggression and popularity with girls, which was not true for boys (Green, 1933). Operating in this punitive social context, "most girls remain consistent with their own early dependency behavior as they grow older, whereas boys are not consistent and become more independent" (Kagan and Moss, 1962, p. 221).

Some women (probably one-third, as mentioned earlier) remain independent and strive to achieve in areas defined as masculine. These women who do not succumb to overprotection and defy the established role behavior and personality structure for their sex have a price to pay, a price in loneliness, rejection, and anxiety (Maccoby, 1963). This anxiety is particularly prevalent in college women (Sinick, 1956). After four years at one of the better women's colleges, during which time they were becoming more liberal and independent in their values and attitudes (i.e., more masculine), these women were also showing more anxiety and psychological problems than they did when they were freshmen (Sanford, 1961).

M. Horner did a very revealing study in which she uncovered some of the psychological barriers to achievement in women. In response to a TAT word item, which described a woman achieving success in medical school, 65% of the women demonstrated a definite motive to avoid success. Male subjects were given the same word item with a man achieving success, and only 10% of the men gave an avoidance type of

response. The women's responses were classified into three categories: 1) fear of social rejection, 2) concern about one's normality or femininity, and 3) sheer denial (that it was even possible). She concluded that "the anxiety-provoking aspects of success probably lie in the agressive masculine overtones that are implicit in or generally associated with successful competition in achievement situations" (Horner, 1971, p. 105).

Feeling anxious and guilt-ridden if they cross the sexual barrier, women find other areas to achieve in. Women are said to pursue an affiliative goal instead of an academic or vocational one (Bardwick, 1971). Could this be due to the very real threat that following academic or vocational success a woman might be denied affection, love, marriage, and children (Rossi, 1965)? It is not that women do not want to achieve something in life, for in fact the high achievers are the ones who marry the soonest. Strivers (1959, cited by Freeman, 1971) found that "non-motivated for college" women scored higher on achievement motivation exams than "well-motivated for college" women. Pierce and Bowman (1960, cited by Freeman, 1971) found a small but consistent correlation between high achievement motivation and orientation towards marriage. And in another study they found a high correlation between achievement motivation and actual achievement of marriage within a year after high school graduation. Those who did go on to college and/or

did not get married were low in achievement. Horner argues that "it is precisely those women who are most motivated to achieve whose scores will be most adversely affected by the motive to avoid success. Only if a woman desires success in a situation can she expect the negative consequences; without this expectation, anxiety or motivation to avoid success will not be aroused" (p. 108). From this we could say that those women who are highly motivated to achieve will experience the most anxiety over achievement unless they channel their achievement drive into socially proscribed areas, namely, marriage and a family. Consequently we find the vocational plans of adolescent girls "infused with the 'feminine' needs of wanting to help others, to meet people, and to find some setting where they can meet husbands" (Douvan and Adelson, 1966).

Girls are in a double-bind. Although they are in school to learn and to excel, they are punished, ostracized, and rejected by their peers if they do too well. Academic achievement and personal rejection seem to go hand in hand. In elementary school, girls who try hardest to achieve are the same ones who try hardest to gain approval, get love and affection (Tyler, Raffery, and Tyler, 1962). The outcome of this dilemma is often self-castigation, denial of success, and even self-hatred. Smith found that girls' perceptions of themselves are distorted. "Although girls consistently make better school grades than boys until late high school,

their opinion of themselves grows progressively worse with age and their opinions of boys and boys' abilities grow better. Boys, however, have an increasingly better opinion of themselves and worse opinion of girls as they grow older" (Smith, 1939). In a study of children in the early elementary school years, even while actually performing well, girls expected to fail more than boys. It was found that girls blame themselves when they fail, while boys project and blame somewhere else. The brighter the girl, the less expectations she had of doing well. Duller girls actually had higher expectations (Crandall, Katkovsky, and Preston, 1962).

Freeman compared Allport's "traits due to victimization" with Terman and Tyler's description of sex differences. Among the former are: sensitivity, submission, fantasies of power, desire for protection, indirectness, ingratiation, petty revenge and sabotage, sympathy, extremes of both self- and group hatred, and self- and group glorification, display of flashy status symbols, compassion for the underprivileged, identification with the dominant group norms, and passivity. For girls, Terman and Tyler listed such traits as: sensitivity, conformity to social pressures, response to environment, ease of social control, ingratiation, sympathy, low levels of aspiration, compassion for the underprivileged, and anxiety. Girls compared to boys were more nervous, unstable, neurotic, socially dependent,

submissive, had less self-confidence, lower opinions of themselves. Girls in general were more timid, emotional, ministrative, fearful, and passive (Freeman, 1971). Terman and Tyler did not list group hatred as a trait exhibited by girls, but Goldberg (1969) did a study which points to this as well. He found that college women rated the same article higher if they thought it was written by a man no matter what the subject of the article was (even in areas like dietetics and elementary education). On the basis of his findings, he says, "By the time girls reach college they have become prejudiced against women" (p. 29).

"Negative self-conceptions have negative effects in a manner that can only be called a self-fulfilling prophecy," says Freeman. Boys are highly motivated by the culture to become masculine, and, if they succeed, they are highly rewarded. Girls are not highly rewarded no matter which course they choose. If they channel their energies into those areas that the culture defines as appropriate, they are condemned for not having striven for the highest social rewards society has to offer; they are said to have low levels of aspiration. In fact, being passive and dependent in a world that values activity and strength leads to self-depreciation and neurosis. If, however, they succeed in areas defined as masculine and/or have ego styles that resemble the normative male style, they suffer from rejection, depression, and anxiety. So no matter what they do "women

are more likely than men to be admitted and readmitted to psychiatric hospitals or into private therapy, the latter by a margin of two to one" (Chesler, 1971, p. 22).

As was stated at the beginning of this paper, most of the research on female-male differences substantiates the cultural stereotypes about women and men. I have attempted thus far to discuss the tremendous effect that stereotyped norms of femininity and masculinity have in the socialization process of women. It is these norms which are the root cause of women's passivity and dependence, which cause them to pursue affiliative goals rather than achievement-oriented goals. These social pressures are also behind such behaviors as "playing dumb," "fear of success," and "avoidance of competition" amongst women who have the capability to use their intellectual skills, to be assertive, and to succeed.

The research that has been done regarding dominance in female-male interactions has been scant. Megargee et al. (1966) have done some work regarding how sex roles interfere with leadership in a task-oriented situation. In one study, in which only male Ss were used, when instructions for the task emphasized leadership, the High Dominant (Do) individual assumed the role of leader 90% of the time. When leadership was not stressed, the High Dominant men assumed the leader role only 56% of the time. The same study, using the same industrial task, was replicated using both sexes

(Megargee, 1969). When the same sex was paired, 75% of the High Do men and 70% of the High Do women assumed the leadership role. When High Do men were paired with Low Do women the percentage of men who became the leader rose to 90%. Megargee attributed this reinforcement of dominance behavior to the social-role expectation. When the social role was inverted, however, with High Do women paired with Low Do men, the High Do partner assumed the leadership role only 20% of the time. This held true for the industrial task, as well as a sexually neutral clerical task. Megargee concluded that social-role conflict created inhibition of leadership assumption.

Little research has been done relating dominance and submission to efficiency and productivity in carrying out a task. Smelser's (1961) study in which he used all male Ss is perhaps the only one. His hypotheses were derived from Sullivan's general theory "that a person's modes of relating to others are functional in that they enable him to maintain anxiety at a minimum" (p. 535). In accordance with this, Smelser found that on a cooperative task the greatest productivity resulted when persons were permitted to assume habitual modes of relating, in this case assume leadership when in fact they are high in dominance. But the question remains as to which habitual mode of relating is the most salient--individual personality traits (Dominance-Submission) or female-male stereotyped norms?

Research on female-male interaction generally supports the theory that cultural influences do affect the patterns of interactions between men and women. Strodtbeck and Mann (1956), in a study of jury deliberations, reported that men tend to specialize in attempted answers, they "pro-act"; whereas women specialize in positive supportive answers, they "react." Exline (1962) reported that in a task-oriented group women were more concerned with person-oriented information, while men were more task-oriented. Kenkel (1957) recorded the content of husband and wife interactions during decision making. He found that husbands exceeded wives in total actions and in attempted answers, but that wives dominated in the social-emotional positive areas. Heiss (1962) and Shaw (1969) found that this dichotomy became less and less true with increased intimacy. Their studies supported the view that the p ttern of interaction between people with little or no intimacy follows traditional female-male roles in our society. They did not control for personality type, however, and so it is impossible to know whether actual differences were inherent in the subjects or if a strong normative pressure was causing the subjects to behave as they did.

Present Study

The present study proposes to demonstrate the power of the social norm connected with appropriate sex-role behavior. Research has shown that especially with strangers (lack of intimacy), most women exhibit qualities that are "feminine"

and most men exhibit traits that are "masculine" (Megargee, 1969; Heiss, 1962; Shaw, 1965). But some members of each sex do not fit the mold, and exhibit behaviors that are characteristic of the opposite sex. What would happen if a woman with a distinctly male trait were paired with a man with the opposite feminine trait, and they were given a task corresponding to this particular trait, socially defined as either masculine or feminine? Would the person with the masculine trait dominate on the culturally defined masculine task, even if that person were a woman, or would the man dominate, simply because it was culturally defined as a male task, even though it was against his own personal nature? What would happen with the feminine task? Would the woman dominate here, no matter what her personality type, or would the male dominate here as well because of the task-oriented nature of the situation, regardless of content?

An area which has been delineated along sexual lines is the thinking-feeling dimension, with men generally considered to be "thinking types" and women to be "feeling types." The thinking-feeling dimension on the Myers-Briggs Type Indicator was selected for this study to determine personality type. On this particular dimension two-thirds to three-fourths of all women are feeling types, and two-thirds of all men are thinking types. This corresponds to the cultural stereotype that men are more inclined to thinking (intellectual) and women to feeling (emotional). Using the

type indicator, it is possible to control for personality type. This study poses the following questions. What can be expected from a woman thinking type and a male feeling type when faced with a thinking-type task and a feeling-type task? Will the woman, who is more a a thinking type in this case, dominate the thinking task? Or will she be prevented by the social-role expectation that men are the thinkers and that women should not excel in this area, i.e., should not compete? Will the male feel obliged to dominate because of the masculine nature of the problems? What will happen when a thinking man and a feeling woman are faced with a feeling task? Will the woman dominate in this instance where it is in accord with her personality type and is also an area that is socially defined as "feminine"? Or will the man dominate here as well, because it is the male nature to dominate?

If the thinking types, regardless of sex, dominate the thinking task, and the feeling types, dominate the feeling task, it would suggest that the social norm is not strong enough to inhibit a person's inherent personality inclinations. If, however, men dominate the thinking tasks, and women dominate the feeling tasks, regardless of personality type, or men dominate both tasks, the power of the female-male social norm will have been demonstrated.

This study included only people whose dominant process was thinking or feeling. To understand how dominant process

is defined by the Myers-Briggs an explanation of the type indicator is in order. The Myers-Briggs Type Indicator differentiates people according to the way they perceive and the way they judge their environment. Perceiving can either occur through the senses or through intuition. Judging can either be done by thinking or by feeling. Everyone has both processes--Perceiving and Judging--but tends to have a favorite process and an auxiliary process. The favorite process is also the best developed process. For example, if the favorite process is a Judging one (Thinking or Feeling), then the second best process, auxiliary process, must be a Perceiving one (Sensing or Intuition).

There are four letters to the type formula. The middle two letters indicate which Judging process (T or F) and which Perceiving process (S or N) is most prevalent in the person. The first letter indicates whether the person is an Introvert or an Extrovert (I or E). The last letter indicates which process, Judging or Perceiving, is used in dealing with the outside world. To determine which of the middle two letters is the favorite process and which is the auxiliary process, the first and last letters must be looked at together. Extroverts use their favorite process in relating to the outside world. Thus, if the first letter is E, the process indicated by the last letter (J or P) is the favorite process. If the first letter were E, for example, and

and the last letter J, the favorite process would be either Thinking or Feeling, depending on whether T or F appeared as the third letter. Introverts use their auxiliary process in dealing with the outside world; their favorite process being more internal. With I as the first letter, the favorite process would be the one not indicated by the last letter. If I is the first letter and P is the last letter, then Judging (not Perceiving) would be the favorite process, either Thinking or Feeling, whichever was indicated by the third letter, T or F.

