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Impression formation as a function of nonverbal communication psychological masculinity-feminity and the situational demands

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IMPRESSION FORMATION AS A FUNCTION OF NONVERBAL COMMUNICATION, PSYCHOLOGICAL MASCULINITY-FEMININITY, AND THE SITUATIONAL DEMANDS

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ABSTRACT

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Sixteen men and women were selected to serve as stimulus persons (SPs) on the basis of their Personal Attributes Questionnaire (PAQ) score. Thus two men and two women from each of the four PAQ sex role identity groups (androgynous, masculine, feminine, and undifferentiated) were videotaped without sound while they engaged in two different conversations with a same-sex confederate. One conversation was designed to elicit stereotypically masculine behavior (instrumental demand situation) while the other conversation was designed to elicit stereotypically feminine behavior (expressive demand situation). One-minute videotaped segments were spliced together and shown to 30 men and 30 women subjects who served as naive judges. Judges made impression formation ratings of each SP on six attributes; likability, intelligence, effectiveness as a communicator, self-assurance and comfort, dominance and forcefulnsss (masculinity), and warmth and caring (femininity). Results indicated that only impression ratings for effectiveness as a communicator supported the predictions based on sex x sex role category and the situational demands. Several suggestions are made for why the other five dependent measures were not valid predictors. The results suggest that masculine types, and especially masculine males, faired better than other sex x sex role groups. Implications for this are discussed in terms of the sex role identity measurement instruments available.

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CHAPTER I

INTRODUCTION

Nonverbal Communication

The lay person has long been aware of the importance of nonverbal expression in communication. A. Conan Doyle, creator of the British detective, Sherlock Holmes, frequently utilized nonverbal descriptions to communicate a phenomenon his readers could readily identify:

> Holmes' expression was as impassive as ever under the jeers of his antagonist, but his clenched hands betrayed his acute annoyance (Doyle, 1908, p. 1345).

Most people have no difficulty in explaining that the clenched hands indicate an agitated emotional state. However, as Sapir (1927) astutely noted:

> We respond to gestures with extreme alertness and, one might almost say, in accordance with an elaborate and secret code that is written nowhere, known by none, and understood by all (p. 137).

A child begins communicating almost from the moment of birth. Yet the communication milestone that is celebrated is when he/she speaks the first words. Much care and training are given to insure that our children learn to read, write and speak correctly. Spelling, word usage, and sentence structure are taught early on and dictionaries are commonplace at home, school, and work. However, little attention has been given in formal education to the nonverbal aspect of communication. It may be that reading, writing, and speaking are more

complex and therefore command greater attention. Mehrabian (1972) suggests that nonverbal communication cannot convey the complexity that words do. He believes that nonverbal behaviors primarily involve communication of one's feelings and attitudes. This view is also expressed by Harper, Wiens, and Matarazzo (1978). They suggest that nonverbal behaviors are the primary means of expressing or communicating emotion, and that our body language may often convey a symbolic message concerning our attitudes toward ourselves and others.

Harrison (1974) points out that verbal messages tend to be one-way. The speaker speaks and the listener listens and then the process reverses. Nonverbal communication, however, is two-way. The listener uses nonverbal behaviors such as head nods, gazing, smiling, and other conversation regulators to give feedback to the speaker. The speaker also uses these and other nonverbal behaviors which may be redundant to the spoken language or which provide additional information to that from the verbal channel. Harrison also elucidates other differences between the two modes of communication. For example, verbal messages use only two bands or sense organs; eyes for reading and ears for hearing. Nonverbal communication may involve all five bands; taste, olfaction, and touch, as well as sight and hearing. Nonverbal communication tends to be continuous while verbal communication is discrete. Nonverbal communication is more concrete and verbal communication is more abstract. Verbal communication is monitored more easily than is nonverbal communication. In sum, there is a qualitative difference between the two modes of communication.

The term, nonverbal communication, is defined quite differently from one researcher to the next. Perhaps the most stringent interpretation is offered by Wiener, Devoe, Rubinow, and Geller (1972). These authors emphasize a conceptual distinction between nonverbal sign which implies only that an observer assign some significance to an event or behavior, and nonverbal communication which includes three components. These components are a socially shared signal system or code, an encoder (sender) who makes something public via the codes, and a decoder (receiver) who responds systematically to the code. Burgoon and Saine (1978) refer to the above definition of nonverbal communication as source orientation, as the encoder's intent is a necessary prerequisite to the decoder's interpretation and additionally, the code must be socially shared. These authors refer to the less restrictive nonverbal sign as receiver orientation, as the requirement here is only that someone (i.e., the decoder) believes that the encoder has communicated nonverbally. Harrison (1974) also suggests a less stringent definition, "Nonverbal communication is the exchange of information through nonlinguistic sign" (p. 25). Sign, in this case, is a stimulus which stands for or means something above and beyond itself, and nonlinguistic, is the full range of nonwords, both spoken and written.

The present paper accepts the less arduous definition of nonverbal communication, simply that someone believes that the encoder has communicated nonverbally.

Relationship Between Verbal and Nonverbal Communication

Birdwhistell is reported to have said that studying nonverbal communication is like studying noncardiac physiology (Knapp, 1978). His point is well taken. Although the term nonverbal is commonly used to describe all human communication that is neither written nor spoken, the verbal-nonverbal dimension is not a discrete one with verbal phenomena at one end and nonverbal phenomena at the other end. For example, some nonverbal behavior can readily be translated into words, as in the following: If I nod my head in affirmation you will interpret my nonverbal behavior (nod of head) as a "yes" answer (a verbal response). Is this nod of the head now considered a verbal response? Another confusion lies in the distinction between verbal and vocal. A verbal symbol can be either vocal or nonvocal, such as written communication, and a vocal sound does not necessarily need to be symbolic. For example, a scream would be vocal and nonverbal. However, if the scream were interpreted as a cry for help, it then may be seen as vocal and verbal communication.

Similarities between verbal and nonverbal communication can be demonstrated by analyzing feelings and attitudes in a three-dimensional concept. Osgood and his colleagues (Osgood, Suci & Tannenbaum, 1957; Snider & Osgood, 1969) suggest that various combinations of the following concepts can be used to describe any specific verbal concept: evaluation (e.g., good-bad), potency (strong-weak), and activity (active-passive). Mehrabian (1971) proposed a similar three-dimensional concept for the nonverbal communication of one's feelings and attitudes: liking or positiveness rather than evaluation, dominance or status

in the case of potency, and responsiveness instead of activity.

Liking or positivensss might be depicted nonverbally as wanting to be physically near persons or things we like. Conversely we avoid people and things that we do not like or that induce pain or fear. This appropriately termed immediacy metaphor is an important framework within which people can translate their actions and nonverbal expressions into likes and dislikes. The resulting nonverbal acts are displayed as touching or not, moving nearer or further away, leaning forward or away from another while seated. Secondly, dominance or status are referred to as the power metaphor. Power seems to coexist with large size, height, absense of fear and/or relaxation, while lack of power is related to vigilance, smallness and/or tenseness. Any combination of posture and movements that implies power does not have to be constantly reiterated. Strength need be shown only occasionally to maintain status. Finally, the responsiveness metaphor is the most basic way in which humans convey their feelings. It covers the gamut of behavior from sleeping to a manic state. In reacting to others, we shift directions of outlook, our facial expression changes, the tone of our voice fluctuates, etc. In general, people are far more changeable than are inanimate objects in our environment. We tend to be more responsive to people in general and to some people more than to others.

Are there justifiable reasons for studying nonverbal communication in isolation? Because of the similarities between verbal and nonverbal communication and because of the inherent overlap and confusion

in distinguishing nonverbal from verbal communication, the validity or utility of separating the two modes when studying human communication might be questioned. Some researchers have argued against segregating words from gestures (e.g., Knapp, 1978) and they propose working under the broader framework of communication or face-to-face interaction. This concern might be understood better if the history of the study of nonverbal communication were considered.

Historical Prespective of Nonverbal Communication

Over 100 years ago, Charles Darwin (1872) proposed that many of our expressions are not learned but are biologically based and are the product of evolution. His book entitled, The Expression of Emotion in Man and Animals, appeared at a time in history which was ripe for change. Earlier religious notions were being challenged by scientific rationalism and Darwin's theory filled the vacuum that was left by collapsing religious ideology. After the turn of the century, European Darwinism was imported to America in the form of Social Darwinism. This right wing dogma, which exploited its scientific origins, was used to justify the manipulation of immigration quotas and the promotion of discrimination in employment and education on the basis of evolutionary superiority of the elite classes. During the 1920's a backlash resulted and Social Darwinism was largely refuted within academia (Freeman, 1980).

From the 1920's to the 1950's, Darwin's theory of emotions and expressions was virtually forgotten in America and cultural relativism and social acquisition of feelings, capacities, and behaviors dominated

psychology (Freeman, 1980). During the 1950's, research in nonverbal communication began to develop in what Harper, et. al. (1978) have termed, three interlocking phases. Phase one involved primarily the development of transcript systems for categorizing nonverbal behaviors. Birdwhistell (1952) detailed a comprehensive system for body motions or kinesics. He assigned a symbol for virtually every possible human movement, analogous to phonetic transcription for speech. Trager (1958) presented a schema for paralanguage which is concerned with vocalizations and voice qualities. Vocalizations include vocal characteristics such as laughing, crying, and belching. Vocal qualifers include itensity, pitch, and extent. A third category is identified as social segregates. These include uh-huh for affirmation, uh-uh for negation, and uh for hesitation. Hall (1963) developed a notation system for proxemic behaviors which includes eight dimensions; postural, sociofugal, kinesthetic factors, touch, retinal combinations, thermal, olfaction, and vocal loudness. The development of these systems lead to descriptive research where interpersonal behaviors were studied as units.

The second phase, the structural approach, and the third phase, the external variable approach, developed concurrently but along two different research strategies. The structural approach is a tightly organized and self-contained social system (Birdwhistell, 1970). Like language, it operates according to a definite set of rules. For structuralists, the relevant question is not how nonverbal affects

verbal, but how they both contribute to communication. Structuralists ask such questions as:

> (a) Out of all behaviors which are possible to perform, which ones actually occur in communication in a given situation in a given culture?
>
> (b) Do these selected communication behaviors occur in characteristic sequences or clusters with other behaviors in the same or different modality? (Duncan, 1969, p. 121).

The external variable approach, which is more heavily researched, studies the relationship between nonverbal behaviors and other variables, especially people interacting. This type of research is subdivided into indicative and communicative studies. Indicative studies focus on the association of psychological states with nonverbal behaviors, such as certain hand movements may be correlated with and perhaps indicative of anxiety. Communicative studies focus on observer ability to accurately interpret the meaning of certain nonverbal behaviors in terms of particular psychological states. For example, if an observer were to interpret the hand movements of a certain anxious person as a reflection of his/her anxiety, it could be said that the behavior was also communicative.

During the 1950's and 1960's, the field of psychology called on cognitive and learning theories to explain emotions and behaviors. The concept of body language as a cultural product was popularized. The most recent trend of the 1970's has been a blending of the earlier biological basis for expression with the more recent cultural emphasis. This bio-social theory acknowledges the cultural and the innate influences on nonverbal communication.

Embedded within the historical roots of the study of nonverbal communication, the external variable tradation clearly pursues the nonverbal element of the communication process and provides justification for studying nonverbal communication separate from the verbal communication process.

Impact of Nonverbal Communication on the Total Message

It is intuitively appealing to ask what percent of a total message is communicated nonverbally. Birdwhistell (1970) estimates that the nonverbal component accounts for 65%. Other researchers suggest that the nonverbal message carries 4.3 times the weight of the verbal message (Argyle, Salter, Nicholson, Williams, & Burgess, 1970). Mehrabian (1971) identified three communicative channels and provided an estimate of the percent of total message impact for which each is responsible; facial, 55%, vocal, 38%, and verbal, 7%.

Unfortunately, these simplified estimates are problematic. First, they do not agree with one another. Additionally, none of these estimates allows for variation in the situation or context, nor do they allow for overlap or redundancy between verbal and nonverbal messages. Finally, in at least one case, the conclusion is not based on sound statistical reasoning. Mehrabian's (1971) prediction is a composite, formed from two different research studies (Mehrabian & Wiener, 1967; Mehrabian & Ferris, 1967). Both of these studies dealt with only communication of attitudes rather than nonverbal communication in general. But perhaps the more serious error

is the failure to allow all three components (facial, vocal, and verbal) to interact with one another and to allow for other unidentified variables or for error.

Hegstrom (1979) attempted to replicate Mehrabian's results by testing the relative impact of the three components in one design. He analyzed the data using a step-wise multiple regression procedure. One male stimulus person was videotaped as he presented four affective message conditions; positive, negative, neutral, and a mixture of these three. Four channel conditions were recorded for each of the above message conditions; an all channel, which included both sound and picture; a verbal channel, which presented only sound; a vocal channel, which presented filtered sound; and a facial channel, which presented the picture only. Subjects judged the attitudes on the sixteen stimulus messages on bipolar scales which measured positive and negative judgments.

The results did not replicate Mehrabian's (1971) estimates. Hegstrom (1979) found the total impact of a message was 14% facial, 12% verbal, and 6% vocal. The sum of the parts do not equal the whole as in Mehrabian's formula (55% facial, 7% verbal and 38% vocal). Sixty-eight percent of Hegstrom's total variance is left unaccounted for when the interactants are allowed to vary. This suggests that two-thirds of the impact of a message is due to error or to some other variables as yet unaccounted for. However, it would be well to note that the legitimacy for generalization of this research can be questioned as only one stimulus person was employed. Hegstrom's (1979) results conceivably are conservative.

Cataloging Nonverbal Communication

Another question of interest is, what factors constitute the domain of nonverbal communication? This question has been answered by many theorists, but with minimal agreement.

Ruesch and Kees (1956) proposed three languages to represent nonverbal communication. Sign language are those gestures which are purposeful and which stand alone and replace words. Action language are those gestures for which no meaning is intended to be associated. Object language are those gestures which may or may not have an intended meaning. For example, displayed material objects may or may not communicate a message. Argyle (1969) uses six classifications; body contact, posture, physical appearance, facial and gestural, direction of gazing, and the nonverbal aspects of speech. Duncan (1969) also uses six domains; body movement, paralanguage, proxemics, olfaction, skin sensitivity, and the use of artifacts. The cataloging developed by Barker and Collins (1970) represents the largest number of nonverbal factors. These 18 divisions include; animal and insect, cultural, environmental, gestural and body movements, human behaviors, interaction patterns, learning, machines, media, mental processes including perceptions, imagination and creativity, music, paralanguage, personal grooming and apparel, physiological, pictures, tactile and cutaneous, and time. Eisenberg and Smith (1971) recognize only the three major categories of paralanguage, kinesics, and proxemics. Finally, Knapp (1978) suggests there are seven domains; body motion, physical characteristics, touching, paralanguage,

proxemics, artifacts, and environmental. Although there is some overlap between these systems, the differences are substantial. The only component common to all of these systems is body movement.

Body movement or kinesic behavior typically includes such gestures as movements of the body limbs, hands, head, feet and legs; facial expressions such as smiles; eye behaviors such as blinking, direction and length of gaze and pupil dilation; and postural stances. Obviously there are many different types of nonverbal behaviors. Some are very specific, others are more general. Some are intended to communicate, others are expressive only. Some provide information about emotions or moods while others reflect cues about personality traits or attitudes.

Ekman and Friesen (1969; 1972) have developed a system for classifying nonverbal body acts used in communication and interpreting called performance cues. They have subdivided these cues into emblems, illustrators, affect displays, regulators, and adaptors. Emblems are nonverbal acts that can be directly translated into a verbal meaning. There is high agreement among members of a culture or subculture as to their meaning. Examples of culture-specific emblems are, the "A-ok" sign and the "peace" sign. A few emblems are recognized cross-culturally, such as putting out the thumb to hitch a ride. Some emblems are almost unviersally accepted, such as the signal for eating (bringing the hand up to the mouth) and sleeping (tilting the head laterally to one side and closing the eyes). Emblems can stand alone

or they can reinforce verbal communication. They are performed with awareness and with a specific intent to communicate.

The second group of performance cues, illustrators, are nonverbal acts which are directly tied to speech. They illustrate what is being said, such as pointing to an object or depicting a spatial relationship or a bodily action. Illustrators seem to be within our awareness, but not as explicitly as emblems. Their uses increase when a person is excited or having difficulty finding the right word.

Affect displays are primarily facial displays which are said to be panhuman as they occur in all cultures. However, the surrounding circumstances in which one reacts with the specific affect display is not panhuman, but culturally determined. These emotional displays can be in agreement, contradictory, or unrelated to the verbal affective statement they are associated with. Most often, affect displays are not performed with the explicit intention of communicating.

Regulators are those nonverbal acts which help to maintain and regulate speaking and listening. They are indicators to the speaker that he/she should continue, elaborate, repeat, hurry up, or give another a chance to speak. Specifically they provide feedback. The most familiar regulators are head nods and eye movement. There seems to be little awareness by the communicator that regulators are being used. However involuntarily they are emitted, they are readily recognized by others when they are transmitted.

Adaptors are behaviors thought to have developed in childhood as an effort to satisfy needs, perform actions or manage emotions.

Self-adaptors include manipulating one's own body, such as scratching, rubbing or pinching. These behaviors usually increase when the person becomes nervous. Alter-adaptors are learned in conjunction with early experiences involving other people. Examples would be leg movements to accommodate personal space between the self and other people, and orientation of body position in conversation. Finally, object-adaptors involve some artifact in the environment, such as smoking, doodling or playing with a paper clip. Adaptors are not intended for communication facilitators or interpretations and they are therefore done without awareness. Self- and object-adaptors usually increase when a person is alone.

Performance cues such as emblems, illustrators, affect displays, regulators, and adaptors are most frequently referred to as the body cues. Other related nonverbal cues include touching, paralanguage or voice qualities and vocalizations, proxemics and artifacts. All these communicate information nonverbally about the self to others.

Summary

Nonverbal communication is an effective mode of communication even though it is not formally taught in society. The external approach is the study of the relationship between nonverbal behavior and other variables, specifically people, and communicative research in particular focuses on an observer's accurate interpretation of the meaning of certain nonverbal behaviors. There are a variety of ways to catalogue nonverbal behavior, but most include body movements. The classification

system developed by Ekman and Friesen (1969; 1972) accounts for non-verbal body acts used in communication and interpretation.

Psychological Masculinity-Femininity

Men are men and women are women and vive la différence! Until the early 1970's the psychological concept of masculinity-femininity (M-F) was usually conceived of and studied by psychologists as a single or unitary bipolar dimension, with masculinity at one extreme and femininity at the opposite extreme. In a review addressing this issue, Constantinople (1973) suggests that the terms masculinity and femininity have a long history in psychological discourse, but theoretically and empirically they are poorly defined concepts. These terms were simply taken over from the public domain with no attempt theoretically to explicate them. Generally they are thought to be relatively enduring traits which are rooted in anatomy, physiology and early experiences and are used to distinguish males from females in appearance, attitude, and behavior.

