The reinforcing functions of androgyny partial reinforcement

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THE REINFORCING FUNCTIONS OF ANDROGYNY:
PARTIAL REINFORCEMENT

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Patricia A. Bartell
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ABSTRACT

In the context of an escape conditioning paradigm, subjects listened to a male confederate give traditional, "masculine" responses to questions posed by an experimenter. Subjects then performed the instrumental response, the reinforcement for which was the opportunity to hear another male confederate deliver responses that were "androgynous" in content. As predicted, the speed of the instrumental response was an increasing function of the number of reinforced trials. Additionally, subjects who received only partial reinforcement responded slower than subjects whose instrumental response was continuously reinforced. Self-report measures indicated that subjects judged the androgynous speaker to be more likable and more moral, and found his comments to be more honest and more appropriate compared to the masculine speaker. Discussion focused on the usefulness of escape conditioning methodology for investigations of complex social phenomenon.
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INTRODUCTION

Sex-role research has remained a major interest among social psychologists and has undergone dramatic changes in the past three decades. Perhaps this literature is simply reflective of our continuing concern with the ways in which masculinity and femininity impact our lives. But certainly, the observable shift in the focus of experimental investigations of sex-roles is telling of the changes that have occurred in our society. And, because change is an ever occurring process, experimental investigations are likely to continue in this area.

Changes in the legal and social status of women have made females and the female sex-role a favorite target of the sex-role researcher. But change in one arena of life often necessitates change or accommodation in another, and it may be wise to determine how the changes that have taken place in the lives of women are impacting the lives of men.

The literature suggests that men may be experiencing considerable sex-role strain resulting from conflicting expectations (O'Neil, 1981). Males have traditionally been expected to be instrumental, dominant, and independent, but now are expected to be expressive and sensitive as well. In a recent analysis of sex-role attitudes (Biggs & Fiebert, 1984), men claimed they "would not be embarrassed to express love to their adolescent son" and would readily "accept a date if asked by a woman." However, men also agreed that "the loss of the traditional male role is accompanied by loss of face and power" (p. 115). The authors concluded that "an emergent and quite liberal set of attitudes is growing in importance for men and stands in sharp contrast to the traditional perspective across a wide spectrum of life activities" (Biggs & Fiebert, 1984, p. 116).

The rewards for masculinity come in the form of self-esteem, while the rewards for androgyny originate in social relationships with women. As Pleck (1976)
stated: "...the major form of change in the male role is in males' relationships to women, and it is stimulated by feminism" (p. 162). Thus, both men and women are implicated as agents of change. If males are in fact becoming more androgynous (Heilbrun & Schwartz, 1982), is androgyny the standard by which today's men are measured? Do women find the incorporation of femininity into the male sex-role attractive? By contrast, has the traditional masculine male come to represent an aversive social stimulus? The present study, as part of a program of research, was designed to investigate women's responses to men who are characterized by traditional (masculine) versus non-traditional (androgynous) behavioral repertoires. Using what Neal Miller (1959) termed an "extension of liberalized S-R theory," the research investigated the reinforcing functions of the opportunity to interact with an androgynous male. The prediction was that this social reinforcer would function in a manner similar to traditional reinforcers.

**Sex-Roles**

An interpretation of the sex-role research presented here requires a brief introduction to the historical perspectives, definitions, assumptions and basic concepts that underly these investigations. Traditional sex-role theory conceptualized masculinity and femininity as bipolar ends of a single continuum. Researchers operated under the assumption that masculinity and femininity were unidimensional and negatively related, and constructed their instruments accordingly (Hathaway & McKinley, 1943; Strong, 1943; Termin & Miles, 1936). In the bipolar paradigm adjustment and mental health were defined by adherence to the gender appropriate pole of the masculine-feminine continuum. Psychology had adopted the biological dimorphism and early investigations of sex-roles focused on "sex differences" (Lynn, 1959; Komarovsky, 1950) and "sex-role stereotypes" (Rosenkrantz, Bee, Vogel, Broverman, & Broverman, 1968; Sherriffs & Jarrett, 1953).
The exploration of these endpoints led researchers to contest the traditional assumption and admit the possibility of a multidimensional model of masculinity and femininity (Bem, 1974; Block, 1973; Constantinople, 1973; Heilbrun, 1976; Jenkins & Vroegh, 1969). This admission meant that masculinity and femininity could coexist within an individual's personality at independent levels. The integration of masculine (instrumental) and feminine (expressive) components within a single individual is termed "androgyny."

The measurement of masculinity, femininity, and androgyny is rooted in the measurement of sex-role stereotypes. Sex-role stereotypes may be defined as "the structured sets of beliefs about the personal attributes of women and men" (Ashmore & Del Boca, 1979, p. 222). The Sex-Role Stereotype Questionnaire (SRSQ: Rosenkrantz et al., 1968) was developed by asking subjects to "list behaviors, attitudes, and personality characteristics which they considered to differentiate men and women" (p. 287). These items were then arranged into bipolar rating scales. Items designated as "stereotypic" were included in the final version if 75% of the respondents agreed that one pole was more typical of one sex than the other. The Bem Sex-Role Inventory (BSRI: Bem, 1974), the Personal Attributes Questionnaire (PAQ: Spence, Helmreich, & Stapp, 1974), the Personality Research Form ANDRO scale (Berzins, Welling, & Wetter, 1978) and the Adjective Check List (ACL: Heilbrun, 1976) have used items similar to those on the SRSQ, but expressed them as "traits." Thus, the masculinity and femininity scales which comprise self-report measures consist of items that statistically differ in response rates for the two sexes. When researchers ask, "Is this population androgynous?" they are really asking, "Does this population endorse characteristics that another population has deemed characteristic of the opposite sex?"

Another question frequently asked is: To what degree does this population endorse characteristics that typify members of the same sex and opposite sex?
In other words, should we define androgyny as a "balance" of masculine and feminine traits (Bem, 1974), or should we restrict the definition to those who score relatively high on both scales? The distinction between these two alternatives form the basis for the discrepancies which will surface in the literature discussed here. The "balance" definition of androgyny has been associated with the subtractive and t-score methods of categorizing subjects. The "balanced" but "high" definition has been associated with the median-split and additive methods of scoring the scales. Briefly, the argument against using the t-score is that it groups into the androgynous category subjects who are high on both scales with subjects who are low on both scales. The median-split method has been criticized for its norm-referenced reliance on sample specific medians which limits between sample comparisons (Sedney, 1981). Although most research employs the median-split method or multiple regression analyses based upon the experimental question posed, alternative procedures have been advanced (Blackman, 1982; Bobko & Schwartz, 1984; Briere, Ward, & Hartsough, 1983; Bryan, Coleman, & Ganong, 1981; Kalin, 1979; Motowidlo, 1981; Strahan, 1981; Taylor & Hall, 1982).

The BSRI and the PAQ scales have evolved from researchers who differ in theoretical perspectives and assumptions. For example, Bem (1974) has stated that she expects the BSRI to correlate with a broad range of sex-role related behaviors. Spence and Helmreich (1978), however, have admitted that "knowledge about the degree to which an individual possesses... masculine or feminine personality characteristics does not necessarily permit inferences about how sex-typed the individual is in... any other category of role-related behaviors" (p. 14).

As a point of introduction, let us consider a series of experiments on sex-role stereotypes conducted in the 1950's. Collectively, these studies forecast changes in the theoretical conception of masculinity-femininity (from a bipolar to
a dualistic), allude to the construct of androgyny, and demonstrate the
pervasiveness of culturally-esteemed masculinity.

In the first of a series of landmark experiments, McKee and Sherriffs (1957)
determined that males were more highly regarded than females by college
students of both sexes. Exploring this finding further, Sherriffs and McKee (1957)
asked college students to select from a list of adjectives those characteristics
which they believed described the typical man and woman. Both men and
women in this sample were in agreement about the typicality of traits and
attributed more favorable traits to the male stereotype than they did to the female
stereotype. And women, more than men, emphasized undesirable
characteristics when describing themselves. Thus, the higher regard accorded
males seemed to be due to the greater desirability of the masculine traits. In the
final assessment, McKee and Sherriffs (1959) asked male and female students to
select adjectives which described their "real self," "ideal self," "ideal other," and
their estimates of the "ideal other as rated by the opposite sex" on the ACL. This
last rating represented what subjects believed members of the opposite sex
wanted them to be. The results indicated that, while both sexes held a
stereotypic view of themselves, women rated their "real self" as more feminine
than men rated their "real self" as masculine. As previous research revealed,
these women used more unfavorable masculine and feminine adjectives to
describe themselves. Women also believed that men wanted the "ideal woman"
to be significantly more feminine than the men actually did. Interestingly, males
correctly believed that women would describe the "ideal man" as possessing, to
an equal degree, most of the favorable characteristics of both sexes. The authors
concluded that there were "strong pressures to bring about a change" (McKee &
Sherriffs, 1959, p. 361). Men were being challenged to incorporate more
feminine characteristics into their personalities. At the same time, however, it was
the masculine attributes which seemed to cast the male in a more favorable light.
The Penalties for Cross Sex Behavior

The violation of any norm is almost certain to engender disapproval on the part of those invested in maintaining the status quo. If men (and women) were being challenged to abandon their restricted sex-role stereotypes, then what would be the rewards and penalties for such action? Sex-role research in the 1970's shifted focus from sex-typed to cross-sexed individuals (i.e., feminine males and masculine females) in an effort to answer this question. Seyfried and Hendrick (1973) provided subjects with bogus Masculine-Feminine Preferences Test forms designed to portray sex-typed (i.e., masculine men and feminine women) and cross-sex individuals. Subjects evaluated the stimulus persons on a variety of dimensions including adjustment, intelligence, appropriateness of responses and likableness. In general, cross-sex individuals were rated as less well adjusted, less appropriate in their responses, and less likable than their sex-typed counterparts. The feminine male, in particular, was regarded by female subjects as the least well-adjusted, intelligent, appropriate, and likable. Thus, female subjects were significantly more attracted to the masculine male than to the feminine male. Tilby and Kalin (1980) also examined subjects' estimates of adjustment of cross-sex individuals by varying the gender identification of personal descriptions designed to reveal feminine or masculine occupations, interests, and behaviors. The results indicated that subjects' evaluations of the male and female did not differ when the description ascribed to the stimulus person was masculine in content. However, subjects lowered their evaluations of adjustment more when the feminine description was attributed to a male than when the referent was female. These findings are inconsistent with previous research which indicated that women described the "ideal" man as possessing some feminine characteristics (McKee & Sherriffs, 1959). Perhaps the absence of masculinity in the description of the stimulus person, rather than the presence of femininity, contributed to the subjects' disapproval of the feminine male. Remember, the women in prior investigations rated the ideal man as possessing
both masculine and feminine traits.

The negative consequences of stereotype deviation were further explored by manipulating "aggressiveness" and "passivity" in a series of three methodologically diverse experiments (Costrich, Feinstein, Kidder, Marecek, & Pascale, 1975). Subjects in the first study participated in a group discussion with aggressive and passive male and female confederates. Subjects then estimated fellow members' popularity based on the preceding interaction. The results revealed a negative relationship between passivity and popularity for males. In the second study, subjects listened to audio recordings of passive and aggressive male and female confederates interacting with a counselor. Cross-sex individuals (e.g., passive males and aggressive females) were seen as more in need of therapy than their stereotyped counterparts. In the third study, subjects read 10 psychotherapy vignettes which depicted overt aggression and dependency on the part of male and female clients. The analysis of the subjects' ratings of their liking for the clients revealed that the cross-sex individuals were liked less and regarded as more seriously disturbed than their sex-typed counterparts. While the authors manipulated only the passive-aggressive elements of sex-role related behaviors, the results clearly indicated that men suffered serious social penalties for demonstrating sex-role inappropriate behavior.

Bem and Lenney (1976) examined the self-imposed penalties for engaging in cross-sex behavior. Subjects classified as sex-typed, cross-sex, and androgynous (equal levels of masculinity and femininity) performed sex-typed, neutral, and cross-sex behaviors while being photographed by either a male or a female experimenter. As predicted, androgynous and cross-sex subjects experienced minimal discomfort when engaging in cross-sex activities. Sex-typed subjects, however, reported feeling more nervous and peculiar, less likable and attractive, and less masculine (if they were male) or less feminine (if they were female) when performing the cross-sex behaviors. The negative
feelings experienced by the sex-typed persons were exacerbated by the presence of an experimenter of the opposite sex. Thus, a strict, highly developed, and complex system of personal punishments was implicated in the maintenance of sex-role appropriate behavior. It may be possible to assume that a similar system of external rewards and punishments is responsible for the acquisition of sex-role related behaviors (Bandura, 1977).

Feinman (1974) investigated the penalties incurred by children who behaved in a sex-role inappropriate manner. College students were asked to read 10 one-sentence descriptions of children engaging in a variety of cross-sex behaviors (e.g., "a boy playing with dolls," "a girl helping father repair a car") and indicated their approval-disapproval for each item. The results indicated that cross-sex behavior was significantly more disapproved of for boys than it was for girls. It could be argued, however, that the sex of the child was confounded with the degree of deviation that the behaviors revealed. Because the author did not include ratings or analyses of the individual descriptions, the validity of this criticism is difficult to ascertain. It is deducible from the content of the descriptions, however, that the girl actors did not deviate to the extent that the boy actors did (e.g., "a girl wearing a sweatshirt and jeans" vs "a boy wearing girl's clothes"). Inasmuch as "tomboys" are tolerated more than "sissies," the content of the descriptions failed to take into account the greater leeway accorded girls to deviate from the female stereotype. In fact, it could be argued that "tomboyism" is an accepted part of the female child's sex-role stereotype.