In the present study, people whose favorite process was Judging--either Thinking or Feeling--were used. This included Introverts who deal with the outside world through Perceiving (their auxiliary process) and whose main process was therefore Judging (T or F). It also included Extroverts who deal with the outside world through Judging, and, because they were Extroverts, this was also their favorite process. Thus there are four different groups which have T or F as their main process, which results in eight different types. They are as follows: IS<u>T</u>P-IS<u>F</u>P; ES<u>T</u>J-ES<u>F</u>J; IN<u>F</u>P-IN<u>T</u>P; EN<u>F</u>J-EN<u>T</u>J.

METHOD

Subjects

The Myers-Briggs Type Indicator had been administered to the entire freshman class and several undergraduate classes at the University of Florida. From over 1,000 protocols, 32 females and 32 males were selected who corresponded to the eight types outlined above. A minimum score of 15 on either T (thinking) or F (feeling) was required in order to insure each subject of being strong on this dimension. Ss' ages ranged from 18 to 21, with 80% in the 18-19 age group. Ss were contacted by phone and asked to participate on a volunteer basis.

Tasks

Two discussion problems, one thinking-type and one feeling-type, were used. According to Myers (personal conversation, 1972) the chosen tasks do indeed reflect thinking and feeling as defined by the Myers-Briggs. Both problems were selected from Shaw's "Scaling Group Tasks: A Method for Dimensional Analysis" (1963). The thinking task was a jury deliberation problem, in which information pertaining to the deaths of Captain Watts and his son, James, is given. The question posed was, "To what was Captain Watts's

death due? Murder? Accident? Suicide? and "To what was James' death due? Murder? Accident? Suicide?" This task has a correct answer. The feeling task asks for recommendations regarding interpersonal relations. The central figure in this problem is Henry, the son of a physician, who has a friend, Jim, who is incurably ill. Henry and Jim are in love with the same girl, Ellen. At about the time Henry has decided to ask Ellen to marry him, she announces her engagement to Jim. Neither she nor Jim knows that he is incurably ill, although Henry does. The question posed was, "What should Henry say and do?" (See Appendix II for the tasks verbatim.)

Procedure

Ss were assigned to either the opposite- or same-sex group. The opposite-sex group consisted of 16 dyads, in which females and males were paired; the same-sex group consisted of 16 dyads, in which Ss were paired with someone of the same sex. The 32 dyads included all possible combinations of thinking and feeling types and sex. The opposite-sex group consisted of four dyads of a female S whose dominant process was feeling, paried with a male S whose dominant process was thinking, 4 dyads in which the dominant processes were reversed, and 8 dyads in which female and male Ss shared the same dominant process (in 4 dyads this was thinking and in 4 this was feeling). The same-sex group

consisted of 16 female dyads and 16 male dyads in which the dominant process of one S was thinking and of the other was feeling. The design was replicated four times to include all four groups of types whose dominant process was thinking or feeling. The three indicators of type, E-I, S-N, and J-P, not used as independent variables were held constant in each dyad. The groups were as follows:

OPPOSITE SEX		SAME SEX		SAME SEX	
Female	Male	Female	Female	Male	Male
ISTP	ISFP	ISTP	ISFP	ISTP	ISFP
ISFP	ISTP	ISFP	ISTP	ISFP	ISTP
ISTP	ISTP				
ISFP	ISFP				
INTP	INFP	INTP	INFP	INTP	INFP
INFP	INTP	INFP	INTP	INFP	INTP
INTP	INTP				
INFP	INFP				
ESTJ	ESFJ	ESTJ	ESFJ	ESTJ	ESFJ
ESFJ	ESTJ	ESFJ	ESTJ	ESFJ	ESTJ
ESTJ	ESTJ				
ESFJ	ESFJ				
ENTJ	ENFJ	ENTJ	ENFJ	ENTJ	ENFJ
ENFJ	ENTJ	ENFJ	ENTJ	ENFJ	ENTJ
ENTJ	ENTJ				
ENFJ	ENFJ				

Thirty-two dyads were run in two experimental conditions, a thinking task and a feeling task. The order in which dyads were run was random except for the restrictions imposed by the voluntary-recruiting procedure. Ss were brought into the experimental room, introduced to each other, and then

asked to complete a 113-item test, the Gough Inventory, taken from the CPI (California Psychological Inventory). Each member of the dyad was then given a written copy of either the thinking task or the feeling task. The order in which the tasks were done was reversed in every other dyad. Each set of written directions began with a statement designed to make the thinking-feeling dimension more salient. Directions for the thinking task began with, "This is a problem which takes good analytical ability." Directions for the feeling task began with, "This a problem which deals with people and their emotional struggles." (See Appendix II for the directions verbatim.)

After E had read aloud the directions, the tape recorder was turned on, and E left the room. This permitted Ss to interact freely, uninhibited by the possibility of E's intrusion. Ss were permitted to discuss the problem for five minutes. E then returned to the room, asked for the decision agreed upon and then switched off the tape recorder. The second problem was then handed to the Ss, the recorder was again turned on, and E left the room. Again, at the end of five minutes E returned to the room and called for the decision.

Apparatus

Tape recordings were made on a Wollensak battery-powered cassette recorder. These recordings were transcribed by hand with a Graphic Level Recorder, which produced a graph

depicting the pattern of Ss' conversation. Two people were required for this operation. One person recorded the speech of one S in a dyad, the other person recorded the other S in that dyad. Since almost all dyads finished the tasks in less than five minutes, three minutes on the graph was used for all analyses. Three sessions of six hours each were necessary to acquire enough skill to produce adequate test-retest reliability. Pearson Product-Moment correlation was computed to test reliability between test-retest graphs obtained manually on the Graphic Level Recorder. Reliability from 12 test-retest runs on 12 different dyads selected randomly was computed ($r = .5947$, $p < .05$).

Variables

The four primary independent variables are Sex (S), Dyad (D), Personality Type (P), and Task (T), symbolized as follows:

1. Sex: Male = X_1; Female = X_2.
2. Dyad: Opposite sex = D_1; Same sex = D_2.
3. Personality Type (according to the Myers-Briggs Type Indicator): Thinking Type = P_1; Feeling Type = P_2.
4. Task: Thinking Task = T_1; Feeling Task = T_2.

For example, male thinking types paired with someone of the opposite sex discussing the thinking task would be written $\overline{D_1X_1P_1T_1}$; the bar overhead indicates mean.

The measure of interaction selected for analysis was participation--total time S spent talking in seconds.

Dominance in the interaction is defined as who spent more time talking. Although most investigators of male-female interaction have used initiative, i.e., the number of times each person broke a silence, as an indication of dominance (Shaw and Sadler, 1965), this measure, as well as interruptions, i.e., the number of times each person began talking before the other person stopped, were not used. Shaw and Sadler (1965) stated that since it is impossible to know whether the nature of an interruption is an active, contributory statement or an agreeing, reinforcing comment, interruptions as a measure of dominance is ambiguous. After listening to the tape recordings, it was felt that a similar ambiguity is inherent in breaking a silence, and thus this measure was also discarded.

In order to ascertain whether dominance, as a dimension of personality, was a major determining variable in this study, a self-report measure, the Gough Personality Inventory was used (see Appendix II). The Gough Inventory consists of 113 extracted from the California Psychological Inventory; it includes the Do, Cm, and Gi scales. Only the Do (dominance) scale was scored. The CPI manual describes the Do scale as follows: ". . . to assess factors of leadership ability, dominance, persistance, and social initiative. High scorers are aggressive, confident, outgoing, planful, having initiative, verbally fluent, and self-reliant. Low scorers are retiring, inhibited,

commonplace, indifferent, silent, slow in thought and action, avoiding situations of tension and decision, lack in self-confidence" (CPI Manual, 1957).

Hypotheses

1. Males (X_1) will spend more time talking than females (X_2) on the thinking task (T_1).

$$\overline{X_1T_1} > \overline{X_2T_1}$$

2. Females (X_2) will spend more time talking than males (X_1) on the feeling task (T_2).

$$\overline{X_2T_2} > \overline{X_1T_2}$$

3. In the opposite-sex group (D_1) males (X_1) will spend more time talking than females (X_2) on the thinking task (T_1).

$$\overline{D_1X_1T_1} > \overline{D_1X_2T_1}$$

4. In the opposite-sex group (D_1) females (X_2) will spend more time talking than males (X_1) on the feeling task (T_2).

$$\overline{D_1X_2T_2} > \overline{D_1X_1T_2}$$

5. In the opposite-sex group (D_1) males (X_1) will spend more time talking than females (X_2) regardless of task.

$$\overline{D_1X_1} > \overline{D_1X_2}$$

6. The difference between males (X_1) and females (X_2) in the opposite-sex group (D_1) will be greater than the difference between males and females in the same-sex group

(D_2). The direction of the difference will be that on the thinking task (T_1) males (X_1) will spend more time talking than females (X_2) (as was stated in hypotheses 1 and 3).

$$\overline{D_1X_1T_1} - \overline{D_1X_2T_1} > \overline{D_2X_1T_1} - \overline{D_2X_2T_1}$$

7. The same as hypothesis 6, except on the feeling task (T_2) females (X_2) will spend more time talking than males (X_1) (as was stated in hypotheses 2 and 4).

$$\overline{D_1X_2T_2} - \overline{D_1X_1T_2} > \overline{D_2X_2T_2} \quad \overline{D_2X_1T_2}$$

8. In the same-sex group (D_2) thinking types (P_1) will spend more time talking than feeling types (P_2) on the thinking task (T_1).

$$\overline{D_2P_1T_1} > \overline{D_2P_2T_1}$$

9. In the same-sex group (D_2) feeling types (P_2) will spend more time talking than thinking types (P_1) on the feeling task (T_2).

$$\overline{D_2P_2T_2} > \overline{D_2P_1T_2}$$

Hypotheses 10-13 are essentially the same as 8 and 9 broken down by sex.

10. In the same-sex group (D_2) male thinking types (X_1P_1) will spend more time talking than male feeling types (X_1P_2) on the thinking task (T_1).

$$\overline{D_2X_1P_1T_1} > \overline{D_2X_1P_2T_1}$$

11. In the same-sex group (D_2) male feeling types (X_1P_2) will spend more time talking than male thinking types (X_1P_1) on the feeling task (T_2).

$$\overline{D_2X_1P_2T_2} > \overline{D_2X_1P_1T_2}$$

12. In the same-sex group (D_2) female thinking types (X_2P_1) will spend more time talking than female feeling types (X_2P_2) on the thinking task (T_1).

$$\overline{D_2X_2P_1T_1} > \overline{D_2X_2P_2T_1}$$

13. In the same-sex group (D_2) female feeling types (X_2P_2) will spend more time talking than female thinking types (X_2P_1) on the feeling task (T_2).

$$\overline{D_2X_2P_2T_2} > \overline{D_2X_2P_1T_2}$$

Statistical Analyses

The data gathered to investigate the hypotheses stated above were analyzed by means of the following statistical procedures:

1. A priori comparison among means, using t ratio as described by Kirk (1968) was used to test original hypotheses.

2. Pearson Product-Moment correlation was calculated to estimate the degree of relation between Do scale score on the Gough and total time S talked.

3. A four-way analysis of variance was used to investigate the main effects of the interactions among the four independent variables, Sex (X), Dyad (D), Type (P), and Task (T), as they affect the dependent variable, total time.

4. A posteriori analyses were performed where analysis of variance (above 3) indicated significant effects at the .05 level. Tukey's HSD (honestly significant difference) test and Scheffé's S Method, as described by Kirk (1968), were used.

5. A separate analysis of variance, using sex and the eight Myers-Briggs types as independent variables, was computed on total time S talked (see Appendix I for results).

