



Sex, Sex-Roles, and Rater Response to Social Deviance:  
Psychopathology versus Criminality Attributions

by

John Briere

A thesis  
presented to the University of Manitoba  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy  
in  
Department of Psychology

Winnipeg, Manitoba

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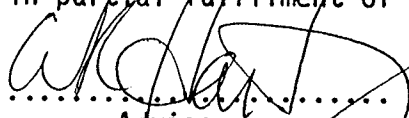
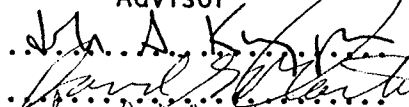
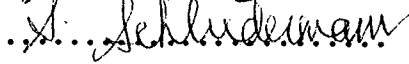
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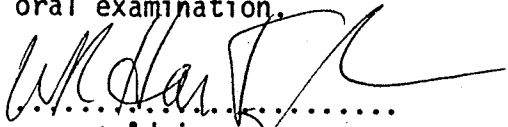
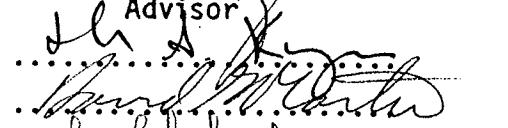
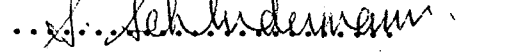
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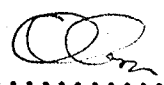
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PSYCHOPATHOLOGY VERSUS CRIMINALITY ATTRIBUTIONS

BY

JOHN BRIERE

A thesis submitted to the Faculty of Graduate Studies of  
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## ABSTRACT

Controversy continues as to the existence of sex bias in clinicians' and nonclinicians' evaluations of others' behavior. The present study examined this issue in two phases. In phase I, 140 male and female undergraduate subjects rated the sex-role appropriateness of 123 statements adapted from the MMPI. Based on their ratings, each item was categorized as socially acceptable, sex-typed, or unacceptable, and as male or female appropriate. In phase II, 150 male and female undergraduates were presented with each of these statements, and were asked to infer the extent of psychopathology and criminality each reflected, as well as the causal locus (internal versus external) for each. Subjects were alternately led to believe that all 123 statements were made by males, or by females, according to experimental condition. Data analysis indicated that clinical MMPI items in general and socially unacceptable MMPI items in particular were far more likely to be seen as female appropriate than male appropriate. When the MMPI items were combined into scales, males involved in sex-role inappropriate behavior on the Masculinity-Femininity scale were rated as more criminal and pathological than were females involved in sex-role violations. When analyzed according to the phase I categories, socially unacceptable



behavior was rated as more pathological, criminal, and internally located than sex-typed or socially acceptable behavior. Socially unacceptable masculine behavior was attributed greater pathology, criminality, and externality than was socially unacceptable feminine behavior, whereas socially acceptable feminine behavior was rated more negatively than socially acceptable masculine behavior. In addition, female sex-role violations involved a greater increase in criminality attributions than did male sex-role congruence. Finally, according to multivariate analysis, male speakers were rated as more criminal than female speakers, and male raters and sex-role traditional raters attributed greater criminality than did, respectively, females and non-traditional subjects. The data were interpreted in terms of cognitive consistency theory, which predicts less positive and more external attributions for unexpected behavior. It was concluded that although considerable evidence was found for sex-role stereotyping, actual sex discrimination was somewhat less common -- especially in the case of psychopathology attributions.

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## INTRODUCTION

Based partially on the impact of an increasingly more visible women's movement, and partially due to the groundbreaking work of two research teams (Broverman, Broverman, Clarkson, Rosenkrantz, and Vogel, 1970; Neulinger, Stein, Schillinger, and Welkowitz, 1970), the last decade and a half have witnessed a rapidly growing literature on sex-role stereotyping and sex discrimination in the process of psychodiagnosis and psychotherapy. These studies have included investigations of whether psychotherapists report having different standards of mental health for women as opposed to men, analogue experiments examining therapist and nontherapist judgements of "stimulus persons" for evidence of sex bias, and observations of potential sexist practice in actual counselling sessions. Paralleling these concerns, the American Psychological Association established a Task Force on Sex Bias and Sex-Role Stereotyping in Psychotherapeutic Practice, with a mandate to

(a) examine the extent and manner of sex bias and sex-role stereotyping in psychotherapeutic practice as they directly affect women as students, practitioners, and consumers; (b) recommend actions both within the formal structure of APA and to psychotherapists generally to reduce sex bias and sex-role stereotyping in psychotherapy; and (c) develop materials and methods of dissemination of relevant information to members of APA and to related professionals and institutions providing psychotherapeutic services (APA, 1975).