Feinman (1981) reworded the descriptions, but it is still not clear whether the revised versions were equated for degree of deviation. In the second study, sex and sex-roles were conceptualized as status variables such that the males and the male sex-role represented high-status actors and behaviors, respectively. Conversely, females and the female sex-role represented low-status actors and behaviors. Feinman (1981) hypothesized that the greater disapproval of the male actor (high status) who engages in female role behaviors (low status) was
attributable to the downward social movement, rather than to mere deviation. Similarly, females (low status) were expected to receive less disapproval for male role behaviors (high status) because this represented an upward movement. The results confirmed this hypothesis: Both male and female children received greater disapproval from adults for female role behaviors than male role behaviors. Consistent with previous research (e.g., Tilby & Kalin, 1980), the female sex-role was depreciated relative to the male sex-role.

The behavior of children is not influenced solely by the reactions of adults. In an observational study, Fagot (1977) assessed the penalties and rewards delivered for cross-sex behavior as administered by peers. Eight sex-typed behaviors (four masculine and four feminine) were identified for 3- and 4-year-old children. This was accomplished by tabulating the average percentage of time spent engaging in the behavior by each sex. Thus, unlike Feinman (1974), the definition of sex-role appropriate behavior was determined by the children themselves. Children who were 1 standard deviation above the mean proportion of time spent engaging in behaviors preferred by the opposite sex and 1 standard deviation below the mean on behaviors preferred by their own sex were classified as "cross-gender children." The results revealed peer reactions (e.g., verbal criticism, interactive play, and positive verbal communications) to cross-gender boys was considerably more negative than responses to gender-appropriate boys. Peer reactions to cross-gender girls, on the other hand, did not differ from responses to girls who engaged in sex-appropriate activities. Thus, cross-sex behavior was found to have more negative consequences for boys relative to girls.

Cross-sex behavior may represent the most extreme departure from sex-role norms. Cross-sex individuals violate expectations on two accounts. First, feminine men and masculine women express traits and behaviors "inappropriate" for their gender. Second, cross-sex individuals are marked by the conspicuous absence of "appropriate," sex-typed traits and behaviors. While the studies
presented here do not permit the extrication and evaluation of these two violations on the perceptions of cross-sex individuals, it is interesting to note that, despite the challenges to abandon the bipolar concept to masculinity and femininity, the focus of these studies (i.e., cross-sex) imply a negative, "either/or" relationship between masculinity and femininity.

**Clinical Judgements**

If cross-sex behavior was disapproved of by college students and children, what would be the opinion of the mental health profession? Would investigations of clinical judgements reveal a strong sex-role bias? At first the answer was a resounding "yes." Broverman, Broverman, Clarkson, Rosenkrantz, and Vogel (1970) asked psychologists, psychiatrists and social workers to describe a mentally healthy, mature adult man, woman, and person by drawing from items on the SRSQ (Rosenkrantz et al., 1968). Broverman et al. hypothesized that concepts of mental health for the adult, sex-unspecified, would be influenced by the "greater social value of masculine stereotypic characteristics" (p. 2). Indeed, the concepts of the healthy person closely mirrored the concepts of the healthy adult man. Descriptions of a healthy female, on the other hand, differed from descriptions of the healthy adult man and the healthy adult person. The authors concluded that therapists hold a double standard of mental health which mirrors sex-role stereotypes.

Gomes and Abramowitz (1976) presented clinicians with written client profiles designed to depict cross-sex and sex-appropriate persons. The clinicians were asked to judge the clients on the dimensions of emotional maturity, social adjustment, degree of disturbance and prognosis. Contrary to previous findings, no consistent effects due to client sex or sex-role appropriateness were detected. This failure to detect effects may have been due to the clinicians ability to infer the true purpose of the study and their familiarity with past research (e.g., Broverman et al., 1970) which demonstrated the sex-role bias in judgements of mental health.
More than ten years after the Broverman et al. (1970) study, Swenson and Ragucci (1984) asked psychotherapists to describe the mentally healthy person, man and woman on the BSRI (Bem, 1974). Consistent with the findings of Broverman et al. (1970), 42.9% of the psychotherapists described the mentally healthy person as masculine. Surprisingly, 61.9% described the healthy adult man as androgynous! The unexpected results of this study could easily be attributable to the demand characteristics of this study (i.e., therapists' familiarity with the implications of the BSRI vis-a-vis androgyny). But if at the very least these professionals were responding in a socially desirable manner, then a new standard of mental health was being disseminated.

The clinical judgement methodology has also been used with students as the subject population (Malchon & Penner, 1981). Subjects viewed video-tapes of mental health workers presenting client cases for discussion. Case histories were manipulated to depict a masculine male, a feminine male, a masculine female, and a feminine female. Contrary to research demonstrating a masculine bias, both male and female subjects rated the feminine cases as more likable and less disturbed than the masculine case histories. This effect, however, was driven by the male subjects' elevated liking for the feminine female client relative to the masculine female client. Conversely, female subjects liked the masculine male significantly more than the feminine male. Thus, while the initial findings indicated a strong bias toward the feminine case histories, further exploration revealed a bias against the cross-sex role individuals.

College students were also asked to use the BSRI to describe a healthy adult man, woman and person (Brooks-Gunn & Fisch, 1980). The male subjects' descriptions of the man, woman, and person closely paralleled those of Broverman et al. (1970). However, female subjects' descriptions did not differ as a function of the stimulus person being described. Similar results for sex-of-subject were obtained when college students were asked to evaluate the adjustment of psychiatric patients based on statements selected from the
Masculinity-Femininity and Lie scales of the Minnesota Multiphasic Personality Inventory (Hathaway & McKinley, 1943). The analysis revealed only one significant result: Male subjects rated the masculine female as less well adjusted psychologically than the feminine female (Zedlow, 1976).

Thus, while Broverman et al.'s (1970) results are frequently cited, attempts to consistently replicate these findings with various methodologies and instruments have been unsuccessful (Whitley, 1979; Sherman, 1980). For example, Marwitt (1981) employed the Broverman, et al. methodology with the BSRI and found the "double standard of mental health" phenomenon only when the traits "masculine" and "feminine" were included. In other words, the sex-role bias reported in many studies "may be a function of the inadequate derivation of the instrument and not a function of therapist bias" (Marwitt, 1981, p. 599).

**Correlates of Androgyny**

Given the equivocal results of empirical investigations of clinicians concepts of sex-roles and mental health, it may prove more illuminating to consider direct investigations of the relative psychological advantages of various sex-role orientations. Behavioral adaptability and flexibility, self-esteem, and psychological adjustment will be examined as correlates of masculinity, femininity, and androgyyny.

**Behavioral adaptability.** One year after the publication of the BSRI, Bem (1975) hypothesized that androgynous individuals would display transsituational adaptivity. It was speculated that the "balance" of masculine and feminine traits would permit the androgynous individual a greater behavioral repertoire from which to draw. Sex-typed persons, by contrast, were expected to perform best in situations which were congruent with their sex-role. In experimentally contrived situations intended to tap the subjects' ability to display masculine "independence" and feminine "playfulness," Bem tested masculine, feminine and androgynous male and female college students. The results indicated that both
masculine-typed and androgynous subjects showed considerably more "independence" (e.g., resistance to pressure to conform) than feminine-typed subjects. When given the opportunity to demonstrate "playfulness" (e.g., interact with a small kitten) feminine and androgynous males demonstrated greater involvement with the kitten than did masculine males. Females did not respond in the predicted manner. Thus, androgynous males responded to the demands of the situation without regard to its gender-relatedness. It should be noted that this inference about the flexibility of the androgynous sex-role was derived from between-group comparisons (i.e., different subjects participated in each of the experiments). A more accurate test of the flexibility hypothesis would require observation of the same subjects across several diverse sex-role related situations. Another criticism of this study is Bem's criterion for classifying subjects as androgynous. Bem's early theorizing focused on the "balanced" aspect of the relationship between masculinity and femininity, without specifying the relative quantitative aspect (high vs low) of these dimensions. In response to the mounting criticism of the subtractive scoring method, Bem (1977) reanalyzed the data according to the median-split method. She concluded that while the effects reported in her prior works retained their statistical significance, the undifferentiated subjects did, in fact, reveal a response pattern different from the androgynous subjects.

In a conceptual replication of Bem and Lenney (1976), Helmreich, Spence and Holahan (1979) stratified subjects into four sex-role classifications (i.e., masculine, feminine, androgynous, and undifferentiated) based on scores on the PAQ. They found that adrogy nous and masculine individuals reported high levels of comfort for all behavioral tasks--regardless of the sex-role relatedness of the task (e.g., masculine, feminine, or neutral). Helmreich et al. (1979) proposed that masculinity and femininity combine additively to yield higher comfort ratings for androgynous subjects. The advantage of androgy ny was further suggested to be mediated by self-esteem and self-confidence, rather than by masculinity and
femininity per se.

Self-esteem. In an effort to specify the relationship between sex-role orientation and self-esteem, Spence, Helmreich, and Stapp (1975) correlated two self-report measures: the PAQ and the Texas Social Behavior Inventory (TSBI: Helmreich, Stapp, & Erivin, 1974). As predicted, androgynous subjects of both sexes reported the highest levels of self-esteem, followed by masculine-typed, feminine-typed, and undifferentiated. Bem (1977) found a slightly different relationship between sex-role orientation, as measured by the BSRI, and self-esteem scores on the TSBI. While masculine and androgynous subjects reported higher levels of self-esteem than feminine and undifferentiated subjects, the relative contribution of masculinity and femininity differed for males and females. Specifically, self-esteem in men was significantly related to masculinity, but not to femininity. Conversely, self-esteem in women was significantly related to both masculinity and femininity.

O'Connor, Mann, and Bardwick (1978) administered the PAQ and the TSBI to a group of 40-50 year old men and women. The results replicated Bem's (1977) findings: Self-esteem was related to masculinity in men and women, and to femininity in women. Similar results were obtained by Hoffman and Fidell (1979) among female subjects: Androgynous and masculine women reported higher levels of self-esteem than undifferentiated or feminine women, and masculinity accounted for a substantial portion of the variance in self-esteem ratings.

Investigations of self-esteem and sex-role orientation are among the most consistent findings in the literature. As such, they indicate that masculinity, not androgyny, may be the primary predictor of high self-esteem. Kelly and Worell (1977) have suggested that the contribution of masculinity to self-esteem may be due to a greater appreciation of masculine behaviors. This explanation is similar to the status hypothesis proposed by Feinman (1981) and suggests that the incorporation of femininity into the male personality has little benefit in terms of self-esteem. It also implies that low levels of masculinity in males (e.g., cross-sex
males and undifferentiated persons) results in a reduction in self-esteem.

**Psychological Adjustment.** The benefits of high masculinity has remained a controversial issue in sex-role research. Frequently, the androgynous and masculinity models have been pitted against each other in studies attempting to assess psychological adjustment.

Deutsch and Gilbert (1976) examined the relationship between sex-role orientation and mental health, as measured by the Revised Bell Adjustment Inventory (Bell, 1963). As predicted, androgynous women described themselves as better adjusted than feminine-typed women. Contrary to the androgynous model, however, sex-typed men reported better adjustment than androgynous men. The authors concluded that masculinity, not androgyny, was predictive of positive mental health. However, in arriving at this conclusion, Deutsch and Gilbert (1976) failed to report whether the androgynous men and feminine women did, in fact, have lower masculinity scores than the masculine men and androgynous women. It should also be recognized that the "androgynous" subjects in the study were defined by the t-score criterion, which as previously mentioned, precludes differentiating subjects high in both masculinity and femininity from subjects who score low on both scales.

To test the assumption that androgyny implies better adjustment, Jones, Chernovetz, and Hansson (1978) employed multiple measures of mental health (i.e., gender identification, neurosis, self-esteem, introversion-extroversion, locus of control, alcoholism, creativity, political awareness, self-confidence, helplessness, and sexual maturity). Unfortunately, the researchers elected to rely upon Bem's (1974) original subtractive method for scoring the BSRI. While they present comparisons between subjects classified as androgynous by the subtractive and median-split methods, they fail to present statistical comparisons between the four sex-role classifications created by the median split. Despite the limitations that the t-score procedure imposes on the interpretation of the data,
Jones, et al. reported that androgynous males were less internal, less creative, less politically aware, less adept at problem solving, more likely to experience low self-esteem and alcohol problems than masculine males.

Silvern and Ryan (1979) addressed the BSRI scoring controversy by analyzing adjustment scores for subjects stratified into sex-role groups by the subtractive (Bem, 1974) and the additive, median-split (Spence et al., 1975) methods. Adjustment differences between groups defined by the t-score criterion replicated Deustch and Gilbert (1976): The masculine men were superior to androgynous men on all adjustment indices. However, when the median-split criterion for scoring was used, the androgynous and masculine men did not differ on the adjustment measures. Presumably, the decrement in adjustment for androgynous persons defined by the t-score was due to the inclusion of undifferentiated individuals in this group. Relevant to the masculinity vs androgyny issue was the finding that using the median-split procedure androgynous and masculine men reported greater adjustment than undifferentiated men. Furthermore, androgynous women (high masculine-high feminine) reported greater adjustment than feminine or undifferentiated women. While these findings indicate that men may accrue some psychological benefit from androgyny, albeit limited, it appears to be the masculine component which leads to better adjustment.