RESULTS

t Tests of Original Hypotheses

Hypothesis 1

This hypothesis was not confirmed at the predetermined ($p < .05$) level of statistical significance. When same- and opposite-sex groups were combined, males ($\overline{X_1T_1} = 56.513$) did talk more than females ($\overline{X_2T_1} = 53.03$) on the thinking task, but this difference was not significant ($t = .796$) (see Figure 1).

Hypothesis 2

This hypothesis was not confirmed. When same- and opposite-sex groups were combined, females ($\overline{X_2T_2} = 59.228$) did talk more than males ($\overline{X_1T_2} = 56.325$) on the feeling task, but this difference was not significant ($t = .959$) (see Figure 1).

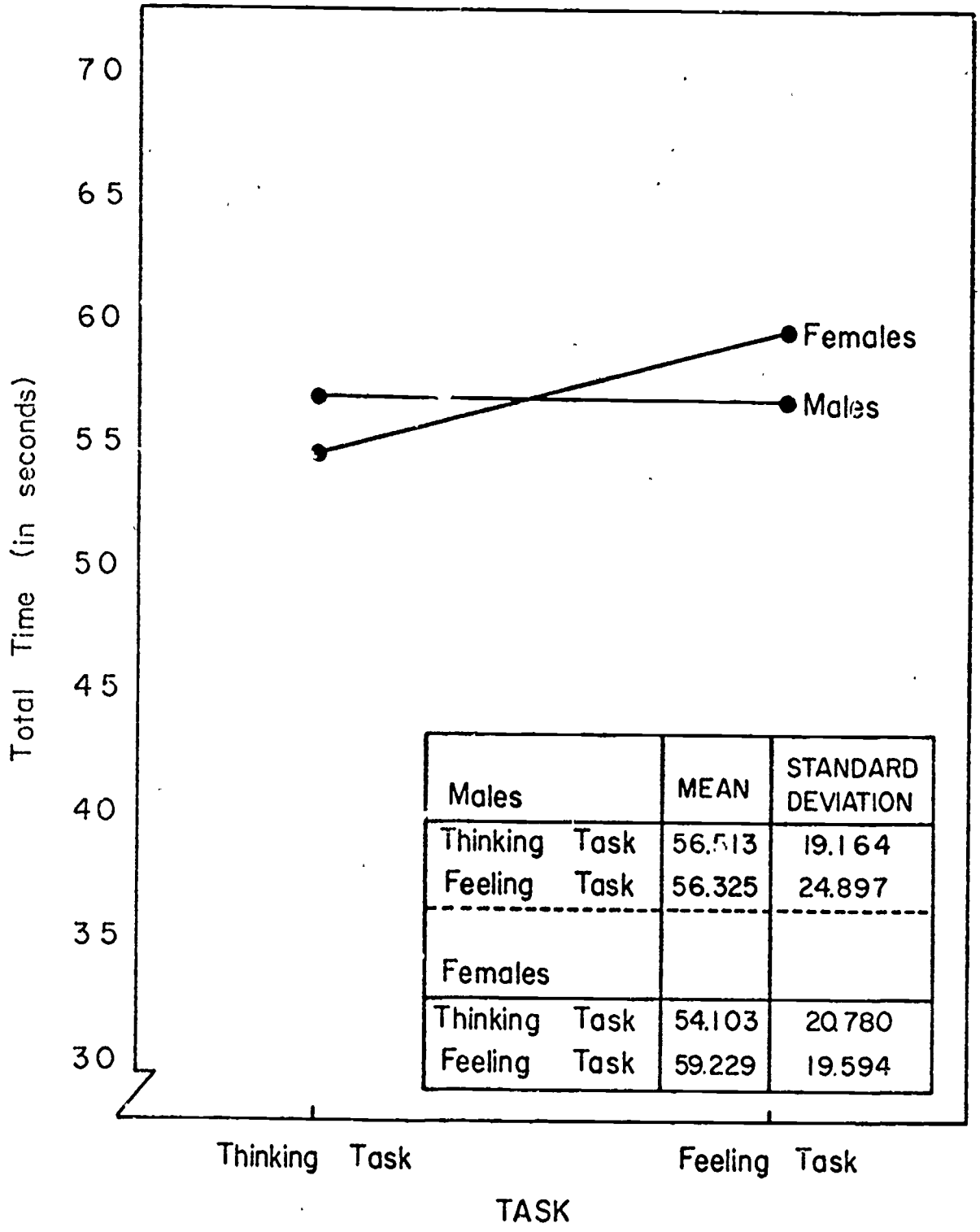
Hypothesis 3

As hypothesized, in opposite-sex dyads on the thinking task, males ($\overline{D_1X_1T_1} = 64.294$) talked more than females ($\overline{D_1X_2T_1} = 55.475$) ($t = 2.06$, $p < .05$) (see Figure 2).

Hypothesis 4

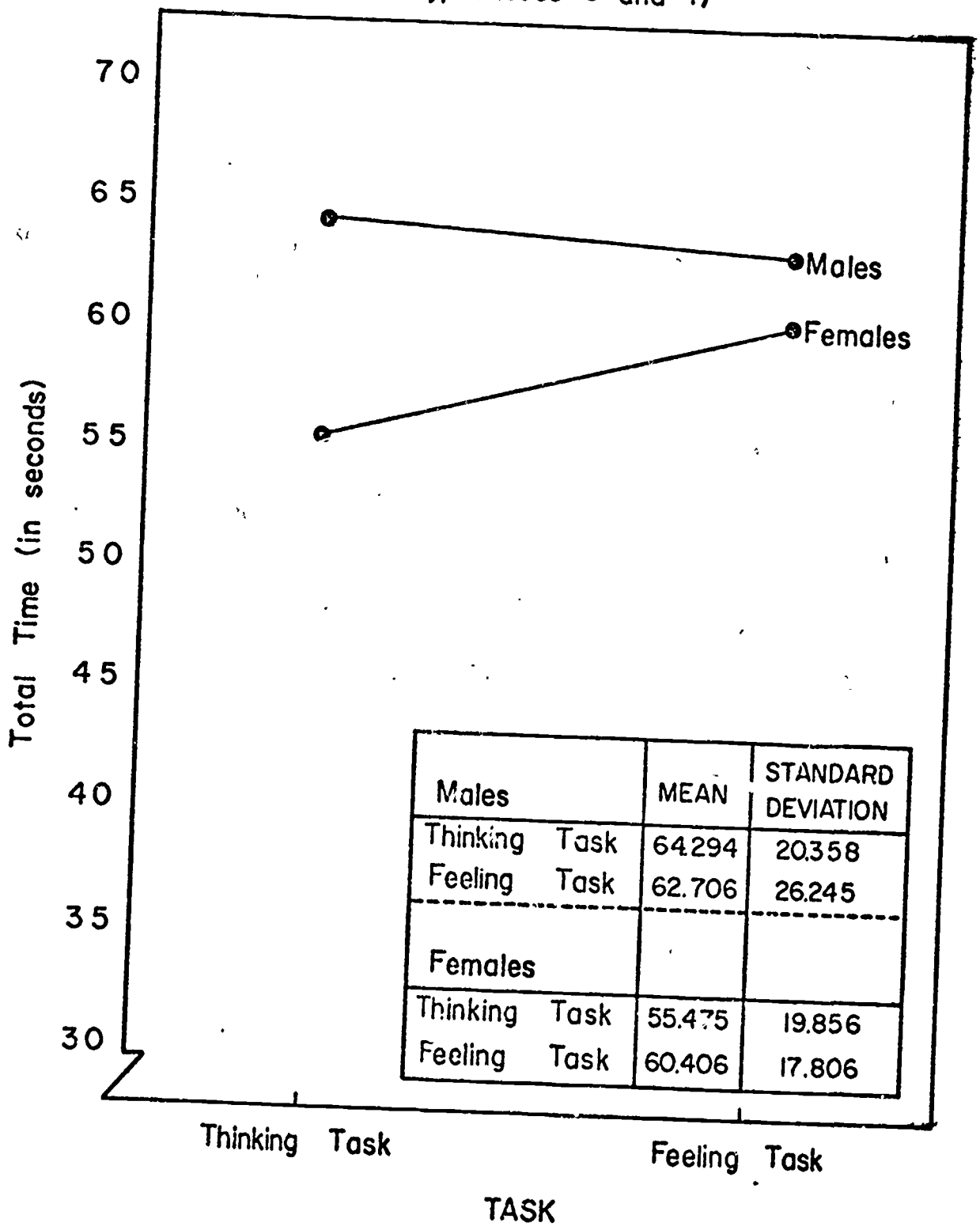
This hypothesis was not confirmed. In opposite-sex

Fig. 1 Means for Same- and Opposite-Sex Dyads Combined by task and sex (Hypotheses 1 and 2)



Males	MEAN	STANDARD DEVIATION
Thinking Task	56.513	19.164
Feeling Task	56.325	24.897
Females		
Thinking Task	54.103	20.780
Feeling Task	59.229	19.594

Fig. 2 Means for Opposite-Sex Dyads by sex and task (Hypotheses 3 and 4)



Males	MEAN	STANDARD DEVIATION
Thinking Task	64.294	20.358
Feeling Task	62.706	26.245
Females		
Thinking Task	55.475	19.856
Feeling Task	60.406	17.806

dyads on the feeling task, females ($\overline{D_1X_2T_2}$ = 60.406) did not talk more than males ($\overline{D_1X_1T_2}$ = 62.706) (t = -.549). (See Figure 2.)

Hypothesis 5

This hypothesis was not confirmed. In opposite-sex dyads when both tasks were combined, males ($\overline{D_1X_1}$ = 63.525) did talk more than females ($\overline{D_1X_2}$ = 57.941), but this difference was not significant (t = 1.061) (see Table 1). The thinking task accounted for the major difference between males and females, as was shown in hypothesis 3.

Table 1

Means and Standard Deviations for Males and Females in Opposite-Sex Dyads (Hypothesis 5)

Sex	Mean	Standard Deviation	t
Males (X_1)	63.525	23.118	1.061
Females (X_2)	57.941	18.720	

Hypothesis 6

As hypothesized, on the thinking task the difference between males and females in opposite-sex dyads (see hypothesis 3 for means) was greater than the difference between males ($\overline{D_2X_1T_1}$ = 48.731) and females ($\overline{D_2X_2T_1}$ = 52.725) in same-sex dyads (t = 2.115, $p < .025$). (See Table 2). Even though in same-sex dyads, the females talked more than

males, which was contrary to expectation, the large difference between males and females in opposite-sex dyads on the thinking task was enough to counteract this effect (see Figure 3).