As will become apparent from the review of the literature which follows, however, there is far from unanimity among researchers as to whether sex bias actually occurs in psychotherapy or, if it does, what form it takes. The current review will present the data for and against a hypothesis of sex discrimination in one specific area of psychotherapeutic endeavor, the judgement of deviant behavior, as divided into three separate areas: self-reported sex-role stereotypes, naturalistic studies, and experimental (analogue) analyses. In the interest of completeness, this data will be presented, where possible, for both clinical and non-clinical evaluators.

### Sex-Role Stereotyping

#### Non-clinicians

Sex-roles and their resultant stereotypes can be described as "the sum of socially designated behaviors that differentiate between men and women" (Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz, 1972). Various investigators have defined sex-roles in different ways, although there seems to be some consensus in society's view of male sex-roles as more active and assertive, and female sex-roles as more social and expressive. Parsons and Bales (1955) divide socially defined male and female sex-roles into, respectively, "instrumental" versus "expressive" styles. Instrumental behaviors reflect a male focus on "getting the job done" and the use of problem-solving

strategies, whereas the expressive mode entails both the communication of feelings and thoughts, and sensitivity to the well-being of others. In a somewhat different approach, Bakan (1966) refers to the male role as "agentic", focussing on concern for self, and the female role as "communal," focussing on the relationship between self and others. In a factor analysis of subjects' descriptions of male and female characteristics, Reece (1964) found the male sex-role to revolve around "potency", involving traits such as power, strength, and robustness, as compared to the "social behavior" aspects of the female role, which included interpersonal sensitivity and consideration of others. Broverman, et al. (1972) surveyed the sex-role literature and concluded that the average undergraduate's perception of the male sex-role highlights competence, rationality, and assertion, such that males are generally seen as competitive, logical, independent, ambitious, etc., while the female sex-role is characterized by warmth and expressiveness, reflected in such "feminine" traits as gentleness, interpersonal sensitivity, expression of feelings, tactfulness, etc. According to Broverman and her colleagues (Broverman, et al., 1972; Rosenkrantz, Vogel, Bee, Broverman, and Broverman, 1968), each of these traits can be conceptualized as bipolar, with males and females typically falling at opposite ends of each continuum (e.g., male independence versus female dependence, and female tactfulness versus male bluntness).

Perhaps the most common methodology used to assess sex-role stereotyping in non-professional populations follows the development of the "Stereotype Questionnaire" (SQ) by the Broverman group (Rosenkrantz, et al., 1968; Broverman et al., 1970). The SQ contains 122 items, each of which represents a trait continuum (e.g., "Not at all aggressive" to "very aggressive"). In the first paper published on this instrument (Rosenkrantz, et al., 1968), 41 items were rated by university subjects as being more characteristic of one sex than the other by at least 75% of the 154 university students tested, and were designated "stereotypic" items. Another 48 items were rated as significantly more characteristic of one sex than the other ( $p < .05$ ) but not at such high levels of subject agreement as the stereotypic items, and were termed "differentiating" items. A final 33 items were not rated as more characteristic of either sex, and were defined as "non-differentiating." A total of 982 subjects, across a variety of age, marital, and educational groups, have been tested on the SQ by the Broverman group in six different studies. In their last major paper on the subject, Broverman, et al. (1972) report that 74 of the SQ items in at least four of these studies and 47 items in all six studies have been rated as significantly ( $p < .02$ ) more characteristic of one sex than the other. These data lead Broverman and her colleagues to state that "although some variation exists from group to group, high consensuality about the differing characteristics of men and women was

found on a considerable number of items, and this was independent of age, sex, religion, education level, or marital status" (p. 65).