Empirically, the common factor used in most of the early tests of M-F was solely an item's ability to discriminate the responses of males from those of females. The use of only this criterion does not allow for an assessment of trait centrality, and therefore there can be no satisfactory definition of the underlying construct called M-F. Without a clear definition of the construct, it is not possible to conclude if the M-F dimension is indeed a unitary trait, or if it is, in fact, bipolar in nature.

M-F Measurement Problems

Constantinople (1973) postulated that if the M-F construct is unitary, then strong correlations should exist between the different M-F scales which propose to measure this construct. She reports on correlations between the following commonly used M-F measures of the time: Gough's Fe scale; Guilford's M scale; the M-F scale of the MMPI: and Terman and Miles' Attitude Interest Analysis M-F test. Only small to moderate correlations between any of these measures were found. Factor analyses performed on the items of the M-F measures also supported the notion that the trait is not a unitary construct, but a combination of as many as 10 masculine and nine feminine factors with at least four factors overlapping both sexes.

Implicit in the bipolar assumption is the notion that M-F is a single continuum ranging from one extreme through a zero point to the other extreme and that behaviors defining one end point are opposite to those at the other end and are thus negatively correlated. Evidence suggesting that this is a faulty assumption is presented by Jenkin and Vroegh (1969). They asked subjects to make ratings on semantic differential scales of the most and least masculine and feminine concepts using the ideal man and woman as standards. If the M-F concept was bipolar, correlations between the most masculine ratings and the most feminine ratings should be highly negative. Additionally, correlations between the least masculine and the most feminine and correlations between the most masculine and the least feminine should both

be positive. Their results did not support these hypotheses, but instead suggested that at least two separate underlying dimensions exist.

The lack of a clear theoretical definition of the M-F dimension allowed for attributes associated with such terms as sex role adoption, sex role preference and sex role identity to be included in the definition with little delineation of their subtle differences in meaning. Sex role preference can be distinguished from sex role adoption on the basis that the former refers to activities and traits one would prefer to engage in or possess, while the latter refers to those activities and traits one actually manifests. This is a difference between ideals and reality. According to Constantinople (1973):

> Sex role identity includes both cognitive and affective factors which reflect both self-evaluation and the evaluation of others as to one's adequacy as a male or female (p. 391).

All three of these aspects of M-F may very well underlie and be a part of the multidimensionality of the construct of M-F. However, their specific and complex contribution to the definition tends to complicate the already overloaded and unclear concept. Some researchers suggest that these three terms should be identified as separate dimensions (Spence & Helmreich, 1978).

Measures of M-F inherently reflect the culture and the time period in which they are developed. Although fairly persistent sex role stereotypes exist, Freidan's (1963) review illustrates the effect that the specific culture and the time period have on the definition of femininity and the amount and kind of outside pressures exerted on

women to conform to that stereotype. As a test becomes dated, the norm group becomes less reliable as a comparison point, and the measure of social desirability which is built into the test also fluctuates. For example, grandmothers of today were raised in an atmosphere fostering the attitude that young women were homemakers and a career was sought only by those unfortunates who did not have the security of a working husband. The mothers of these women, however, were encouraged to go to college and to seek a career, although in somewhat limited areas such as teaching and nursing. The college-age women of today are actively encouraged to achieve in the working field. In a short period of 60 years there are highly contradictory societial attitudes for women regarding social desirability. Which of these social yardsticks a woman chooses as socially desirable may make a difference in her test score on a M-F measurement scale regardless of her own inner concept.

Considering the multiple problems of the current M-F measures, Constantinople (1973) concluded that the psychological concept of M-F and the measurements available were sorely inadequate.

Androgyny

In response to this apparent need for a new means to measure the psychological attributes of masculinity and femininity, two measurement tools were developed independently and concurrently; The Bem Sex Role Inventory (BSRI) (Bem, 1974) and the Personal Attribute Questionnaire (PAQ) (Spence, Helmreich & Stapp, 1974, 1975). Both investigators indicated support for the notion that the psychological

M-F construct is multidimensional, rather than a unitary concept, and they questioned the assumptions that a person could possess only masculine or feminine attributes or that these necessarily were bi-polar. They both suggested an alternative theoretical model incorporating the concept of androgyny. Accordingly, an androgynous person possesses both masculine and feminine characteristics. Bem (1975) found evidence that these people are more adaptive and situationally responsive than are men and women who subscribe to the traditional roles. Both the BSRI and the PAQ are self-report instruments.

The BSRI contains a total of 60 adjectives (20 each of masculine, feminine and neutral) which are each rated on a 7-point scale indicating how characteristic they are of the respondent. Bem (1974) developed the BSRI on the conception that a sex-typed person is someone who has internalized society's sex-typed standards of desirable behavior for men and women. The selected masculine items were prejudged by an initial group of subjects to be more desirable in American society for a man than for a woman. Similarly, the feminine items were prejudged to be more desirable for a woman than for a man. The selected neutral items were prejudged as neither masculine or feminine in character, and served as filler items which are not included in the scoring of sex role identity. The BSRI reflects the respondant's general concept of sex roles and does not make distinctions between the concepts of sex role adoption, sex role preference and sex role identity.

The PAQ asks respondents to rate themselves on 24 5-point likert scales (eight each of masculine, feminine and bipolar masculine-feminine). Items selected for inclusion on the original and longer form of the PAQ (55 items) were initially chosen in a manner similar to the BSRI, but using slightly different criteria. For the M-scale, items were prejudged by an initial group of subjects to be socially desirable for both sexes, but which males are believed to possess in greater abundance than do females. Similarly, the F-scale contains socially desirable items for both sexes, but which females are believed to possess to a greater degree than do males. The M-F scale contains items whose social desirability appears to vary between the two sexes with some items more desirable for males than for females and some vice versa. Thus, the PAQ provides some support for a bipolar model of the M-F construct. In support for including this third scale, Spence and Helmreich (1978) state:

> Since additional analyses convinced us that the M-F scale was not a psychometric accident and since we suspected that it might yield significant information not available from the other scales, we have retained it, despite the conceptual embarrassment of having to embrace simultaneously a dualistic and a bipolar model of masculinity and femininity (p. 20).

Spence and Helmreich (1978) state strongly that the psychological dimension of masculinity and femininity should be conceptually distinguished from the general concept of sex roles. They suggest that the meaning of "sex role" is not clear as it is presently utilized in psychology and other disciplines because it has a variety of meanings. They reserve sex role or sex role stereotype to mean "overt

behavior in a situation containing role demands" (p. 14). These researchers suggest that the essential psychological dimensions that distinguish males and females lie in the agency-communion dichotomy and its conceptual equivalents. This concept is based on Bakan's (1966) proposal of the two fundamental modalities which characterize all living organisms. Agency, a masculine concept, reflects a sense of self and is manifested in self-assertion, self-protection and self-expansion. Communion, a feminine concept, implies selflessness, a concern with others and a desire to be with others.

Bakan (1966) postulates that the two dichotomous forces operate in all living forms, that is that the masculine qualities are not indicative of men only and not of women, or coversely, that only women, but not men, possess feminine attributes. He suggests that neither concept is genetically given or necessarily superior to the other.

Other similar proposals of this dichotomy in nature are: Instrumentality versus expressiveness as proposed by Parson and Bales (1955); Outer versus inner space as conceived by Erickson (1964); Field independence versus field dependence as explained by Witkin (1974); and Proactive meaning active, independent, self-confident, objective and decisive, versus reactive meaning sensitive, emotionally expressive and interpersonally supportive (LaFrance & Mayo, 1978).

In light of the agency-communion dichotomy (Bakan, 1966) and similar concepts, Spence and Helmreich (1978) eliminated items from the original PAQ (55 items) that did not reflect the above rationale

and retained only those items which were rationally based on agency-communion. Thus the present form of the PAQ (24 items) is a post hoc rationally constructed instrument.

Thus although the BSRI and the PAQ both propose to measure the concept of androgyny, they differ both conceptually and procedurally. In assessing the differences between the BSRI and the PAQ, Stapp and Kanner (Note 1) correlated subjects' responses on both measures. The M-scales correlated .75 for male subjects and .73 for female subjects. Correlations of the F-scales for men and women subjects were lower, .57 and .59 respectively. It appears that these two measures are tapping somewhat different domains, especially the F-scales.

Summary

The model of M-F as a single bipolar dimension is inadequate and does not account for a large group of people, that is, men and women who possess both masculine and feminine behaviors and attributes. The area of sex differences has generally welcomed both the BSRI and the PAQ as androgynous measurement tools to replace the outdated unitary bipolar concepts of M-F. The androgyny model, which states that a person can possess masculine and feminine characteristics simultaneously, is congruent with the agency-communion dichotomy, which is the basis of the PAQ.

Sex Differences, Sex Role Identity, and Nonverbal Communication

Prior to reviewing the literature concerned with the interaction of sex differences, sex role identity (psychological M-F), and nonverbal communication, it will be helpful to digress and mention inherent problems in studying sex differences. Sex differences is one of several organismic variables which cannot be directly manipulated by the experimenter. These organismic variables are often studied under the rubric of individual differences, which have predictive but not explanatory value (e.g., Unger, 1979). When sex differences are studied as a subject variable, the primary focus is the differences in behavior between men and women. Since sex can be easily determined by the experimenter at a glance, many researchers report sex differences along with the variable of interest. Therefore, a number of differences between the sexes have been reported in diverse areas. However, the conclusion that clear differences exist between the sexes should be tempered with the knowledge of how articles are selected for publication. The policy of most journals in our area is to accept research which reports positive findings, assuming that results indicating no differences are seldom of scientific interest. Therefore, a researcher may include sex difference information if it is significant, but delete it if it is insignificant. This may result in a substantial body of literature which suggests that there are many differences between men and women, but leaves little opportunity for reports of similarities or no differences between the sexes to be

aired. This publication bias may be creating an artifact in the sex difference literature.

Unger (1979) suggests that males and females are most alike in their perception of their own differences. She suggests that the more interesting psychological phenomenon is the discrepancy between actual similarities between the sexes and the belief in sex differences. Therefore, an alternative to studying sex differences as a subject variable is to treat it as a stimulus variable where the primary focus is on what people perceive about men and women, rather than the actual behavioral differences between the sexes. The following includes research which treats sex both as a subject variable and as a stimulus variable.

Sex Differences in Nonverbal Behavior and Communication

Sex differences have been found in the area of personal space. Willis (1966) measured how closely a person approached another person in an initial speaking situation. Women were approached more closely by both men and other women than were men. Baxter (1970) unobstrusively observed men and women in a public setting and found female pairs stood closer to one another than did male pairs, but mixed-sex pairs stood closest of all. These results failed to control for the degree of familiarity of the pairs. Mehrabian and Diamond (1971) replicated these results using a more controlled laboratory setting.

There is also evidence for a sex difference in the likelihood of being touched. Jourard (1966), using questionnaire data, found that

women reported being touched more by their boyfriends than by their fathers, mothers or closest female friend, while men reported that their girlfriends touched them less than did their father, mother or closest male friend. However, since touch among adult males is somewhat taboo in our culture, self-report measures would seem to be less accurate than an observational measure. Henley (1973) took a behavioral measure of people in various settings and found that when age and social class are equal among the interactants, men touch women more than any other combination.

In a recent extensive study examining nonverbal behaviors, Frances (1979) videotaped men and women in same-sex and opposite-sex conversational dyads. Two trained raters recorded the occurrence, frequency and duration of 54 nonverbal behaviors, including paralanguage, performance cues, and gestures. In addition to the behavioral measures, subjects completed several questionnaires which were later correlated with the behavioral measures.

Results indicated that 15 of the 54 variables significantly differentiated the men from the women. The results were as follows: Length of speaking turn: Men spoke for longer periods of time than did women. The men and women who spoke for longer turns tended to describe themselves on the self-report measures as more aggressive than those people who took shorter speaking turns. Filler pauses: Men emitted many more filler pauses than did women. Rate of filler pause correlated on the men's self-report measure with several negative terms such as abasement and lack of dominance. Frances (1979) suggests

that men may experience normative pressure to speak for longer periods of time. Filler pauses allow one to retain the speaking floor while experiencing an inability to find the right words to continue talking. Smiling and laughing: Women laughed and smiled more than men. Correlations with the self-report measures indicated that men who laughed and smiled more than the norm described themselves as more sociable, friendly, and affiliative than men who smiled and laughed less. In contrast, women who exhibited these nonverbal behaviors described themselves as more uncomfortable and retiring. The author suggests that these women may engage in smiling and laughing behaviors to meet social expectation rather than to express friendliness and warmth. Gazing at partner: Women spent more time gazing at their conversational partners than did men, more typically while speaking, but this also occurred while listening. This agrees with earlier evidence cited by Exline (1963). Significant correlations with the self-report data indicated that men who gazed at their partners more used terms suggesting friendliness and sociability to describe themselves. These correlations were not significant for women. The author again suggested that women may gaze at their partners to meet social expectation rather than to express genuine interest in the other person. In addition, both men and women who spent more time gazing at their partner while speaking reported attributes indicating high self-control and low spontaneity, but women more so than men. Postural shifts and foot movement: Sex differences for postural shifts and foot movements interacted with length of conversation and suggested

that women's postural shifts and foot movements were less during the initial part of the conversation but tended to increase over time. The pattern for men was the reverse of this. Correlations with the self-report measures did not suggest reasoning for this phenomenon.

Beier and Sternberg (1977) videotaped newly married couples and judges recorded the frequency of the nonverbal behaviors emitted. Husbands talked more than wives and wives laughed more than husbands. The only result found to be inconsistent with those of Frances (1979) was that no differences existed between the amount of time men and women spent gazing at their partners. This may be a function of the intimate relationship between the individuals involved.

The procedure of using naive judges to evaluate a stimulus person's nonverbal communication, rather than looking at the discrete nonverbal behaviors, is strongly endorsed by McMahan (1976). She believes that studying the discrete nonverbal behaviors assumes that nonverbal cues constitute a consensually shared code in which affective meaning and inner feelings are communicated. However, using naive judges or a decoder-centered orientation avoids this assumption and focuses on the relational qualities of the nonverbal communication. This perspective assumes nonverbal behaviors are not coded and therefore to be in need of interpretation and assignment of meaning via perceptual and judgmental processes of the individual judges. This method of investigation brings the study of nonverbal behaviors into the realm of impression formation.

Whereas Frances (1979) failed to find a difference in nonverbal

behaviors as a result of the sex of one's partner, Cary and Rudick-Davis (1979) report affirmative evidence. In an investigation directed at finding if the sex of a person's conversational partner is communicated nonverbally, these authors found that when subjects were instructed to treat the other person in a sex-stereotyped manner, raters could guess the sex of the unseen person 60% of the time. Fifty percent would be base or chance level. Judges were better able to guess the sex of a man's unseen partner than of a woman's unseen partner. Women judges were more accurate than men judges. In a second study, when no instructions were given to the actors to interact in any set behavior, subjects were barely able to guess the sex of the unseen partner at better than chance level (53% versus 50%). Although these increases in accuracy over chance in the natural settings were statistically significant, the results may have been significant due to the very large sample size used. If we look at the raw data we see that the natural setting yielded 391 correct judgments out of 737 total opportunities. Chance alone would have yielded 50% or 368 correct judgments. Therefore the significant difference is based on only 23 correct judgments (391-368) better than what would have resulted purely by chance. These results do not signify very impressive odds that sex of one's partner is communicated nonverbally in a natural setting.

Somewhat more specific evidence is offered by Weitz (1976). Judges viewed nonverbal videotapes of men and women interacting either in same- or opposite-sex dyads. Women were evaluated as being more

nonverbally submissive when with a more dominant male partner and more nonverbally dominant when with a more submissive partner. The women did not similarly attune themselves to female partners, and no significant results were found for the men with either male or female partners. It would seem that sex of one's partner might be nonverbally communicated by women when they interact with high and low dominant men, or by either sex when there are specific instructions to treat one another in a sex stereotyped manner.

Are women more expressive of emotionality than men? Zaidel and Mehrabian (1969) found that men were better at communicating positive feelings of liking than were women, and women were better at communicating negative feelings of dislike than were men. LaFrance and Mayo (1978) speculate that these findings may be linked to baseline smiling differences between men and women. In general, women smiled more than men and self-report evidence suggested that men smile to convey an inner state whereas women's inner state is not reliably reflected by smiling (Frances, 1979). Therefore smiling is not an accurate indicator of positive feelings for women, but is an accurate indicator for men. On the other hand, since women smile more in general than men, when a woman is not smiling it may be a reliable signal that she is conveying negative feelings. A man not smiling conveys no positive or negative information. More recently Buck, Miller and Caul (1974) used the impression formation paradigm to investigate whether women are more emotionally expressive than men. These researchers developed the Communication of Affect Receiving Abilities Test (CARAT) which

consists of photographs of male and female stimulus persons taken while they view photographic slides varying in emotional content, including positiveness and negativeness and three other emotions. Men and women subjects then view photographs of the stimulus person's face and indicate which slide they believe the stimulus person is viewing. Judges more accurately identify the slides of the female stimulus persons, supporting the notion that women are more expressive of emotionality than men. This study also found no sex differences in decoding ability, suggesting that men and women are equally effective at reading the facial expression of women senders.

There is contradictory evidence, however, that suggests women may be more sensitive in decoding emotional expression. The Profile of Nonverbal Sensitivity (PONS test), developed by Rosenthal and his associates (Rosenthal, Hall, DiMatteo, Rogers, & Archer, Note 2, 1977) measures people's capacity to receive nonverbal messages. Results obtained on this measure suggest that women are generally more accurate than men in interpreting nonverbal behaviors, however the PONS test uses only one woman as a stimulus person. A study using many different stimulus people of both sexes also found women to be more sensitive in decoding (Zuckerman, Lipets, Koivumaki, & Rosenthal, 1975). It may be that women are more emotionally expressive than men, but as Burgoon and Saine (1978, p. 132) put it, "The jury is still out" on the issue of sex differences in judging emotions from facial expression.

Sex differences exist in both discrete nonverbal behaviors and in

the relational qualities of nonverbal communication. Weitz (1976) found some evidence for nonverbal communication of sex role attitudes. Men who reported their sex role attitude to be liberal were rated as projecting more nonverbal warmth than men with traditional attitudes. The relationship was more complex for women. Women with liberal sex role attitudes were perceived as colder in interactions with other women than were women with more traditional sex role attitudes. Women's nonverbal warmth was not significantly related to sex role attitude in cross-sex interactions.

A related area of nonverbal research that has become increasingly active since the development of the BSRI and the PAQ is the relationship between a person's sex role identity and nonverbal communication.