Hypothesis 7

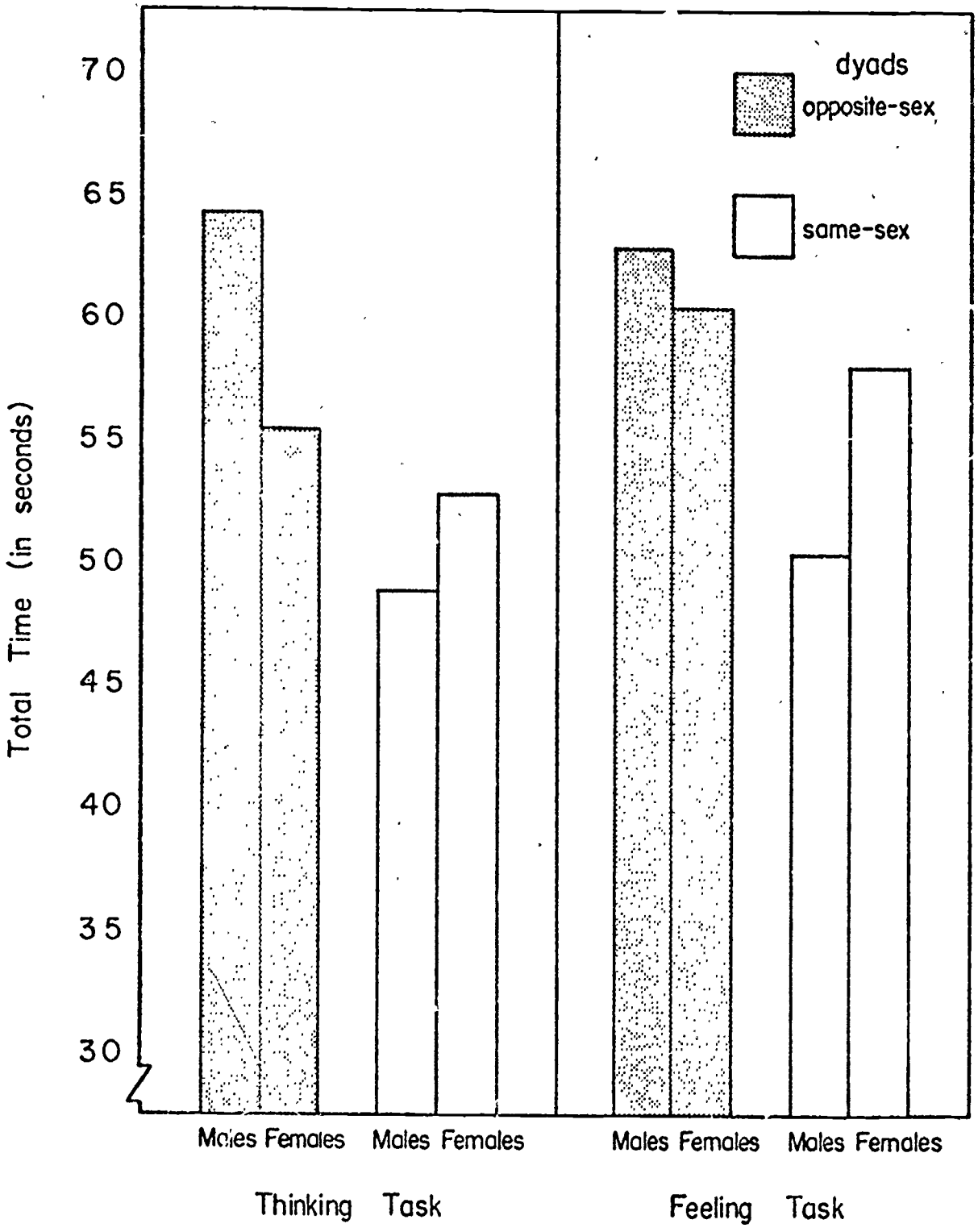
This hypothesis was not confirmed. On the feeling task the difference between females and males in opposite-sex dyads (see hypothesis 4 for means) was not greater than the difference between females ($\overline{D_2X_2T_2}$ = 58.05) and males $\overline{D_2X_1T_2}$ = 50.456) (t = -1.633). (See Table 2.) In fact, the difference between females and males was greater in same-sex dyads than in opposite-sex dyads, although this difference was not significant (see Figure 3).

Table 2

Means and Standard Deviations for Same-Sex Dyads by Task and Sex (Hypotheses 6 and 7)

Task x Sex	Mean	Standard Deviation
Thinking Task		
Males	48.731	14.676
Females	52.725	18.265
Feeling Task		
Males	50.456	22.450
Females	58.05	16.522

Fig. 3 Means of Same-Sex and Opposite-Sex Dyads by task and sex. (Hypotheses 6 and 7)



Hypothesis 8

This hypothesis was not confirmed. In same-sex dyads thinking types ($\overline{D_2P_1T_1}$ = 53.025) did talk more than feeling types ($\overline{D_2P_2T_1}$ = 48.431) on the thinking task, but this difference was not significant (t = 1.0725) (see Figure 4).

Hypothesis 9

This hypothesis was not confirmed. In same-sex dyads on the feeling task, feeling types ($\overline{D_2P_2T_2}$ = 46.244) did not talk more than thinking types ($\overline{D_2P_1T_2}$ = 61.70) (t = -3.74). In fact, the difference was significant in the opposite direction, i.e., thinking types talked more than feeling types on the feeling task ($p < .001$) (see Figure 4).

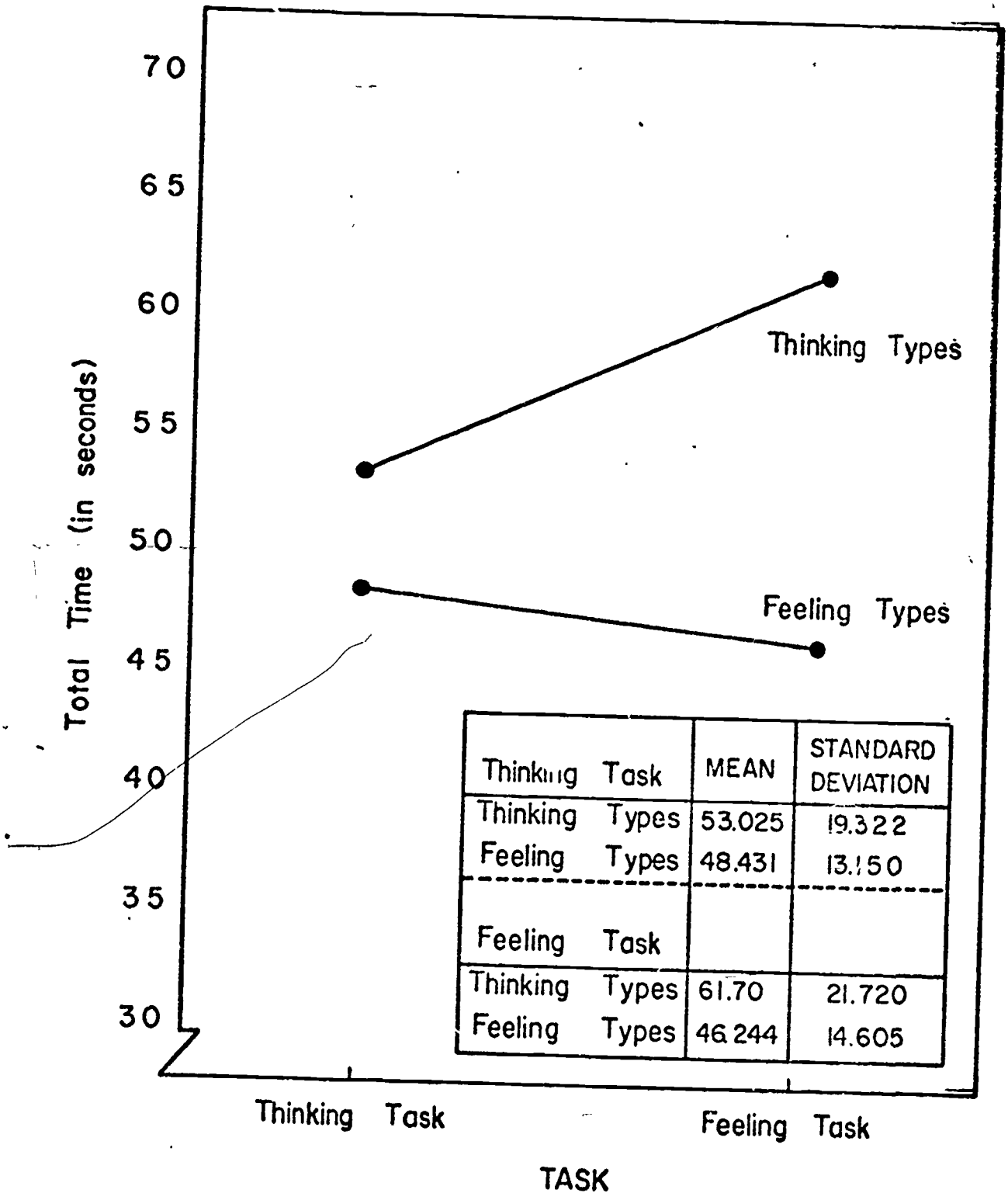
Hypothesis 10

This hypothesis was not confirmed. In same-sex dyads there was no difference between male thinking types ($\overline{D_2X_1P_1T_1}$ = 48.025) and male feeling types ($\overline{D_2X_1P_2T_1}$ = 49.438) on the thinking task (t = -.233) (see Figure 5 and Table 3).

Hypothesis 11

This hypothesis was not confirmed. In same-sex dyads on the feeling task, male feeling types ($\overline{D_2X_1P_2T_2}$ = 45.913) did not talk more than male thinking types ($\overline{D_2X_1P_1T_2}$ = 55.0) (t = -1.50). Contrary to expectation, male thinking types talked more than male feeling types on the feeling task, but this difference was not significant (see Figure 5 and Table 3).

Fig. 4 Means for Same-Sex Dyads by task and type (Hypotheses 8 and 9)



Thinking Task	MEAN	STANDARD DEVIATION
Thinking Types	53.025	19.322
Feeling Types	48.431	13.150
Feeling Task		
Thinking Types	61.70	21.720
Feeling Types	46.244	14.605

Fig. 5 Means of Same-Sex Dyads by sex, task, and type (Hypotheses 10-13)

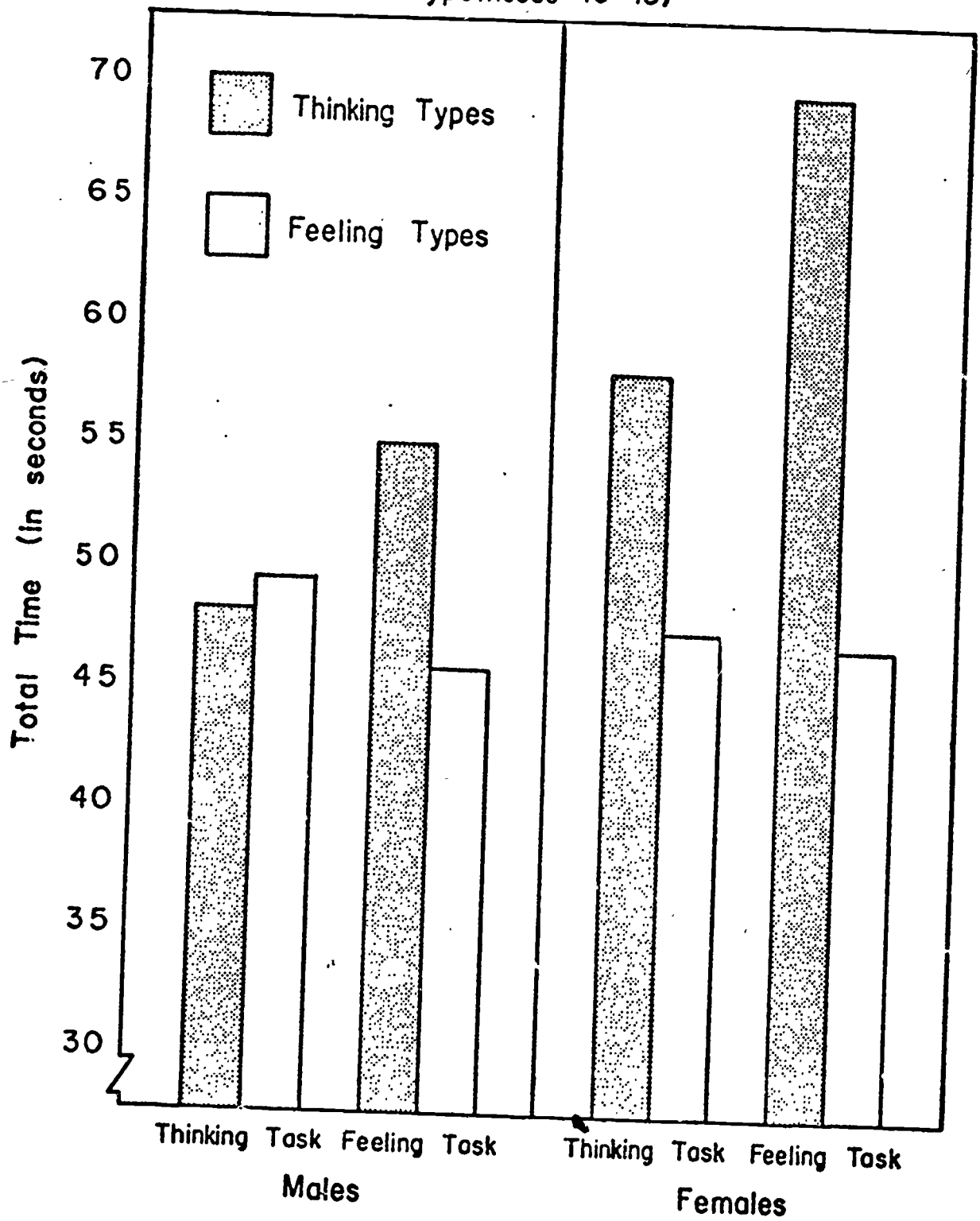


Table 3

Means and Standard Deviations for Males in Same-Sex Dyads by Type and Task (Hypotheses 10 and 11)

Task x Type	Mean	Standard Deviation	t
Thinking Task			
Thinking Types	48.025	16.614	-.233
Feeling Types	49.438	13.579	
Feeling Task			
Thinking Types	55.000	25.201	-1.50
Feeling Types	45.913	20.216	

Hypothesis 12

As hypothesized, in same-sex dyads on the thinking task, female thinking types ($\overline{D_2X_2P_1T_1}$ = 58.025) talked more than female feeling types ($\overline{D_2X_2P_2T_1}$ = 47.425)(t = 1.749, $p < .05$). (See Figure 5 and Table 4.)