An understanding of the relationship between sex-role orientation and psychological adjustment is made more difficult by findings which are contradictory, at best. For example, while Orlofsky and Windle (1978) reported a positive relationship between adjustment and masculinity in males and femininity in females, Logan and Kaschak (1980) found no relationship between sex-role orientation and various indices of mental health. However, Lee and Scheurer (1980) reported that for both men and women, the presence of masculine traits accounted for more adaptive scores than the combination of masculine and feminine traits.
In partial support of Bem's androgyny theory, Flaherty and Dusek (1980) found that high masculinity (i.e., masculine-typed and androgynous) was associated with higher scores on measures of achievement/leadership and high femininity (i.e., feminine-typed and androgynous) was associated with congeniality/sociability. Consistent with Bem's (1977) investigation of self-esteem, masculinity was positively related to adjustment for males and females, and femininity was associated with adjustment only for females. Thus, while masculinity and femininity were correlated with adjustment measures that reflect the masculine and feminine traits, the combination of these two components did not lead to greater adjustment in males.

If masculinity gives androgynous and masculine typed individuals a psychological advantage in terms of self-esteem and adjustment, it would follow that the positive aspects of masculine characteristics would also lead to greater social attractiveness. Indeed, this is the essence of Feinman's (1981) status hypothesis, the implication of studies demonstrating the greater cultural value of masculinity (McKee & Sherriffs, 1959), and the logical extension of Broverman et al.'s (1970) "double standard of mental health."

Changes in sex-role attitudes

Recall that Broverman, et al. (1970) found a "double standard of mental health" that closely paralleled sex-role stereotypes. The instrument used in that investigation, the SRSQ, was constructed on the basis of consensually held beliefs about the characteristics which differentiated men and women. Petro and Putnam (1979) undertook to assess the changes that occurred in sex-role stereotypes by comparing responses from the original college sample used to construct and revise the SRSQ in 1968, and a sample of high school counselors to whom the SRSQ was administered in 1975. Of the 38 items believed to differentiate between men and women in the original sample, only 11 items were judged stereotypic by the 1975 sample. Unfortunately, the difference in the results from the 1968 and 1975 samples may be attributable to factors other than
changes in sex-role attitudes (e.g., demographic characteristics and experimental instructions). While we may disqualify this study from examination based upon methodological flaws, we are still compelled to acknowledge the preponderance of evidence which suggests that the sharp contrast between the male and the female stereotype has become blurred.

Ruble (1983) extended the analysis of stereotype change to a sample of students in 1978. Using the PAQ (Spence et al., 1974), which was adopted from the SRSQ item pool, Ruble asked the subjects to describe the "typical" and "desirable" man and woman. Comparisons of the ratings for the "typical" man and woman between 1974 and 1978 indicated that sex stereotypes remained strong: 53 of the 54 items discriminated between the two sexes. However, the 1978 sample's ratings of the "desirable" man and woman were "less polarized" than the ratings obtained in 1974. Specifically, ratings of the "desirable" man and woman differed significantly on 83% of the items in 1974, but differed on only 22% of the items in 1978. Thus, while the stereotypic notions of the "typicality" of characteristics had remained stable, these same characteristics were gradually becoming "desirable" for members of both sexes. This finding is reminiscent of the results of McKee and Sherriffs (1959), but with one additional point: Both male and female subjects were in agreement about the "desirability" of traits.

Male and female subjects were also in agreement about the "ideal": Men should be higher in femininity and women higher in masculinity than is "typically" the case (Gilbert, Deustch, & Strahan, 1978). While this finding implies a movement toward a more androgynous state, the collective statistical analyses led the authors to conclude that "the traditional view that a man should be more masculine than feminine is alive and well" (p. 777). The implication is that while we see the possession of opposite-sex characteristics as "ideal," men and women should still adhere to the sex-role prescribed by their gender.

Contrary to this assertion, Silvern and Ryan (1983) reported that both men and women characterized the "ideal" person as significantly more feminine than
masculine. Moreover, women manifested few discrepancies between the sex-role compositions of the "ideal" person, man, and woman.

McPherson and Spetrino (1983) investigated the effects of the subject's sex-role in describing the "ideal" man and woman. They reported that androgynous and feminine women rated the "ideal" man and woman similarly. Masculine and androgynous men, on the other hand, rated the "ideal" man and woman significantly different. The authors concluded that sex rather than sex-role discriminated beliefs about gender polarity. Collectively, investigations of sex-role stereotypes indicated that only women hold a single, integrated view of the "ideal" person.

In testing the boundaries of women's "ideals," studies have varied the experimental instructions to tap conceptions of the desirable "opposite-sex person" and "dating partner." In an early investigation of opposite sex "ideal" others, Deustch and Gilbert (1976) found that females described the "ideal" man as androgynous. The men also rated the "ideal of the opposite sex" as androgynous, indicating their awareness of women's conceptions of the "ideal" man. These results bear a close resemblance to those obtained by McKee and Sherriffs (1959). While Deustch and Gilbert (1976) gathered data on the subjects' sex-role orientation, they failed to report information relevant to this variable and its influence on ratings of the "ideal" other.

The importance of sex-role orientation of the perceiver was illuminated in a study by Kimlicka, Wakefield, and Goad (1982). Specifically, androgynous women more frequently described the "ideal" man as androgynous, while the sex-typed woman more frequently described a masculine-male as the "ideal." Accordingly, Orlofsky (1982) hypothesized that sex-typed subjects would describe complementary sex-typed "ideal" dating partners, but androgynous subjects would describe androgynous "ideal" dating partners. Contrary to this prediction, both feminine and androgynous women described an androgynous dating partner. In fact, 66% of the women in the sample described the "ideal"
dating partner as androgynous. Only 32% of the men, on the other hand, described an androgynous woman as the "ideal" dating partner. As with investigations comparing women's conceptions of the "ideal" man and woman, the investigations of opposite sex attraction indicated that women in the 1980's are as desirous of an androgynous man as they were in the 1950's.

**Rating the Stimulus Person**

An alternative to allowing subjects to freely describe others involves constructing protocols specifically designed to represent various sex-role orientations. Pursell and Banikiotes (1978) presented subjects with BSRI protocols contrived to represent sex-typed and androgynous males and females. Subjects evaluated each protocol on the Interpersonal Judgement Scale (IJS: Byrne, 1971). The results indicated that the sex-role of the perceiver greatly influenced attraction ratings: Androgynous subjects preferred androgynous protocols and sex-typed subjects preferred sex-typed protocols. Females, as a group, found the androgynous stimulus persons significantly more attractive than the sex-typed protocols. Bridges (1981) found that female's preference for the androgynous stimulus person held true for both sex-typed and androgynous women. Interestingly, Bridges also found that only sex-typed females attributed greater physical attractiveness to the sex-typed stimulus person relative to the androgynous stimulus person. This effect was evident in the absence of any information about the stimulus person's physical attributes. That is, based soley on sex-role characteristics and traits the sex-typed women inferred greater physical attractiveness on the part of the sex-typed male. Thus, high masculinity in the absence of high femininity, served to increase the sex-typed female's perceptions of physical attractiveness, but did not function to increase her perceptions of social attractiveness.

Major, Carnevale, and Deaux (1981) asked subjects to rate androgynous, masculine, feminine, and undifferentiated PAQ protocols. Subjects rated the androgynous stimulus persons, regardless of sex, as more adjusted, competent,
androgynous stimulus persons, regardless of sex, as more adjusted, competent, intelligent and successful than the masculine stimulus persons. While this represents a slight departure from the mental health studies discussed earlier, it should be noted that on all of the adjustment indices the masculine protocols were rated significantly higher than were either the feminine or the undifferentiated protocols. Relevant to the present discussion was the finding that androgynous stimulus persons were seen as significantly more popular, interesting and attractive than the masculine, feminine, or undifferentiated stimulus persons.

Jackson (1983) also investigated subjects' perceptions of the androgynous person relative to masculine and feminine persons. In addition to BSRI protocols, subjects in this study received a photograph of either an attractive, moderately attractive, or unattractive stimulus person. Regardless of physical attractiveness, androgynous persons were rated as better adjusted and more likable than masculine persons. The degree of subjects' sex-typing and the sex of the stimulus person did not influence any of the ratings. The studies presented thus far have contributed valuable information regarding women's ratings of androgynous persons. As a group, however, these investigations reveal little about women's ratings of the androgynous male. Kulik and Harackiewicz (1979) contrasted subjects' platonic liking (i.e., "would like," "like as a friend") and romantic liking (i.e., "enjoy a date," "romantic interest") for stimulus persons of varied sex-role orientations. The results indicated that androgynous stimulus persons were most preferred on all measures of liking. Androgynous persons were rated significantly higher than the masculine persons on measures of platonic liking. On measures of romantic liking there was a trend for female subjects to be more attracted to the androgynous male than to either the sex-typed male or the undifferentiated male.

Cognizant of the literature demonstrating a masculine bias, Korabik (1982) constructed sex-typed and androgynous protocols that were equated for likability.
No overall preference for the masculine role was detected. In fact, the masculine males were rated significantly less likable than the feminine females. Moreover, the traditional females rated the feminine males significantly more positively than masculine males. Korabik attributed this finding to the perceived similarity of the subject's and the protocol's sex-role. This conclusion seems of questionable validity in light of the fact that subjects were rating stimulus persons who were described by only two characteristics.

Sex-roles and occupational stereotypes

As more women enter the labor market attitudes toward occupational stereotypes and gender stereotypes are bound to affect one another. Investigations, only a few of which are presented here, reveal some interesting results. For example, Lifschitz (1983) concluded that gender-based occupational stereotypes figured more prominently in subjects' evaluations than sex-role stereotypes. In other words, in rendering their judgements of the stimulus persons, subjects responded to the gender of the occupation (i.e., doctor, lawyer, nurse, secretary) rather than to the gender of the actor. In contrast to previous research suggesting that cross-sex job applicants are viewed less favorably (e.g., Cohen & Bunker, 1975), Sharp and Post (1980) found that personnel administrators did not discriminate against either the female applicant for sports reporter or the male applicant for fashion reporter.

The attitudes of children born in the 1970s were examined by Zuckerman and Sayre (1982). The children revealed very non-stereotypic attitudes about the "appropriateness" of men and women engaging in a variety of occupations and tasks (e.g., washing dishes, being a doctor, going fishing, taking care of children). Specifically, 12 out of the 14 activities were considered appropriate for either a man or a woman. Given the permissibility of the children's attitudes, it is surprising that they chose very stereotypic careers for themselves: Girls frequently chose "nurse" as a career, while boys most often aspired to be
"athletes." The authors concluded that "children's sex-role attitudes are changing reflecting the changes in society as a whole" (Zuckerman & Sayre, 1982, p. 861).

Finally, Lips and Meyers (1980) asked undergraduates to select job applicants based upon their resumes. The resumes were attributed to either male or female applicants and were in the fields of engineering, nursing, and teaching. The results indicated that female subjects disproportionately chose the cross-sex applicant (i.e., the male nurse and the female engineer) more often than the male applicants. Specifically, male subjects chose the male and female applicant with equal frequency, while women chose the cross-sex applicant 72% of the time. The authors concluded that "...university women are now tending to reward out-of-sex-role behavior..." (Lips & Meyers, 1980, p. 680).

Statement of the Problem

The sex-role literature in general, and the androgyny literature in particular, present the reader with the difficult task of making sense out of a plethora of findings. As Lenney (1979a) aptly stated:

Although some researchers formulated well-thought-out predictions in an attempt to advance an articulated theory of androgyny, the vast majority of research at this time was minimally guided by theoretical considerations and resulted in a confusing and voluminous jumble of findings. (p. 705).

However, some conclusions can be cautiously drawn from the literature presented here. Simply stated: (a) masculinity provides men and women with an edge in terms of psychological adjustment and self-esteem; (b) women view androgyny as the "ideal;" and (c) women find the androgynous male "desirable."

As stated in the opening paragraph, inquiry into the nature of sex-roles could continue indefinitely—if for no other purpose than to simply document socio-cultural change. But it is precisely this observation which has been used to discredit research on sex-roles. This body of research has been accused of being time- and culture-bound, often at the expense of generating scientific principles and laws of human behavior. Lenney (1979b) analogizes the
over the scientific nature of social psychology in general (cf. Gergen, 1973; Schlenker, 1974). She concludes that:

From the perspective of this debate, it is less an embarrassment than a challenge to be accused of studying historically and culturally relative phenomena. That is, we are indeed engaged in the business of uncovering numerous facts, which are undoubtedly time- and culture-bound. While we can and should explicitly acknowledge this, we would do well to remember and emphasize the "scientific" laws of human behavior toward the discovery of which our research enterprises ultimately contributes. (p. 840).

The present investigation considered recent research which had demonstrated a greater liking for androgynous persons relative to masculine persons (e.g., Bridges, 1981; Jackson, 1983; Major, Carnevale, & Deaux, 1981). Also recall that women tended to be more romantically attracted to the androgynous male (Kulik & Harackiewicz, 1979; Orlofsky, 1982), and saw the "ideal" male as androgynous (e.g., Deustch & Gilbert, 1976; Kimlicka et al., 1982; McKee & Sherriffs, 1959). Not to be discounted are those studies which have demonstrated that females may be inclined to hire sex-role incongruent applicants (Lips & Meyers, 1980). Given these findings, perhaps social interaction with an androgynous male can be conceptualized as a social reward, whereas interaction with a masculine male may be less rewarding and perhaps even an aversive social experience. The less rewarding or aversive nature of the masculine male is implied not only by the aforementioned findings, but also by studies which have demonstrated that the masculine male is liked even less than his feminine, cross-sex counterpart (Korabik, 1982). To be sure, this proposition stands in clear contrast to the expectation that would have been advanced based on the early cross-sex and clinical judgement studies. But it is precisely the changes in men's sex-roles and women's perceptions of these changes which provides the incentive for investigating this area from a social learning-theoretical perspective.