Sex Role Identity and Nonverbal Communication

Benoist and Butcher (1977) were interested in the relationship between self-reported sex role identity and ratings by judges who observed their nonverbal behavior. High- and low-feminine stimulus men and women[1] were videotaped in short standardized tasks. These tapes were then shown to naive judges who were asked to rate each stimulus person on 170 adjective personality descriptors. The results indicated that naive judges not only evaluated the stimulus men and women differently, but also within each sex evaluated high- and low-feminine stimulus people differently. More interesting were the dichotomous values assigned to the stimulus persons depending on the degree to which their sex role identity conformed to the sex role

stereotype for their biological sex. For example, judges rated high-feminine women as attractive, considerate, feminine, graceful, helpful, mannerly, meek, modest, neat, sentimental, soft-hearted, submissive, thoughtful and tolerant, while low-feminine women were evaluated as bossy, coarse, hard-headed, stolid, and stubborn. Fewer adjectives were significant for the male stimulus persons; a similar dochotomous relationship resulted when stimulus person's sex role identification either did or did not conform to stereotypes. Low-feminine men were seen as conscientious, conventional, idealistic, and mannerly, while high-feminine men were seen as awkward, selfish, and touchy.

Although this research did not employ an androgyny measure and therefore is restricted in the range in which it can predict nonverbal communication of one's sex role identity, it nevertheless strongly suggests that sex role identity is nonverbally communicated.

Lippa (1978) also found that naive judges could perceive sex role identity from expressive or nonverbal cues. Stimulus people were videotaped as they roleplayed a junior high school teacher delivering a math lecture. These stimulus people had been selected from a larger pool of people based on their scores on the BSRI. Half were male and half were female, and within each sex one-third were classified according to their sex role identity as either masculine, feminine or androgynous. Judges viewed one of six videotapes of the stimulus person and rated him/her on masculinity and femininity. Each of the six taped versions focused on different communication channels. These were: complete information, including sound and

full picture; full body without sound; body with head blocked from view; head only; voice only; and still photographs taken from the videotape.

Judges were unable to guess the person's sex role identity from viewing the heads only, voice only or the still photograph only. This last condition eliminates the possibility that physical appearance or dress is sufficient to communicate sex role identity. Judges were able accurately to determine a person's sex role identity from the complete information, the body without sound, and the body with the head blocked from view conditions. Lippa (1978) concluded that the nonverbal message of sex role identity is communicated mainly through body cues.

LaFrance and Carmen (1980) conducted a study to determine how differences in sex role identification are related to nonverbal behaviors which are considered to be masculine (interrupting and using filler pauses) or feminine (smiling while not speaking and gazing while speaking). Additionally, in an attempt to test the greater adaptability of androgynous persons (e.g., Bem, 1975), a situational demand condition was included. Subjects were selected on the basis of their scores on the BSRI, and classified as sex-typed (masculine males/feminine females) or androgynous. They were then videotaped in same-sex dyads with the camera focused on the head and shoulders only, while they either argued a case for/against the legalization of marijuana (instrumental demand situation) or shared experiences of their feelings during their first few weeks of college life

(expressive demand situation). The instrumental demand situation called on the subject to present an argument, speak logically and make a good case which are typical masculine attributes. The expressive demand situation called for an expression of feelings and sympathetic behavior which are typical feminine attributes.

Two trained raters coded the masculine and feminine behaviors each emitted. Of particular interest was the display of cross-sex behaviors in the demand situations. Androgynous males smiled more than masculine males in the expressive demand situation, and there was a slight tendency for them to gaze more than the masculine males in this situation. The demand situations did not differentiate the feminine females from the androgynous females, but collapsing over situations the androgynous females smiled less than the feminine females and there was a tendency for them to gaze less than the feminine females. Overall there was a trend for sex-typed persons to use cross-sex behavioral avoidance and to use more sex-consonant behaviors, and for androgynous subjects to use a blend of some additional cross-sex behaviors and a deletion of some sex-consonant behaviors.

Contrary to Lippa's (1978) speculation that sex role identity is communicated mainly through body cues, these results were found on the basis of information communicated from the head and shoulders. Lippa drew his conclusion that nonverbal information from the head and shoulders alone is insufficient for judges to perceive sex role identification on the basis of a single videotape which he used for

all six conditions and had altered for each particular condition. The single videotape was taken from a distance far enough back to include the full body, and for this condition (head and shoulders) a barrier was placed on the videoscreen to block all information from the shoulders down. This would mean that 50% or more of the original picture was blocked from view and the remaining information was probably too distant to give reliable information to the judges.

Rationale for Present Study

The studies in the previous section show a progression of evidence. Differences in nonverbal behaviors can be found: between men and women (eg. Frances, 1979); between the dimensions of sex role identity (LaFrance & Carmen, 1980); and as a function of the demand situation (LaFrance & Carmen, 1980). There is evidence that judgments about a person's sex role attitude (Wentz, 1976) and sex role identity (Lippa, 1978) can accurately be made based on nonverbal communication and that different attributes and value judgments are used to describe people of varying sex types (Benoist & Butcher, 1977). Other evidence suggests that androgynous people are more adaptable to the situation than are sex-typed people (Bem, 1975). It has been suggested that these individuals may be using a blend of less sex-consonant and more cross-sex nonverbal behaviors (LaFrance & Carmen, 1980) when the situational demands are present. What is not known is how observers might evaluate the androgynous people who utilize this behavioral blend

versus sex-typed individuals whose behaviors appear to be less flexible. The purpose of the present study is to examine impression formation as a function of nonverbal communication, sex, sex role identity, and the situational demands.

The current study focuses on naive judgments of stimulus persons (SPs) assessing the following attributes: likability, intelligence, effectiveness as a communicator, self-assurance and comfort, forcefulness and dominance and warmth and caring. Several criteria guided the choice of these attributes. First there was a desire to select attributes which would give general information about the impression of positiveness or negativeness of SP. Therefore, likability and intelligence were selected as they are primary attributes used in our culture to assess the value of others. Secondy, asking subjects to assess a person's effectiveness in communication adds credence to the notion that this research concerns nonverbal communication, and this dependent measure also gives an indication of the degree or range to which SPs communicate nonverbally. In addition, since one's effectiveness as a communicator may vary in different situations, this dependent measure also yields an indication of situational adaptiveness. Self-assurance and comfort was chosen as a second indicator of situational adaptiveness. The inclusion of the final two dependent variables concerned assessing differences in perceived sex role identities. Forcefulness and dominance was intended to assess the degree of perceived masculinity and warmth and caring was intended to assess the degree of

perceived femininity of SP. Since the measure of perceived androgyny is a function of both masculinity and femininity, the assessment of androgyny for SPs could be derived from the judgments of perceived masculinity and perceived femininity.

The sex of SP's partner and the individual differences of that partner were held constant for men and women SPs by using same-sex confederates. While it was expected that there would be main effects for sex of SP, sex role identity of SP and demand situation, the higher order interactions between these variables were the major area of interest. Although both male and female judges (subjects) were used, no differences in their ratings of SPs were anticipated. No predictions were made for those persons classified as undifferentiated, as adequate information on which to base these predictions is not available. However, undifferentiated SPs were included in order to shed some light on this group for future research.

Following are the specific hypotheses predicted for the three-way interactions of sex of subject, sex role identity of subject and the situational demand, eg., instrumental (characteristically masculine) or expressive (characteristically feminine) for the six dependent measures. Figures 1,4,7, and 9 are graphic illustrations of these predictions.

Hypothesis 1: Likability

It was predicted that androgynous persons in both demand situations, sex-type men in the instumental situation, and sex-type women

in the expressive situation would be evaluated as more likable than cross-sex persons in either situation or sex-type men and women in the situations inconsistent with their sex role identity. (For sex-type males, the inconsistent situation is the expressive situation; for sex-type females, the inconsistent situation is the instrumental situation.)

Hypothesis 2: Intelligence

It was predicted that androgynous persons in both demand situations, sex-type men in the instrumental situation, and sex-type women in the expressive situation would be evaluated as more likable than cross-sex persons in either situation or sex-type men and women in the situations inconsistent with their sex role identity. The pattern for the intelligence hypothesis is the same as for the likability hypothesis because both dependent measures are assumed to be measures of positiveness.

Hypothesis 3: Effectiveness as a communicator

It was predicted that androgynous persons in both demand situations would be evaluated as effective communicators, as would sex-type persons in the situation consistent with their sex role, cross-sex persons in the situation inconsistent with their sex. (For cross-sex men, the situation inconsistent with their sex is the expressive situation and for cross-sex women, the situation inconsistent with their sex is the instrumental situation.) Judged as less effective communicators would be the sex-type persons in the situation

inconsistent with their sex role and cross-sex persons in the situation consistent with their sex.

Hypothesis 4: Self-assurance and comfort

It was predicted that androgynous persons in both demand situations would be evaluated as self-assured and comfortable, as would sex-type persons in the situations consistent with their sex role, and cross-sex persons in the situation inconsistent with their sex. Judged as less self-assured and comfortable would be the sex-type persons in the situation inconsistent with their sex role and cross-sex persons in the situation consistent with their sex. Hypotheses 3 and 4 predict the same pattern of results because they are both assumed to be measures of situational adaptiveness and nonverbal expressivity.

Hypothesis 5: Forcefulness and dominance

It was predicted that sex-type persons would not be evaluated differently in the two situations. Sex-type men would be evaluated high and sex-type women would be evaluated low in both situations. Androgynous persons would be evaluated as forceful and dominant in the instrumental situation but not forceful and dominant in the expressive situation. Cross-sex women would be evaluated forceful and dominant in both situations, while cross-sex men would be evaluated low in both situations. Forcefulness and dominance is a measure of perceived masculinity.

Hypothesis 6: Warmth and caring

Since warmth and caring is a measure of perceived femininity, the

predictions were the mirror image of forcefulness and dominance. Specifically, sexed-type women would be evaluated high regardless of the situation and sex-type men would be evaluated low. Androgynous persons would only be evaluated warm and caring in the expressive situation. Cross-sex women would be evaluated low in both situations and cross-sex men would be evaluated high in both situations.

CHAPTER II

METHOD

Overview

The first group of males and females were selected to serve as stimulus persons (SPs) on the basis of their Personal Attributes Questionnaire (PAQ) score. They were videotaped without sound while they engaged in two different conversations with a confederate. One of the conversations was designed to elicit stereotypically feminine behavior (expressive demand situation) while the other conversation was designed to elicit stereotypically masculine behavior (instrumental demand situation). Videotaped segments were spliced together and shown to subjects who served as naive judges. Various impression formation ratings were collected and analyzed.

Stimulus People

The PAQ (Appendix A) was administered to 59 male and 70 female introductory psychology students at the beginning of the quarter. The split median scoring procedure recommended by Spence and Helmreich (1978) was used. According to this procedure, the median is found for both the masculine and the feminine scales for all subjects, resulting in four categories; high masculine, low masculine, high feminine and low feminine. Sex role identity is then determined as follows: a high score on both scales is labeled androgynous; a high score on the masculine and a low score on the feminine scale is

labeled masculine; the reverse of this is labeled feminine; and low scores on both scales is labeled undifferentiated. Spence and Helmreich (1978) report their medians for the two scales to be, masculine 21, and feminine 23. The present study yielded slightly higher median scores, masculine 23, and feminine 24. An additional procedure used in the present study was to exclude the top 1/8 and the bottom 1/8 of the scores for each of the four categores (high masculine, low masculine, high feminine, low feminine) in order to eliminate on the one hand ultra-masculine/feminine persons, and on the other hand persons whose scores were borderline between low and high masculine/feminine. Criterion scores for selection as SPs were, high masculine 24 through 29, low masculine 16 through 20, high feminine 25 through 29, and low feminine 17 through 22.

Two men and two women from each of the four PAQ sex role identity groups (androgynous, masculine, feminine, and undifferentiated) and whose masculine and feminine scores met the above criteria were randomly selected to serve as SPs. These 16 SPs were contacted by telephone approximately three weeks after completing the PAQ and asked to participate in "exploratory study in human communications." They were scheduled into time periods of one hour in duration.

Setting and Equipment

When each SP arrived for her/his scheduled appointment, s(he) was greeted outside the experimental room by the female experimenter and a confederate of the same sex as SP. The confederate was blind to SP's

sex role identity. The experimenter introduced the confederate and SP and asked them to come into the experimental room. The confederate chose the chair out of the videocamera's range, leaving SP the chair facing the one-way mirror. (Appendix B depicts the floor diagram of the experimental rooms.) A pictorial scene painted on a piece of fabric covered the entire one-way mirror with the exception of a two-inch vertical strip on the left side. A vodeocamera in the adjoining experimental room was aimed through the two-inch opening and directed at the chair SP would occupy during the conversations.

Once SP and the confederate were seated, the camera field included the upper body of SP from the midchest. This seating arrangement allowed the confederate and SP ample personal space for ease in conversation and also made it possible for subjects who later viewed the videotapes to determine the direction of SP's eye gaze and body orientation in relation to the confederate. The confederate was only occasionally, and then only slightly, visible to viewers.

Once the confederate and SP were seated and given the general instructions for the experiment (Appendix C), the experimenter continued by giving the specific instructions for either the instrumental demand situation (Appendix D) or the expressive demand situation (Appendix E). The order of the demand situations was counterbalanced across SPs. One SP from each of the 8 sex x sex role identity (S x SR) categories was in the instrumental situation first and in the expressive demand situation second. The second SP of each S x SR categories was taped in the reverse order. To determine if the

confederate or SP would argue pro or con and who would begin speaking first in the instrumental situation, slips of paper were drawn. However, in keeping with the objective to capture a natural nonverbal communication style, SP was always allowed to choose the side of the argument s(he) wished to present. This was accomplished by telling SP that one slip of paper had instructions, "Your choice", indicating their choice to choose the pro or con argument, and the other slip had instructions, "Speak first." In reality both slips read, "Your choice" but the confederate always claimed to have drawn the slip which read, "Speak first." No instructions regarding who would begin speaking or topic orientation were given for the expressive demand situation. After instructions were given for each conversation, a summary sheet of these instructions were given to the confederate and SP to review. They were given an opportunity to ask questions.

After SP indicated an understanding of the instructions, the experimenter exited to the adjoining experimental room and began videotaping the interaction. The SP was not told that s(he) was being taped at this time. Five minutes after the conversation began the experimenter knocked on the door, reentered and advised SP and the confederate that the time for the conversation was up. The instructions were then given for the second conversation and the experimenter again exited and taped the ensuing five minutes. When the second conversation was completed the experimenter reentered and asked SP and the confederate to complete a questionnaire (Appendix F) which was a check on the manipulation and a probe for suspicion.

The SP was then fully debriefed and allowed to view the videotapes. Care was taken to ensure SP's well-being, and to gain her/his promise not to reveal the purpose of the research to other prospective SPs. S(he) was asked to sign a form (Appendix G) granting permission to use the tapes for research and agreeing not to discuss the details of the experiment with others. No SP refused to sign this agreement. They were given one copy and the experimenter retained a second copy.

Stimulus Materials

The following procedure was used to select the one-minute segments for each SP. The initial minute of each taped conversation was eliminated to allow time for the conversation to move beyond the opening formalities. The fifth minute was also eliminated to allow for any SP who might have been anticipating the close of the conversation and might therefore have been less involved. This technique was used by Weitz (1976). The remaining three minutes for all 32 conversations were then examined for a common one-minute time period which was free from technical flaws in the tape resolution. For 28 of the conversations the common one-minute period was between 2 minutes, 10 seconds and 3 minutes, 10 seconds. Three of the remaining four tapes had tape resolution problems during this time period and the fourth was not usable because the confederate's body moved across the vision field. Therefore, one-minute tape segments for these four conversations were taken from plus or minus 30-seconds of the targeted time period. These 32 one-minute segments were spliced into two 16-minute tapes each of

which contained only one segment of each of the 16 SPs. The order in which SP's sex, sex role identity and demand situation appeared were randomly assigned, although the order was the same for both tapes.

To avoid including any SP who was exceptionally "attractive" or "unattractive", the experimenter and the confederate made independent ratings of each SP. Although perceived differences in attractiveness were noted, no SP fell into the above extremes.

Subjects

Subjects were 30 male and 30 female introductory psychology students. They were randomly assigned to small, mixed-sex groups of about 10 people per group. The group size was kept small to allow more individual treatment of the subjects and to ensure that they responded to every question for all 16 SPs. They received one hour of experimental credit for their participation.

Procedure

Subjects were recruited for a study of "Impression Formation Based on Nonverbal Communication." Each subjects viewed one of the two versions of the stimulus material on a television monitoring screen. (See Appendix H for the instructions and dialogue given to subjects.) Each subject was given a booklet containing 16 rating forms (Appendix I). After viewing the first one-minute segment, the videorecorder was stopped and the subjects rated the SP on six attributes; likability, intelligence, effectiveness as a communicator, self-assurance and comfort, warmth and caring, and forcefulness and

dominance. The video-recorder was turned on again and the second one-minute segment was shown. The subjects were then given time to rate this second SP on the same six attributes, and so forth until all 16 SPs were viewed and evaluated by the subjects. When the subjects completed this task they noted their own biological sex and their name on the booklet, and were debriefed.

CHAPTER III

RESULTS

Manipulation Checks

Analyses of the items on the post-experimental questionnaires given SPs immediately following the taping sessions indicated that the instructions were effective in eliciting the desired set for each demand situation. Stimulus persons reported that the instrumental demand situation was designed to tap their ability to make a good case by being organized the convincing and speaking in a forceful and logical manner significantly more than was the expressive demand situation, F (1, 60) = 11.87, $p < .001$. Similarly, they reported that the expressive demand situation was designed to elicit their ability to share feelings with their partners and to be sympathetic and understanding significantly more than was the instrumental demand situation, F (1, 60) = 43.89, $p < .001$.

In response to the demand awareness question, no SP indicated that the research might be concerned with sex, sex role identification, or nonverbal communication styles. All SPs either reiterated the instructions they had received or identified the conversation as being of an expressive or instrumental nature.

The mean rating for overall comfort during the conversation was 4.25 on a seven-point scale. No SP rated the experience as extremely uncomfortable.

Preliminary Analyses of the Dependent Measures

Immediately following the videotape segment and prior to evaluating each SP, subjects were asked to indicate their level of acquaintance with SP by answering, yes, know by sight or no to the question, "Do you know this person?" Overall, subjects indicated that 86% of the time they did not know SP. 10% of the time they knew SP by sight, and 4% of the time they actually knew SP (see Table 1). Three (did not know, know by sight, and know) different 4 x 4 (sex role identity; androgynous, masculine, feminine, and undifferentiated by SP identity; male 1 and 2, female 1 and 2) Chi Square analyses were performed to determine if subject's prior acquaintance with SPs was evenly distributed across sex role identity. No differences in patterns of acquaintance were found for SPs who were not known, while the chi square for known SPs approached significance X^2 (9) = 14.42, $p < .10$. Finally, some SPs were known by sight by significantly more subjects than other SPs, X^2 (9) = 18.04, $p < .05$. Individual comparisons revealed that Feminine Male 2 and Undifferentiated Female 2 were identified as known by sight significantly more often than the other SPs in the same S x SR category, X^2 (1) = 6.75, $p < .01$, and X^2 (1) = 7.11, $p < .01$. The results for Masculine Female 2 approached significance, X^2 (1) = 3.76, $p < .10$.