Workers other than the Broverman group, often using measures other than the SQ, have reported considerably less agreement among non-professional samples on the traits which characterize the healthy adult male and female. While studies by Burns (1977), Mezydlo and Betz (1980), and Stoppard and Kalin (1978) found that the adult males were ascribed more stereotypically "masculine" characteristics than "feminine" characteristics, and vice versa for adult females, at least three other studies report different results. The most disparent study was presented by Kravetz (1976), who found that her sample of 150 undergraduate women rated "the healthy adult woman" as more likely than "the healthy adult man" to possess 12 of 14 traits defined as "male valued" by Broverman, et al. (1972). For example, the Kravetz sample rated women higher than men on "independent," "logical", "worldly", "adventurous", and "self-confident". These findings led Kravetz to conclude that "women in social and political organizations at the University of Wisconsin-Madison do not have different concepts of health for men and women: their descriptions of healthy women and healthy men do not correspond to sex role stereotypes" (p. 441). Kravetz related these somewhat surprising results to the probability that the growth of the women's movement had



changed how women view the sexes in general, and women in particular. Since her sample was restricted to female undergraduates, she was unable to determine whether these findings related to male raters as well. Later studies by Gilbert, Deutsch, and Strahan (1978), and Brooks-Gunn and Fisch (1980), however, have examined how both male and female subjects ascribe characteristics to healthy males and females, and have found male and female raters to differ in their conceptions of male and female traits.

Brooks-Gunn and Fisch (1980) asked 120 male and 120 female undergraduates to describe a mature, healthy, socially competent adult man, woman, and adult (sex unspecified) on 60 traits. These traits were taken from the Bem Sex Role Inventory (Bem, 1974), and consisted of 20 items previously rated by undergraduates as stereotypically "masculine," 20 items rated as "feminine", and 20 items rated as sex-role "neutral." The authors found that male subjects rated females as less masculine than males, while female subjects' ratings did not differ for males or females. Similarly, male subjects rated the "healthy male" and the "healthy adult" as similar on masculinity and femininity, but the "healthy female" as less masculine and more feminine than the "healthy adult", whereas female subjects saw no differences in masculinity or femininity between healthy women and healthy adults. This data was seen as suggestive that "college women may be more likely to

apply mental health standards irrespective of sex" (Brooks-Gunn and Fisch, 1980, p. 578).

Similar findings were reported by Gilbert, Deutsch, and Strahan (1978). They asked 432 undergraduate male and female subjects to use the Bem Sex Role Inventory to describe the "typical", "desirable", and "ideal" man and woman. For both "typical" and "desirable" conditions, male and female subjects agreed that women are and should be more feminine than men, and vice versa. However, in the "ideal" condition, male and female subjects diverged in their judgements: while male subjects rated the ideal woman as more feminine than the ideal man as in the other two conditions, female subjects rated the ideal woman as equally high on both masculinity and femininity, corresponding to the notion of "androgyny" as defined by Bem (1974). While Gilbert, et al. were not able to clearly explain why female subjects viewed "desirable" women to be more feminine than "ideal" women, their data do reinforce the findings of Kravetz (1976), and Brooks-Gunn and Fisch (1980) that male and female raters may disagree on their perceptions of women under certain circumstances, with female raters tending to make fewer gender distinctions when ascribing traits to others. Given that the Broverman group did not find these sex differences in any of their studies prior to 1972 (Broverman, et al. 1972), it is possible that the conjecture of Kravetz (1976), Gilbert, Deutsch, and Strahan (1978),

and, to some extent, Brooks-Gunn and Fisch (1980) may be valid: the passage of time, with a correspondingly increased awareness of the constraints of the female sex role, may have affected women's view of women. Specifically, in light of data which suggests that male traits are more highly valued in our society (e.g., McKee & Sherriffs, 1957; Broverman, et al., 1972; MacBrayer, 1960), it is possible that women are beginning to attribute as much (valued) masculinity to other women as they do to men, producing an eventual absence of sex bias in their evaluations of either sex. Partial support for this hypothesis may be found in a study by Mezydlo and Betz (1980) who, although failing to find sex differences in the tendency to stereotype sex roles, report that subjects who scored higher (more pro-feminist) on the Attitudes Toward Women scale viewed males and females as essentially equivalent on traits measured by the Bem Sex Role Inventory. This equalization was found to be a function of pro-feminist raters attributing more masculinity to women than non-feminists.