Hypothesis 13

This hypothesis was not confirmed. In same-sex dyads on the feeling task, female feeling types ($\overline{D_2X_2P_2T_2}$ = 46.575) did not talk more than female thinking types ($\overline{D_2X_2P_1T_2}$ = 69.525) (t = -3.789). In fact, the difference was significant in the opposite direction, i.e., female thinking types talked more than female feeling types on the feeling task ($p < .001$) (see Figure 5 and Table 4).

Table 4

Means and Standard Deviations for Females in Same-Sex Dyads by Task and Type (Hypotheses 12 and 13)

Task x Type	Mean	Standard Deviation	t
Thinking Task			
Thinking Types	58.025	21.606	1.749*
Feeling Types	47.425	13.560	
Feeling Task			
Thinking Types	69.525	15.357	-3.789**
Feeling Types	46.575	6.937	

*p < .05.
**p < .001.

It appeared from the results of hypotheses 8-13 that in same-sex dyads, thinking types tended to talk more than feeling types regardless of task. Tukey's HSD (honestly significant difference) test[1] was used to test the following a posteriori hypotheses: 1) in same-sex dyads on both tasks, male thinking types talked more than male feeling types--$\overline{D_2X_1P_1} > \overline{D_2X_1P_2}$, and 2) in same-sex dyads on both tasks, female thinking types talked more than female feeling types--$\overline{D_2X_2P_1} > \overline{D_2X_2P_2}$. One significant comparison was that

[1]Tukey's test is a conservative a posteriori procedure designed for making all pairwise comparisons among means (Kirk, 1968).

between female thinking and feeling types on the feeling task. On this task female thinking types talked more than female types ($p < .01$) (see Table 5).

Table 5

Tukey's HSD Test for Differences Among Means for Same-Sex Dyads on Thinking Task and Feeling Task by Sex and Type

Sex x Type	$\overline{X_1P_1}$	$\overline{X_1P_2}$	$\overline{X_2P_1}$	$\overline{X_2P_2}$
		Thinking Task		
$\overline{X_1P_1}$ = 48.025		1.413	10.000	.600
$\overline{X_1P_2}$ = 49.438			8.587	2.013
$\overline{X_2P_1}$ = 58.025				10.600
$\overline{X_2P_2}$ = 47.425				
		Feeling Task		
$\overline{X_1P_1}$ = 55.000		9.088	14.525	8.425
$\overline{X_1P_2}$ = 45.913			23.612*	6.62
$\overline{X_2P_1}$ = 69.525				22.950*
$\overline{X_2P_2}$ = 46.575				

X_1 = males.
X_2 = females.
P_1 = thinking types.
P_2 = feeling types
*$p < .01$.
$q_{.05} = 16.062$.
$q_{.01} = 19.746$.

Intercorrelations of Do Score on the Gough and Total Time

Pearson Product-Moment correlation was computed separately for each task and sex to estimate the degree of relation between Do scale score on the Gough and Total Time Ss talked (N = 32). No significant correlations were found (see Table 6).

Table 6

Intercorrelations of Do Score and Total Time

Task	Sex	
	Males	Females
Thinking Task	-0.0793	-0.1121
Feeling Task	-0.1788	-0.1181

$r_{.05} = .3494$.

Analysis of Variance and Post Hoc Tests

A four way analysis of variance with independent variables, Sex (X), Dyad (D), Type (P), and Task (T), and dependent variable, total time Ss talked, was performed (see Table 7). A significant two-way interaction ($p < .05$) was found between Dyad and Type ($F = 5.6297$, $df = 1,56$) and a significant three-way interaction between Dyad, Type, and Task ($F = 6.3284$, $df = 1,56$). Tukey's HSD test of differences among means for the two-way interaction between Dyad and Type showed that

Table 7

Four-Way Analysis of Variance: Sex (X), Dyad (D), Type (P), and Task (T) for Total Time

Source	df	Mean Square	F
X	1	19.50312	0.0033
D	1	22495.27	3.7784
P	1	14.02812	0.0024
XD		18069.45	1.8257
XP	1	310.0781	0.0521
DP	1	33517.54	5.6297*
XDP	1	10637.59	1.7867
(error between)	56	5953.670	
T	1	1950.312	1.3288
XT	1	2257.809	1.5384
DT	1	192.2000	0.1310
PT	1	.6125	0.0004
XDT	1	105.8219	0.0721
XPT	1	1232.453	0.8397
DPT	1	9288.069	6.3284*
XDPT	1	475.0687	0.3237
(error within)	56	1467.670	

*p < .05

feeling types talked more within opposite-sex dyads than within same-sex dyads ($p < .01$), when both tasks were combined (see Table 8). Tukey's HSD test of differences among means for the three-way interaction between Dyad, Type and Task (DPT) showed that within opposite-sex dyads, feeling types talked more than thinking types on the feeling task ($p < .05$) (see Table 9). Scheffés S Method[1] for DPT (see Figure 6) showed that on the thinking task, thinking types talked more when paired with the opposite sex, whereas on the feeling task, thinking types talked more when paired with the same sex ($F = 4.14$, $p < .05$).

Table 8

Tukey's HSD Test for Difference Among Means for Thinking and Feeling Types in Same- and Opposite-Sex Dyads

Dyad x Type	$\overline{D_1P_1}$	$\overline{D_1P_2}$	$\overline{D_2P_1}$	$\overline{D_2P_2}$
$\overline{D_1P_1}$ = 55.5125		10.44375	1.85	8.175
$\overline{D_1P_2}$ = 65.95625			8.59375	18.61875*
$\overline{D_2P_1}$ = 57.3625				10.025
$\overline{D_2P_2}$ = 47.3375				

D_1 = opposite-sex dyad.
D_2 = same-sex dyad.
P_1 = thinking type.
P_2 = feeling type.
*$p < .01$.
$q_{.01} = 14.1032$.

[1]Scheffé's S Method is more sensitive than Tukey's for complex comparisons (Kirk, 1968).

Fig. 6 Means for Same- and Opposite-Sex Dyads by task and type

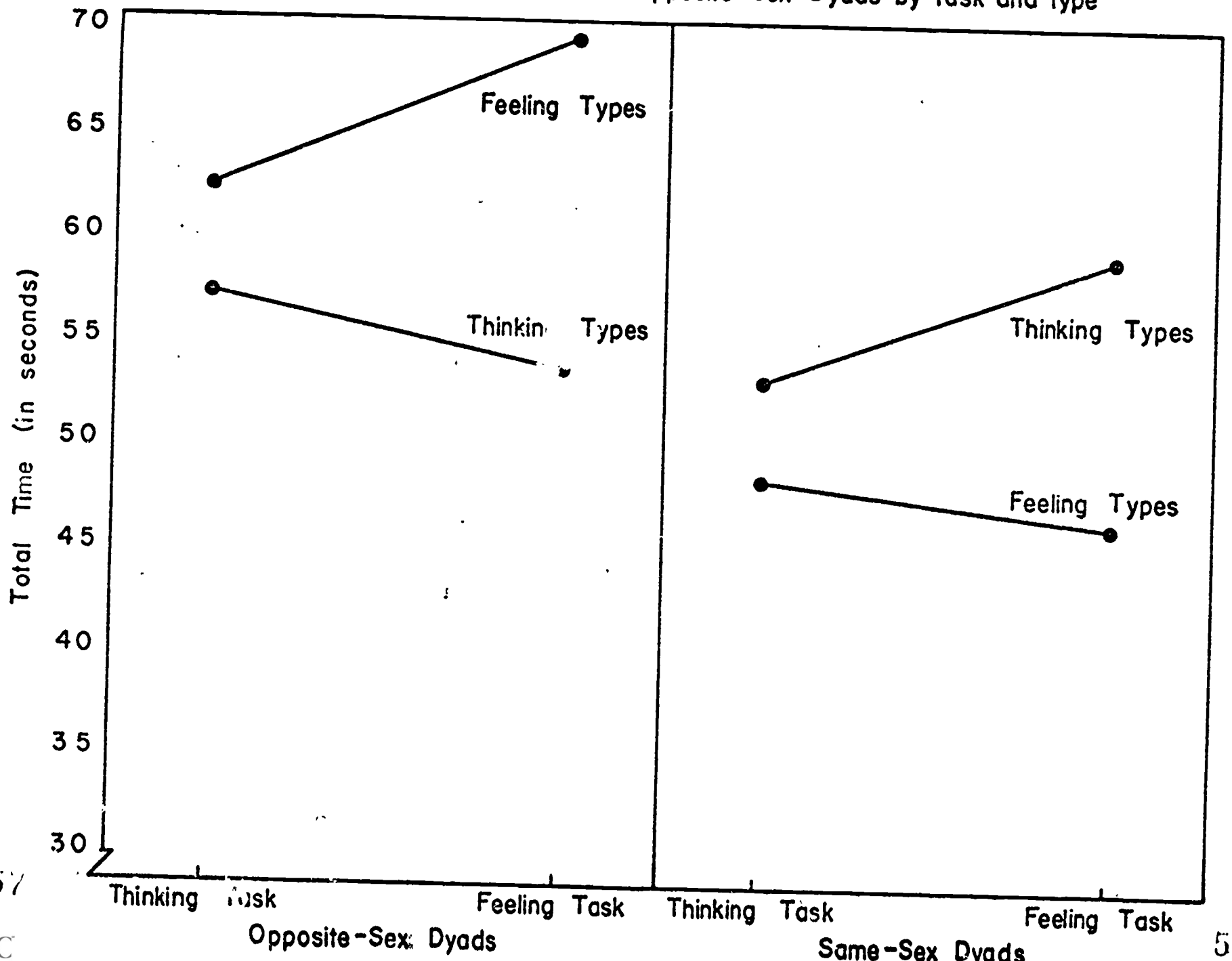


Table 9

Tukey's HSD Test for Differences Among Means for DPT: Dyad x Type x Task

	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_3$	$\bar{X}_4$	$\bar{X}_5$	$\bar{X}_6$	$\bar{X}_7$	$\bar{X}_8$
$\bar{X}_1 = \overline{D_1P_1T_1} = 57.3375$		3.65	5.1	12.138	4.313	4.363	8.906	11.093
$\bar{X}_2 = \overline{D_1P_1T_2} = 53.689$			3.65	15.788*	.663	8.013	5.256	7.444
$\bar{X}_3 = \overline{D_1P_2T_1} = 62.438$				7.038	9.413	.7375	14.006*	16.194*
$\bar{X}_4 = \overline{D_1P_2T_2} = 69.475$					16.450**	7.775	21.044**	23.231**
$\bar{X}_5 = \overline{D_2P_1T_1} = 53.025$						8.675	4.594	6.781
$\bar{X}_6 = \overline{D_2P_1T_2} = 61.70$							13.269	15.456*
$\bar{X}_7 = \overline{D_2P_2T_1} = 48.431$								2.188
$\bar{X}_8 = \overline{D_2P_2T_2} = 46.244$								

D_1 = opposite-sex dyad.
D_2 = same-sex dyad.
P_1 = thinking type.
P_2 = feeling type.
T_1 = thinking task.
T_2 = feeling task.