Analyses of the Dependent Measures

The dependent variables were analyzed by performing six individual split-plot analyses of variance (ANOVA), each with the following five factors; sex of subject (male or female), stimulus person's identity (number one or two), sex of SP (male or female), sex role of SP

(androgynous, masculine, feminine, or undifferentiated), and demand situation (instrumental or expressive). Since each subject saw and rated one-half of the videosegments each SP made, there was only one measure obtained for each of the first two factors, sex of subject and SP's identity for each ANOVA. However, repeated measures were obtained for the last three factors, sex of SP, sex role of SP, and demand situation as the split-plot design combines both groups of subjects' ratings for SPs within each sex x sex role identity category.

The predictions for this study were based on a three-way interaction between the sex of SP, the sex-role identity of SP and the demand situation. This design assumes no difference in response ratings from men and women subjects and no difference in evaluations of the two SPs in each sex x sex role identity category. If this latter assumption were true, then differences found in people's nonverbal communication styles could be due to their biological sex and sex role identity rather than other unknown dispositional factors. The three-way interactions were significant for all six dependent variables. However, higher order interactions were also significant indicating that for every dependent variable except warmth and caring, contrary to prediction, men and women subjects did evaluated SPs differently, and SP_1 and SP_2 for each sex x sex role identity category were evaluated differently from one another. However, in the case of warmth and caring, the ratings of men and women subjects agreed, but SP_1 and SP_2 for each category were evaluated differently from one another (eg., a significant four-way interaction). Since the predictions were based

on three-way interactions, these will be briefly examined before reporting the higher order interactions.

Three-way interactions

The three-way interaction between sex of SP, sex role identity of SP and demand situation was significant for likableness, $F(3, 168) = 13.25$, $p < .001$. Specifically, it was predicted that androgynous persons in both demand situations and sex-type persons in the situation consistent with their sex role identity would be evaluated as more likable than cross-sex persons in either situation and sex-type persons in situations inconsistent with their sex role identity. Evaluations of likability did not systematically interact with SPs sex x sex role identity x demand situation as predicted. Specifically, orthogonal comparisons revealed that there were no differences in evaluations of likability between androgynous and cross-sex SPs in either the instrumental or expressive demand situations, nor did androgynous persons and sex-type persons in the inconsistent situation differ. There was no difference between sex-type persons in the situation consistent with their sex role and cross-sex persons in the situation inconsistent with their sex. The only finding that was predicted was no difference between androgynous persons and sex-type persons in the situation consistent with their sex roles.

The three-way interaction for the second dependent measure, intelligence, was significant, $F(3, 168) = 11.64$, $p < .001$. Since intelligence can also be a measure of the subjects' perceived

positiveness toward SPs, the predictions were the same as those made for likability. Orthogonal comparisons revealed the same pattern of results as was found for likability with one exception. The assumption that there would be no differences between androgynous and sex-type males in the instrumental situation was challenged; masculine males were rated as more intelligent than androgynous males in the instrumental situation, $t(168) = 1.79$, $p < .05$.

The third and fourth dependent measures, which addressed SPs' situational adaptiveness in their effectiveness as a communicator and in their self-assurance and comfort, were significant ($F(3, 168) = 14.78$, $p < .001$ and $F(3, 168) = 10.93$, $p < .001$). Specifically, it was predicted that androgynous persons in both situations would be seen as effective communicators and as self-assured and comfortable, as would sex-type persons in the situations consistent with their sex role identity and cross-sex persons in the situations inconsistent with their sex. Judged as less situationally adaptive would be sex-type persons in the situations inconsistent with their sex role identity and cross-sex persons in the situations consistent with their sex. For effectiveness as a communicator, orthogonal comparisons revealed that the predictions were supported in every case but one. Androgynous males were not rated as more effective communicators than sex-type males in the expressive situation, $t < 1$. However, a number of predictions were supported. Androgynous females were rated higher than sex-type females in the instrumental situation, $t(168) = 3.14$, $p < .005$. Androgynous persons were equally effective as communicators in both demand situations, $t < 1$. Androgynous males were more

effective than cross-sex males in the instrumental situation, $t(168) = 3.21$, $p < .005$. And androgynous females were more effective than cross-sex females in the expressive situation, $t(168) = 2.18$, $p < .05$. Androgynous persons in both situations, and sex-type persons in the situation consistent with their sex role, and cross-sex persons in the situational inconsistent with their sex did not differ significantly from one another, $ts < 1$.

The second measure of situational adaptiveness, self-assurance and comfort, was expected to show the same pattern as effectiveness as a communicator. Orthogonal comparisons revealed only one predicted finding; androgynous females were rated as more self-assured and comfortable than were cross-sex females in the expressive situation, $t(168) = 3.00$, $p < .005$. No other prediction was supported. However, contrary to prediction, sex-type females in the expressive situation were evaluated as less self-assured and comfortable than the androgynous females, $t(168) = 1.90$, $p < .05$.

The last two dependent variables which were measures of masculinity (forcefulness and dominance) and femininity (warmth and caring) were also significant, $F(3, 168) = 18.77$, $p < .001$, and $F(3, 168) = 8.02$, $p < .001$. Specifically it was predicted that for forcefulness and dominance sex-type persons would not vary from one situation to the other. Males would be evaluated as high and females would be evaluated as low. Androgynous persons would be evaluated as high in the instrumental situation and low in the expressive situation. Cross-sex persons would not vary from one situation to the other.

Males would be evaluated as low and females would be evaluated as high. The orthogonal comparisons found no support for the predictions; none of these specific groups differed from one another.

Predictions made for evaluations of warmth and caring were the mirror image of the masculine measure, forcefulness and dominance. Orthogonal comparisons revealed that as predicted, sex-type males did not vary from one situation to another, $t < 1$. However, contrary to prediction, sex-type females did vary from one situation to the other, being evaluated as more warm and caring in the expressive situation than in the instrumental situation, $t(168) = 3.98$, $p < .005$. Whereas it was predicted that evaluations of androgynous persons would be more favorably in the expressive situation, no differences were found in the males, but females were rated as more warm and caring in the instrumental situation, $t(168) = 2.86$, $p < .005$. Finally and again contrary to predictions, cross-sex males were not rated as more warm and caring than cross-sex females.

Although the overall three-way interactions (sex of SP x sex role identity of SP x demand situation) were significant, the specific predictions were generally not supported for five of the six dependent variables. The one exception was for effectiveness as a communicator where all but one of the specific predictions was met.

Higher Order Interactions

The two basic assumptions of this research, that individual differences between the two SPs in each of the eight categories would be minimal and that men and women subjects would not differ in their

evaluations of SPs, were not substantiated. Five-way interactions for all dependent measures except warmth and caring were significant. For this attribute a four-way interaction was significant; the first assumption was correct but men and women subjects did differ in their evaluations of SPs. Post hoc analyses were performed in order to shed some light on the complex data.

The procedure of using multiple comparison tests for post hoc analyses did not appear to be the most parsimonious approach to understanding the complex interactions. For example, using Scheffe's S method only one pair of mean ratings of likability was significantly different; the highest rated SP, a feminine female in the expressive situation rated by women subjects, versus the lowest rated SP, an undifferentiated male in the instrumental situation rated by men subjects. Scheffe's method appeared to be too conservative to detect differences. Using Newman Kuels pair-wise comparisons test appeared to be too cumbersome as it would involve making $\frac{k(k-1)}{2}$ total comparisons, where k = the number of treatment means. Since the present study has 64 treatment means, 2016 pair-wise comparisons would be necessary for each of the five dependent measures, plus 496 pair-wise comparisons for the warmth and caring dependent measure. A cursory attempt was made using the likability dependent measure. Cycling through the 64 treatment means one time doing pair-wise comparisons revealed 67 significant differences. The next step of the Newman Kuels procedure would be to cycle through again using 63 treatment means, and so on down to the last two means. This was not done as

the prospect of organizing even the significant comparisons seemed improbable.

In an attempt to determine a feasible procedure to examine these highly complex interactions, it was decided first to simplify the treatment mean ratings by arbitrarily fitting them into three equal categories of low, medium and high, and then to extrapolate meaningful trends from these categories. Tables 2-7 present the actual means for each dependent variable. Figures 2, 3, 5, 6, 8, 10 depict the extrapolated data in a graph format. The original predictions for this study are also depicted in a graph format (Figures 1, 4, 7 and 9) for ease in comparing them with the actual trends.

Likability

A significant five-way interaction for likability was found, $F(3, 168) = 2.93$, $p < .034$ (see Table 2 for means). Overall, women subjects tended to be more generous in their ratings of likability than men subjects by rating 13 SPs high and 4 SPs low, while men rated 8 SPs high and 7 SPs low (see Figures 1 and 2). Looking specifically at individual SPs, 2 androgynous SPs (M-1 and F-1) were generally rated high in both situations as predicted. The other 2 androgynous SPs were rated medium and low in one case. This pattern suggests an individual difference preference for androgynous SPs M-1 and F-1 over the other 2 androgynous SPs, M-2 and F-2. This pattern holds up throughout most of the other dependent measures.

Sex-type males were expected to be rated high in likability in the situation consistent with their sex role identity and low when

the situation was inconsistent. However, masculine males were never rated low in either situation, and were in fact rated high by women subjects in the expressive situation. This finding suggests that women subjects liked the sex-type male more when he was in the situation inconsistent, rather than consistent with his sex-type. Sex-type females were also expected to be rated as highly likable in the situation consistent with their sex role and less likable in the situation in consistent with their sex role. This prediction was true for only one of the feminine females (F-2). Subjects rated feminine F-1 somewhat higher in the instrumental situation rather than in the expressive situation as predicted, Thus, clearly individual differences between the 2 SPs exerted some influence on the ratings.

Cross-sex SPs were not expected to be rated favorably in either situation. Both masculine females and feminine males were generally rated medium but women subjects rated feminine M-2 high in both situations.[2]

Undifferentiated female SPs were rated higher in the expressive situation and lower in the instrumental situation, while undifferentiated males received lower ratings in both situations.

In summary, three factors seemed to be operating in the likability ratings: 1) Women subjects gave more high ratings and fewer low ratings than did men subjects; 2) Certain SPs were rated higher than other SPs in the same S x SR category regardless of the situation, suggesting that individual differences exerted some influence on

ratings; 3) The sex-type males received more favorable ratings regardless of the situation.

Intelligence

A significant five-way interaction was found for intelligence, $F(3, 168) = 2.88$, $p < .037$ (see Table 3 for treatment means). Overall, men and women subjects gave approximately equal numbers of high and low ratings of intelligence to SPs. For example, men assigned 10 high ratings and 12 low ratings, while women gave 11 high and 10 low ratings (see Figures 1 and 3). Androgynous SPs M-1 and F-1 were again rated fairly consistently high whereas the other two androgynous SPs, M-2 and F-2, were rated much lower. Sex-type SPs were again expected to be rated high in intelligence in the situation consistent with their sex role identity and low when the situation was inconsistent. However, masculine males were again never rated low regardless of the situation. They received ratings of medium or high from both men and women subjects, and were just as likely to be rated high in intelligence in an inconsistent as in a consistent situation. Sex-type females were never rated high in intelligence in the inconsistent situation. As before, rating for feminine F-2 followed those predicted while ratings for F-1 did not.

Cross-sex SPs were not expected to be rated high in either situation. Ratings for feminine M-1 generally followed the predicted pattern, however feminine M-2 received high ratings in both situations.[3] Masculine females were perceived as more favorable in the instrumental than in the expressive situation.

Undifferentiated female SPs were rated high in the expressive situation. Ratings for the two undifferentiated females differed for the instrumental situation; F-2 was rated more favorable than F-1[4]. Undifferentiated M-2 was rated high in the instrumental and low in the expressive situation while M-1 received generally low ratings regardless of the situation.

In summary, the individual differences found between SPs in the same S x SR categories for the likability ratingswere also present for ratings of intelligence, and sex-type males again received higher ratings ragardless of the situation. However, women subjects did not assign more higher ratings and fewer low ratings for intelligence than men subjects, as was the case for the likability dependent measure.

Effectiveness as a Communicator

Recall that this dependent measure was quite effective in meeting the predictions for the three-way interactions using a priori multiple comparisons. However, since the five-way interaction was also significant, $F(3, 168) = 3.09$, $p < .028$, (see Table 4 for treatment means), effectiveness as a communicator was subjected to post hoc analyses as well. Overall, women subjects again gave more high ratings and fewer low ratings, 13 versus 9, than did men subjects, 11 for both high and low ratings (see Figures 4 and 5). Looking at individual SPs, the pattern found in the previous dependent measures was still apparent. Specifically, androgynous SPs F-1, M-1, as well as M-2

were rated positively, while F-2 continued to be rated lower, especially by men subjects. Sex-type males were rated high in both situations, with one exception, M-2 was rated low by women subjects and medium by men judges in the instrumental situation. Feminine F-2's ratings again followed the predicted pattern of being rated low in the inconsistent situation and high in the consistent situation, while F-1's ratings did not follow this pattern.

Cross-sex females were rated in the direction of the prediction (more favorably in the instrumental situation than in the expressive situation), but not as strongly as expected. For cross-sex males, feminine M-2 was evaluated in the predicted direction (less favorably in the instrumental situation than in the expressive situation), while M-1 received low ratings in both situations by both men and women judges.

Undifferentiated females received high and medium ratings in both situations. Undifferentiated M-1 was rated low in every case, while M-2 was evaluated high in the instrumental situation, and low in the expressive situation.

While a number of the predictions for effectiveness as a communicator were in the predicted direction, a few SPs' ratings were not. Most notably, feminine M-1, and undifferentiated M-1 were consistently rated low regardless of the situation, androgynous F-2 was consistently rated low by men subjects and masculine males were unexpectedly rated high in the inconsistent situation.

Self-assurance and Comfort

A significant five-way interaction was also found for self-assurance and comfort, $F(3, 168) = 4.64$, $p < .004$ (see Table 5 for treatment means). Overall, men and women subjects assigned equal numbers of high ratings, (11 each), while women subjects gave more low ratings than men subjects (11 for women, 8 for men). Female SPs were more likely to be given high ratings than were male SPs, 13 versus 9, while male SPs were more likely to be given low ratings than female SPs. 11 versus 8, suggesting that female SPs were seen as more self-assured and comfortable than were the male SPs. Androgynous F-1 received all high ratings, while androgynous F-2 received high ratings in the expressive situation from both men and women subjects (her first time to receive high ratings). Androgynous males tended to be rated more self-assured and comfortable in this expressive situation than in the instrumental situation.

Sex-type males did not receive any low ratings, regardless of situation. The ratings for sex-type females did not conform to the predictions, although F-2 was rated high in the expressive situation as predicted, men subjects also rated her high in the inconsistent situation. Ratings for F-1 were lower in the consistent than in the inconsistent situation.

Cross-sex SPs' results also did not follow the predicted pattern. Women subjects rated feminine M-2 low in the instrumental situation and high in the expressive situation as predicted, but men subjects did not differentiate ratings between the two situations. Feminine

M-1 was rated low in every case. Masculine females were not rated more favorably in the instrumental situation than in the expressive situation. Their ratings did not seem to follow any pattern.

Undifferentiated M-2 received high ratings in the instrumental situation and lower in the expressive situation, while M-1 was rated low in all cases. Undifferentiated female SPs were rated higher in the expressive situation than in the instrumental situation by men subjects, but no differentiation was made between the two situations by women subjects.

In summary, female SPs were judged as more self-assured and comfortable than male SPs, with the exception that sex-type males were never rated low in this quality. Individual SPs still continued to receive consistent high ratings (eg. androgynous F-1) or low ratings (undifferentiated M-1), regardless of the situation. Less support was found for the predictions for this dependent measure of S x SR categories than for the previous three dependent measures.

Forcefulness and Dominance

A five-way interaction was found for forcefulness and dominance, $F(3, 168) = 8.02$, $p < .001$ (see Table 6 for treatment means). Overall, men and women subjects gave about the same number of high (9 by men and 10 by women subjects) and low (9 by both men and women subjects) ratings to SPs. However, female SPs received more of the high ratings (13 versus 6 given to male SPs) and fewer of the low ratings (6 for female SPs versus 12 for males SPs). This suggests that female SPs

were seen as more dominant and forceful than were male SPs by both men and women subjects. Androgynous F-1 was rated high in both situations, which for the first time was contrary to prediction. (Since androgynous persons are situationally flexible, it was predicted that they would be rated high in forcefulness and dominance in the instrumental situation, but low in the expressive situation where forcefulness and dominance is not an adaptable quality.) This consistently high rating of androgynous F-1 tends to support the notion that subjects were using a responses set of high ratings for this particular SP regardless of which dependent measure they were being asked to rate. Androgynous F-2 received ratings just the reverse of prediction; she was rated as more dominant and forceful in the expressive situation than in the instrumental situation. Androgynous M-2 SP's ratings were weakly in the predicted direction, while M-1's ratings tended not to vary from one situation to the other.

Sex-type males were rated in the predicted direction, M-2 received high ratings regardless of the situation and M-1 received medium ratings in both situations. Ratings of sex-type females did not vary from one situation to the other as predicted, however they were rated just about as forceful and dominant as were the sex-type males.

It was predicted that cross-sex males would be rated low in all cases, and they were rated low in every case except one. (M-2 was rated high by women subjects in the expressive situation.) It was predicted that masculine females would be rated high in all cases.

Men subjects rated them medium or high in both situations while women subjects rated the cross-sex females medium or low in both situations.

Undifferentiated M-1 was rated low in the instrumental and medium and high in the expressive situation; M-2 was rated high in the instrumental and medium in the expressive situation. Undifferentiated F-1 received low ratings of forcefulness and dominance in the instrumental situation and medium and high in the expressive situation, whereas F-2's ratings were not differentiated between the two situations.

In summary, contrary to existing stereotypes about forcefulness and dominance, female SPs were rated as more forceful and dominant than were the male SPs. Perhaps most interesting was the lack of supporting evidence for the notion that masculine males are more forceful and dominant than feminine females. There was also no support found for the prediction that androgynous SPs are more adaptive to the situational demands than other sex role types. Finally, this dependent measure seemed to offer convincing support that subjects were using a response set of blanket high ratings for androgynous F-1.

Warmth and Caring

For the warmth and caring dependent measure, the four-way interaction of sex of subject x sex of SP x sex role identity of SP x demand situation was significant, $F(3, 168) = 3.03$, $p < .03$ (see Table 7 for treatment means). The results for this measure of

femininity were slightly less complex since the two SPs in each S x SR category were not rated significantly different by subjects as was the case for the other five measures. The predictions for warmth and caring were the mirror image of the masculine dependent measure (see Figures 9 and 10). Overall, women subjects again gave more high ratings than did men subjects (7 versus 4), but both men and women subjects gave the same number of low ratings (5 each). Although male and female SPs received an equal number of the high ratings, the low ratings assigned to SPs interacted with sex of subject. Specifically, men subjects gave 4 of the 5 low ratings to female SPs, whereas women subjects gave 4 of the 5 low ratings to male SPs. This would suggest that one sees the opposite sex as less warm and caring as one's own sex.