Thus, while earlier data pointed to prevalent stereotypes among men and women as to the roles of males and females, some more recent studies suggest that such sex-role stereotyping is more common among men than it is among women. Nevertheless, two fairly recent studies (Burns, 1977; Stoppard & Kalin, 1978) failed to find any evidence of a change in the characteristics attributed to males and

females. Further data are required to determine if changing social values are slowly impinging on traditional views of the roles of men and women, or whether, in fact, sex-role stereotyping is "alive and well" in modern North American society despite occasional appearances to the contrary.

### Clinicians

The suggestion that therapists might apply different criteria of mental health for men as opposed to women was originally presented by Neulinger in 1968. Seventy-four male and 40 females experienced psychotherapists were asked to rate the "optimally integrated" man and woman on 20 paragraphs derived from Murray's list of manifest needs. The means for each need were rank ordered for both male and female stimulus persons, and then compared. Differences in ranks were found between males and females for all but two of the needs. In general, optimally integrated women were seen as having highest needs for Affiliation, Sex, Nurturance, and Sentence, while males were rated highest on needs for Sex, Affiliation, Dominance, and Achievement. Based on his findings, Neulinger suggested that different conceptions of optimal mental health exist for men and women including, for example, the notion that the optimal woman is "an affiliative, sex-oriented, nurturant, sensuous playmate who clings to the strong supporting male". Several criticisms of Neulinger's (1968) conclusions, however, have since been published, including the notion that his

characterizations of therapists' views of men and women were far more dramatic than the data indicated, and that, in fact, the ranking of needs for the two sexes was so highly correlated ( $\rho = .91$ ) that the data say more for the similarities than the differences between perceptions of healthy men and women (Stricker, 1977; Smith, 1980).

Perhaps in anticipation of these criticisms, a later analysis and extension of Neulinger's data (Neulinger, Stein, Schillinger, & Welkowitz, 1970) was somewhat more conservative in its approach. This second paper reported differences in therapists' perceptions of healthy men and women based on profession (psychology versus psychiatry), age, clinical experience and, in a smaller number of cases, therapist and stimulus sex. Neulinger, et al. reported that female therapists saw Need for Achievement as more characteristic of healthy males and females than did male therapists, and specifically rated healthy females as having a lower need for Abasement than did male therapists. The authors, also reported a trend ( $p < .10$ ) for female therapists to regard Need for Deference as less characteristic and Need for Sex as more characteristic of optimally integrated women than did their male counterparts. Stricker's (1977) reanalysis of this second paper indicates that, overall, male and female therapists agreed on their rankings of the needs which characterized optimal men and women ( $\rho = .99$ ) and that, within each therapist sex, the

ranking of needs for integrated men and women were highly similar (rho male therapists = .91, rho female therapists = .90).

Although slightly post-dating the Neulinger, et al. (1970) study, a paper by Broverman, Broverman, Clarkson, Rosenkrantz, and Vogel (1970) is acknowledged by most workers in the field as the first major reference to the possibility that psychotherapists might sex-role stereotype their clients in the same ways that nonprofessionals were thought to view men and women in nonclinical settings. The Broverman group used the "Stereotype Questionnaire" devised in an earlier study (Rosenkrantz, et al., 1968) to examine how 79 psychologists, psychiatrists, and social workers (46 males, 33 females) defined the characteristics of a "socially competent adult man," "woman," and "person" (sex unspecified). The dependent variables in their study consisted of two measures: an "agreement" score, and a "health" score. The agreement score, calculated for the adult male, adult female, and adult person on each of the 122 bipolar items, consisted of the proportion of therapists who agreed with the majority of therapists on a given item. Thus, for example, if the majority of therapists rated adult males as "aggressive," the agreement score would be the number of therapists who indicated, at some level above the midpoint of the item, that they saw males as aggressive, divided by the numbers of therapists who rated males as

below the midpoint on the aggression item. The health score represented the extent to which therapist ratings of the adult man or woman on a given item agreed with the majority of ratings on that item for the adult person. This scoring procedure was predicted on the assumption that "the pole (of the item) which the majority of clinicians consider to be healthy for an adult, independent of sex, reflects an ideal standard of health" (p. 2). Thus, if the majority of clinicians rated the "adult person" as above the midpoint on the aggression item, the health score for that item under the "adult male" condition would be the proportion of clinicians whose rating for "adult males" were above the midpoint on the aggression item.