Previous sex-role and androgyny research has relied extensively on
Previous sex-role and androgyny research has relied extensively on self-report measures. These measures have been used to assess the subject's sex-role, the subject's evaluations of stimulus material, and the manipulation of stimulus persons. The present study represents a dramatic departure from this tradition. Information on the subject's sex-role and the subject's evaluation of the stimulus persons were gathered via self-report methods, but these variables did not assume primary importance in the experimental design. The express purpose of this study was to determine the functional properties of androgyny as a reinforcer of a behavioral response in a procedure analogous to instrumental escape conditioning.

Social Learning-Theoretical Methodology

Escape Conditioning

In discrete trials escape conditioning, a trial begins with the presentation of an aversive stimulus and the induction of a noxious drive. The subject learns, upon the presentation of a cue, to make an instrumental response. This response is followed by the termination of the noxious stimulus or the presentation of a drive-inhibiting stimulus. The relevant dependent variable is response speed (100/latency) measured from the presentation of the cue until the instrumental response.

The intent of employing escape conditioning methodology is to determine the similarity between known principles of conditioning and analogous principles in social processes. Thus, the approach termed "extension of liberalized S-R theory" (Miller, 1959) was used to develop and test a theory of sex-role action. The social analog of an aversive stimulus was the presentation of a male who talked about traditional, masculine behaviors and attitudes. Upon the presentation of a cue the subject's instrumental response (IR) was switch pressing, and it was reinforced by the opportunity to listen to a male talking about androgynous behaviors and attitudes.
conventional reinforcer, then providing that opportunity following the IR should result in faster response speeds. Hence, we would expect the acquisition of an IR followed by the opportunity to listen to an androgynous male. In escape conditioning, partially reinforced responses are impaired relative to continuously reinforced responses. Partial reinforcement effects in instrumental escape conditioning have been demonstrated with animal subjects (Bower, 1960; Woods, Markman, Lynch, Stokely, 1972), and with human subjects (Steigleder, Weiss, Cramer, & Feinberg, 1978; Weiss, Lombardo, Warren, & Kelly, 1971). In the present research, we expect that subjects given the opportunity to listen to the androgynous male on only some of the trials will press the switch slower than continually reinforced subjects.

Hypotheses

Specifically, it was hypothesized that the speed of the instrumental response would be an increasing function of the number of reinforced trials (acquisition), with subjects in the 100% reward condition showing superior performance to subjects in the 50% reward condition. Similarly, subjects in the 50% reward condition are expected to respond faster than subjects in the 30% reward condition.

Based upon the findings of previous sex-role research, it was further hypothesized that the androgynous male would be rated as more likable, intelligent, moral, and mentally healthy than the masculine male. It was also predicted that the androgynous male's comments would be judged more appropriate and honest than comments made by the masculine male.
METHOD

Subjects and Confederates

Sixty-six female undergraduate volunteers recruited from General Education courses at California State University served as subjects. The subjects ranged in age from 18 to 52 (M = 24). All subjects were naive with respect to the experimental task and were assigned to one of three experimental conditions. Five female research assistants served as experimenters, and two male research assistants served as confederates.

Experimental Design

The experimental design can be described as a 3 x 10 (Groups x Trials) repeated measures. The first independent variable was the percentage of reinforcement: the number of trials on which a male speaker spoke in an androgynous fashion (100%, 50%, 30%). Normally, instrumental conditioning studies do not include a no-reinforcement control group, and this procedure was followed in the present research. The logic of this procedure is not merely that previous research indicates the relative ineffectiveness of the no-reinforcement procedure, but, more importantly, that within each new experiment the effects of different reinforcement conditions test for the effectiveness of the reinforcer. That is, delay of reinforcement effects, partial reinforcement effects, or extinction effects when reinforcement is discontinued indicate that performance is being effected by reinforcement. The same logic applies to the present research.

The conversation trials constituted the second independent variable. The dependent variable was the subject's response speed (100/latency), measured from the presentation of the conditioned stimulus ("Press switch when ready to hear Speaker 2 comment") to the instrumental escape response (pressing switch), which afforded the subject the opportunity to hear the androgynous
Deception and Masking Task

The experiment was presented to the subjects as a study of interpersonal communication. According to the instructions, the study ostensibly involved three people (two Speakers" and one "Listener"). The subject was led to believe that she would be the listener by virtue of being the first person to arrive at the laboratory waiting rooms. The illusion that there were two other participants was furthered by adorning two adjacent waiting rooms and two laboratory cubicles with signs reading "Speaker 1" and "Speaker 2." While sitting alone in the "Listener" waiting room the subject could hear the experimenter deliver instructions and converse with the Speakers. During the experimental phase, the subject listened to a series of tape recorded passages delivered by two male confederates, but she believed that she was hearing real subjects give their responses.

The subject was told that the variable of interest was her estimation of the liklihood that her future behavior would change as a result of having listened to the Speakers' comments. Each conversation trial ended with the subject pressing one of five buttons which indicaed her estimation. Each button represented a statement that reflected the liklihood of behavior change (e.g., "very likely to change my behavior" to "not very likely to change my behavior").

Apparatus and Materials

Ten commonsituations were presented as items for discussion (e.g., contending with a car in need of repair, babysitting, choosing a career). Two scripted dialogues were constructed for each situation: one conveying stereotypic masculine responses and another imparting androgynous responses (see Appendix A). Each dialogue was constructed to be approximately 30 s in length. The 10 situations and their corresponding dialogues had been selected from a total of 14. Selection was determined by 115 undergraduate volunteers rating
the dialogues on a 7-point Likert-type scale. Each dialogue was independently rated for masculinity and femininity. Criteria for selection of a particular situation was that (a) the corresponding masculine dialogue exceed a mean rating of 5.0 on the masculinity scale and not exceed a mean rating of 3.0 on the femininity scale, and (b) the corresponding androgynous dialogue receive a mean rating that exceeds 5.0 on the femininity scale and not exceed a mean rating of 3.0 on the masculinity scale. The criterion for the androgynous dialogue was biased in the feminine direction because it was expected that the identification of the orator of the dialogue as male would result in the augmentation of both Speakers' masculinity. Concomitantly, the male voices were expected to dilute the subjects' perception of the Speakers' femininity. It should also be noted that the written dialogues differed slightly in content from the spoken dialogues. For example, words such as "girlfriend" were deliberately omitted from the written dialogues in order to measure the raters' responses to the information without openly declaring the sex of the actor. In spoken form, the dialogues contained references to a "girlfriend" in order to dispell any suspicions on the part of the subjects that the Speakers, particularly the androgynous male, might be homosexual. It was expected that high femininity in males would be equated with homosexuality. In the actual experiment the androgynous speaker was not rated as homosexual, nor was he rated as feminine. Thus, while the androgynous dialogues in their written form were rated as very feminine and not very masculine, the ratings for virtually the same dialogues in spoken form were much less polarized.

The dialogues were recorded on a master audio cassette tape (Memorex, dB series Normal [Type I] 120 s EQ) by the two male confederates. The order of
Table 1
Pilot Subjects' Mean Masculinity And Femininity
Ratings Of Speaker 1's And Speaker 2's Written Dialogues

<table>
<thead>
<tr>
<th>Dialogue Topic</th>
<th>Speaker 1</th>
<th>Speaker 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Masculine</td>
<td>Feminine</td>
</tr>
<tr>
<td>Attracted To Classmate</td>
<td>5.30</td>
<td>3.33</td>
</tr>
<tr>
<td>Watching a Sad Movie</td>
<td>4.93</td>
<td>2.84</td>
</tr>
<tr>
<td>Volunteer Work</td>
<td>5.30</td>
<td>2.76</td>
</tr>
<tr>
<td>Car Breaks Down</td>
<td>5.75</td>
<td>2.86</td>
</tr>
<tr>
<td>Opportunity to Use VCR</td>
<td>5.92</td>
<td>2.07</td>
</tr>
<tr>
<td>Freetime</td>
<td>5.57</td>
<td>3.00</td>
</tr>
<tr>
<td>Babysitting</td>
<td>4.25</td>
<td>3.62</td>
</tr>
<tr>
<td>Girlfriend Unfaithful</td>
<td>5.29</td>
<td>2.89</td>
</tr>
<tr>
<td>Careers</td>
<td>4.71</td>
<td>4.10</td>
</tr>
<tr>
<td>Go Home To Help Out</td>
<td>5.29</td>
<td>2.37</td>
</tr>
</tbody>
</table>

Note: Each subject rated 6 written dialogues (3 for Speaker 1 and 3 for Speaker 2, but never both Speakers on the same topic). Cell n's range from 25 to 35.
situation presentation was determined randomly. The confederates serving as Speaker 1 and Speaker 2, responding in a masculine or an androgynous fashion, respectively, were completely counterbalanced. Within each of the partial reinforcement conditions (50% and 30%) four versions of the taped passages were used. This procedure served to prevent confounding the reinforcement with the nature and saliency of the situation discussed. Thus, non-reinforced trials were presented in four different orders with the exception that Trial 1 was always a reinforced trial. The tapes differed only to the extent that the androgynous speaker's comments were omitted on different trials.

The subject's room was furnished with a table and chair. The experimental apparatus consisted of an earphone/microphone headset and a 45.72 cm x 30.48 cm x 7.62 cm module positioned on the table approximately 50 cm from the subject. The subject's module was constructed of plywood and contained four transparent mirror glass windows, five behavior change buttons and a spring back toggle switch. The windows were opaque until lit from behind at which time the following messages were discernible: "Listen to Speaker 1," "Press switch when ready to hear Speaker 2," "Listen to Speaker 2," and "Behavior Change." Beside each behavior change button was a statement representing the likelihood of behavior change.

Mounted to the table, directly in front of the subject, was a list of possible questions for discussion. This list included the 10 questions used during the experiment and 5 distractor questions. Attached to the right side of the table was a clipboard with a manila envelope that contained a Short Form of the Bem Sex Role Inventory (s-BSRI: Bem, 1981: see Appendix B) and the post-conversation questionnaire (see Appendix C). The questionnaire included items intended to assess the subject's reactions to each of the Speakers and to their comments. The subject's attitudes about both Speakers' comments were measured by having each subject respond to the statement: "After listening to Speaker 1's
(Speaker 2's) comments I found them to be." The subject indicated her opinion by checking a 7-point scale anchored with the phrases: very unclear-very clear, traditionally masculine-not traditionally masculine, very inappropriate-very appropriate, very honest-very dishonest, and not traditionally feminine-traditionally feminine. The subjects attitudes about the Speakers' personalities were measured by having each subject respond to the statement: "After listening to Speaker 1 (Speaker 2) I found Speaker 1 (Speaker 2) to be." Again, the subject indicated her evaluation by checking a 7-point scale anchored with the phrases: very likable-not very likable, not very masculine-very masculine, very intelligent-not very intelligent, very immoral-very moral, very feminine-not very feminine, not very mentally healthy-very mentally healthy, and heterosexual-homosexual.

The experimenter's room was equipped with a control module, an earphone/microphone headset, and a cassette tape recorder/player (Sanyo, Model RD-W44). The control panel contained the manipulanda necessary to illuminate the windows on the subject's module and measure the subject's button pressing latency (Colburn, Model R11-25). Auxiliary equipment included a timer used to control the non-reinforced trial interval (Layfayette, Model 45419), a mic mixer (Sony, Model MX-300), and a white noise generator (Colburn, Model S81-02). The white noise generator functioned at a minimal output level in order to mask any audible "tape hiss" resulting from the use of the audio cassette tapes.

The post-experiment questionnaires included an 11-item Subject Reaction Questionnaire adopted from Schwartz and Gottlieb (1980) and Pantin and Carver (1982) (see Appendix D), and a demographic questionnaire (see Appendix E). In order to measure the subject's reactions to participating in an experiment involving deception, the subject was asked to indicate on a 7-point scale, anchored with the phrases not at all and very much, how much she enjoyed
participating in the experiment, to what degree she found the experiment informative about herself and the social sciences, and how willing she was to participate in another experiment. Each subject also indicated on a 7-point scale changes in her trust in authority and her evaluation of experimental research after having participating in the experiment. The scale was anchored with the phrases much less and much more. Finally, each subject was asked to respond yes or no to the following questions: "Should this research be permitted to continue?" "Is the research justified?" "Did the explanations about the experiment satisfy you?" "Do you regret participating in the experiment?" "Are you resentful about having been deceived?"

Procedure

When the subject reported to the waiting room she was escorted to a room labeled "Listener." The subject was informed that she was the Listener by virtue of being the first participant to arrive. Two adjacent waiting room doors labeled "Speaker 1" and "Speaker 2" were visible to the subject as she entered the waiting room area. After the subject read and signed the consent form (see Appendix F), the experimenter explained that the study was designed to investigate interpersonal communication. The experimenter disclosed that the variable of interest was self-reported behavior change resulting from listening to two other people comment on a variety of topics. The subject was led to believe that the experiment would focus on the participants' (Speakers and Listener) estimated change in their behavior as a result of having either expressed some action verbally or having listened to someone else speak. The experimenter stated that the nature of the study necessitated the preservation of confidentiality and thus precluded the participants from meeting one another directly. The experimenter then excused herself to return to the hallway to await the arrival of the other two participants. With the subject's waiting room door closed, the experimenter returned to the waiting rooms, ostensibly escorting Speaker 1 and
Speaker 2 to their respective rooms. The close proximity of the waiting rooms allowed the subject to overhear the instructions being delivered to the bogus Speakers. After ostensibly leaving the second Speaker in the waiting room, the experimenter escorted the subject to the laboratory. Once inside the laboratory, the subject was led past two cubicles labeled "Speaker 1" and "Speaker 2." The door to the subject's room bore a sign that read "Listener." The experimenter seated the subject and directed her attention to the list of possible questions for discussion taped to the desk. The experimenter explained that she would soon be leaving the laboratory to escort the Speakers to their cubicles. The subject was instructed to put her headset on and await further instructions. The experimenter left the subject's room, leaving the door ajar.