Since androgynous people were expected to be attuned to the situation, it was predicted that androgynous SPs would be rated low in warmth and caring in the instrumental situation and high in the expressive situation. Androgynous males were actually rated high in warmth and caring regardless of the situation, and androgynous females were rated as more warm and caring in the instrumental situation than in the expressive situation. There was a trend for sex-type females to be rated as the androgynous persons were expected to be; high in warmth and caring in the expressive situation and low in the instrumental situation. Masculine males were rated by women subjects as androgynous SPs were expected to be rated, but this pattern did not hold true for ratings given by men subjects; they rated masculine

males medium in both situations.

Masculine females were rated as high by men subjects and medium by women subjects in the instrumental situation, and low by both men and women subjects in the expressive situation. Feminine males were seen by women as more warm and caring in the expressive situation. In other words, the women subjects rated the cross-sex males as was predicted for androgynous people. However men subjects did not follow this pattern but rated cross-sex males medium in both situations.

Undifferentiated males were rated low in both situations by men and women subjects, while females were rated higher in both situations.

In summary, for the measure of warmth and caring, the two SPs in each S x SR category were not evaluated differently from one another. Men and women subjects rated SPs of the opposite sex as lower than they did SPs the same sex as themselves. Contrary to prediction, androgynous SPs were not rated as more warm and caring in the situation designed to elicit feminine attributes. Instead ratings of sex-type females and cross-sex males indicated that these SPs were the ones seen as situationally flexible.

CHAPTER IV

DISCUSSION

Although previous nonverbal and sex role research (Bem, 1975; Benoist & Butcher, 1977; Carmen & LaFrance, 1980; Lippa, 1978; Weitz, 1976) suggests that naive judges evaluate SPs' nonverbal communication styles as a function of sex, sex role identity, and situational demands, the present study did not provide strong support for such a claim. The present hypotheses were predicted on two assumptions; that men and women subjects would not differentially evaluate SPs, and that the two SPs within each S x SR category would not be evaluated significantly different from one another. Neither of these assumptions were substantiated.[5] Overall, women subjects gave more high ratings (65) and fewer low ratings (48) than did men subjects (53 and 52). This finding indicates that the first assumption, that men and women subjects would rate SPs the same, was erroneous.

The failure to validate the second assumption is a critical problem for the present research. There are several reasons which might explain why the two SPs in each S x SR category were not evaluated similarly. First, the preliminary analyses revealed that the acquaintance level of individual subjects with each of the 16 SPs was not the same. There was evidence to suggest that when subjects actually knew SP, ratings were somewhat higher than when subjects reported knowing SP by sight or not knowing SP. Table 1 indicates

that subjects actually knew feminine M-2 and undifferentiated F-2 often than other SPs (although this overall chi square failed to reach an acceptable level of significance). While prior acquaintance level offers an explanation for why the two SPs in these 2 categories, (feminine males and undifferentiated females) were not rated similarly, it cannot be the sole explanation for why the second assumption was erroneous.

An examination of the other S x SR categories revealed that certain SPs received almost uniformly high or low ratings regardless of the dependent measure beging evaluated. For example, undifferentiated M-1 and feminine M-1 never received any high ratings and androgynous F-2 infrequently received high ratings. Conversely, androgynous F-1 never received any ratings except high, while feminine F-2 received only high ratings when in the expressive situation. Perhaps a second factor then might account for the two SPs in the same categories being rated differently is the possibility that certain SPs were viewed by subjects as more or less attractive than other SPs and therefore were given high or low ratings due to a halo or reverse-halo effect. A procedural step had attempted to control for this possibility. Judgments of SPs made by the experimenter and confederate yielded no extreme ratings of attractiveness or unattractiveness, although differences in attractiveness did exist among the SPs. It is possible that subjects may have been aware of those SPs whose physical attractiveness was more pleasant or less pleasant and allowed this to interfere with their ratings. This sort of phenomena might

explain the consistently high ratings received by androgynous F-1 and feminine F-1 (in the expressive situation) or the consistently low ratings received by undifferentiated M-1 and feminine M-1 and therefore the differences between these SPs and the other SP in each of these 4 categories.

Prior acquaintance level and the attractiveness explanation can account for why the two SPs in 5 of the 8 S x SR categories were not rated similarly. What of the remaining 3 categories (masculine males and masculine females and androgynous males)? An inspection of the ratings for the 5 dependent measures for which the second assumption was not true (Figures 2,3,5,6, and 8) reveals that in more than half (12 of 20) of the instances, the two masculine female SPs were rated the same. Similarly, the two masculine male SPs were rated the same slightly less than half of the time (9 out of 20). It is interesting to note that of the eight S x SR categories, the four SPs in the masculine categories (both masculine men and both masculine women) were the most likely of all two person S x SR categories to be rated the same. This would suggest that the masculine sex role identity is the most predictable of the four sex role identities. The last group for which no feasible explanation is available is the androgynous males. The two SPs in this S x SR group were only rated similarly 4 of 20 times.

Although the present study cannot offer firm support that reliable ratings of SPs can be made for all 6 dependent measures, there is evidence to suggest that some evaluations of SPs may be influenced to a small degree by nonverbal sex x sex role information.

Specifically, one of the 6 dependent measures, results for effectiveness as a communicator, came close to meeting the predictions. Perhaps this particular attribute was the most meaningful to judges viewing a stranger's nonverbal behavior, since communication is commonly thought of in terms of verbal as well as nonverbal aspects. It may be that asking for judgments of likability, intelligence, self-assurance and comfort, masculinity, and femininity are more difficult to extract from information based on only nonverbal behaviors.

Demand Situations

Some elucidation of the effectiveness of the demand situations selected to test SPs flexibility is in order. There is reason to believe that the meaningfulness of the instrumental situation might not have been as cogent to SPs as was desired. Stimulus persons were asked to present a one-sided argument on the pre-selected topic, "Should controversial speakers be hired with ASUM funds to speak on campus?" SPs were allowed to choose the side of the argument they wished to defend. A check on the manipulation indicated that SPs were aware that this conversation, more so than the expressive conversation, was designed to tap their ability to make a good case by being organized and convincing and to speak forcefully and logically. Although significant, the F-value was substantially smaller than the F- value testing their understanding of the demands of the expressive situation (11.87 versus 43.89). This fact alone is inconsequential. However, during the debriefing, SPs repeatedly volunteered that the instrumental conversation was much more difficult for them to become

involved in than was the expressive situation. SPs stated that they didn't really have a strong opinion one way or the other on this topic.

Subjects seemed to recognize SPs' lack of involvement in the instrumental situation as the overall treatment mean for the forcefulness and dominance dependent measure was quite low, 3.6, while the other 5 dependent measures had treatment means over 4.0. Another bit of evidence suggesting that the instrumental situation might not have worked as originally planned lies in the fact that contrary to the stereotype that men are more forceful and dominant than women, 13 female SPs were rated high and 6 were rated low, while only 5 male SPs were rated high but 12 were rated low. This pattern was true for evaluations made by both men and women subjects.

The results of an ineffective instrumental manipulation should, in theory, have no impact on evaluations of expressivity. However, it is possible that subjects were not able to distinguish that two different situations were present and therefore the subjects may have lacked discriminating information to help base judgments of the two different demand situations. The main effect for demand situation for all dependent measures except forcefulness and dominance, and effectiveness as a communicator (Table 8) were significant, indicating that subjects did differentiate between the two situations for all dependent measures except these two. However, since subjects did not differentiate between the two situations for the dependent measure, forcefulness and dominance, it does seem possible that along with feedback from SPs, the instrumental demand situation lacked meaning

for the SPs and did not provide them with a true test of their ability to present a strong argument.

Predictions

Finally, there is a possibility that the predictions of the present study were not based on solid theory. The predictions for ratings of SPs, for the most part, were based on the reasoning used by Bem and her colleagues in developing the androgynous model (eg. Bem, 1974, 1977; Bem & Lenny, 1976; Bem, Martyna, & Watson, 1976). Generally these researchers proposed that androgynous persons possess high numbers of both masculine and feminine qualities and therefore are able to adapt to the situational demands. Sex-type persons possess only qualities consistent with their sex (eg. masculine qualities if male, and feminine qualities if female) and therefore are more rigid and less able to adapt to the situational demands.

A number of researchers have suggested that both the BSRI and the PAQ have theoretical and methodological impurities which prove to be problematic in doing behavioral validation studies of the present nature (eg. Bohannon & Miles, 1979; Gross, Baltis, Small, & Erdwins, 1979; Locksley & Colton, 1979; Pedhazur & Tetenbaum, 1979). Although support for the androgyny model does exist, Bem herself had difficulty demonstrating that feminine women were in fact nurturant and that cross-sex women were not nurturant (Bem, 1975). Carmen and LaFrance (1980) had difficulty demonstrating that certain masculine nonverbal behaviors (interrupting) were more typical of masculine-type persons as opposed to androgynous or feminine-type persons. Wiggins and

Holtzmuller (1978) suggest that androgynous men may be more flexible in their interpersonal behavior than androgynous women, and Jones, Chernovetz, and Hansson (1978) propose that the flexibility and adjustment superiority of the androgynous person is rooted in the masculine component of androgyny and not due to the combination of masculinity and femininity. This last point dovetails with findings in the present study. First, the two masculine males were infrequently (twice) rated negatively by subjects (using the predictions of the androgynous person as a measure of positive ratings). Secondly, the ratings for the two SPs in both of the masculine S x SR categories (masculine males and masculine females) were most likely of all two person S x SR categories to be the same. Given the substantial number of studies, besides the present study, which failed to support Bem's (1974, 1977; Bem & Lenny, 1976; Bem, Martyna & Watson, 1976) behavioral predictions for androgynous and sex-type persons, it appears feasible that these predictions may need re-thinking.

Conclusion

Several possible overriding influences may be responsible for masking any abilities that naive judges have for making intricate evaluations of another person based on her/his nonverbal communication style. Further research in this area should involve a less complex design until these influences and the components of the design are better known. First, judges and SPs should not be previously acquainted. Second, the suspicion that some SPs' ratings were a function of how attractive judges perceived them needs further

investigation. Existing videotapes could be reshown to a new group of subjects. These subjects might simply be asked to evaluate SPs' attractiveness on a scale. These results of attractiveness could then be correlated with the ratings of the dependent measures for the present study to determine if an attractiveness relationship exists. Third, it might be advisable to create, through careful pilot work, a new and more meaningful instrumental demand situation; one in which SPs would truly be challenged to support their argument.

While the incorporation of these suggestions might lead to an eventual study in which it could be demonstrated that naive judges can make accurate ratings of SPs' attributes based on sex role identity and nonverbal communication, there is another issue that may still preclude finding support for this hypothesis. The failure to support the current predictions may not be an inadequacy of the present research, but may lie with the concept and measurement of androgyny. Prior to the development of the androgyny model, Constantinople (1973) enumerated 5 inadequacies of the concepts, masculinity and femininity, and their use in psychological research. Proponents of androgyny (Bem, 1974; Spence & Helmreich, 1978) attempted to deal with some of these inadequacies, most specifically the unidimensional, bipolar issue. However, other equally important inadequacies were not addressed, most specifically the explication of the terms from lay language for scientific study and the development of an instrument to tap the core concept of M-F rather than an empirically derived tool. None of the currently available measurement instruments of androgyny (BSRI, PAQ,

M and F-scales of the ACL and PRF ANDRO) assess the core concept of M-F. Perhaps this inadequacy is responsible for the incomplete support for behavioral validation of M-F found in a number of studies (eg. Bem, 1975; Carmen & LaFrance, 1980; Jones, Chernovitz, & Hansson, 1978; Wiggins, & Holzmuller, 1978).

Just how common the failure to support behavioral validation for androgyny is, is not known due to the bias of our publication process to favor confirming rather than nonconfirming information. However, it is known that there is not an overwhelming number of studies supporting behavioral validation of androgyny. Those studies that do find support for the model do not find support for all four categories of the androgyny model (androgynous, sex-type, cross-sex and undifferentiated).

Until the problems associated with the concept and measurement of M-F are addressed and clarified, further research of behavioral validation of M-F and androgyny seem futile.

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FOOTNOTES

[1]The procedure of this research pre-dated the development of the BSRI and PAQ. These authors used the Minnesota Attitude Survey, (Smith, Note 3) to determine sex-role identity.

[2]In the preliminary analyses, this particular SP was the most often identified by subjects as known 13.3% of the time, and known by sight 16.7%. A cursory inspection of the ratings suggests that when the subjects actually knew the SP ratings were higher, but ratings were not higher than do not know when subjects reported knowing SP by sight. Consequently, a slightly increased evaluation for this SP may be due to subjects' prior acquaintance level with him.

[3]Footnote 2 refers to this same individual.

[4]In the preliminary analyses, undifferentiated F-2 was the second most often identified SP by subjects as known 10%, and known by sight 15%. Again a cursory inspection of the ratings suggest that slightly higher ratings were assigned to SP when subjects actually knew her but those subjects who recognized her by sight did not assign different ratings than subjects who did not know her.

[5]The one exception to this conclusion is that the second assumption was valid for the warmth and caring dependent measure.

APPENDIX A

Personal Attributes Questionnaire

The items below inquire about what kind of a person you think you are. Each items consists of a *pair* of characteristics, with the letters A–E in between. For example:

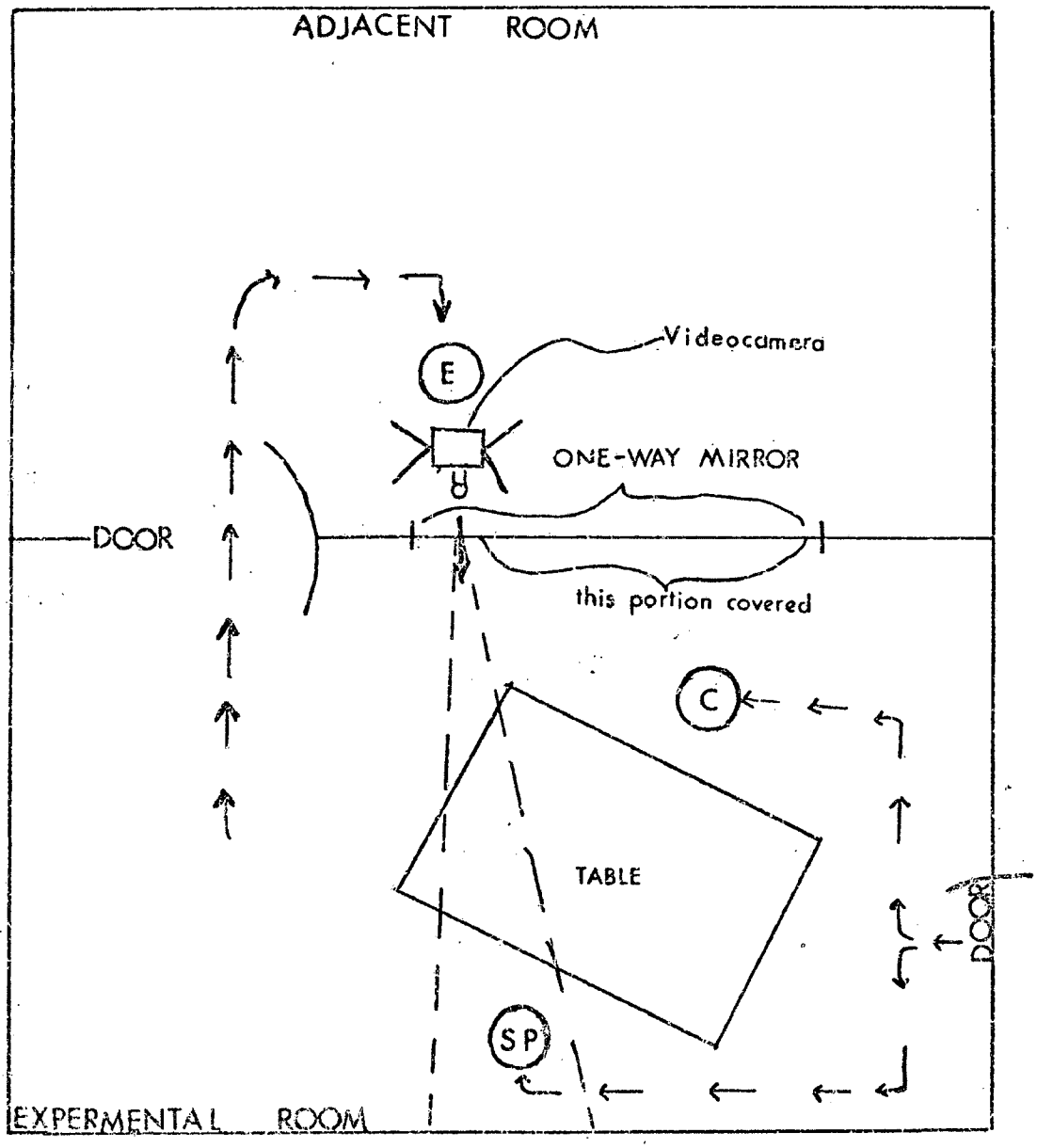
Not at all Artistic A....B....C....D....E Very Artistic

Each pair describes contradictory characteristics—that is, you cannot be both at the same time, such as very artistic and not at all artistic.

The letters form a scale between the two extremes. You are to chose a letter which describes where you fall on the scale. For example, if you think you have no artistic ability, you would choose A. If you think you are pretty good, you might choose D. If you are only medium, you might choose C, and so forth.