Analysis of the mean agreement scores, across all items, indicated a high level of consensus among clinicians as to the traits which characterized a healthy man, woman, and adult. The average agreement on "adult" was 87%, while "man" and "woman" had average agreement rates of 83% and 76%. The authors found no differences between male and female clinicians on their average agreement or health scores for any of the three conditions (adult, male, female) and, on this basis, collapsed all further analyses across sex of therapist.

The most cited aspect of this study is, of course, the authors' findings with regards to potential "double standards" of mental health for males versus females.

Through an analysis of the mean health scores for males, females, and adult, the Broverman group found that, indeed, therapists' assignments of mental health varied as a function of the sex of the person being considered. While the average health score for males did not significantly differ from the ideal standard (the "adult" health score), the same was not true for females. Instead, the average "female" health score was significantly lower ( $x = .747$ ) than the average "adult" score ( $x = .866$ ). Thus, it seemed that women were placed in a "no win" situation: "having to decide whether to exhibit those positive characteristics considered desirable for men and adults, and thus have their 'femininity' questioned, that is, be deviant in terms of being a woman; or to behave in the prescribed feminine manner, accept second-class adult status, and possibly live a lie to boot" (p. 6).

Since the Broverman et al. (1970) study, a number of other investigators have examined the question of sex bias in clinicians' judgements of clients' mental health. In most cases, Broverman's Stereotype Questionnaire was used, although several studies utilized other stereotyping measures.

A study by Marwit (1981) essentially replicated the results obtained by the Broverman group. Experimental protocols were mailed to 300 psychologists in private practice, of whom 54% (77 women and 86 men) responded.



Subjects were divided into three groups and asked to rate either a mature, socially competent male, female, or adult on the 60 masculine, feminine, and neutral items of the Bem Sex Role Inventory (BSRI). The author chose to use the BSRI rather than the SQ because of new research (e.g., Bem, 1974) which indicates that masculinity and femininity are probably best conceived of as independent dimensions rather than as a single bipolar continuum. Thus, Bem presumes that an individual may possess a high level of masculinity and a low level of femininity (a masculine orientation), a low level of masculinity and a high level of femininity (a feminine orientation) or may, in fact, possess equally high (or low) levels of both masculinity and femininity. As further defined by Spence, Helmreich, & Stapp (1975), subjects scoring equally high on both are referred to as "androgynous," while those scoring equally low on both are labelled "undifferentiated". Bem (1974), Spence et al. (1975) and others have found androgynous subjects to evidence the highest levels of "mental health", as reflected by high self-esteem, maturity, behavioral adaptability, etc. In turn, those subjects categorized as undifferentiated often present as the least healthy or psychologically integrated. As noted by Marwit (1981), "given this relationship, it seems logical that any study relating sex-role orientation of therapists to mental health of clients should be designed to include the concept of androgyny" (p. 594). Marwit further pointed out that the use of such

independent masculinity and femininity dimensions was especially indicated since "all studies (including the Broverman data) suggesting sex-typing of clients by practicing clinicians are based upon data derived from sex-role inventories depicting masculinity and femininity as bipolar, mutually exclusive opposites" (p. 594). On this basis, Marwit (1981) created "masculinity" and "femininity" scores for each clinician's ratings, as defined by Bem (1974), and then categorized them into one of the four categories defined by Spence, et al. (1975), e.g., masculine, feminine, androgynous, or undifferentiated. Clinicians' rating sex-type was then cross-tabulated according to whether he/she was rating a healthy man, woman, or adult. The results of Marwit's analyses were that healthy adult males were attributed a greater amount of masculinity than femininity, and that healthy adult females were described in the opposite manner, i.e., significantly greater femininity than masculinity. There were no significant differences, however, in the amount of attributed androgyny or undifferentiation to either male or female clients. Finally, as per the Broverman, et al. (1970) study, no differences in sex-role stereotyping behavior were found between male and female clinicians.