Over the headset the subject could hear white noise, intended to mask normal "tape hiss," but she was able to overhear the experimenter exit and enter the laboratory twice and deliver instructions to the bogus Speakers. Before ostensibly leaving the laboratory for the last time to go to a control room, the experimenter closed the door to the subject's room.

After approximately 60 s had elapsed, the experimenter requested that each of the participants sequentially verify that the equipment was working properly by responding to the question: "Can you hear me?" Following the Speakers' tape recorded responses and the subject's response, the experimenter delivered the instructions, first to the Speakers and then to the subject. The subject was deliberately allowed to hear the experimenter deliver the instructions to the Speakers in order to reinforce their existence.

The experimenter explained that during the course of the experiment she would describe several common situations by selecting from the list provided. It was further explained that after the situation was read, both Speakers would be given the opportunity to report how they had behaved in this sort of situation in the past or how they think they would behave if the situation ever arose in the
future. The Speakers were instructed to observe their "comment signal" lights in order to know when to make their comments. They were also cautioned to limit their comments to approximately 30 s. The subject was led to believe that the Speakers could not hear each other's comments. The participants were further informed that after Speaker 2 finished his comments, the "Behavior Change" signal would light up automatically and they were then to indicate the likelihood of changing their behavior in the future for the situation just discussed. At the invitation of the experimenter, each of the Speakers asked one pre-recorded question. The subject was then allowed to ask questions.

In all conditions an experimental trial began with the experimenter indicating the number of the situation on the subject's list and then reading the question aloud. This was followed by the illumination of the "Listen to Speaker 1" signal and the simultaneous initiation of the masculine speaker's tape recorded passage. When the comments were completed, the tape was stopped and the "Listen to Speaker 1" light was extinguished. At this time the conditioned stimulus signal ("Press switch when ready to hear Speaker 2 comment") was turned on, and the latency timer was initiated.

When the subject performed the instrumental escape response, the latency timer stopped. In the continuous reinforcement condition the instrumental escape response resulted in the illumination of the "Listen to Speaker 2" window and the initiation of the androgynous speaker's tape recorded passage; this was the case on all 10 trials. The instructions for the partial reinforcement conditions (50% and 30%) were similar to those used in the continuous reinforcement condition. The notable exception was that it was stated that Speaker 2 would be required to comment on only certain situations. The subject was still required to perform the instrumental escape response, but she was informed that in the event that Speaker 2 was not required to comment there would be a brief pause and the "Listen to Speaker 2" signal would not be illuminated. Thus, on 5 and 7 of the
trials, respectively, only the masculine speaker was heard.

When the androgynous speaker's comments ended on a reinforced trial, the "Listen to Speaker 2" window darkened and the "Behavior Change" signal was illuminated. When 25 s of silence had elapsed on a non-reinforced trial, the "Behavior Change" signal was illuminated. The experimental trial was complete when the subject indicated her choice on the 5-button behavior change panel.

Following completion of the trials, the Speakers and the subject were instructed to locate a clipboard placed in their cubicles. The subject's packet contained a s-BSRI and the post-conversation questionnaire. When the subject indicated over the headset that she had completed the questionnaires, the experimenter entered the subject's room and debriefed her as to the true nature of the study. The experimenter answered all questions to the subject's satisfaction and offered to send her the results of the experiment. The subject was then asked to complete a Subject Reaction Questionnaire and a short demographic questionnaire.
RESULTS

Manipulation Check

As noted above, the comments and personalities of both speakers were rated on the dimensions of masculinity and femininity. Adjectives describing the speakers' comments and personalities appeared as two separate sections on the evaluation questionnaire. This format was chosen in advance so as to detect any distinction the subjects may have made between what a person says (comments) and what that person is really like (personality). As expected, Speaker 1's comments were rated as more traditionally masculine than Speaker 2's comments (M = 6.62 vs M = 2.83), F(1,63) = 310.87, p < .001. And, Speaker 2's comments were rated as more traditionally feminine than Speaker 1's comments (M = 3.80 vs M = 1.41), F(1,63) = 97.41, p < .001.

The subjects' evaluations of the masculinity and femininity of the Speakers' personalities followed a similar pattern. Speaker 1 was rated as more masculine than Speaker 2 (M = 6.03 vs M = 3.59), F(1,63) = 86.80, p < .001, and Speaker 2 was rated as more feminine than Speaker 1 (M = 3.55 vs M = 1.47), F(1,63) = 129.10, p < .001.

The present study hypothesized that the subject (i.e., the Listener) would find

\[1\] A comparison of the two male confederates' portrayal of the masculine and androgynous Speakers revealed that in two cases the tape version led to differential evaluations. The analysis revealed a significant interaction for clarity of comments, with the evaluations for only the masculine speaker being significant. The results also indicated a significant main effect for mental health and a post-hoc inspection of the cell means indicated that again the effect was due to the confederates different portrayals of the masculine speaker. However, given the relative equivalence of the two versions of the masculine and androgynous dialogues, all statistical analyses were conducted without regard for this variable.

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the opportunity to listen to the androgynous Speaker reinforcing, after having listened to the masculine-typed Speaker, and that the subject's response speeds would be influenced by the proportion of reinforcement. Consistent with the manipulation, the subjects' ratings of masculinity and femininity of Speaker 2's comments were approximately equal ($M = 2.83$ and $M = 3.80$, respectively). Furthermore, Speaker 2's personality was rated by the subjects as equally masculine and feminine ($M = 3.59$ and $M = 3.55$, respectively). As noted above, moderate to high ratings on the dimensions of masculinity and femininity defines the androgynous person. These means are comparable to other studies utilizing rating scales similarly anchored (e.g., Jackson, 1983).

**Analysis of Escape Response Speeds**

Figure 1 shows the response speeds for the 100%, 50%, and 30% reinforced groups. As predicted, the speed of the instrumental response was an increasing function of the number of reinforced trials, with the continuous group showing superior performance to the two partially reinforced groups.

Scoring and data analysis closely followed the analogous procedures of conditioning research. The subjects' latencies were transformed into speeds by the reciprocal transformation (speed = 100/latency) for each trial. A 3 x 10 repeated measures analysis of variance (Groups x Trials) revealed that the groups main effect, although in the expected direction (i.e., continuous reinforcement faster than partial reinforcement), did not reach a conventional level of significance, $F(2,63) = 1.84, p = .17$. Typically, the different groups in a continuous experiment begin at a similar low level of performance, with the differences in performance developing over the course of trials. As a general rule, therefore, tests for differences between the various experimental groups are
Figure 1

Acquisition Curves Under Partial and Continuous Reinforcement
made late in learning over a block of the last few trials. A series of t-tests using MS pooled (Kirk, 1968, p. 265) revealed a significant difference between the 100% reinforcement group and the 50% reinforcement group over a block of the last three trials, \( t(42) = 1.91, p < .05 \). The 100% and 30% reinforcement groups differed similarly, \( t(42) = 1.37, p < .10 \). The results also indicated that the two partial reinforcement groups did not differ across a block of the last three trials.

The analysis also evidenced a significant trials main effect, \( F(9,567) = 13.61, p < .001 \). When subjects were presented the opportunity to listen to an androgynous male after hearing a traditional masculine male, response speeds increased across the ten trials. This result is important in that it indicates that learning occurred. Simple main effects tests conducted across the ten trials for each experimental group revealed that all the groups acquired the instrumental response: \( F(9,189) = 4.61, p < .001 \), for the 100% group; \( F(9,189) = 5.19, p < .001 \), for the 50% group; and \( F(9,189) = 5.72, p < .001 \), for the 30% group. The Greenhouse-Geisser correction factor for the equal degree of dependence assumption confirmed the statistical reliability of the acquisition effects.

**Evaluation of Speakers' Comments and Personality**

A correlational analysis performed on the subjects' evaluations of the Speakers' comments and personality, to be outlined below, revealed less than half (48%) of the coefficients to be statistically reliable. Following procedures suggested by Tabachnick and Fidell (1983), a series of univariate analyses of variance, rather than a multivariate analysis, were performed. Each dimension was analyzed using a 3 x 2 repeated measures design with the experimental groups (100%, 50%, and 30% reinforcement) as the between factor and the subjects' evaluations of Speaker 1 and Speaker 2 as the repeated factor.

The analysis revealed two significant main effects for the experimental groups: the clarity of the Speakers' comments, \( F(2,63) = 3.04, p = .05 \), and the appropriateness of the Speakers' comments, \( F(2,63) = 3.17, p < .05 \). These two
main effects were further analyzed using a series of pairwise t-tests. The 100% group rated the Speakers' comments as significantly clearer than the 50% group, $M = 5.68$ vs $M = 4.82$, $t(86) = 2.48$, $p < .05$. In addition, the 100% reinforcement group found the Speakers' comments to be more appropriate than the 50% reinforcement group, $M = 5.07$ vs $M = 4.32$, $t(86) = 2.51$, $p < .05$. Because the analysis of the experimental groups main effect confounds the evaluation of Speaker 1 and Speaker 2, an analysis of the repeated factor is more theoretically interesting. Speaker 1 and Speaker 2 were found to differ on a number of important dimensions. As noted above, Speaker 1's comments and personality were rated as more masculine than Speaker 2's. And, Speaker 2's comments and personality were rated as more feminine than Speaker 1's.

As predicted, the subjects rated Speaker 2's comments as more appropriate than Speaker 1's comments ($M = 5.18$ vs $M = 4.17$), $F(1,63) = 22.33$, $p < .001$, and more honest than Speaker 1's comments ($M = 6.14$ vs $M = 5.42$), $F(1,63) = 11.49$, $p < .001$. The subjects also found Speaker 2 to be significantly more likable than Speaker 1 ($M = 5.58$ vs $M = 3.41$), $F(1,63) = 73.98$, $p < .001$. Furthermore, Speaker 2 was judged more moral than Speaker 1 ($M = 5.39$ vs $M = 4.35$), $F(1,63) = 32.58$, $p < .001$. Finally, Speaker 1 was rated as more heterosexual than Speaker 2, ($M = 6.47$ vs $M = 5.49$), $F(1,63) = 26.12$, $p < .001$. As previously mentioned, the fact that Speaker 2 was not rated as homosexual supports the contention that Speaker 2 was perceived as androgynous rather than feminine. The hypotheses that Speaker 2 would be judged more intelligent and mentally healthy than Speaker 1 were not confirmed. Although the results were in the expected direction, the differences in the subjects' evaluations of intelligence and mental health failed to reach an acceptable level of significance.

Only one significant interaction was evidenced. Simple main effects tests revealed that the masculinity of Speaker 2's comments was rated significantly higher by the 30% reinforcement group than the 100% reinforcement group,
\( t(42) = 2.39, p < .05 \) (two-tail). More important is the fact that none of the other evaluations of Speaker 1 and Speaker 2 interacted with the proportion of reinforcement received by the experimental groups.

**Exploratory Analyses**

**Classification of subjects.** Subjects were assigned to one of four categories: masculine-typed (high masculinity-low femininity), feminine-typed (low masculinity-high femininity), androgynous (high masculinity-high femininity), and undifferentiated (low masculinity-low femininity). This was accomplished by using the median split method of scoring the s-BSRI advocated by Spence, Helmreich and Stapp (1975). Three subjects were excluded from the analysis because s-BSRI's were not available due to incomplete forms.

The median for the masculinity and femininity scales were 4.96 and 5.83, respectively. The median masculinity score for this sample was comparable to other college sample medians reported by Bem (1977), Kulik and Harackiewicz (1979), and Orlofsky (1982). The median femininity score for the present sample was notably higher than the 4.85 frequently reported by other researchers.

Sex-role classifications are presented in Table 2. Two distributions are presented: first, a distribution based on the sample medians and second, a distribution based on normative medians. These data are offered for descriptive purposes and no explanation which would be beyond the scope of this project is advanced.

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Insert Table 2 about here

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**Subjects' sex-role and evaluation of Speakers.** A 4 x 2 (Subjects Sex-Role Category x Speaker) repeated measures analysis of variance revealed that subjects classified as feminine, androgynous, masculine, and undifferentiated did not rate the Speakers differently on any of the evaluative dimensions. Thus, the
Table 2
Distribution Of Subject's Sex Role Classification

<table>
<thead>
<tr>
<th>Sex Role Category</th>
<th>Medians</th>
<th>Feminine</th>
<th>Androgynous</th>
<th>Masculine</th>
<th>Undifferentiated</th>
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<td><strong>Sample</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>M scale = 4.96</td>
<td>13 (20)^a</td>
<td>18 (29)</td>
<td>14 (22)</td>
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<tr>
<td>F scale = 5.83</td>
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<tr>
<td><strong>Normative</strong>^b</td>
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</tr>
<tr>
<td>M scale = 4.85</td>
<td>26 (41)</td>
<td>30 (48)</td>
<td>5 (8)</td>
<td>2 (3)</td>
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<tr>
<td>F scale = 4.85</td>
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</table>

**Note:** M = masculine, F = feminine.

^aPercent based on N = 63. ^bNormative data were derived from research reported by Bem (1977).
relationship between the subjects' self-rated sex-role and their evaluations of the Speakers was explored using each subject's masculinity and femininity score rather than their sex-role category. Correlational analyses revealed that the subject's degree of masculinity was positively related to ratings of the masculinity of Speaker 2's comments, \( r(61) = .28, p < .03 \), and the honesty of Speaker 2's comments, \( r(61) = .29, p < .03 \). The subject's level of masculinity was negatively related to ratings of Speaker 1's femininity, \( r(61) = -.23, p = .07 \). Finally, the subject's femininity was positively related to ratings of the honesty of Speaker 2's comments, \( r(61) = .28, p < .03 \), and negatively related to judgements of Speaker 1's mental health, \( r(61) = -.25, p < .05 \).