1. Not at all aggressive	A....B....C....D....E	*Very aggressive***
2. Not at all independent	A....B....C....D....E	*Very independent*
3. Not at all emotional	A....B....C....D....E	*Very emotional*
4. Very submissive	A....B....C....D....E	*Very dominant*
5. *Not at all excitable in a major crisis*	A....B....C....D....E	Very excitable in a major crisis
6. Very passive	A....B....C....D....E	*Very active*
7. Not at all able to devote self completely to others	A....B....C....D....E	*Able to devote self completely to others*
8. Very rough	A....B....C....D....E	*Very gentle*
9. Not at all helpful to others	A....B....C....D....E	*Very helpful to others*
10. Not at all competitive	A....B....C....D....E	*Very competitive*
11. Very home oriented	A....B....C....D....E	*Very worldly*
12. Not at all kind	A....B....C....D....E	*Very kind*
13. *Indifferent to others' approval*	A....B....C....D....E	Highly needful of others' approval
14. *Feelings not easily hurt*	A....B....C....D....E	Feelings easily hurt
15. Not at all aware of feelings of others	A....B....C....D....E	*Very aware of feelings of others*
16. *Can make decisions easily*	A....B....C....D....E	Has difficulty making decisions
17. Gives up very easily	A....B....C....D....E	*Never gives up easily*
18. *Never cries*	A....B....C....D....E	Cries very easily
19. Not at all self-confident	A....B....C....D....E	*Very self-confident*
20. Feels very inferior	A....B....C....D....E	*Feels very superior*
21. Not at all understanding of others	A....B....C....D....E	*Very understanding of others*
22. Very cold in relations with others	A....B....C....D....E	*Very warm in relations with others*
23. *Very little need for security*	A....B....C....D....E	Very strong need for security
24. Goes to pieces under pressure	A....B.. C....D....E	*Stands up well under pressure*

APPENDIX B


ADJACENT ROOM
E
Videocamera
ONE-WAY MIRROR
DOOR
this portion covered
C
TABLE
DOOR
SP
EXPERMENTAL ROOM

APPENDIX C

Dialogue to Stimulus Persons

(The SPs were called on the telephone the previous day and asked to participate in a study of exploratory research in communications. When SP arrived s(he) was met outside the experimental room by the experimenter and a confederate of the same sex as her/himself. The experimenter introduced herself and the confederate and SP to one another, and then invited them inside the experimental room. The confederate followed immediately behind the experimenter and chose the chair out of the camera range. When everyone was seated, the experimenter continued:

As I indicated to you over the telephone, I am doing research in the area of communications. I'm especially interested in the communication styles people use spontaneously. In a few minutes each of you will be participating in two short conversations with each other. I would like to make it clear to you that you are not to act in any particular way during these conversations. Just be yourselves. I will be giving you the topics to use in the conversations, but I want you to use your own ideas, words and expressions to develop the topics. Let me emphasize that there is no right or wrong way. There is no way to make a mistake as I am interested in your own communication style.

After I explain what I want you to talk about, I will be going into the next room. I will be able to hear your conversation, but I will be out of your way, so just forget that I am there. I will let you know when time is up and will give you the second topic for conversation. Do you have any questions so far?

(Go to the instrumental or expressive demand situation instructions.)

APPENDIX D

Dialogue for Instrumental Demand Situation

For this conversation, I would like you to discuss the pros and cons of the ASUM hiring controversial speakers using funds from student registration fees.

For example, you may be aware that last quarter David Duke was hired to speak at this university for $1400 + expenses. Duke is an ex-grand wizard of the KKK and is seen as controversial because of his position of advocating white supremacy and black inferiority. Some students felt that his position is not consistent with human rights and therefore he should not have been hired to speak. Other students objected to his being paid money that comes from their registration fees. On the other hand, another group of students felt very strongly that Duke had a right to speak here. They argued that if we only allow people to speak with whom we agree, we are violating one of the most fundamental principles of this country--the right of free speech.

What I want the two of you to do is to discuss the general question: Should controversial speakers be hired to speak on campus with funds from student fees? By controversial, I mean, for example, someone from the communist party, or a religious leader such as Reverend Sun Moon, or a radical comedian such as Dick Gregory.

One of you will argue pro or for controversial speakers being brought on campus and hired with student funds, and the other will argue con or against allowing controversial people to be hired with

student funds. During this time I will be evaluating your ability to make a good case, whether you argue for or against this issue. Specifically I will be looking for how well you organize your argument, how forceful and convincing you are in presenting your points and your general ability to speak logically.

In order that you both have approximately equal information in preparing your talk, I have briefly summarized some of the arguments for both positions - pro and con - for you to look at before you begin. Any points you feel are important can be included in your argument, and you do not have to include all the summarized points. You are encouraged to include any of your own ideas, but please stick to this topic. You are not required to present your entire argument in one speaking turn. You may follow any format that is natural for you. Your personal views on this topic are not the main focus of interest. This topic was chosen because you probably are familiar with arguments both pro and con.

I will ask one of you to select the side you wish to argue. In order to be as fair as possible, I have written on these two pieces of paper two different messages. One has the message inside, "Your choice". The person drawing this slip chooses the side of the argument they wish to argue. The other slip of paper has the message, "Speak first". The person drawing this slip begins the conversation. (The experimenter allows both SP and C to draw. Both slips say "Your choice", but the C announces that her/his slip says "Speak first". The experimenter turns to SP and says:)

That means you may choose the position you wish to argue. (E hands the appropriate summary sheet to SP and C.)

Take about two minutes to construct your argument.
(E leaves the room for 2 minutes and then returns and collects the summary sheets and says:)

Remember, you will be evaluated on how well you present a good case, how strong your arguments are, and how logical and forceful you are in presenting them. Try to be as persuasive as you can be. When you feel you are ready to begin, go ahead and start. I'll knock and come in when time is up. Do you have any questions?

APPENDIX E

Dialogue for Expressive Demand Situation

For this conversation I would like you to discuss with each other the experiences and feelings you had during the first few days and weeks at college. For example, for many people the experience of going to college is a milestone. Frequently it signifies a major change in lifestyle and having to adjust to many new things. Some people find the change exciting and filled with pleasant memories. However, a large number of people have some mixed emotions about leaving the security of old friends, family and familiar surroundings. Little inconveniences sometimes become big issues, such as not being able to find your classrooms or not seeing anyone you know all day.

What I want you to do is to exchange these experiences and memories about the feelings you had during the first few days and weeks of college and to try to understand and be sympathetic with those of your partner.

You are not being asked to exchange all your experiences in one speaking turn. Simply exchange experiences in any way that seems natural to you, but please stick to the topic - relaying the feelings you had associated with starting college.

I will be evaluating your ability to relate your own experiences, listening to your partner and to be sympathetic and understanding of her/his experiences.

In order that you both have a few minutes to reflect on this, I will give you a brief summary of what I am asking you for, and a couple minutes to think about what you will be saying. (Hand the summary to SP and the confederate, give them a moment and then conclude with...) Remember, I will be evaluating your ability to relay your own experiences and to be sympathetic.

APPENDIX F

1. A part of this experiment had to do with your ability to make a good case by being organized and convincing and speaking in a forceful and logical manner:

   a. To what extent do you feel that the first conversation you had was designed to elicit these characteristics?

Not at all Very much

_____:_____:_____:_____:_____:_____:_____

   b. To what extent do you feel that the second conversation you had was designed to elicit these characteristics?

Not at all Very much

_____:_____:_____:_____:_____:_____:_____

2. Another part of this experiment had to do with your ability to share your feelings with your partner and to be sympathetic and understanding:

   a. To what extent do you feel that the first conversation you had was designed to elicit these characteristics?

Not at all Very much

_____:_____:_____:_____:_____:_____:_____

   b. To what extent do you feel that the second conversation you had was designed to elicit these characteristics?

Not at all Very much

_____:_____:_____:_____:_____:_____:_____

3. What specific personality traits or behaviors do you believe were being evaluated?

_____

_____

_____

4. Overall, how comfortable were you during these conversations?

Not at all Very

_____:_____:_____:_____:_____:_____:_____

APPENDIX G

Subject-Experimenter Release Form

Two videotapes without sound have been made of me by Maureen Cole, graduate student at the University of Montana. I give my permission for those tapes to be used only for the purpose of research, and in an ethical manner which is consistent with both the guidelines set forth by the Institution Review Board and the Psychology Department. My name will not be used in any way with this research.

Signed _____ Date _____

I promise to use the above mentioned vodeotapes of _____ for only the purpose of research, in a manner consistent with the guidelines set forth by the Institutional Review Board and the Psychology Department.

Signed _____ Date _____

APPENDIX H

Dialogue for Subjects

Hi, my name is Maureen Cole. I'm doing research on the influences of nonverbal behavior on impression formation. In a few minutes, I'm going to show you videotapes of 16 different people and ask you to rate your impression of them in the booklet in front of you. Each page of the booklet has six kinds of impressions that you are to rate for each of the people you will see.

I will run the videotape of one person, then stop the projector and you will have a couple of minutes to indicate your impressions on the six scales about that person. When you have answered all the questions for that person, turn the page of the booklet to the next form which is identified at the top as Person #2. I will then run the next tape of the second person and you will rate your impression of that person on the six scales. We will continue this until you have rated all 16 people. (Pause) Does that seem clear so far?

Let's take a look at the forms that you will fill out on each person. (See Appendix I). It is possible that you may actually know this person. If you do, please circle YES. Or perhaps you don't really know them but have seen them before enough to recognize them by sight. If this is the case, circle KNOW BY SIGHT. If the person is a stranger to you, circle NO. Regardless of whether or not you know the person, go ahead and answer the rest of the questions on the form.

Next there are six scales. Each scale is to be marked by placing an X on the appropriate blank space. The judgments that you assign will be based on your subjective reaction. For example, you will see the first videotape of a person. The first question to be answered is, How effective as a communicator do you think this person is? Notice that the scale below has seven blanks ranging from "Poor communicator" to "Excellent communicator."

If you feel strongly that this person is a poor communicator, place an X on the blank to the extreme left. However if you feel strongly that this person is an excellent communicator, place an X on the blank to the extreme right. If you feel less strongly about this person's lack of ability or ability to communicate, place an X on the 2nd or 6th space. If you have a slight feeling about this person's lack of ability or ability to communicate, you would mark an X in the 3rd or 5th blanks. The direction which you check depends upon which of the two ends of the scale seems more characteristic of your impression of the person. If you consider your impression netural on the scale, both sides equally associated with your impression, place your mark on the middle space. Please try to make a commitment one direction or the other and leave a rating of the middle space for those truly neutral impressions. (The E will have a sample scale on the blackboard to demonstrate while talking.)

The second question asks for your impression of how warm and caring you think the person is. Use the same guidelines as above to mark this scale. If you agree strongly with "not at all warm and

caring" or "very warm and caring" place the X in spaces 1 or 7. If you feel less strongly mark spaces 2 or 6. If only slightly, mark spaces 3 or 5, and if neutral mark the 4th space.

The third question asks you to assess how self-assured/comfortable you believe the person is. The fourth question asks how forceful and dominating you feel they are. The fifth question asks how intelligent you believe they are. The sixth question asks you to rate how much you think you would like this person.

For each person you will make all six ratings. You will have two minutes before the next videotape. You should have plenty of time to make your ratings. Finish marking all six scales of your impressions of one person before the videotape of the next person is shown. You will not be able to go back to complete ratings. There are 16 videotapes of different people and you are to make six ratings of your impressions for each of those people. Do you have any questions? (Pause)

Here is the videotape of the first person.

Person Number

Do you know this person (Circle one)

YES KNOW BY SIGHT NO

For each of the following questions please place an X on the space indicating your impressions of this person.

1. How effective as a communicator do you think this person is?

_____:_____:_____:_____:_____:_____:_____

Poor Communicator — Excellent Communicator

2. How warm and caring do you think this person is?

_____:_____:_____:_____:_____:_____:_____

Not at all warm/caring — Very warm/caring

3. How self-assured and comfortable do you think this person is?

_____:_____:_____:_____:_____:_____:_____

Not at all self-assured/comfortable — Very self-assured/comfortable

4. How forceful and dominating do you think this person is?

_____:_____:_____:_____:_____:_____:_____

Not at all forceful/dominating — Very forceful/dominating

5. How intelligent do you think this person is?

_____:_____:_____:_____:_____:_____:_____

Not at all intelligent — Very intelligent

6. How much do you think you would like this person?

_____:_____:_____:_____:_____:_____:_____

Would not like — Would like very much

Table 1. Level of subjects' prior acquaintance with SPs.

SP (sex x sex role x SP's identity)	Don't know	Know by sight	Know
Androgynous Male 1	85.0	10.0	5.0
Androgynous Male 2	88.3	11.7	5.0
Masculine Male 1	90.0	6.7	3.3
Masculine Male 2	88.4	8.3	3.3
Feminine Male 1	95.0	1.7	3.3
Feminine Male 2	70.0	16.7*	13.3
Undifferentiated Male 1	90.0	8.3	1.7
Undifferentiated Male 2	85.0	13.3	1.7
Androgynous Female 1	91.6	6.7	1.7
Androgynous Female 2	88.3	10.0	1.7
Masculine Female 1	91.7	6.7	1.7
Masculine Female 2	76.7	21.67	1.7
Feminine Female 1	91.6	6.7	1.7
Feminine Female 2	83.3	10.0	6.7
Undifferentiated Female 1	96.7	0.0	3.3
Undifferentiated Female 2	75.0	15.0*	10.0
Overall	86.0	10.0	4.0

Note. For each SP, n = 60. * indicates that the two SPs in each S x SR category differ at the .01 level.

Table 2. Likability treatment means for five-way interaction

Sex of Subject	Videotape Number	Sex of SP	Demand Situation	Sex Role Identity of Stimulus Person: Androgynous	Masculine	Feminine	Undifferentiated
Men	1	M-1	I	5.13	4.67	4.33	3.00
		M-2	E	4.60	4.67	4.27	3.93
		F-1	I	5.33	4.80	3.87	3.33
		F-2	E	4.13	4.93	5.47	5.00
	2	M-2	I	4.00	3.93	4.87	4.87
		M-1	E	5.67	4.33	3.87	3.20
		F-2	I	3.67	4.60	3.93	4.00
		F-1	E	5.13	3.67	3.47	4.80
Women	1	M-1	I	4.73	4.33	3.67	3.73
		M-2	E	4.80	4.93	5.07	3.60
		F-1	I	5.20	4.67	5.20	4.20
		F-2	E	4.13	3.87	5.80	5.27
	2	M-2	I	4.40	4.47	5.13	5.40
		M-1	E	5.33	5.07	4.73	4.13
		F-2	I	4.40	4.13	3.53	4.93
		F-1	E	5.67	4.40	4.40	5.40

Note: M = male; F = female; I = instrumenta; E = expressive.
Likability scale ratings from 1-7.

* Overall mean = 4.50

Table 3. Intelligence treatment means for five-way interaction.

Sex of Subject	Videotape Number	Sex of SP	Demand Situation	Sex Role Identity of Stimulus Person: Androgynous	Masculine	Feminine	Undifferentiated
Men	1	M-1	I	4.73	5.33	4.60	3.60
		M-2	E	4.00	5.67	4.73	4.47
		F-1	I	5.87	5.07	4.80	3.93
		F-2	E	3.93	4.87	5.33	5.20
	2	M-2	I	4.40	5.07	5.33	5.27
		M-1	E	5.80	4.80	4.33	3.80
		F-2	I	3.53	4.73	4.13	5.00
		F-1	E	5.53	3.93	3.67	5.33
Women	1	M-1	I	4.60	5.13	3.87	3.73
		M-2	E	4.73	6.20	5.80	4.20
		F-1	I	6.00	4.87	5.07	3.87
		F-2	E	4.07	3.93	5.80	5.60
		M-2	I	4.67	5.40	4.93	5.73
		M-1	E	5.47	5.13	4.73	4.73
		F-2	I	4.40	4.67	3.93	5.33
		F-1	E	5.73	4.60	4.73	5.53

Note: M = male; F = female; I = instrumental; E = expressive
Intelligence scale ratings from 1-7.

* Overall mean = 4.81

Table 4. Effectiveness as a Communicator treatment means for five-way interaction.

Sex of Subject	Videotape Number	Sex of SP	Demand Situation	Sex Role Identity of Stimulus Person: Androgynous	Masculine	Feminine	Undifferentiated
Men	1	M-1	I	4.47	5.20	2.53	3.00
		M-2	E	4.40	5.20	4.27	3.27
		F-1	I	5.93	4.47	3.93	4.67
		F-2	E	3.53	3.60	5.53	5.60
	2	M-2	I	5.07	3.87	3.80	5.73
		M-1	E	5.40	4.73	2.80	3.13
		F-2	I	3.73	4.00	3.00	4.40
		F-1	E	4.80	3.60	3.93	4.40
Women	1	M-1	I	4.40	5.27	2.40	3.07
		M-2	E	4.93	6.07	5.53	2.60
		F-1	I	6.20	4.13	4.73	4.60
		F-2	E	4.27	2.40	5.60	5.80
	2	M-2	I	4.53	3.80	3.73	5.33
		M-1	E	4.73	4.67	3.47	3.67
		F-2	I	4.60	4.00	2.93	5.33
		F-1	E	5.20	4.13	4.53	4.53

Note: M = male; F = female; I = instrumental; E = expressive
Effectiveness as a Communicator scale ratings from 1-7.

* Overall mean = 4.33

Table 5. Self-assurance and Comfort treatment means for five-way interaction.

Sex of Subject	Videotape Number	Sex of SP	Demand Situation	Androgynous	Masculine	Feminine	Undifferentiated
Men	1	M-1	I	4.33	4.73	3.00	3.47
		M-2	E	4.13	5.53	3.73	3.67
		F-1	I	5.87	3.93	4.07	3.40
		F-2	E	4.53	4.33	4.80	3.93
	2	M-2	I	4.07	4.33	4.07	5.60
		M-1	E	5.20	4.53	3.20	2.33
		F-2	I	3.13	3.93	4.67	3.60
		F-1	E	5.67	3.80	3.33	5.00
Women	1	M-1	I	4.00	4.07	2.33	2.73
		M-2	E	4.53	6.40	4.47	2.93
		F-1	I	6.07	3.33	4.40	3.73
		F-2	E	5.27	2.20	5.67	4.20
	2	M-2	I	3.07	4.33	3.40	4.73
		M-1	E	3.87	4.00	3.27	2.67
		F-2	I	3.20	4.13	3.67	4.80
		F-1	E	5.13	4.47	3.13	4.80

Note: M = male; F = female; I = instrumental; E = expressive
Self-assurance and Comfort scale ratings from 1-7.

* Overall mean = 4.12

Table 6. Forceful and Dominant treatment means for five-way interaction.

Sex of Subject	Videotape Number	Sex of SP	Demand Situation	Androgynous	Masculine	Feminine	Undifferentiated
Men	1	M-1	I	3.33	3.93	2.27	2.87
		M-2	E	2.80	4.67	2.87	3.47
		F-1	I	4.87	3.13	3.60	3.00
		F-2	E	4.27	3.87	4.20	3.67
	2	M-2	I	3.07	3.93	2.93	5.13
		M-1	E	3.67	3.60	2.67	3.07
		F-2	I	2.80	4.00	4.67	3.73
		F-1	E	4.60	3.47	2.93	4.47
Women	1	M-1	I	2.53	3.47	1.87	2.87
		M-2	E	2.93	5.20	4.47	3.20
		F-1	I	5.13	2.47	3.67	2.60
		F-2	E	4.33	2.00	4.87	4.87
	2	M-2	I	3.20	4.33	2.87	4.67
		M-1	E	3.47	3.47	2.53	3.67
		F-2	I	3.13	3.60	3.40	5.33
		F-1	E	4.27	3.47	3.07	3.73

Note: M = male; F = female; I = instrumental; E = expressive.
Forceful and Dominance scale ratings from 1-7.

* Overall mean = 3.60

Table 7. Warmth and Caring treatment means for four-way interaction.