*p < .05.
**p < .01.
$q_{.05} = 13.535$.
$q_{.01.} = 16.235$.

DISCUSSION

This study asked the question: is dominance in female-male interactions determined by sex-role expectation or personality type? The answer to this question depended upon the nature of the task. In opposi -sex dyads, where sex-role expectation was expected to have the most pronounced effect, sex-role expectation did determine dominance on the thinking task, whereas on the feeling task, personality type was the determining factor. The significant pattern of dominance in opposi -sex dyads were as follows: males dominated the conversation in the area culturally defined as masculine, i.e., on the thinking task ($p < .05$), whereas, on the feeling task, the cultural stereotype that "feeling" is a female area did not play a part, and feeling types dominated ($p < .05$).

In the light of these results, an essential difference between the two tasks, not previously mentioned, must be taken into account. The thinking task, aside from being culturally defined as a more masculine task, was also a more difficult task, as there was definitely a correct answer The anxiety concomitant in finding "the right answer" may have been a factor in Ss behaving according to sex-role expectation on this task.[1] This interpretation seems plausible in terms of

[1]One indication that the thinking task was more anxiety producing is that there was far more total silence on the thinking task th on the feeling task ($F = 7.1517$, $p < .01$).

Smelser's (1961) rationale for dominance behavior. Smelser explained dominance using Sullivan's theory "that a person's modes of relating to others are functional in that they enable him to maintain anxiety at a minimum" (p. 535). Smelser found, with all male Ss on a cooperative task, that anxiety was minimized when High Do men assumed the leadership role. The present study showed that when Ss were paired with someone of the opposite sex and given an anxiety-producing task, behavior in accordance with sex-role expectation was more effective in minimizing anxiety than was behavior in accordance with personality-type preferences. On the thinking task, the fact that the difference between males and females in opposite-sex dyads is greater than that between males and females in same-sex dyads ($p < .025$) offers further evidence that sex-role expectation in opposite-sex dyads can affect dominance behavior. Males talked more than females when paired with each other, whereas, when males and females were paired with someone of their own sex, females talked more. These results are also in accord with Megargee's (1966) study, in which males and females, when paired with the opposite sex, modified their behavior in accord with social-role expectation. In Megargee's study, it seems probable that anxiety was intrinsic in the emphasis placed on "leadership ability."

On the feeling task, where there was no right or wrong answer, hence less anxiety producing, males and females did not

behave according to sex-role expectation, but rather according to expectations of personality type. The initial explanation for personality type determining dominance in this situation was that this is the area in which feeling types would be most comfortable, i.e., talking about personal-emotional problems. This is one important factor, but another trend which was apparent in this study was that feeling types tended to talk more with someone of the opposite sex ($p < .01$) regardless of task. Both factors, feeling types' preference for the feeling task, as well as their preference for talking with someone of the opposite sex, contributed to feeling types being dominant on this task.

When Ss were paired with the same sex, sex-role expectation clearly exerted no effect on dominance. Males did not talk more on the thinking task than on the feeling task, and, although females did talk more with each other on the feeling task, the difference between tasks was not significant. On the thinking task, males did not talk more with each other than did females, who in fact talked with each other more on this task; and although females talked more with each other than did males on the feeling task, this difference was not significant. The slight differences here may be less attributed to task than to the fact that, in general, females tended to talk more to each other than did males on both tasks, although this difference was also not significant.

When Ss were paired with the same sex, personality type had a decided effect on dominance, although not as predicted. Thinking types did not dominate on the thinking task, and feeling types did not dominate on the feeling task. Instead, thinking types tended to dominate, regardless of task. This was true for males on the feeling task ($p < .10$), but was highly significant for females (thinking task: $p < .05$; feeling task: $p < .001$). Again these results can be interpreted in terms of type preference for person (of same or opposite sex) and task.

Regarding person preference, feeling types talked more with someone of the opposite sex ($p < .01$) than they did when paired with someone of their own sex. Thinking types' behavior was differentiated more by task. On the thinking task, they talked more with the opposite sex, and on the feeling task, more with their own sex ($p < .05$). Thus, for feeling types, minimizing anxiety was more in terms of with whom they were talking, whereas, with thinking types, it was determined by whom they were talking with and what they were talking about. The significant difference found between feeling types, when paired with same, as opposed to opposite, sex, implies that feeling types' preference for the opposite sex was a main factor in determining who dominated the interactions. As was stated above, this factor contributed to the dominance of feeling types on the feeling task in opposite-sex dyads. In same-sex dyads, the fact that the feeling types

were less comfortable, i.e., felt more anxiety, contributed to the overall findings that thinking types tended to dominate. Thinking types in opposite-sex dyads talked more on the thinking task than on the feeling task, which coincides with the minimizing anxiety theory, thinking types being more comfortable with a thinking-type problem; however, on the feeling task, thinking types talked more within same-sex dyads ($p < .05$). This suggests that thinking types, when talking about personal-emotional problems, are more comfortable when talking to someone of their own sex.

The tendency for thinking types to dominate feeling types in same-sex dyads can be explained in terms of 1) expectations of behavior based on the Myers-Briggs for these personality types, and 2) the long-term effects of social-role expectation on women. The Myers-Briggs describes feeling types as more "personal-oriented" and thinking types as more "task-oriented" (Myers-Briggs, 1970). This description, plus the results of this study, suggest that person-oriented people (feeling types) are more interested in someone of the opposite sex than they are in their own sex, which could be a subject of further investigation. Feeling types, being more attuned to personal interaction and less inclined to engage themselves in conversation with someone of their own sex, allowed the thinking types, who were more attuned to the task, to dominate. This explanation, however, does not account for the discrepancy between male and female thinking types.

The tendency for the thinking types to dominate the feeling types in same-sex dyads was much more pronounced for females than for males. It does not seem likely that female feeling types felt more anxiety than male feeling types when with their own sex, since female feeling types talked about the same length of time as male feeling types on both tasks, and, in general, females talked more with each other than did males. One possible explanation for the high dominance behavior of female thinking types with their own sex is that this behavior constitutes an overcompensation. Recall the pattern of dominance in opposite-sex dyads on the thinking task, where female thinking types might be inclined to dominate but, in fact, did not, demonstrating clearly that sex-role expectation had a pronounced effect, i.e., men, regardless of type, were dominant. Female thinking types may attempt to compensate for this inhibition of their behavior with men by behaving differently with women. Their propensity to dominate is even stronger on the feeling task, which may be due to the fact that this is a "feminine" area in which they are allowed to excel, as well as it being a less anxiety-producing task, which required less cooperation. On the feeling task the difference between males and females in same-sex dyads was much larger than the difference between males and females in opposite-sex dyads ($p < .001$). Males and females in opposite-sex dyads talked about the same length of time, whereas females talked more with each other than did males

with each other. This difference is quite possibly attributable to the high dominance behavior of the female thinking types when with their own sex.

Dominance behavior, in terms of the interaction between sex, personality type, and whether Ss were paired with the same or opposite sex, suggests possible implications for group dynamics and perhaps considerations for therapy-group composition as well.

In mixed-sex groups, the feeling types are likely to do most of the talking, especially if the group's discussion centers on personal-emotional type problems, as in therapy groups. If it is a mixed-sex, task-oriented group, e.g., a group working on a class project or as a team of professionals, it is probable that males will dominate. In same-sex groups, especially if it is an all female group, the female thinking types will probably dominate. In an all male task-oriented group, there would be little expected difference between types in terms of dominance; however, in a therapy group, the male thinking types would dominate, since male feeling types are more inclined to talk to females about personal-emotional type problems. These predictions for dominance in group compositions based on sex and the thinking-feeling dimension of the Myers-Briggs could be made even more precise by taking into account other dimensions of the type indicator, e.g., extroversion-introversion, and tested empirically.

Therapy groups could be composed by sex and personality type to address themselves to the specific interactions which seem to be difficult. For example, since male thinking types seem to have difficulty in talking to women about emotional problems, a group of male thinking types and female thinking types might work out better than a group of male thinking types and female feeling types. Such a group might discuss a highly significant problem area, the working relationship between famale and male thinking types on task-oriented projects. Feeling types, both male and female, need to learn to talk to others of their own sex. People of the same type and sex were not paired in this study, so this interaction is still unknown, but it is apparent that men talk more to women than they do to each other ($p < .01$) and that female thinking types and female feeling types must experience much tension when talking to each other, since the thinking types strongly dominate the feeling types.

The low correlation found between Do score on the CPI and the behavioral variable of dominance, defined as the total time S talked, suggests the need to question the predictive validity of the Do scale. A behavioral measure of dominance was not used in either the derivation of the Do scale or in the validation studies. According to the CPI manual (1957) the Do scale was derived on the basis of a high correlation between statements which seemed to bear a psychological relevance to dominance and responses of Ss who

had been rated high in dominance by their acquaintances. Validation of the Do scale was also done on the basis of a high correlation of Ss scoring high on the Do scale and others' ratings of these Ss. The present study, however, did not use Ss who were either High or Low on the Do scale exclusively, and thus a wide mid-range of Do scores was used, which could account for the discrepancy.

Previous studies on dominance in male-female interactions have used measures which, to this investigator, seem ambiguously related to dominance. Such measures are: the number of times each person broke a silence (said to measure initiative), and interruptions, the number of times each person began talking before another person had stopped. In these studies (Saslow, 1957; Shaw and Sadler, 1965), the speech interaction between Ss was recorded directly by means of a voice-accuated relay, and the investigators did not hear the content of the interactions. In the present study, all interactions were tape-recorded and transcribed to graph form by hand, using a Graphic Level Recorder. The investigator in the present study thus had the opportunity to listen to the content of the interactions and, on the basis of careful analysis of the quality of interruptions and breaks of silence, it was decided that both these behaviors were ambiguously related to dominance. Shaw and Sadler (1965) pointed out that interruptions could either be affiliative, i.e., agreeing and reinforcing, or disaffiliative, i.e., contradictory

or argumentative; however, they failed to point out that the same ambiguity was also inherent in breaks of silence. One of the tasks Shaw and Sadler (1965) used in their study was the same as the feeling task used in the present study. Shaw and Sadler based their results on a 10-minute discussion period. As was stated previously, upon listening to the tapes, it was found that most Ss completed the tasks in less than 3 minutes, thus much of Shaw and Sadler's results was based on conversation which was not task-oriented.

It was beyond the scope of this study to do a comprehensive analysis by all eight Myers-Briggs types which were included. The brief analysis which was done (see Appendix I) showed some interesting and highly significant results between types on the three dependent variables that were discarded due to their ambiguity in relation to dominance. As would be predicted on the basis of the Myers-Briggs typology, the EJs (extroverted-judging types), being more action-oriented and decisive, made far more interruptions than did the IPs (introverted-perceiving types) ($p < .01$), and, when both Ss were talking at once, the EJs continued talking much more often than the IPs ($p < .01$). Using the number of times S breaks a silence of more than five seconds, the IPs had a significantly larger number than the EJs ($p < .01$), which would be expected, since introverts tend to listen longer and think before they talk.

Since the differential behaviors according to types are quite pronounced, further investigation could verify the quality of these behaviors in terms of what would be predicted for each type. In listening to the tapes, it was clear that some behaviors were facilitative, while others were not. Past research has grouped these together, but in future studies they could be differentiated, e.g., affiliative interruptions and disaffiliative interruptions. One would predict, for instance, that the quality of feeling types' interruptions would be affiliative, while thinking types' would be task-oriented or disaffiliative.

SUMMARY

The research described in this paper was concerned with the pattern of dominance in female-male interactions. Rather than simply pairing females with males, Ss were chosen who were high on either thinking or feeling, a dimension of the Myers-Briggs; each dyad was given two tasks corresponding to this dimension--a thinking task and a feeling task. Thinking and feeling were chosen because they are not only personality traits defined by the Myers-Briggs, but are also highly loaded with respect to sex roles, thinking being culturally defined as a male area, feeling as a female area. All combinations of thinking and feeling types and sex were included in order to see in which instances Ss behaved according to sex-role expectation and in which they behaved according to expectations based on personality types. Dominance was defined as the person who talked more during the discussion of the task (total time talked).