Other studies, however, while replicating the presence of stereotyping among clinicians, found that such behavior varied according to clinician sex. Maslin and Davis (1975)

reported on a study of 45 male and 45 female graduate student counselors-in-training, who were asked to rate a healthy male, female, or adult on a shortened version of the Stereotype Questionnaire (Broverman, et al., 1970). The authors reported that female graduate students did not have different expectations of men, women, or adults on the SQ; that is, there were no significant differences between any of the three groups on the amount of masculinity/femininity expected of them by female raters. Conversely, however, male graduate students in this study responded to the SQ in the same way as did the Broverman group subjects: "males" and "adults" were rated as equally masculine/feminine, while "females" were expected to be stereotypically more feminine than the other two groups. In an attempt to explain these findings, Maslin and Davis point to two possibilities: 1) the differences in their results as compared to the Broverman, et al. data may have been due to differences in scoring the SQ (the Broverman group used the dichotomous "health score" referred to earlier, while Maslin and Davis used a continuous numerical score for each item as marked on the scale), or 2) that changes in society in the 5 years between the two studies had caused women to "discontinue employing stereotypes in their images of healthy women, but that males are still perpetuating such stereotypes to some degree" (p. 90).

A study by Aslin (1977) of 75 male and 75 female social workers, psychologists, psychiatrists, and counselors, using the same shortened version of the SQ as the Maslin and Davis (1975) study, also included a sample of self identified "feminist therapists", and had as rating stimuli "healthy adult", "normal female", "normal wife", and "normal mother" instead of the typical three categories defined by Broverman, et al. (1970). In relative agreement with the Maslin and Davis data, Aslin found that female and feminist clinicians did not discriminate in their expectations of mental health for adults, females, wives, or mothers, whereas male clinicians rated optimal health for females, wives, and mothers as involving significantly more stereotypic femininity than was the case for adults. As per Maslin and Davis, Aslin hypothesizes the impact of the feminist movement over time as a possible reason for less sexism in the expectations of female versus male psychotherapists.

Delk and Ryan (1975), in their analysis of A versus B type psychotherapists found that not only did A therapist stereotype to a greater degree on the SQ than did B therapists, but that, across therapist type, female psychotherapists were marginally less likely to have stereotypic conceptions of male versus female mental health than were male psychotherapists.

The fact that the Maslin and Davis (1975), Aslin (1977), and Delk and Ryan (1975) studies all found males to be more likely to stereotype mental health standards than were females is supported by a more general study authored by Sherman, Koufacos, and Kenworthy (1978). One hundred and eighty-four social workers, psychologists, and psychiatrists were administered a Therapists' Information About Women Scale (TIWS) and a Therapists' Attitudes Toward Women Scale (TAWS). The authors found that female psychotherapists were significantly more informed about women and women's issues than were male psychotherapists, and were less traditional and less stereotypic in their attitudes toward women in therapy.

While each of the aforementioned studies agreed on the notion that a significant proportion of clinicians have differential and stereotypic conceptions of optimal mental health for men versus women, two studies in the literature are less supportive of this conclusion. Cowan (1976) surveyed 115 members of a State Consulting Psychologist's association, and reported data on the 30 psychologists (27 male, 3 female) who returned usable responses. Subjects were given the Stereotype Questionnaire, but were asked to indicate to what extent each of the items represented a problem for a) female clients and b) male clients. Subjects were also asked to rate "to what extent do you feel that sex-role expectations underlie difficulties of your female

and male clients?" (p. 121) on a five point scale for each client sex. Cowan found that the clinicians she sampled rated female clients as too feminine for both desirable and undesirable traits, while male clients' problems were not rated as either too masculine or too feminine. While appropriately expressing concerns about the validity of generalizing from such a low (26%) response rate, the author concludes that her "findings contradict the hypothesis that therapists see the problem of women in therapy as nonconforming to the female stereotype" (p. 115). Thus, although the therapists in this study may or may not have stereotyped women more than men (no direct test of this hypothesis was offered), Cowan's data seem to indicate that "a male or adult standard standard of mental health is being applied to female clients, rather than a double standard" (p. 122).

Finally, a study by Shapiro (1977) of eight male and eight female graduate students in counselling presented results which contradicted the preponderance of data in this area. Shapiro found that the "healthy, well-adjusted female" was rated on the BSRI as significantly more masculine than the "healthy, well-adjusted male", for both male and female student-clinicians.