Sex of Subject	Sex of SP	Demand Situation	Sex Role Identity of Stimulus Person: Androgynous	Masculine	Feminine	Undifferentiated
Men	M	I	5.63	4.50	4.83	4.20
		E	6.10	4.57	4.97	4.00
	F	I	5.03	5.07	3.53	4.97
		E	4.33	4.33	5.50	5.03
Women	M	I	5.47	4.30	4.43	4.33
		E	5.53	5.20	5.10	3.83
	F	I	5.23	4.97	4.57	4.70
		E	4.50	4.23	5.83	5.50

Note: M = male; F = female; I = instrumental; E = expressive.
Warmth and Caring scale ratings from 1-7.

* Overall mean = 4.82.

Table 8. Partial ANOVA Tables for Dependent Measures

Source of Variance	df	SS	MS	F	Prob.
Likability					
D	1	12.38	12.38	5.49	.021
PDR	3	48.47	16.16	13.25	.001
STPDR	3	10.73	3.58	3.93	.034
Intelligence					
D	1	5.40	5.40	5.00	.028
PDR	3	32.85	10.95	11.64	.001
STPDR	3	8.12	2.71	2.88	.037
Effectiveness as a Communicator					
D	1	2.82	2.82	1.45	NS
PDR	3	72.50	24.17	14.78	.001
STPDR	3	15.17	5.06	3.09	.028
Self-assurance and Comfort					
D	1	8.44	8.44	4.90	.030
PDR	3	57.28	19.09	10.93	.001
STPDR	3	24.33	8.11	4.64	.004
Forcefulness and Dominance					
D	1	6.83	6.83	3.78	NS
PDR	3	27.39	9.13	5.11	.002
STPDR	3	42.96	14.32	8.02	.001
Warmth and Caring					
D	1	7.70	7.70	6.42	.014
PDR	3	69.68	23.23	18.77	.001
STPDR	3	11.25	3.75	3.03	.030
	3	.95	.32	.26	NS

Note: D = Demand situation; P = Sex of SP; R = Sex role identity of SP; T = Tape number; S = Sex of subject.

Figure 1. Likability and Intelligence Predictions

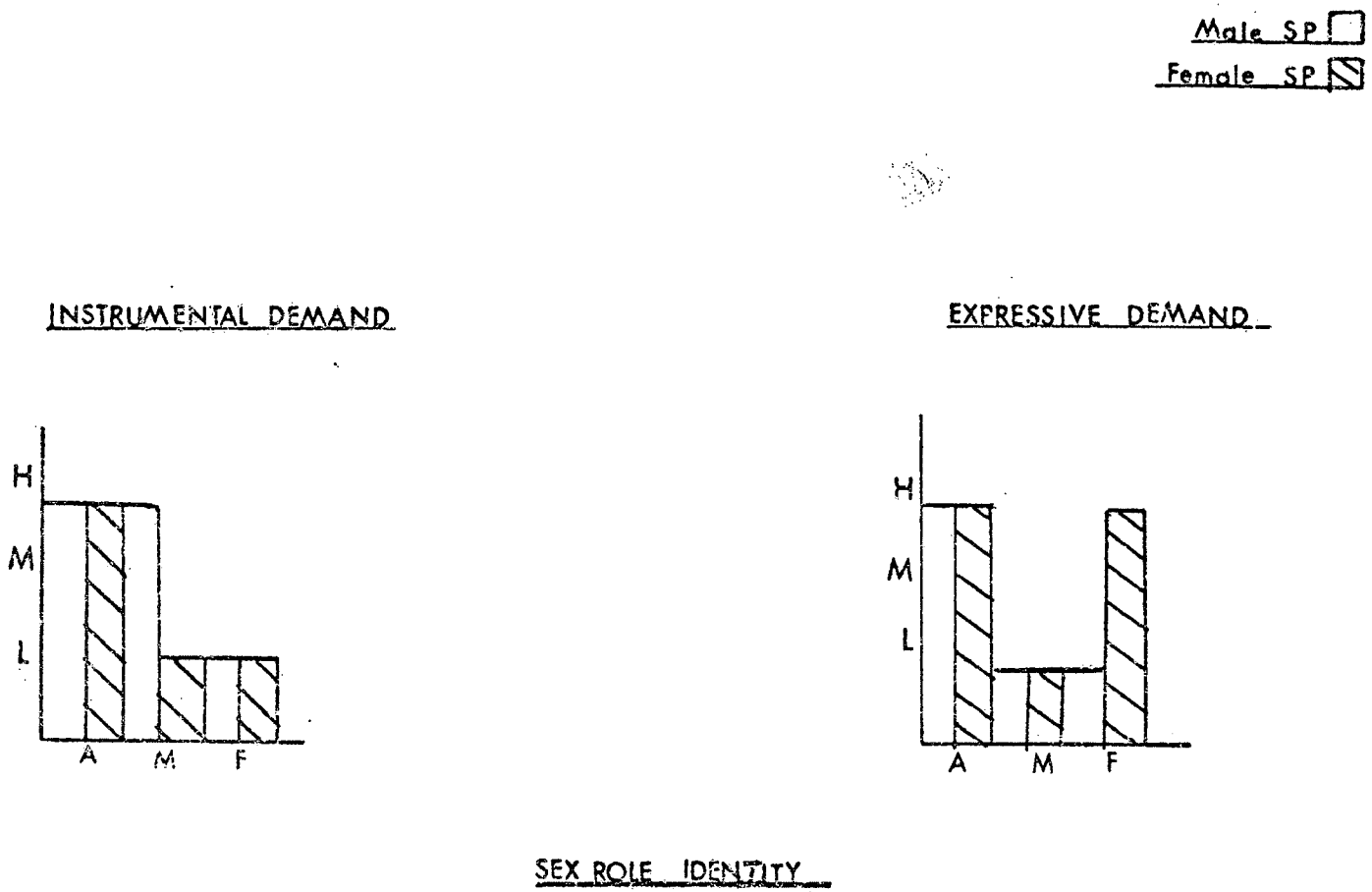


Figure 2. Likability 5-way Interaction Trends

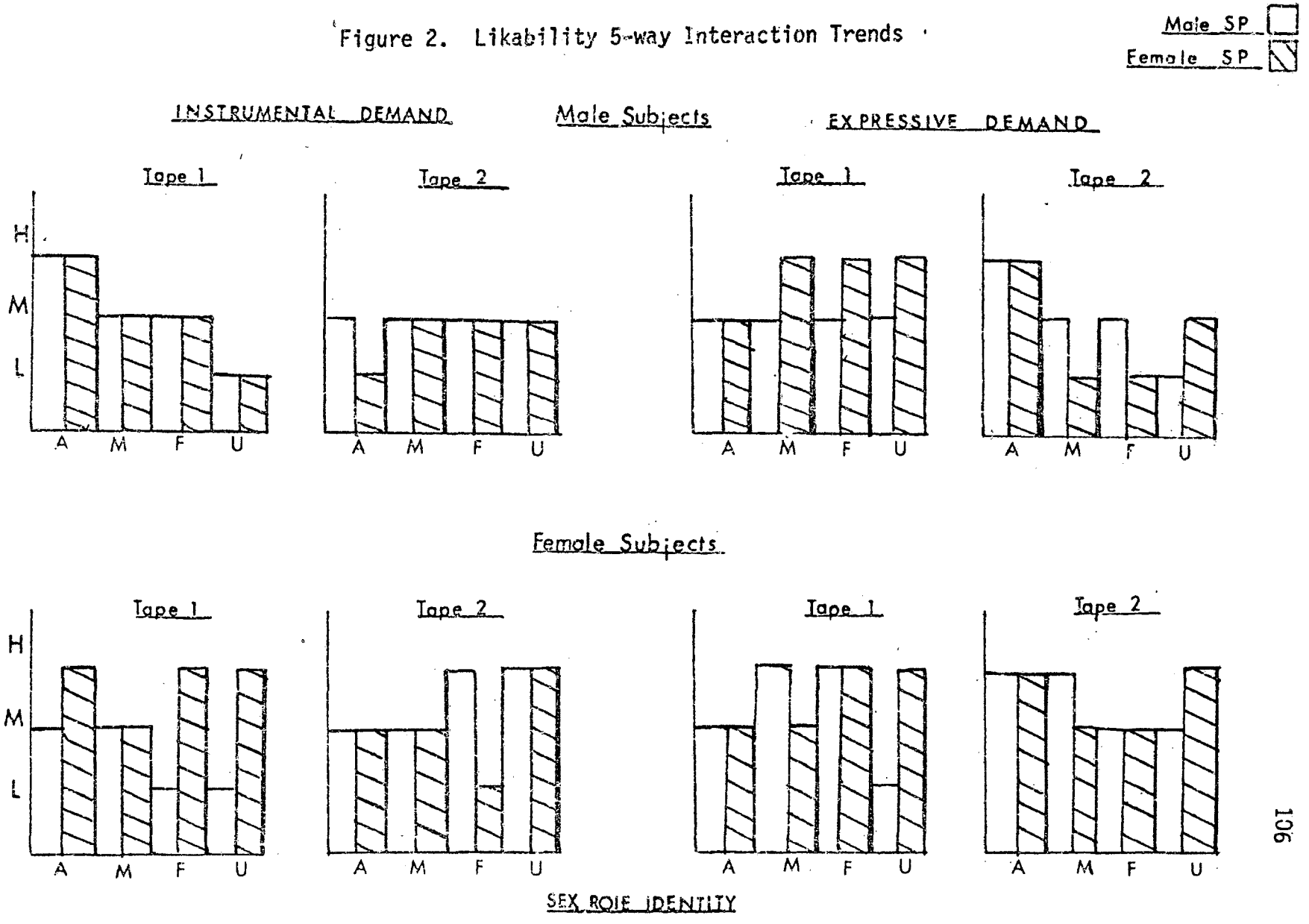


Figure 3. Intelligence 5-way Interaction Trends

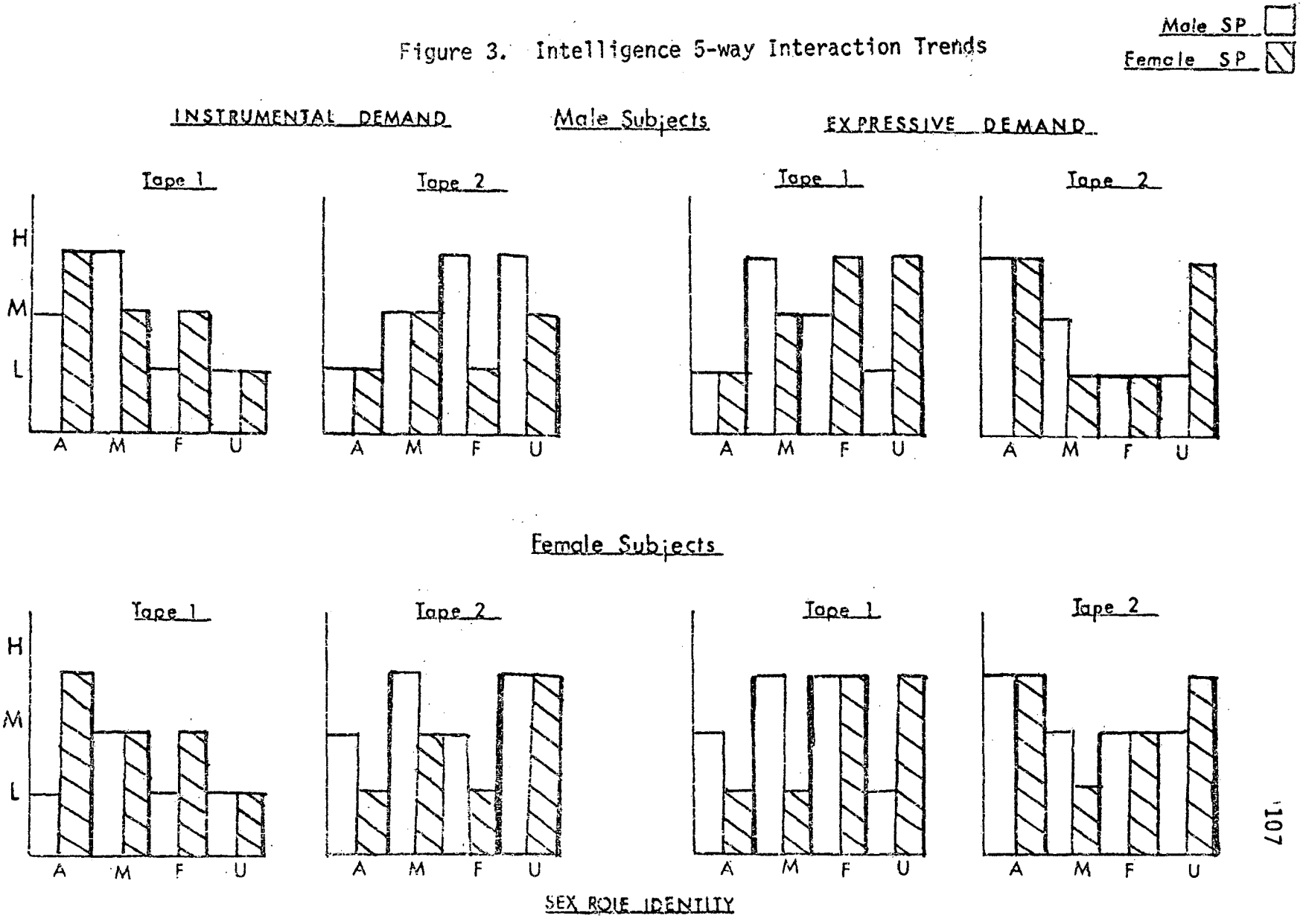


Figure 4. Effectiveness as a Communicator and Self-Assurance and Comfort Predictions

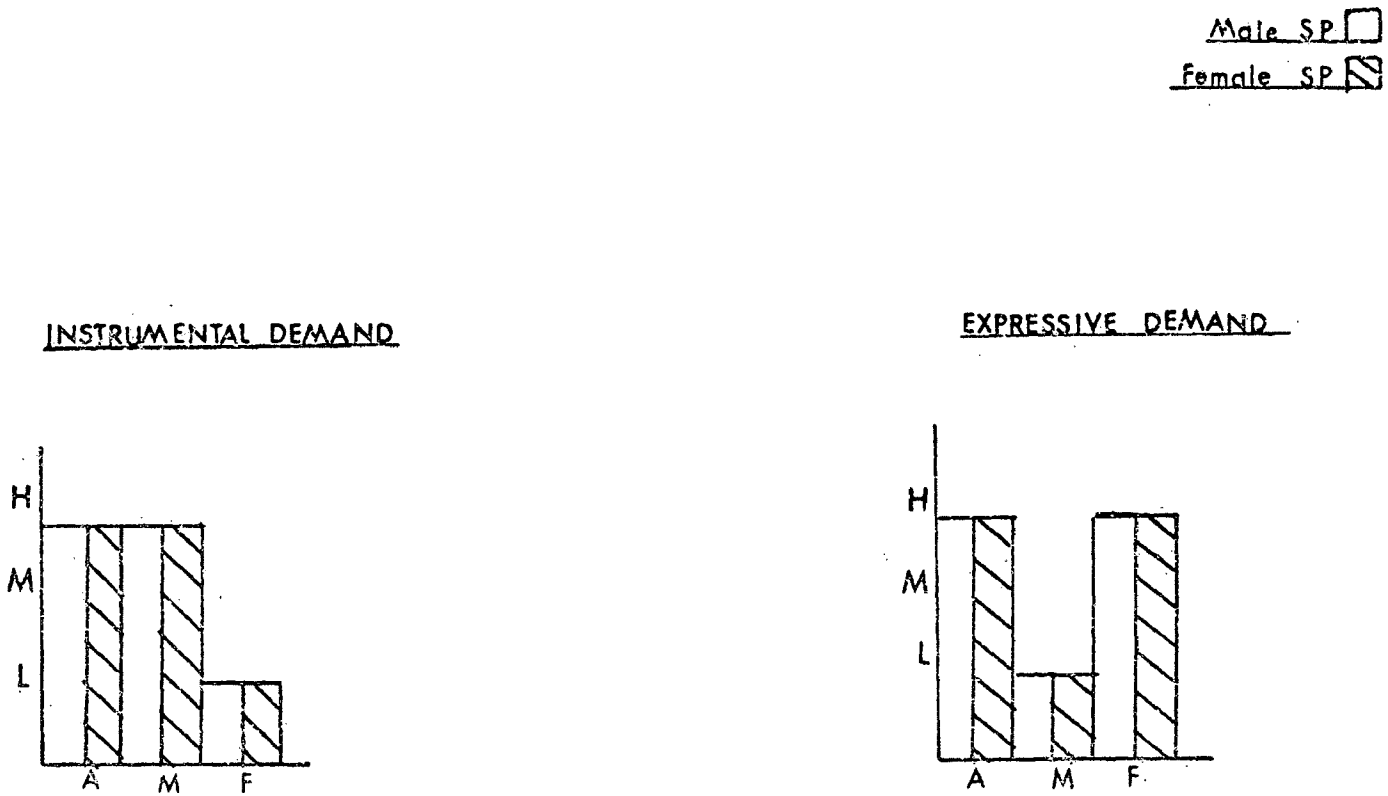
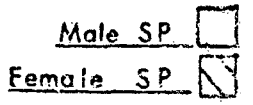