The results showed that dominance was dependent on the interaction between a) whether S was with the same or opposite sex, b) personality type, and c) the nature of the task. In opposite-sex dyads, sex-role expectation did affect dominance, i.e., males dominated females, but only on the thinking task. On the feeling task, personality type was the determining factor, i.e., feeling types dominated

thinking types. The differential determinant of dominance was explained in terms of the varying degrees of anxiety inherent in the tasks themselves; the thinking task, having a correct answer, was more anxiety producing than the feeling task, which did not have a correct answer. Sullivan's theory of anxiety, which states that people relate to others in such a way as to minimize anxiety, was used to explain the relationship between the determining factor of dominance and the level of anxiety inherent in the task. When anxiety was high, as on the thinking task, behavior according to sex-role norms was the most effective in minimizing anxiety. On the feeling task, where anxiety was not as high, dominance was determined by personality type preference.

When Ss were paired with someone of their own sex, personality type did affect dominance, but not as was predicted. The thinking types tended to dominate on both tasks; this was especially true for female thinking types. The tendency for thinking types to dominate in same-sex dyads was seen as both a function of a) feeling types' preference for talking with someone of the opposite sex, hence allowing the thinking types to dominate, and b) thinking types being more "task-oriented," as described by the Myers-Briggs. The much stronger tendency for female feeling types to dominate in same-sex dyads can be seen as a behavioral trait acquired as a result of the limitations imposed by narrowly defined sex-role norms, which seem to

affect female thinking types more so than any other group. This was demonstrated by the striking contrast between their relative verbal inactivity with men and their profuse verbal activity with women. Their tendency to dominate feeling type women may be an attempt to compensate for the restriction and inhibition they experience when with men.

The implications of this investigation were discussed in terms of group dynamics, for both task-oriented and therapy groups. Some suggestions were made for group composition, taking into account the interactions between sex of the person, mixed- or same-sex group, personality type, and orientation of the group. Groups which cannot control for these variables might benefit from an awareness that certain interactions are problem areas, while groups could be formed to either control out problem areas or control them in and seek to alleviate them directly.

APPENDIX I

STATISTICAL ANALYSIS FOR EIGHT MYERS-BRIGGS TYPES

SOURCE OF DATA:

MBTI TYPE TABLE
Typology Laboratory
University of Florida

TOTAL TIME (in seconds)

M = male
F = female

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = % =	**ISFJ** N = % =	**INFJ** N = % =	**INTJ** N = % =	JUDGING INTROVERTS
ISTP N = 8 % = 12.5 $\bar{X}$=55.4 S.D.=21.3 M F $\bar{X}$ 53.8 56.9 S.D. 25.3 18.1	**ISFP** N = 8 % =12.5 $\bar{X}$=49.7 S.D=15.9 M F $\bar{X}$ 48.9 50.5 S.D. 20.1 11.6	**INFP** N = 8 % =12.5 $\bar{X}$=57.1 S.D=22.8 M F $\bar{X}$ 55.7 58.5 S.D. 19.1 27.3	**INTP** N = 8 % = 12.5 $\bar{X}$=51.6 S.D=16.1 M F $\bar{X}$ 50.2 53.0 S.D. 17.4 15.7	PERCEPTIVE
ESTP N = % =	**ESFP** N = % =	**ENFP** N = % =	**ENTP** N = % =	PERCEPTIVE
ESTJ N = 8 % =12.5 $\bar{X}$=64.9 S.D=15.7 M F $\bar{X}$ 60.2 69.6 S.D. 11.6 18.5	**ESFJ** N = 8 % = 12.5 $\bar{X}$=54.1 S.D=23.3 M F $\bar{X}$ 58.0 50.3 S.D. 31.6 11.6	**ENFJ** N = 8 % = 12.5 $\bar{X}$=65.7 S.D=20.9 M F $\bar{X}$ 65.5 65.9 S.D. 22.0 21.1	**ENTJ** N = 8 % =12.5 $\bar{X}$=53.9 S.D=20.8 M F $\bar{X}$ 59.1 48.7 S.D 28.4 7.4	EXTRAVERTS JUDGING

MEANS

ST = 60.1	I--J	E = 59.7	T = 56.4
SF = 51.9	I--P = 53.0	I = 53.0	F = 56.6
NF = 61.4	E--P	S = 56.0	J = 59.7
NT = 52.7	E--J = 59.7	N = 57.1	P = 53.0

7244

One-Way Analysis of Variance by Type (E--I, S--N, T--F, and J--P) for Dependent Variable, Total Time

Source	df	Mean Square Between	Mean Square Within	F
E--I Extrovert-- Introvert	1,126	14046.05625	3927.90977	3.576
S--N Sensing-- Intuition	1,126	350.70312	4036.62031	0.0869
T--F Thinking-- Feeling	1,126	14.02812	4039.24083	0.0035
J--P Judging-- Perceiving	1,126	14046.05625	3927.90977	3.5760

Analysis of Variance by Type for Dependent Variable Total Time

Source	df	Mean Square Between	Mean Square Within	F
ESTJ ESFJ ENTJ ENFJ ISTP ISFP INTP INFP	7,120	5474.743	3922.013	1.3959

SOURCE OF DATA:

MBTI TYPE TABLE
Typology Laboratory
University of Florida

INTERRUPTIONS (number of times S began talking before other S had stopped talking)

M=male
F=female

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = % =	**ISFJ** N = % =	**INFJ** N = % =	**INTJ** N = % =	JUDGING INTROVERTS
ISTP N = 8 % =12.5 $\bar{X}$=4.4 S.D.=3.3 M F $\bar{X}$ 3.2 5.6 S.D. 2.7 3.6	**ISFP** N = 8 % =12.5 $\bar{X}$=4.3 S.D.=2.8 M F $\bar{X}$ 3.4 5.1 S.D. 1.8 3.4	**INFP** N = 8 % =12.5 $\bar{X}$=4.1 S.D.=2.3 M F $\bar{X}$ 3.1 5.0 S.D. 1.6 2.7	**INTP** N =8 % = 12.5 $\bar{X}$=4.3 S.D.=3.2 M F $\bar{X}$ 4.0 4.6 S.D. 3.1 3.5	PERCEPTIVE
ESTP N = % =	**ESFP** N = % =	**ENFP** N = % =	**ENTP** N = % =	PERCEPTIVE EXTRAVERTS
ESTJ N = 8 % = 12.5 $\bar{X}$=7.6 S.D.=4.6 M F $\bar{X}$ 8.0 7.1 S.D. 4.5 5.0	**ESFJ** N = 8 % = 12.5 $\bar{X}$=8.3 S.D.-4.9 M F $\bar{X}$ 7.6 8.9 S.D. 4.3 5.6	**ENFJ** N = 8 % = 12.5 $\bar{X}$=9.0 S.D.=3.2 M F $\bar{X}$ 8.4 9.6 S.D. 2.9 3.5	**ENTJ** N =8 % = 12.5 $\bar{X}$=7.9 S.D.=4.6 M F $\bar{X}$ 9.2 6.6 S.D. 5.1 3.8	JUDGING

MEANS

ST = 6.0	I--J	E = 8.2	T = 6.1
SF = 6.3	I--P = 4.3	I = 4.3	F = 6.4
NF = 6.5	E--P	S = 6.1	J = 8.2
NT = 6.1	E--J = 8.2	N = 6.3	P = 4.3

7244

One-Way Analysis of Variance by Type (E--I, S--N, T--F, and J--P) for Dependent Variable, Interruptions

Source	df	Mean Square Between	Mean Square Within	F
E--I Extrovert--Introvert	1,126	455.5320	13.5768	33.5522*
S--N Sensing--Intuition	1,126	1.3203	17.2786	0.0764
T--F Thinking--Feeling	1,126	3.4453	17.2618	0.1996
J--P Judging--Perceiving	1,126	455.5220	13.5768	33.5522*

*p < .01

Analysis of Variance by Type for Dependent Variable, Interruptions

Source	df	Mean Square Between	Mean Square Within	F
ESTJ ESFJ ENTJ ENFJ ISTP ISFP INTP INFP	7,120	73.0346	13.8932	5.2568*

*p < .01

SOURCE OF DATA:

MBTI TYPE TABLE
Typology Laboratory
University of Florida

BREAKS OF SILENCE (number of times S breaks a silence of at least 5 seconds duration)

M=male
F=female

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = % =	**ISFJ** N = % =	**INFJ** N = % =	**INTJ** N = % =	JUDGING INTROVERTS
ISTP N = 8 % = 12.5 $\bar{X}$=1.8 S.D.=1.2 M F $\bar{X}$ 1.9 1.5 S.D. 1.6 1.1	**ISFP** N = 8 % = 12.5 $\bar{X}$=1.6 S.D.=1.7 M F $\bar{X}$ 2.3 0.9 S.D. 2.1 0.8	**INFP** N = 8 % =12.5 $\bar{X}$=1.2 S.D.=1.4 M F $\bar{X}$ 0.5 1.9 S.D. 0.5 1.6	**INTP** N =8 % = 12.5 $\bar{X}$=1.5 S.D.=1.6 M F $\bar{X}$ 1.5 1.5 S.D. 1.2 1.2	PERCEPTIVE
ESTP N = % =	**ESFP** N = % =	**ENFP** N = % =	**ENTP** N = % =	PERCEPTIVE EXTRAVERTS
ESTJ N = 8 % = 12.5 $\bar{X}$=0.6 S.D.=1.2 M F $\bar{X}$ 0.6 0.5 S.D. 1.4 1.1	**ESFJ** N = 8 % =12.5 $\bar{X}$=0.7 S.D.=1.1 M F $\bar{X}$ 0.3 1.1 S.D. 0.5 1.4	**ENFJ** N = 8 % =12.5 $\bar{X}$=1.3 S.D.=1.4 M F $\bar{X}$ 0.6 1.9 S.D. 1.1 1.6	**ENTJ** N =8 % = 12.5 $\bar{X}$=1.1 S.D.=1.4 M F $\bar{X}$ 0.6 1.5 S.D. 0.7 1.8	JUDGING

MEANS

ST = 1.2	I--J	E = 0.9	T = 1.2
SF = 1.1	I--P = 1.5	I = 1.5	F = 1.2
NF = 1.2	E--P	S = 1.1	J = 0.9
NT = 1.3	E--J = 0.9	N = 1.3	P = 1.5

7244

One-Way Analysis of Variance by Type (E--I, S--N, T--F, and J--P) for Dependent Variable, Breaks of Silence

Source	df	Mean Square Between	Mean Square Within	F
E--I Extrovert x Introvert	1,126	13.4362	1.73555	7.74175*
S--N Sensing x Intuition	1,126	0.3828	1.8392	0.2081
T--F Thinking x Feeling	1,126	0.0703	1.8416	0.0382
J--P Judging x Perceiving	1,126	13.4362	1.7355	7.74175*

*p < .01

Analysis of Variance by Type for Dependent Variable, Breaks of Silence

Source	df	Mean Square Between	Mean Square Within	F
ESTJ x ESFJ x ENTJ x ENFJ x ISTP x ISFP x INTP x INFP	7,120	2.7757	1.7724	1.5661

SOURCE OF DATA

MBTI TYPE TABLE
Typology Laboratory
University of Florida

WINS (number of times S continued talking when both Ss were talking at once)