**Intercorrelation of evaluations of Speakers.** The intercorrelations of the subjects' evaluations of Speaker 1 and his comments are presented in Table 3. The analyses indicate that the more clear Speaker 1's comments were rated, the less feminine his comments were rated, the more masculine (personality), more intelligent, more moral, less feminine (personality), and more mentally healthy he was judged. The more appropriate Speaker 1's comments were evaluated, the more likable, intelligent, moral, and mentally healthy he was rated. The more honest Speaker 1's comments were rated, the more intelligent he was judged. The less feminine Speaker 1's comments were found to be, the more masculine (personality), less feminine (personality), and more mentally healthy he was rated. The more likable Speaker 1 was found to be, the more masculine (personality), intelligent, moral, mentally healthy and the less feminine (personality) he was judged. Higher ratings of Speaker 1's masculinity (personality) were associated with higher ratings of his intelligence and lower ratings of his femininity (personality). Higher ratings of Speaker 1's intelligence
Table 3
Intercorrelations Of Evaluation Of Speaker 1

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<td>-.098</td>
<td>-.131</td>
<td>-.013</td>
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</table>

Personality

| Likable (6) | .192 | -.110 | .376*** | .216 |
| Masculine (7) | .341*** | .120 | -.029 | .052 |
| Intelligent (8) | .254* | -.054 | .353*** | .287* |
| Moral (9)    | .323** | -.214 | .425**** | .211 |
| Feminine (10) | -.360*** | -.169 | -.122 | -.140 |
| Mental Health (11) | .335** | .137 | .336** | .166 |
| Heterosexuality (12) | .129 | .209 | -.063 | .079 |

* p < .05  ** p < .01  *** p < .005  **** p < .001

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Table 3 (cont'd)

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<td>.083</td>
<td>.194</td>
<td>.263*</td>
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* p < .05  ** p < .01  *** p < .005  **** p < .001
Table 3 (cont'd)

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<td>.397***</td>
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* p < .05  ** p < .01  *** p < .005  **** p < .001
was associated with less femininity (personality) and higher levels of morality, mental health, and heterosexuality. The more moral Speaker 1 was rated, the more mentally healthy he was judged. And, the less feminine (personality) he was rated, the more mentally healthy and heterosexual he was rated. Finally, Speaker 1's mental health was positively associated with his heterosexuality.

The intercorrelations of the evaluations of Speaker 2 and his comments are presented in Table 4. The clearer the subjects found Speaker 2's comments to be, the more appropriate they found his comments and the more likable, intelligent, moral, mentally healthy, and heterosexual they rated him. The more his comments were judged to be masculine, the less feminine his comments were rated and the more masculine his personality was rated. The more appropriate Speaker 2's comments were rated, the more likable, masculine (personality), intelligent, moral, mentally healthy, and heterosexual he was rated. The more feminine Speaker 2's comments were rated, the less masculine (personality), more feminine (personality), and less heterosexual they rated him. Speaker 2's likableness was positively associated with his masculinity (personality), intelligence, morality, mental health, and heterosexuality. The more masculine Speaker 2's personality was rated, the more intelligent, less feminine (personality), more mentally healthy, and more heterosexual he was rated. The more intelligent the subjects rated Speaker 2, the more moral, less feminine (personality), and more mentally healthy they judged him to be. The morality of Speaker 2 was negatively associated with ratings of his femininity (personality), but positively associated with ratings of his mental health and heterosexuality. The more feminine Speaker 2's personality was judged, the less heterosexual he was rated. Finally, the more mentally healthy Speaker 2 was rated, the more
Table 4
Intercorrelations Of Evaluation Of Speaker 2

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<td>.333**</td>
<td>-.024</td>
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* p < .05   ** p < .01   *** p < .005   **** p < .001
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<tr>
<td>Feminine (5)</td>
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</tbody>
</table>

**Personality**

| Likable (6)    | -.154|      |      |      |
| Masculine (7)  | -.427****| .418****|      |      |
| Intelligent (8)| -.103| .506****| .389****|      |
| Moral (9)      | .064 | .355***| .134 | .298* |
| Feminine (10)  | .641****| -.155| -.473****| -.249* |
| Mental Health (11)| .045| .565****| .311**| .430**** |
| Heterosexuality (12)| -.281*| .254*| .347***| .199 |

* p < .05  ** p < .01  *** p < .005  **** p < .001
Table 4 (cont'd)

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<td>Appropriate (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honest (4)</td>
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<td></td>
<td></td>
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<tr>
<td>Feminine (5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Likable (6)</td>
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<td></td>
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<tr>
<td>Masculine (7)</td>
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<td></td>
</tr>
<tr>
<td>Intelligent (8)</td>
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<tr>
<td>Moral (9)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Feminine (10)</td>
<td>-.249*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Health (11)</td>
<td>.295*</td>
<td>-.228</td>
<td></td>
</tr>
<tr>
<td>Heterosexuality (12)</td>
<td>.258*</td>
<td>-.485****</td>
<td>.394****</td>
</tr>
</tbody>
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* p < .05 ** p < .01 *** p < .005 **** p < .001
heterosexual he was judged to be.

Subjects Evaluation of Experiment

The subjects' evaluations of the experiment were very positive. The ratings of the experiment can be found in Table 5. The subjects enjoyed participating in the experiment (M = 6.11), found the experiment instructive about themselves (M = 4.29), and reported that they were quite willing to participate in another experiment (M = 6.12). The experiment was judged by the subjects to be instructive about the social sciences (M = 4.92). Consistent with previous research (Cramer, McMaster, Bartell, and Dragna, 1986), the subjects reported that their trust in authority was unaffected by their participation in an experiment involving deception (M = 4.19). Finally, the majority of subjects reported that their positive evaluation of experimental research was the same or somewhat more positive after having participated (M = 4.74).

All of the subjects reported that they thought the research should be permitted to continue, that the explanations about the experiment was satisfactory, and that they were not resentful about having been deceived. The research was found to be justified by 98.5% of the subjects; an equal percentage did not regret participating in the experiment.

Correlational analyses indicated that the subjects' ratings of their enjoyment of the experiment was positively related to how instructive they found the experiment to be about themselves, r(64) = .45, p < .001, and the social sciences, r(64) = .54, p < .001. Enjoyment ratings were also positively related to the subjects' willingness to participate in another experiment, r(64) = .69, p < .001, and how positively they evaluated experimental research, r(64) = .41, p < .001.
Table 5
Percent Of Subjects' Response To Questions About The Experiment

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Quite</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. enjoyed participating</td>
<td>0</td>
<td>0</td>
<td>6.1\textsuperscript{a}</td>
<td>4.5</td>
</tr>
<tr>
<td>2. instructive about the social sciences</td>
<td>4.5</td>
<td>4.5</td>
<td>13.6</td>
<td>10.6</td>
</tr>
<tr>
<td>3. instructive about myself</td>
<td>12.1</td>
<td>9.1</td>
<td>16.7</td>
<td>10.6</td>
</tr>
<tr>
<td>4. willing to participate in another experiment</td>
<td>0</td>
<td>1.5</td>
<td>7.6</td>
<td>4.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Much less</th>
<th>Less</th>
<th>Somewhat less</th>
<th>Same</th>
<th>Somewhat more</th>
<th>More</th>
<th>Much more</th>
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<tbody>
<tr>
<td>5. trust in authority</td>
<td>0</td>
<td>1.5</td>
<td>1.5</td>
<td>83.3</td>
<td>3.0</td>
<td>10.6</td>
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<td>6. evaluation of experimental research</td>
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<td>3.0</td>
<td>50.0</td>
<td>25.8</td>
<td>12.1</td>
<td>9.1</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Percent based on N = 66.
Table 5 (cont'd)

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Should the research be permitted to continue?</td>
<td>100.0</td>
<td>0.0</td>
</tr>
<tr>
<td>8. Is the research justified?</td>
<td>98.5</td>
<td>1.5</td>
</tr>
<tr>
<td>9. Did the explanations satisfy you?</td>
<td>100.0</td>
<td>0.0</td>
</tr>
<tr>
<td>10. Do you regret participating?</td>
<td>1.5</td>
<td>98.5</td>
</tr>
<tr>
<td>11. Are you resentful about having been deceived?</td>
<td>0.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Percent based on N = 66.*
As expected, the ratings of the experiment's instructiveness about the social sciences was positively related to how instructive they found the experiment to be about themselves, $r(64) = .58, \ p < .001$, their willingness to participate in another experiment, $r(64) = .35, \ p < .003$, and how positively they evaluated experimental research in general, $r(64) = .26, \ p < .04$. Positive relationships were also found between the subjects' ratings of how instructive about themselves they found the experiment to be and their willingness to participate in another experiment, $r(64) = .41, \ p < .001$, and their trust in authority, $r(64) = .28, \ p < .03$. Finally, the subjects' willingness to participate in another experiment and their trust in authority were both positively related to their favorable evaluations of experimental research, $r(64) = .37, \ p < .002$, and $r(64) = .37, \ p < .002$, respectively.
DISCUSSION

Social Learning Effects

Consistent with previously reported research, escape conditioning methodology has proven to be useful in the analysis of important social phenomena: altruism (Weiss, Buchanan, Altstatt, & Lombardo, 1971), competition (Steigleder et al., 1978), speaking in reply (Weiss, Lombardo, Warren, & Kelley, 1971). The results of the present research provides evidence for the reinforcing effects of androgyny: Both acquisition effects and partial reinforcement effects were evident. After having listened to a masculine male speaker, female subjects learned to press an instrumental response switch that resulted in the opportunity to hear an androgynous male speaker. Figure 1 shows the gradual learning curves of response speed, just as in learning research. And, subjects provided with the opportunity to listen to the androgynous male on only some of the conversation trials, responded significantly slower than the continuously reinforced subjects.

The learning interpretation of the group differences in escape speeds is enhanced by the finding that the experimental group factor did not interact with the sex-role factor. An inspection of the cell means indicated that subjects in the three experimental groups did not differ in their evaluations of the masculine speaker's clarity of comments, masculinity, honesty, likableness, intelligence, morality, femininity, and perceived mental health. However, in one case a significant difference was found: Subjects in the 100% reinforcement group rated the masculine speaker's comments as more appropriate than did subjects in the 50% reinforcement group. If the response speeds are explainable in terms of differences in the perception of the appropriateness of the masculine speaker's comments and not the reinforcement schedule, then a different pattern of results
should have been observed. In aversive conditioning higher shock levels result in faster escape speeds when the aversive drive is reduced to zero (Marx, 1969; Nation, Wrather, & Mellgren, 1974). Hence, if subjects in the 100% reinforcement group found the masculine speaker's comments to be more appropriate, and therefore less aversive than subjects in the 50% group, then response speeds in the partial group should be faster than the continuous group. Recall that all subjects listened to ten comments from the masculine speaker. The pattern expected when different shock magnitudes are manipulated was not observed.

The subjects' evaluations of the androgynous speaker's comments did not evidence differences between the three experimental groups with one exception: Subjects receiving 100% reinforcement reported finding the androgynous speaker's comments to be significantly clearer than subjects in the 50% condition. Therefore, response speed differences may simply represent differences in verbal clarity. However, it is important to note that this difference represents a post-hoc analysis of the cell means, inspected despite the absence of a significant interaction effect. As such, the difference may represent more of a Type 1 error effect than a theoretically relevant phenomenon. Although the clarity of the androgynous speaker's comments may represent a spurious effect, it is important to note that this variable did correlate with other variables which are arguably indicative of articulate expression (i.e., appropriateness of comments, intelligence, mental health) and as such may represent a viable explanatory reinforcer. Overall, a preponderance of the evidence leads to the conclusion that the observed response speeds represent continuous and partial reinforcement effects rather than different between-group perceptions of the androgynous and masculine speakers' comments and personalities.

The assumption that the masculine male's comments would be found less desirable, and hence motivate the subjects' escape responses, was further supported by the subjects' evaluations of the masculine and androgynous
speakers' comments and personalities. For example, the androgynous speaker's comments were found to be more appropriate and honest than the masculine speaker's comments. The subjects also reported liking the androgynous male more and judged him to be more moral than his masculine counterpart. It is important to note that the subjects' evaluations of the Speakers did not differ on the dimensions of clarity of comments, intelligence, and mental health--variables which might have affected the perceived quality of the verbal presentations. Despite using very different procedures, the subjects' evaluations of the masculine and androgynous speakers reported here parallel results found in the literature. Empirical investigations of sex-roles and related phenomenon favor a methodology in which subjects evaluate short written protocols or descriptions. Because these descriptions are written, the subject receives information which is necessarily limited. In fact, several studies (e.g., Korabik, 1982) report manipulations involving only two trait adjectives. In the present study, subjects were led to believe that they were listening to other experimental participants reveal personal aspects of themselves. Not only did subjects hear the material from people they believed were relating actual behaviors, they also received information about the actors' behavior in a variety of situations. To be sure, the physical arrangement of the apparatus, the experimenter's behavior, and the instructions served to implant in the subject's mind the impression that she was participating in a three person interaction. It can also be argued that this experimental arrangement, with its mundane realism, contributes importantly to our understanding of individual responses to masculine and androgynous behaviors and attitudes.