Figure 5. Effectiveness as a Communicator 5-way Interaction Trends



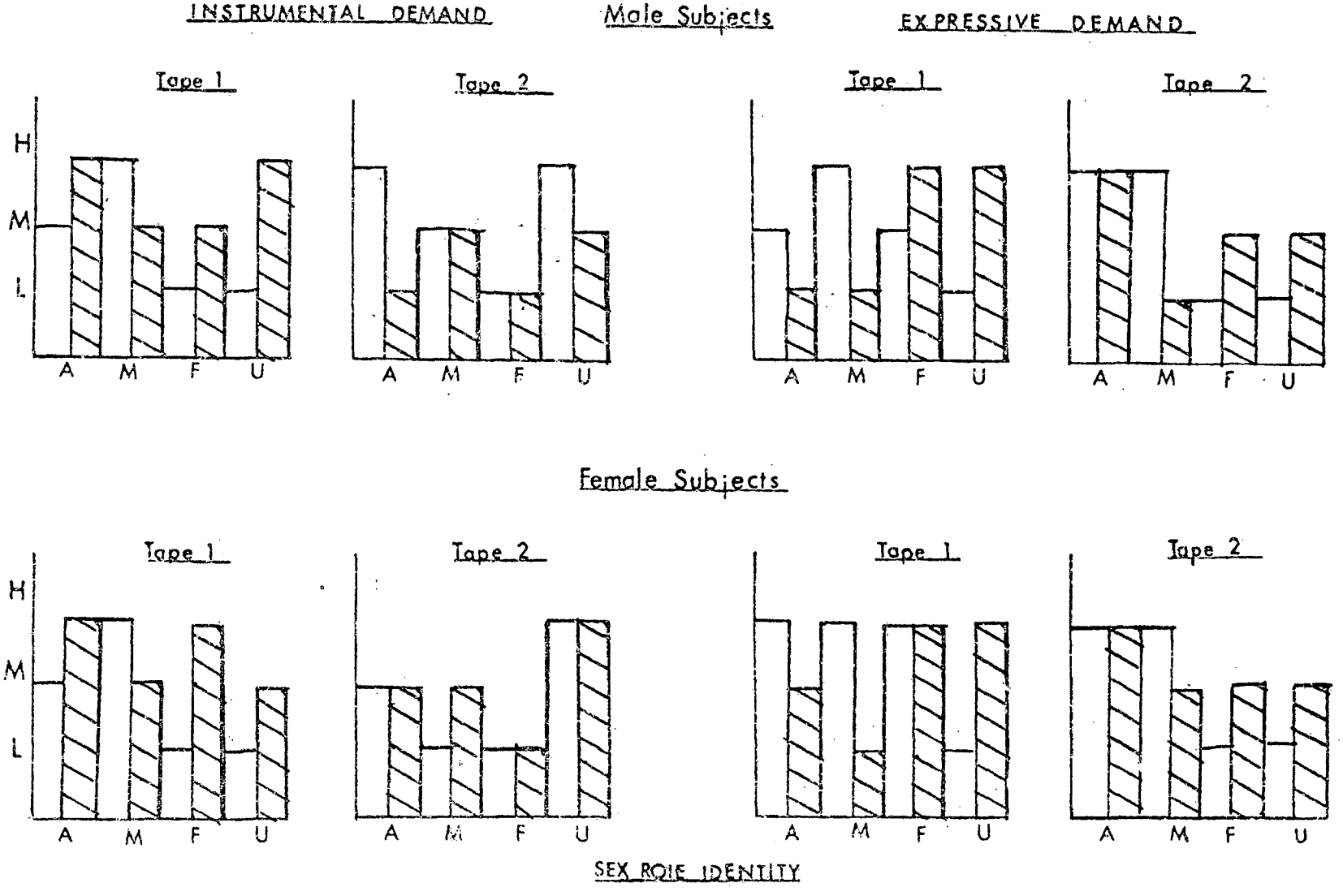


Figure 6. Self-assurance and Comfort 5-way Interaction Trends

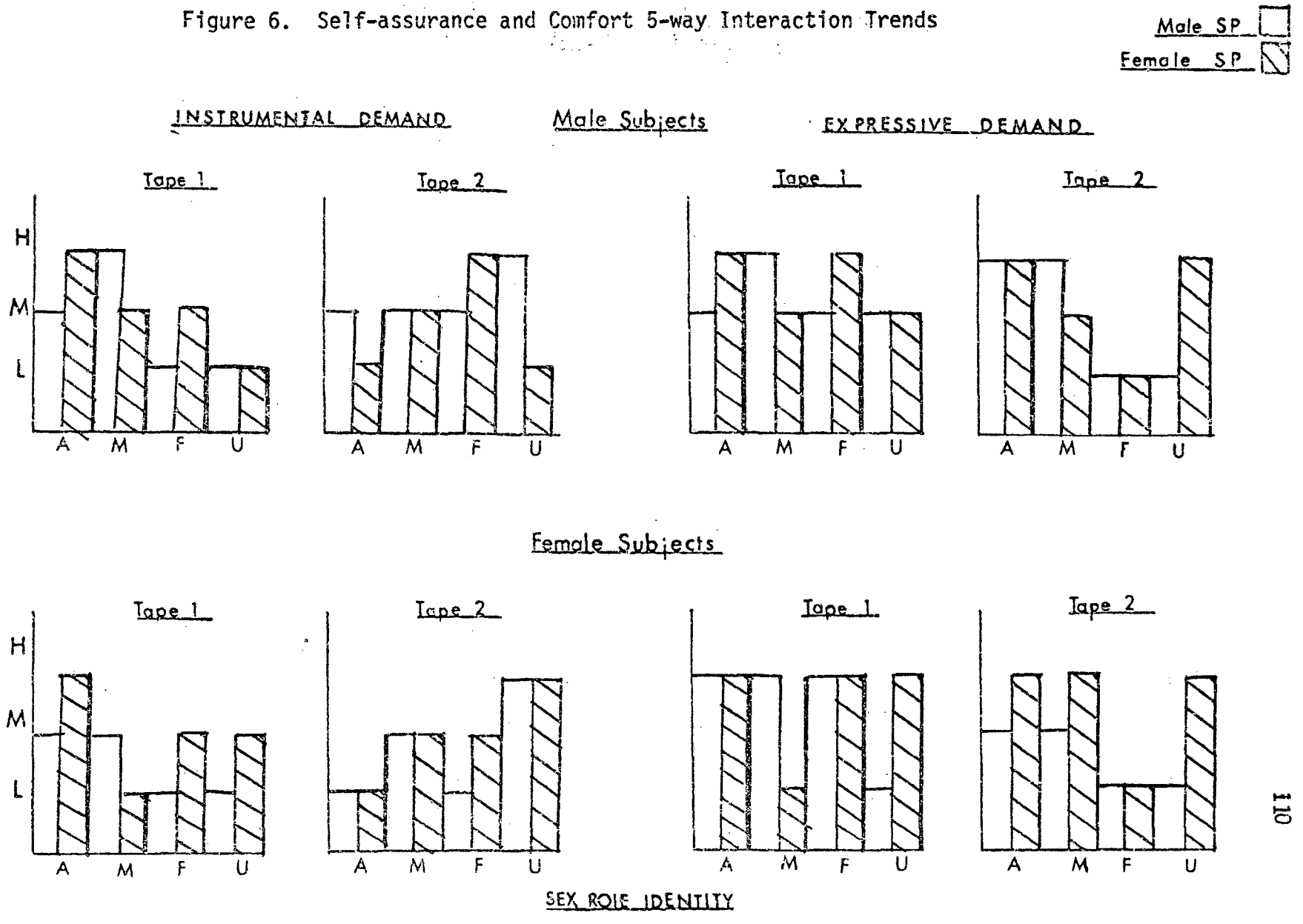


Figure 7. Forcefulness and Dominance Predictions

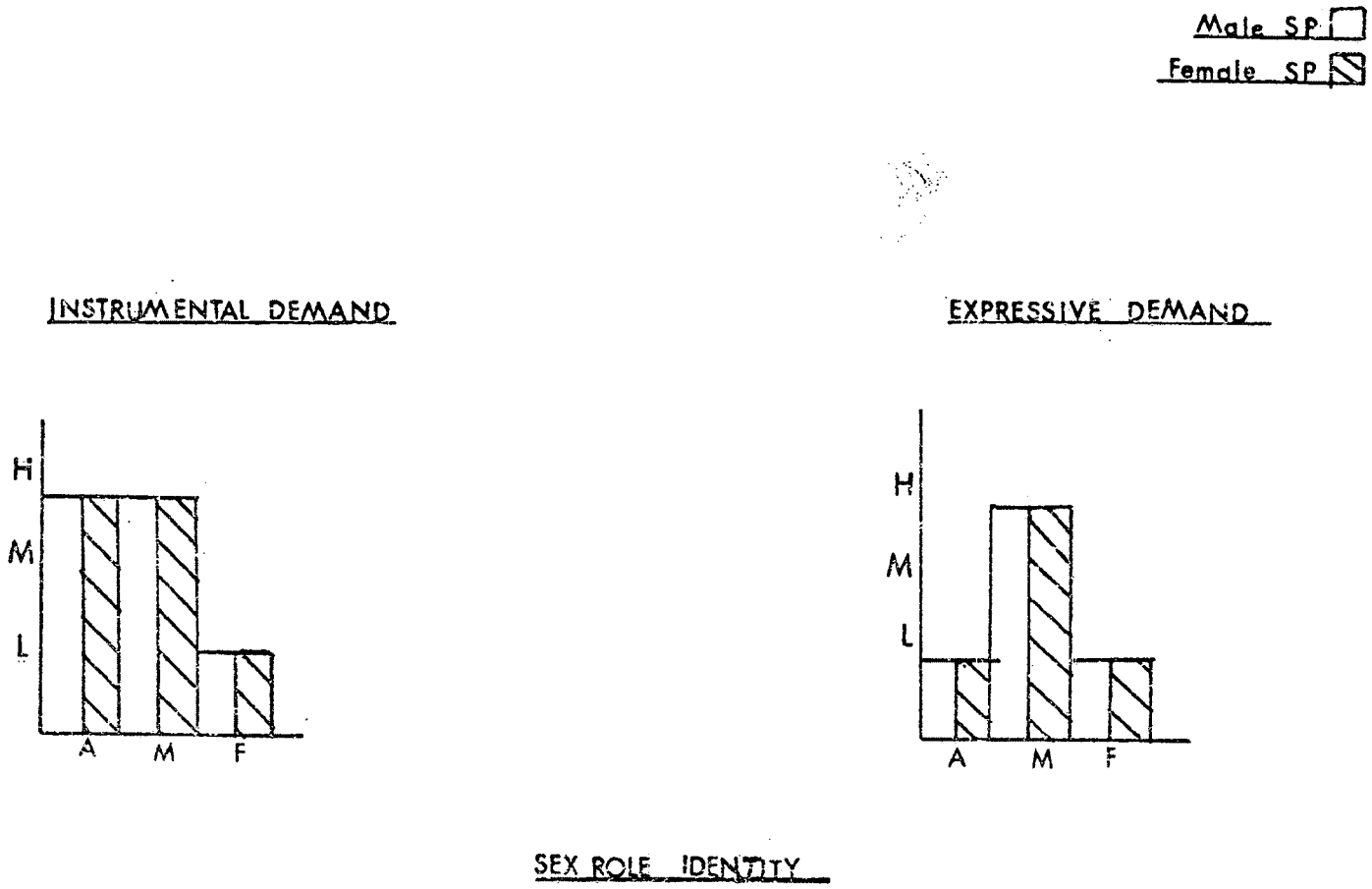


Figure 8. Forcefulness and Dominance 5-way Interaction Trends

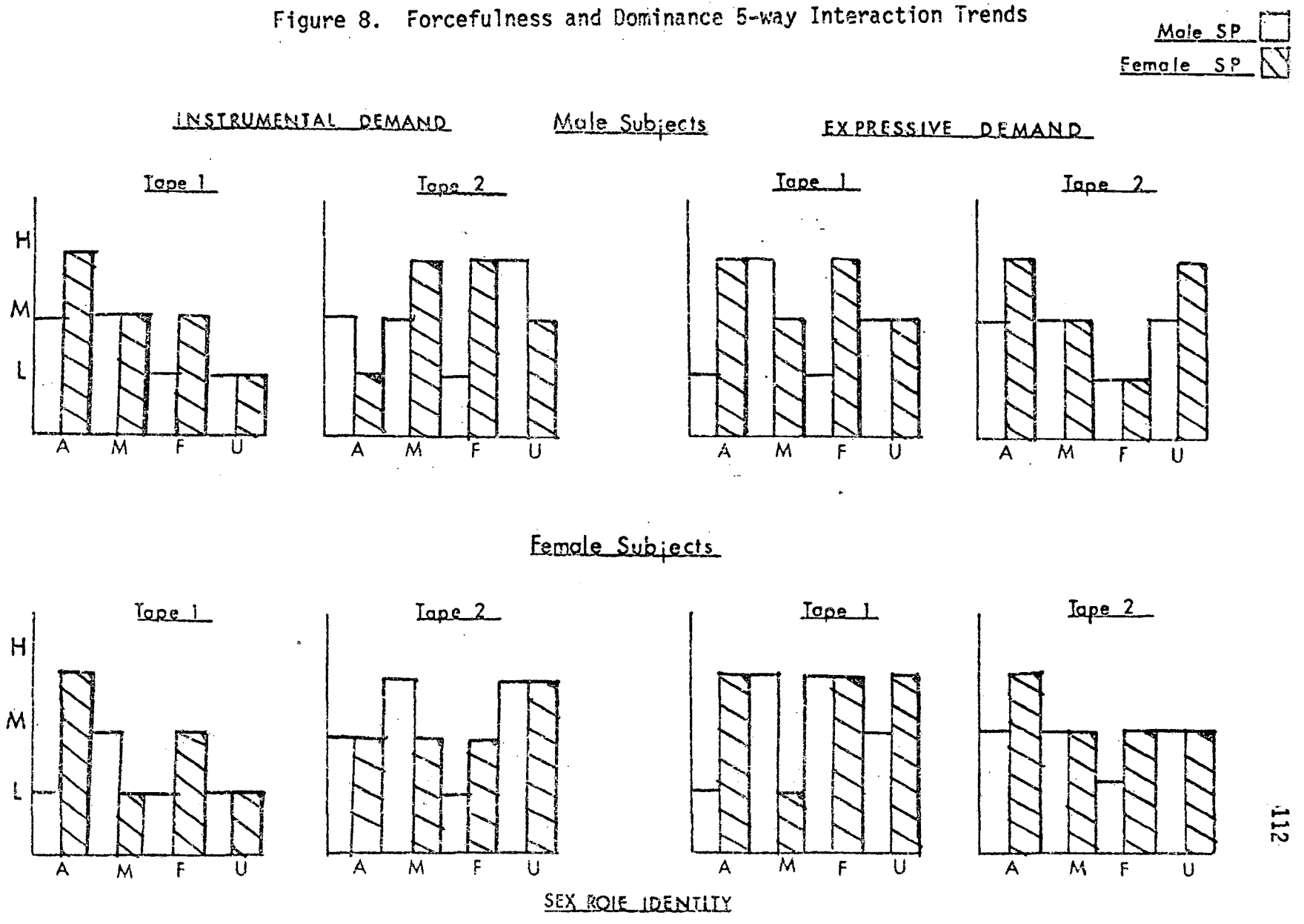


Figure 9. Warmth and Caring Predictions

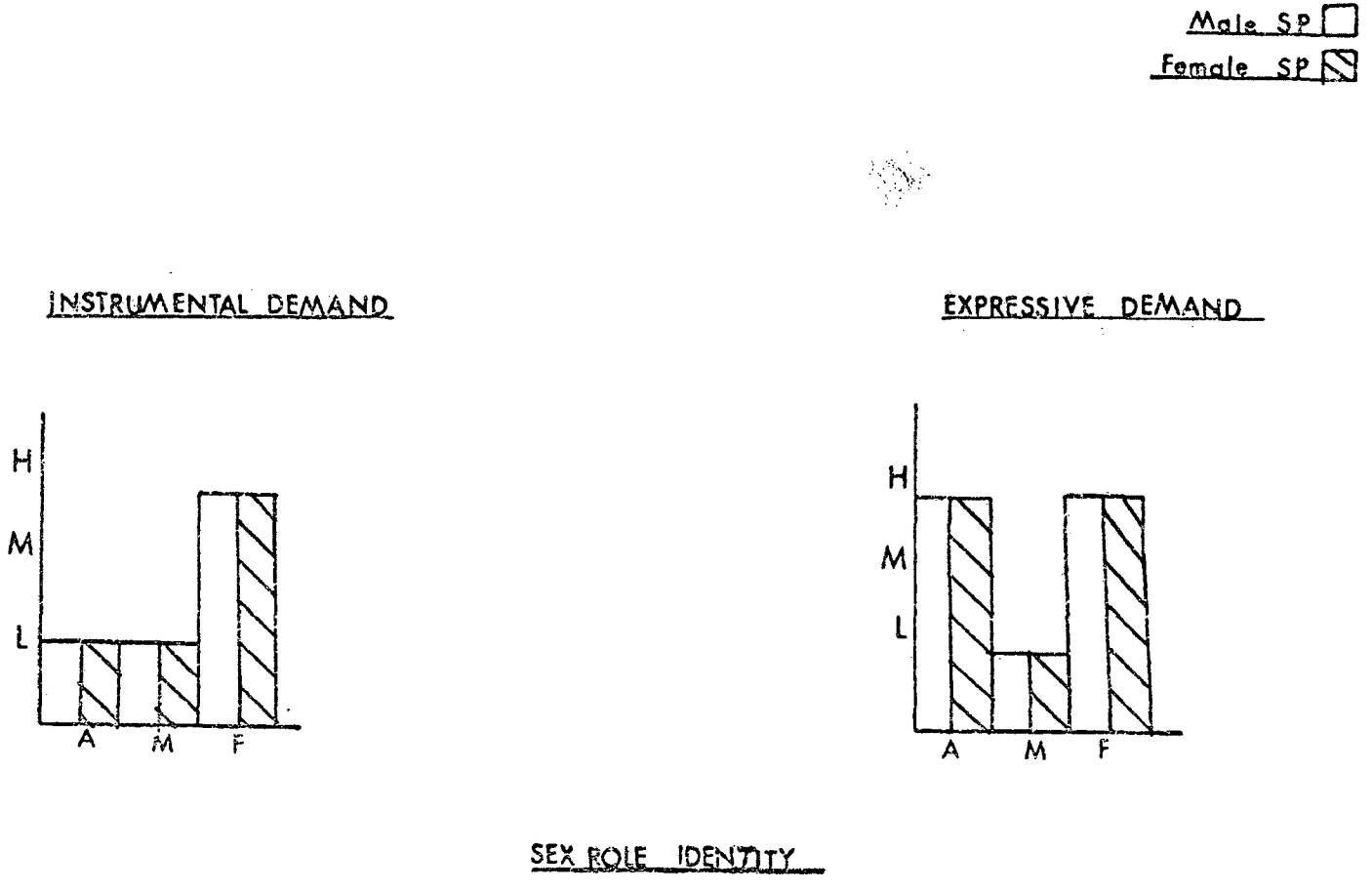


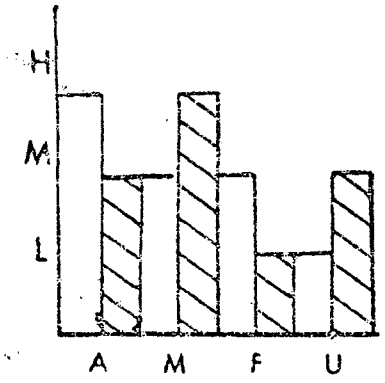
Figure 10. Warmth and Caring 4-way Interaction Trends

Male SP
Female SP

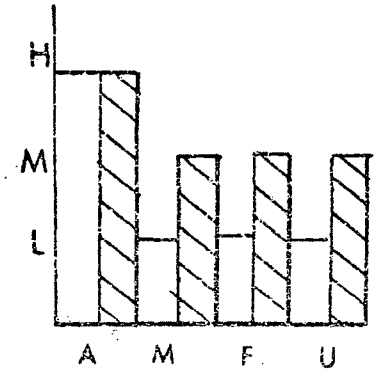
INSTRUMENTAL DEMAND

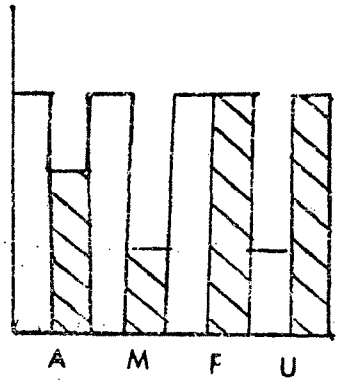
Male Subjects

EXPRESSIVE DEMAND



Female Subjects





SEX ROLE IDENTITY