M=male
F=female

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = % =	**ISFJ** N = % =	**INFJ** N = % =	**INTJ** N = % =	INTROVERTS JUDGING
ISTP N = 8 % = 12.5 $\bar{X}$=4.4 S.D.=2.3 M F $\bar{X}$ 3.8 5.0 S.D. 1.5 2.9	**ISFP** N = 8 % = 12.5 $\bar{X}$=4.5 S.D.=2.7 M $\bar{X}$ 3.1 5.9 S.D. 2.2 2.5	**INFP** N = 8 % = 12.5 $\bar{X}$=4.9 S.D.=3.4 M F $\bar{X}$ 3.6 6.1 S.D. 2.0 4.2	**INTP** N = 8 % = 12.5 $\bar{X}$=4.2 S.D.=1.4 M F $\bar{X}$ 4.1 4.3 S.D. 1.5 1.4	INTROVERTS PERCEPTIVE
ESTP N = % =	**ESFP** N = % =	**ENFP** N = % =	**ENTP** N = % =	EXTRAVERTS PERCEPTIVE
ESTJ N = 8 % = 12.5 $\bar{X}$=8.0 S.D.=5.1 M F $\bar{X}$ 6.6 9.3 S.D. 5.3 4.9	**ESFJ** N = 8 % = 12.5 $\bar{X}$=7.2 S.D.=4.2 M F $\bar{X}$ 6.8 7.6 S.D. 3.9 4.8	**ENFJ** N = 8 % = 12.5 $\bar{X}$=9.7 S.D.=3.9 M F $\bar{X}$ 10.5 8.9 S.D. 3.0 4.8	**ENTJ** N = 8 % = 12.5 $\bar{X}$=7.4 S.D.=3.2 M F $\bar{X}$ 8.5 6.4 S.D. 2.4 3.7	EXTRAVERTS JUDGING

MEANS

ST = 6.2	I--J	E = 8.1	T = 6.0
SF = 5.8	I--P = 4.5	I = 4.5	F = 6.6
NF = 7.3	E--P	S = 6.0	J = 8.1
NT = 5.8	E--J = 8.1	N = 6.5	P = 4.5

7244

One-Way Analysis of Variance by Type (E--I, S--N, T--F, and J--P) for Dependent Variable, Wins

Group	df	Mean Square Between	Mean Square Within	F
E--I Extrovert x Introvert	1,126	404.3909	11.9448	33.8550*
S--N Sensing x Intuition	1,126	9.5703	15.0782	0.6437
T--F Thinking x Feeling	1,126	10.6953	15.0693	0.7097
J--P Judging x Perceiving	1,126	404.3909	11.9448	33.8550*

*p < .01

Analysis of Variance by Type for Dependent Variable, Wins

Group	df	Mean Square Between	Mean Square Within	F
ESTJ x ESFJ x ENTJ x ENFJ x ISTP x ISFP x INTP x INFP	7,120	67.8203	11.9557	5.6726*

*p < .01

APPENDIX II

INSTRUMENTS

Thinking Problem

DIRECTIONS: This is a problem which takes good analytical ability. Read over the problem and write down on the blank sheet of paper the correct answer. You will have three minutes to do this. You are to work independently of the other person. When the experimenter comes back into the room, she will collect your answers.

After you have handed over your answer, you will be given five minutes to discuss the problem with the other person. You are to come to a joint answer within five minutes. The object is to find the correct answer. At the end of five minutes you will be signalled. At that time, please decide amongst the two of you who is going to report your joint answer. When you have decided upon someone, that person will report your joint answer.

a) Captain Watts and his son James have been found shot--the father in the chest and the son in the back. b) Both clearly died instantaneously. c) A gun fired close to the person--as, for example, when a man shoots himself--will blacken and even burn the skin or clothes; fired from a greater distance it will leave no such mark. d) The two bodies were found near the middle of a large hall used as a rifle range. e) Its floor is covered with damp sand which shows every footprint distinctly. f) Inside the room there are two pairs of footprints only. g) A third man standing outside the door or window could aim at any part of the room, but the pavement outside would show no footmarks. h) Under Captain Watts' body was found a gun; no such weapon was found near James. i) In each case the coat, where the bullet entered was blackened with gunpowder, and the cloth a little singed. j) Captain Watts was devoted to his son

and would have died sooner than harm him purposely; hence it is impossible to suppose that he killed him deliberately, even in self-defense. k) But some think that James secretly disliked his father and hoped to inherit his fortune at his death.

1) To what was Captain Watts' death due? Murder? Accident? Suicide?

2) To what was James' death due? Murder? Accident? Suicide?

Feeling Problem

DIRECTIONS: This is a problem which deals with people and their emotional struggles. There is no right or wrong answer. You will have three minutes to read over the problem and write down on the blank sheet of paper your answer. You are to do this independently of the other person. When the experimenter comes back into the room, she will collect your answer.

After you have handed over your answer, you will be given five minutes to discuss the problem with the other person. You are to come to a joint answer within his period of time. At the end of five minuces you will be signalled. At that time, please decide amongst the two of you who is going to report your joint answer. When you have decided upon someone, that person will state aloud your joint answer.

Henry, the son of a physician, has a friend Jim, who is under the care of Henry's father. Henry knows that Jim is incurably ill. Both are in love with a girl, Ellen. Jim doesn't know what kind of disease he has; neither does Ellen know that he is incurably ill. ..e night Henry calls on Ellen just after he has decided to give up his studies and accept a job in California. He intends to ask her that night to marry him and go with him to California. Henry knows that for many years Ellen has wanted to go live in California. Before he gets a chance to ask her, however, Ellen announces her engagement to Jim.

What should Henry say and do?

The Gough Inventory from the California Psychological Inventory

INSTRUCTIONS: Read each of these series of statements, decide how you feel about it, and then mark your answer on the answer sheet. If you agree with a statement, or feel that it is true about you answer TRUE. If you disagree with a statement, or feel that it is not true about you, answer FALSE.

If you find a few questions which you cannot or prefer not to answer, they may be omitted (but do not omit more than 3). In marking the answer sheet make sure that the number of the statement is the same as the number on the answer sheet.

1. Some people exaggerate their troubles in order to get sympathy.
2. I always follow the rule: business before pleasure.
3. I gossip a little at times.
4. I doubt whether I would make a good leader.
5. There are a few people who just cannot be trusted.
6. It is hard for me to start a conversation with strangers.
7. I sometimes pretend to know more than I really do.
8. Sometimes I feel like smashing things.
9. Most people would tell a lie if they could gain by it.
10. I think I would enjoy having authority over other people.
11. I find it hard to keep my mind on a task or job.
12. I hate to be interrupted when I am working on something.
13. I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.
14. Sometimes I feel like swearing.
15. Sometimes I cross the street just to avoid meeting someone.
16. I like to boast about my achievements every now and then.

17. I must admit I often try to get my own way regardless of what others may want.

18. Sometimes I think of things too bad to talk about.

19. I must admit that I often do as little work as I can get by with.

20. I like to listen to symphony orchestra concerts on the radio.

21. I get pretty discouraged sometimes.

22. When in a group of people I have trouble thinking of the right things to talk about.

23. School teachers complain a lot about their pay, but it seems to me that they get as much as they deserve.

24. I don't blame anyone for trying to grab all he can get in this world.

25. I do not always tell the truth.

26. I always try to consider the other fellow's feelings before I do something.

27. I feel as good now as I ever have.

28. I enjoy hearing lectures on world affairs.

29. Criticism or scolding makes me very uncomfortable.

30. If I am not feeling well I am somewhat cross and grouchy.

31. I feel nervous if I have to meet a lot of people.

32. Every citizen should take the time to find out about national affairs, even if it means giving up some personal pleasures.

33. I do not mind taking orders and being told what to do.

34. I should like to belong to several clubs or lodges.

35. I often act on the spur of the moment without stopping to think.

36. I am certainly lacking in self-confidence.

37. Most people are secretly pleased when someone else gets into trouble.

38. When I work on a committee I like to take charge of things.

39. The most important things to me are my duties to my job and to my fellowman.

40. If given the chance I would make a good leader of people.

41. When things go wrong I sometimes blame the other fellow.

42. Sometimes at elections I vote for men about whom I know very little.

43. I very much like hunting.

44. I would like to belong to a discussion and study club.

45. I am apt to show off in some way if I get the chance.

46. A person does not need to worry about other people if only he looks after himself.

47. I can honestly say that I do not really mind paying my taxes because I feel that's one of the things I can do for what I get from the community.

48. Sometimes I just can't seem to get going.

49. I must admit that I have a bad temper, once I get angry.

50. When prices are high you can't blame a person for getting all he can while the getting is good.

51. I have never deliberately told a lie.

52. In school I found it very hard to talk before the class.

53. There have been a few times when I have been very mean to another person.

54. At times I have been very anxious to get away from my family.

55. I am a better talker than a listener.

56. Sometimes I rather enjoy going against the rules and doing things I'm not supposed to.

57. There have been times when I have worried a lot about something that was not really important.

58. Every now and then I get into a bad mood, and no one can do anything to please me.

59. I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place.

60. We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now.

61. When the community makes a decision, it is up to a person to help carry it out even if he had been against it.

62. If I am driving a car, I try to keep others from passing me.

63. I would rather have people dislike me than look down on me.

64. I cannot do anything well.

65. I must admit I try to see what others think before I take a stand.

66. People should not have to pay taxes for the schools if they do not have children.

67. My parents wanted me to "make good" in the world.

68. In a group, I usually take the responsibility for getting people introduced.

69. I would be willing to describe myself as a pretty "strong" personality.

70. I almost never go to sleep.

71. I do not like to loan my things to people who are careless in the way they take care of them.

72. Voting is nothing but a nuisance.

73. I could be perfectly happy without a single friend.

74. Education is more important than most people think.

75. There are times when I act like a coward.

76. Some people exaggerate their troubles in order to get sympathy.

58. Every now and then I get into a bad mood, and no one can do anything to please me.

59. I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place.

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73. I could be perfectly happy without a single friend.

74. Education is more important than most people think.

75. There are times when I act like a coward.

76. Some people exaggerate their troubles in order to get sympathy.

77. In school most teachers treated me fairly and honestly.

78. I must admit I am a pretty fair talker.

79. I usually try to do what is expected of me, and to avoid criticism.

80. If a person is clever enough to cheat someone out of a large sum of money, he ought to be allowed to keep it.

81. A person should not be expected to do anything for his community unless he is paid for it.

82. I have strong political opinions.

83. I think I am usually a leader in my group.

84. It is impossible for an honest man to get ahead in the world.

85. I never seem to get hungry.

86. I seem to do things that I regret more often than other people do.

87. Disobedience to any government is never justified.

88. I would rather be a steady and dependable worker than a brilliant but unstable one.

89. I would never go out of my way to help another person if it meant giving up some personal pleasure.

90. I enjoy planning things, and deciding what each person should do.

91. I doubt if anyone is really happy.

92. I would rather not have very much responsibility for other people.

93. I usually have to stop and think before I act even in trifling matters.

94. Most people would be better off if they never went to school at all.

95. It is pretty easy for people to win arguments with me.

96. I have not lived the right kind of life.

97. Most young people get too much education.

98. I have a natural talent for influencing people.

99. I regard the right to speak my mind as very important.

100. I like to give orders and get things moving.

101. I am embarrassed with people I do not know well.

102. The one to whom I was most attached and whom I most admired as a child was a woman (mother, sister, aunt, or other woman).

103. There have been times when I have been very angry.

104. There are a few people who just cannot be trusted.

105. There are times when I have been discouraged.

106. I'm not the type to be a political leader.

107. I would fight if someone tried to take my rights away.

108. I must admit that people sometimes disappoint me.

109. If I saw some children hurting another child, I am sure I would try to make them stop.

110. People seem naturally to turn to me when decisions have to be made.

111. I dislike to have to talk in front of a group of people.

112. I have more trouble concentrating than others seem to have.

113. Sometimes at elections I vote for men about whom I know very little.

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BIOGRAPHICAL SKETCH

Robin Carol Alter was born on January 25, 1947, at 8:19 A.M., in Newark, New Jersey; thus she is an Aquarius, with Aquarius Ascendant, Moon in Pisces. In June, 1964, she was graduated from West Orange Mountain High School. In June, 1968, she was graduated with honors from Skidmore College, Saratoga Springs, New York, with a degree Bachelor of Arts with a major in psychology. In September, 1968, she began graduate work in the Department of Psychology of the University of Florida. She was a United States Public Health Service Fellow in clinical psychology until June, 1970. She then took some time off, spent several months in Israel, working on an archaeological dig and on a kibbutz, and traveled extensively throughout Europe. In March, 1972, she continued her graduate work and taught an undergraduate course in developmental psychology. In August, 1972, she began working as a psychological assistant for the Children's Mental Health Unit, Shands Teaching Hospital, the positon she held at the time she received the degree of Master of Arts with a major in psychology. She is continuing to work toward the degree of Doctor of Philosophy.