**Subjects' Evaluation of the Experiment**

In general, the subjects' responses to the experiment were very positive. Tesch (1977) argued that post-experimental debriefing serves both an ethical
and educational purpose. Effective debriefing insures "that participants do not leave experiments feeling less positive or more negative about themselves than they did when they entered the experimental setting," and "that our participants receive an educational benefit in return for their efforts on our behalf" (Tesch, 1977, pp. 218 and 220, respectively). For the present research the post-conversation debriefing and interview session was constructed to achieve the two goals outlined by Tesch (1977). Meeting the ethical goal involved overcoming the general negative effects of having been deceived. Achieving the educational goal included informing the subjects about sex-role research, and the role subjects and experiments play in understanding social behavior.

First, the subject was provided with information about the hypotheses tested, the reasons for the deception, and information about standard safeguards psychologists use when conducting research (e.g., adhering to American Psychological Association guidelines, gaining approval from a department ethics committee, participant anonymity). Second, the subject was assured that her responses reflected her performance in a highly contrived, laboratory-bound situation, and were consistent with previous findings from our laboratory and other laboratories doing similar research. Third, the subject was encouraged to ask as many questions as she wished. The session was concluded when all of the subject's questions were answered to her satisfaction. A typical debriefing lasted 20-30 min after the subject completed the experiment's conversation phase.

Responses to the Subject Reaction Questionnaire indicated that the subjects enjoyed participating in the experiment, finding it instructive about themselves and the social sciences. As a result of these positive attitudes, the subjects reported they were quite willing to participate in another experiment. Consistent with previous research (Cramer et al., 1986), subjects reported that their initial level of trust was unchanged by having participated in an experiment involving
All of the subjects reported that they thought the research should be permitted to continue; they found the explanations about the experiment satisfactory; and they were not resentful about having been deceived. The research was found to be justified by the majority of subjects, with an overwhelming number indicating that they did not regret their participation.

The subjects' enjoyment of the experiment was found to be related to the educational quality of the research. Correlational analyses indicated that enjoyment ratings were positively related to how instructive the subject found the experiment to be about herself and about the social sciences. Not surprisingly, higher enjoyment ratings were associated with a greater willingness to participate in another experiment. These data support the conclusion that research designed as an instructional exercise, as well as a scientific tool, will be regarded favorably by participants, despite the use of deception.

The Nature of Androgyny

From the heading of this section the reader may be inclined to expect insights into the androgyny construct. However, the purpose of this section is not to address the many issues that have developed in the sex-role literature over the past 25 years. Rather, the concern is narrower in that it focuses on one important issue resulting from the use of a social learning-theoretical research strategy. The point of debate is: Are the subjects' responses motivated by the aversive nature of the masculine speaker, as was assumed in this research, or by the androgynous speaker's reinforcing character? Neither the question nor the answer is a trivial one. The answer is of central importance to any social learning-theoretical analysis because different patterns of results would be expected depending upon the nature of the motivation underlying the subjects' actions. How is it possible to determine whether the subjects were "escaping" the masculine speaker or "approaching" the androgynous speaker?
Unfortunately, a comparison between the continuous and partial reinforcement effects found in the present research does not provide an answer to this question. This is the case because instrumental reward (positive reinforcement) and instrumental escape (negative reinforcement) methods are not distinguishable on the basis of response speeds found in continuously and partially reinforced subjects. In both instances continuously reinforced subjects are expected to respond faster than partially reinforced subjects.

An instrumental escape procedure that could be used to shed light on the nature of androgyny is a situation in which the subject received comments from the masculine speaker on only some of the conversation trials, but heard the reinforcing androgynous comments on all of the trials. This procedure would be analogous to the intermittent shock paradigm (Franchina, 1969; Weiss, Williams, & Miller, 1972) and is distinguishable from the partial reinforcement procedure used in the present research. No comparable procedure is available for instrumental reward conditioning. In animal conditioning research the subject is shocked or exposed to another aversive stimulus (such as noise) on only some of the escape trials. Compared to subjects shocked on all trials, escape speeds for the intermittent shock group, despite receiving 100% reinforcement, are significantly slower. Using these results, a prediction can be made about how fast subjects would press a switch to listen to the androgynous speaker after listening to the masculine speaker on only a few conversation trials as opposed to all of them. If the subjects' responses are aversively motivated (e.g., an "escape" response), then the subjects listening to the masculine speaker on all of the conversation trials would be expected to respond faster than subjects listening to the masculine speaker on only some of the trials. On the other hand, if the subjects' responses are based on the androgynous speaker's reinforcing characteristics (e.g., an appetively motivated "approach" response), then both groups would be expected to respond as quickly. That is, if the amount of
reinforcement accounts for instrumental response speed, and all subjects are continuously reinforced, then the "frequency of shock" would be an irrelevant factor.

The purpose of the present research was to determine whether androgyny functions as a reinforcer. If the proposed similarity between androgyny and conventional reinforcers is to be more than a superficial one, it is essential to demonstrate that androgyny exhibits a number of the fundamental properties of reinforcement, including delay of reinforcement effects and magnitude of reinforcement effects. In instrumental conditioning, response speed is a decreasing function of the delay of reinforcement and an increasing function of the magnitude of reinforcement. Assuming that the conversation paradigm reported here is analogous to the learning paradigm of instrumental escape conditioning, the following predictions can be made: (a) response speed is a decreasing function of the delay of the reinforcing opportunity to listen to an androgynous speaker, and (b) response speed is an increasing function of the magnitude of the androgynous speaker's reinforcing characteristics.

Manipulation of the delay of reinforcement variable involves examining several groups of subjects exposed to the masculine and androgynous speakers on all of the conversation trials. Following the instrumental response, the opportunity to listen to the androgynous speaker would be either immediately forthcoming or delayed. Delays of 1 s, 3 s, and 5 s, have been used in the study of other social processes with the expected effects (see Steigleder et al., 1978; Weiss, Boyer, Colwich, & Moran, 1971).

Two analogies for examining the magnitude of reinforcement effects suggest themselves. This analysis involves manipulating the amount of androgynous information found in the androgynous speaker's comments. This variable was controlled in the present research. For example, on each conversation trial one group of subjects would be exposed to a speaker providing only one
androgynous comment while another group would be exposed to a speaker who
gave three androgynous comments. Both groups of subjects would be exposed
equally to the masculine speaker. Subjects given the opportunity to listen to the
androgynous speaker who gave three androgynous comments on each trial
would be expected to respond faster than subjects listening to a speaker who
provided only one androgynous comment on each trial. Another way of
manipulating the magnitude of reinforcement involves the amount of time the
subject is exposed to the androgynous speaker. For example, response speeds
could be compared for subjects who were given the opportunity to listen to the
androgynous speaker for 30 s and subjects who were given the opportunity to
listening to the androgynous speaker for only 10 s. Because of the different
speaking times, the amount of information delivered would have to be controlled.
Response speeds are expected to be faster for the 30 s group. The delay of
reinforcement and magnitude of reinforcement predictions presented here are
intended to be illustrative rather than exhaustive. Additional predictions involving
the reinforcing effects of androgyny, such as correlated reinforcement and the
effects of non-reinforced (extinction) trials, can be offered.

Summary and Conclusion

Previous research has demonstrated that women describe the "ideal" man as
androgynous. The findings of the present study lend support to the conclusion
that many women find androgynous men desirable, and may even regard the
masculine male as undesirable. It is interesting to note that the women in this
study (regardless of whether they were classified as androgynous, feminine,
masculine, or undifferentiated) liked the androgynous male and found his
comments reinforcing. The results of the present research permit only
speculation about the socio-cultural factors which contribute to the current
state-of-affairs. Perhaps women, as they enjoy greater latitude in the expression
of their masculinity and femininity, find men who are less restricted in their
sex-role orientation more attractive, and therefore, more rewarding.
APPENDIX A

Verbatim Transcripts of Speakers' Dialogues

Question 1: You are attracted to someone in one of your classes. What would you be likely to do?

Speaker 1 (confederate A): Well, let's see... I would... I'm kinda the outgoing type, so what I'd probably do is go up to her at break and, you know, start talking about the professor, or possibly the homework, and... just... I'm really not afraid to talk to girls, so I'd just probably tell her that I noticed her at break, and get her telephone number so that, you know, we could probably go out... uh, go out sometime. And... I usually like to take my dates to dinner or possibly a movie.

(confederate B): Well, let's see... I'm really outgoing, so, you know, I'd probably just go up to her at the break and start talking about something... like the professor, or homework, or, you know... whatever. I'm not afraid to talk to girls, and oh, I could tell her that I noticed her and ask her out on a date. You know, I... I like to take my dates out for... maybe dinner and a movie or something like that.

Speaker 2 (confederate A): Well... I was afraid you were gonna ask that one. Well, I hate to admit it, but I... I'm kinda shy around girls. Oh, I really don't know what to do around them. Um... well, I'd probably just let her, uh, make the first move and come over and talk to me, you know. I'd hope she'd ask me out on a date, 'cuz I'm too afraid to talk to her.

(confederate B): Well, gee, I don't know. Uh... I doubt if I'd do anything, really... cuz, I'm, you know, a pretty shy kinda guy, so... I probably... I'd be afraid to let her know I was interested in her because she may not like me anyhow. I'd just, you know, kinda hope that she'd like me, too, and maybe she'd
Appendix A (cont'd)

come and talk to me and ask me out on a date.

Question 2: You are watching a sad movie at home with your girlfriend and you feel as if you are about to cry. What would you do in this situation?

Speaker 1 (confederate A): Well, let's see... in the first place I don't even watch sad movies. The kind of movies I like to watch are probably westerns, science fiction... comedies I like. But if I had to sit there and watch a sad movie I'd probably be bored to death, and I wouldn't... uh... I wouldn't cry. 'Cuz I don't think that would do any good anyway... because it's only just a movie.

(confederate B): That's a real easy question. Um... you know, I don't watch sad movies. I like westerns, and, uh, science fictions. I really enjoy comedies, though... they're my favorites. But, you know, if I had to sit there and watch a sad movie, man, I'd really be bored. I'd never cry. What good would that do? It's only a movie.

Speaker 2 (confederate A): Oh, crying at sad movies, huh? I, you know... I usually don't hide my emotions. You know, it really doesn't matter who I'm with or where I am, you know. I... I've always kinda been that way, you know. I've been in a lot of movies and movies bring out a lot of sad emotions sometimes. And, you know, if it's real sad my girlfriend and I'd probably both be crying. Uh... you know, afterwards we could talk about it.

(confederate B): Well, you know, I usually don't hide my emotions, and it really doesn't matter where I am or who I'm with... so, I usually just go ahead and cry. Um... some of the movies bring out a lot of different emotions anyway, so, you know, if it was a real sad movie me and my girlfriend would
probably both be crying, you know. But then we could talk about it afterwards.

Question 3: You are required to complete some community volunteer work for a class you are enrolled in. What would you like to do?

Speaker 1 (confederate A): Well, let's see... being the ambitious type person, I've always been interested in firefighting. So I'd, you know, probably choose to do something like that, or I could... I could coach a Little League team, either football or baseball would be alright. Let's see... what else? I'd also be good in probably the Sheriff's Reserves.

(confederate B): What would I like to do? Um, you know, I'm really ambitious and I've always been interested in firefighting, so I think I'd choose to do something like that. Or, um, I could coach a Little League football team or a basketball team... that'd be kinda neat. Um, I think I'd also be good in the Sheriff's Reserves.

Speaker 2 (confederate A): Oh, volunteer work, huh? Well, what ever I do, I'd like to be a part of something where I get to help people, you know. You've seen those rape hotlines they have downtown, or suicide hotlines... that would be interesting. Or... what else could I do? Oh, I could work as a nurse's aide, or you know, even help out at a daycare center.

(confederate B): Well, let's see... what would I like to do? Uh, you know, I'd like to probably be a part of something where I could help people. Uh, maybe answering phones at a crisis hotline, or let's see... one of those rape or suicide hotlines. You know, something like that where you can spend time helping people. Or, you know, even maybe as a nurse's aide... or in a hospital. Or, you
Appendix A (cont'd)

know, I guess I'd maybe like to help out at a daycare center or something.

Question 4: Your car breaks down and the gas station mechanic says that it will cost $500.00 to fix it. What would you do in this situation?

Speaker 1 (confederate A): Gosh, five-hundred dollars! What the heck happened? Um, I don't have much faith in those gas station mechanics, and I'm pretty good with cars anyway... so I would just tell him to forget it and I'd take it home and go to the junkyard and maybe buy the parts there... and save some money.

(confederate B): Oh, five-hundred dollars, huh? Oh, something must have happened to that poor old car. Uh, fortunately, you know, I'm pretty good with cars and I've got a whole garage full of tools, so... you know, that's really not that big a problem for me. Um... I'd tell the mechanic just to forget it and just fix it myself, and uh, I could go to the junkyard and get some of the parts and save some money.

Speaker 2 (confederate A): Oh, you know, I really don't know anything about cars and I'm always afraid this is going to happen and some mechanic is just going to really take advantage of me. Uh... you know, in the end I'd just have to let him go ahead and fix it. I really feel pretty helpless, you know. I can't fix it myself... I just hope he wouldn't take me for every penny I had.

(confederate B): Well, you know, I have a pretty old car so I'm always afraid that's going to happen and some mechanic is really going to take advantage of me. Uh... I just don't know anything about cars and I guess I'd just have to go ahead and fix it and, you know, I'd have no other choice, I guess. Uh,
sometimes I feel pretty helpless 'cuz I don't--because I can't fix it myself. I just hope that he wouldn't take me for every penny that I have.

Question 5: You have the opportunity to use a VCR. What programs would you tape for later viewing?

Speaker 1 (confederate A): Oh, this is an easy one to answer, 'cuz I just got one for Christmas last year. Uh... and what I do with it is, just tape all the football games and boxing matches. And, it makes it kinda neat, 'cuz when my buddies come over and you have a few beers, you always have something to watch.

(confederate B): That's an easy question to answer. I've already got one. I got it last year for Christmas. Now I get to tape all the basketball games and all the boxing matches that are on. Uh, you know, and it's really great having these tapes because now when my buddies come over we sit down and have a few beers and we always have something to watch.

Speaker 2 (confederate A): Oh, you know, having a VCR... oh, that'd really be great, you know. Then I could ... I could tape the soaps I miss, you know, 'cuz I'm in school all day. And as it stands right now I have to call my mom and, you know, ask her what's happening to Marlena on "Days of Our Lives"... and that's really a pain. So, you know, having a VCR would really be a big help. I only wish I had the money to buy one.

(confederate B): Uh, use a VCR? Yeah, that'd be great. Um, then we could, you know, tape the soaps that I miss while I'm in class. Since school started I usually have to call my mom to find out what's happened to Marlena on
Appendix A (cont'd)

"Days of Our Lives." Hey, that's a really good idea. I wish I had the money to buy one.

Question 6: You have a Saturday afternoon free from all commitments. How would you spend this time?

Speaker 1 (confederate A): Well, let's see... free time... I've almost really forgotten what that is. Oh, no not really, just joking. Uh, let's see, if I had the afternoon to myself, I'd probably call up a couple of my friends and see if they'd want to go out motorcycle riding, or maybe even play a game of football.

(confederate B): Hmmmm... free time. Well, I'm taking an overload this quarter and I just don't have any free time anymore. Um... if I had an afternoon free, though... you know, I'd call up some of my buddies and ask them if they want to go dirt bike riding, or something like that. Or, see if they wanted to go play a football game.

Speaker 2 (confederate A): Oh, let's see, you know, I'm taking so many classes this quarter I really don't have any time at all. Man, I am so busy! But, you know what I really miss doin'? It sounds kinda silly, but I'd like to curl up next to a fireplace and just read a good book. Or, let's see... what else could I do? You know, if the weather's nice, I don't get a chance to see my mom much anymore, so I'd probably ask her out to lunch, or to go shopping, or maybe take her to a movie.

(confederate B): Well, let's see, you know, being a student I really don't have a whole lot of free time. Uh, well I guess what I'd really probably like to do is curl up by the fireplace and just read a good book. Or you know, if
Appendix A (cont'd)

the weather was nice I'd probably call up my mom and see if she'd like to, you know, go out to lunch. We could go shopping or even go to a movie.

Question 7: Your sister is going out of town for the weekend and she needs to leave her three-year old child with you. What would you do in this situation?

Speaker 1 (confederate A): Well, I... I don't know what I'd do. The first thing, I don't think my sister would even ask me to babysit 'cuz, uh, she knows how I - knows how I am. Ah... I'm not that good around the kids anyway. Uh... I just, I guess I'd just have to tell my sister I couldn't do it. But I guess if I absolutely had to... I'd probably have someone come over and babysit. I just, you know, find myself being too busy on the weekends and I couldn't get much done with a three-year old under my feet.

(confederate B): Oh, babysitting a three-year old kid, huh? Um, I'm not sure I could handle that, uh, besides my sister wouldn't even ask me. I mean, she knows how I am and she knows I'm not very good around the kids. Um, if she did ask I'd just tell her that I couldn't do it. Or, you know, I mean if I absolutely had to, I'd find someone to come over and babysit. Uh, after all, I'm busy on the weekends and I don't think I could get a whole lot done with a kid under my feet.

Speaker 2 (confederate A): Ooh... babysitting a three-year old kid, huh? Well, you know, that wouldn't be too bad. As a matter of fact, I have a nephew who's three and, man, he's a real pistol. And I get along real well with him so... You know, to tell you the truth, I'd like to have kids of my own, so I'm really sure we could find plenty of things to do together. I mean, you know, we could go to the
park or to the playground. And, you know, I can push him on the swings—he loves the swings—and, you know, if it was raining or something we could stay home, and we sing songs and play games like ring-around-the-rosies. And he even likes to help me make cookies.

(confederate B): Uh, well, I guess that wouldn't be too bad. Uh, as a matter of fact I do enjoy spending time with my nieces and nephews. You know, I really can't wait 'til I have my own kids. Uh, I'm sure we could find plenty of things to do together. You know, we could go to the park, or to the playground. Um, we could play on the swings over there. We could stay home and sing songs or play games, you know, like ring-around-the-rosie, or we could even bake cookies.

Question 8: You have just found out that your girlfriend is cheating on you. What would you do in this situation?

Speaker 1 (confederate A): Oh, you know, I'd really be mad and I'd confront her with it because nobody's gonna make a fool out of me. You know, I would... I don't know... I'd demand to know who she was seeing and then I'd talk to that guy about it later. And then I'd dump her for good, 'cuz I don't stand for that kind of stuff. And anyway, there's plenty of other girls out there.

(confederate B): Oh... girlfriend's cheating on me, huh? I'd really be mad. And, I'd confront her with it because nobody makes a fool out of me. I'd demand to know who she was seeing, and I'd deal with that guy later. Um... then I'd dump her for good 'cuz I just don't stand for that kind of stuff, and, you know, there are plenty of other girls out there anyways.

Speaker 2 (confederate A): Oh, these questions are getting tough, you know?
Appendix A (cont'd)

Ah, heck... girlfriend's cheating on me. Well, yeah, I really hate to admit it, but, you know, I... I'd really be hurt. You know, I... I'd be hurt so much I'd probably even cry and uh, uh... really get depressed. Uh, you know... oh, what could I do? Oh, I'd probably, you know, try to talk to her and work things out, but, you know, in the end I'd probably just forgive her.

(confederate B): Oh, shoot... these are getting tough. Um, I don't know. I guess... um... I might have to... uh... I'd probably--definitely--be hurt. I hate to admit it, but it probably... I'd probably just end up crying and be depressed. I'd probably, uh... try to talk to her and work things out and maybe in the end I'd find a way to forgive her.

Question 9: If you had unlimited time and money, what career would you pursue?

Speaker 1 (confederate A): Well, let's see...what career would I pursue? Well, right now I'm working on a business degree with a special emphasis on international banking. But, uh, in the future I think I'd like to be head of a large... a large corporation that has offices abroad. Or, possibly the Chief Executive of Wall Street.

(confederate B): Oh, unlimited time and money, huh? That'd really be great. Right now I'm an undergraduate and I'm working on a business degree. You know, I really get a kick out of international banking and financing. So, uh, in the future I'd like to be the head of a large corporation that has offices abroad. Or, ah, possibly even the Chief Executive on Wall Street.

Speaker 2 (confederate A): Hmmm... unlimited time and money... oh, that's a
favorite fantasy of mine. Right now, I... I'm just an undergraduate and I take mostly art courses so... uh, you know, what I really think about doing is working in the fashion industry, but you know with my personality and everything I... I'd stick to the creative end of the business and I'd have to find someone who could handle the business side of it. You know, I could even open up a... uh, you know, a fashion shop.

(confederate B): Well, let's see... Uh, well right now I'm just an undergraduate taking mostly art courses. Uh, so I'd really like to work in the fashion industry. I'd probably have to find a partner who could handle the business end of the deal while I handle the creative end. You know, maybe... shoot, maybe even... uh, I'd like to open up a small fashion shop.

Question 10: Your mother is ill and your father is out of town. You have just been called home to help out with this situation. What would you do?

Speaker 1 (confederate A): Well I guess I'd go home if they asked me to... uh, but of course, you know, I couldn't take Mom's place 'cuz I just don't know how to do those sorts of things. Uh, I'd probably end up calling my sisters to come over and do the cooking and the cleaning. You know, those type of things that mom's do. Uh, but, you know, one thing I could do... I could take care of the yard or, you know, fix the car, pay the bills, or, you know, fix anything that was broken. You know, the kind of things that my father usually does.

(confederate B): Oh, what would I do? Well if they asked me, I'd go home. But of course, you know, I could never take Mom's place because I don't know how to do those sorts of things. I mean, you know, I'd have to call my sisters and have them come over to do the cooking and the cleaning--I am a
Appendix A (cont'd)

terrible cook! Um... you know, but I'm good at some things... I can take care of the yard and fix the car and make sure it's O.K. And, you know, pay the bills and maybe fix something that got broken. Uh, you know, the things that my dad usually does.

Speaker 2 (confederate A): Oh, what would I do... huh? Well... well, I'd go home and, you know, help out, you know, if I could. Uh, well... what could I do? Um, you know, I could do the cooking and the cleaning up after my little brothers. You know, basically the kind of stuff my mom does when she's feeling better. Um, you know, it really wouldn't bother me because, you know, I used to do that stuff when I lived at home anyways.

(confederate B): Uh... let's see... Mom's ill and Dad's out of town... uh, sure I'd go home and help. Uh... I could do the cooking. I could clean up, you know, after my little brothers... and basically just do the stuff that Mom does. And I don't mind because, uh, when I lived at home I used to do it all the time... just to help mom out.
APPENDIX B

Bem Sex Role Inventory (Short Form)

Below you will find listed a number of personality characteristics. We would like you to use those characteristics to describe yourself, that is, we would like you to indicate, on a scale from 1 to 7, how true of you each of these characteristics is. Please do not leave any characteristic unmarked.

Example: sly

Write a 1 if it is never or almost never true that you are sly.
Write a 2 if it is usually not true that you are sly.
Write a 3 if it is sometimes but infrequently true that you are sly.
Write a 4 if it is occasionally true that you are sly.
Write a 5 if it is often true that you are sly.
Write a 6 if it is usually true that you are sly.
Write a 7 if it is always or almost always true that you are sly.

Thus, if you feel it is sometimes but infrequently true that you are "sly", never or almost never true that you are "malicious", always or almost always true that you are "irresponsible", and often true that you are "carefree", then you would rate these characteristics as follows:

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APPENDIX C

Post-Conversation Questionnaire

Listener, Since you have had the opportunity to hear Speaker 1 and Speaker 2 comment, we would like you to complete these questionnaires. Please evaluate each of the Speakers by placing a check ( ) in the blank space that best describes how you feel. The Speakers will not be made aware of your evaluations.

1. After listening to Speaker #1 (#2)’s comments, I found them to be:

   very unclear ______ ______ ______ ______ ______ ______ ______

   traditionally masculine ______ ______ ______ ______ ______ ______

   very inappropriate ______ ______ ______ ______ ______ ______ ______

   very honest ______ ______ ______ ______ ______ ______ ______

   not traditionally feminine ______ ______ ______ ______ ______ ______

   very clear ______ ______ ______ ______ ______ ______ ______

   not traditionally masculine ______ ______ ______ ______ ______ ______

   very appropriate ______ ______ ______ ______ ______ ______ ______

   very dishonest ______ ______ ______ ______ ______ ______ ______

   traditionally feminine ______ ______ ______ ______ ______ ______
Appendix C (cont'd)

2. After listening to Speaker #1 (#2), I found Speaker #1 (#2) to be:

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very likable
not very likable
very masculine
not very masculine
very intelligent
not very intelligent
very moral
not very moral
very feminine
not very feminine
very mentally healthy
not very mentally healthy
very homosexual
APPENDIX D

Subject Reaction Questionnaire

Please place a check in the blank space to the right of the statement presented on the left.

Not at all Somewhat Quite Very
much

1. I enjoyed participating in this experiment.
   ____   ____   ____   ____   ____   ____   ____

2. I found the experiment instructive about the social sciences.
   ____   ____   ____   ____   ____   ____   ____

3. I found the experiment instructive about myself.
   ____   ____   ____   ____   ____   ____   ____

4. I am willing to participate in another experiment in the future.
   ____   ____   ____   ____   ____   ____   ____

As a result of participating in this experiment I am:

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5. Trusting in authorities
   ____   ____   ____   ____   ____   ____   ____

6. Positive about my evaluation of experimental research.
   ____   ____   ____   ____   ____   ____   ____

7. Should this research be permitted to continue? yes no
   ____   ____   ____   ____   ____   ____   ____

8. Is the research justified? yes no
   ____   ____   ____   ____   ____   ____   ____

80
Appendix D (cont'd)

9. Did the explanations about the purpose of the experiment satisfy you? ___ yes ___ no
10. Do you regret having participated in the experiment? ___ yes ___ no
11. Are you resentful about having been deceived? ___ yes ___ no
APPENDIX E

Demographic Questionnaire

1. How old are you? ______

2. Education
   A. Level (please check one)
      freshman ______
      sophomore ______
      junior ______
      senior ______
      graduate ______
   B. Major (please check one)
      Administration/Business ______
      Education ______
      Humanities ______
      Natural Sciences ______
      Social & Behavioral Sciences ______
   C. Highest degree you plan to obtain (please check one)
      B.A./B.S. ______
      M.A./M.S. ______
      Ph.D./M.D. ______
      Other ______
APPENDIX F

Consent Form

I understand that I am going to participate in a social psychology experiment. The experiment involves interpersonal communication and I understand that I can quit the experiment at any time. I also understand that my performance will be kept strictly confidential. I agree to participate.

NAME ____________________________

SIGNATURE ________________________

DATE ____________________________
REFERENCES