### Sex Bias in Perceptions of Mental Health

Although a significant proportion of the clinical and non-clinical data reported thus far indicates sex-role stereotyping in judgements of mental health, the implications of such data for a hypothesis of sex bias are not entirely clear. Whiteley (1979), for example, suggests that stereotyping and bias represent two entirely different questions: 1) "Are there different, sex-role related standards of mental health for men and women?" and 2) "Do violations of sex role norms result in adverse mental health judgements?" (p. 1309). Citing the work of Fishbein and Ajzen (1975) on attitudes, intentions, and behavior, Whitley states that "social psychologists have long known that people's behavior relative to an object has little relationship to their attitudes toward the object" (p. 1318), and concludes from his review of the literature that clinicians do not translate sex-role stereotypes of mental health into actual sex-role biased mental health judgements.

In direct opposition to Whitley (1979), Sherman (1980) reviewed much of the same literature and reported that "data provide evidence that therapists' sex-role values are operative during therapy and counseling" (p. 60). Commenting on the notion that sex-role stereotyping need not extend to biased judgements of mental health, Sherman states that "on the surface this seems like a reasonable response, until one reflects upon the fact that psychologists

generally assume that what people think affects their behavior, albeit not in any one-to-one fashion" (p. 45).

In order to establish a greater sense of clarity in this area, the following pages will review the information for and against a hypothesis of sex bias in judgements of mental health, both in terms of non-clinician and clinician raters.

### Non-clinician bias

Most studies concerned with non-clinician judgements of mental health have involved the use of a "therapeutic analogue" methodology, modelled on Asch's (1946) impression formation paradigm (Abramowitz & Dokecki, 1977). Typically, two versions of a "case study" are created, identical in all respects, except that the stimulus person/ratee is a male in one version, and a female in the other. Differences in the extent of mental health (or pathology) attributed to one ratee sex as compared to the other are then defined as prima facie evidence for sex bias in the evaluation process. Since such experimental designs lend themselves to classical multifactorial analysis of variance, the results of these studies are typically reported in terms of rater variables which might moderate sex bias (e.g., rater sex, rater sex-role characteristics), and/or according to ratee characteristics thought to increase or decrease bias (e.g., ratee sex, sex-role appropriateness of ratee behavior). Each of the major studies in this area are presented below, followed by a summary of findings.



One of the earliest studies of non-clinician judgements of mental health or illness was reported by Eisenthal (1971), who tested 108 abnormal psychology students' response to ten "case histories", systematically varied according to "client" sex. Eisenthal found that male students attributed a significantly greater level of mental illness, in general, to stimulus persons than did female students, and that male clients were rated as more mentally ill than were female clients. The author hypothesized that women's "greater tendency to use repressive defenses" (p. 473) and possibly different interpretations of the case material (i.e., stressing social variables rather than degree of disability) may have caused them to be less harsh critics of the clients presented. In support of his finding of greater pathology attributions to males, Eisenthal cited earlier sociological data suggesting that mentally ill men are rejected by society to a greater extent than mentally ill women, even when engaged in the same behavior (Phillips, 1964).

Feinman (1974) presented 107 introductory sociology students with 10 single sentence descriptions of children engaged in various sex-typed behaviors (e.g., playing with dolls, playing baseball). According to experimental condition, the actors in these descriptions were either male or female. Students were asked to indicate his or her approval or disapproval of the behaviors in each description

on a seven point scale. Feinman reported that, overall, male students were more disapproving of cross-sex behavior (e.g., a boy playing with a doll) than were female students. As well, he found that male cross-sex behavior was associated with greater disapproval than was female cross-sex behavior.

Coie, Pennington, and Buckley (1974) examined the role of situational stress and type of reaction to stress in their study of college students' judgements of various "stimulus person's" mental health. The authors found that sex of stimulus person interacted with sex-type of stress situation. Males engaging in deviant behavior during a "masculine" stress situation (e.g., the pressure of an upcoming examination) were rated as less pathological than females engaging in the same behavior under the same conditions, whereas females who displayed deviant behavior during a "feminine" stress situation (e.g., rejection by a fiancée) were judged as less pathological than males under the same conditions. Similarly, there were trends for females who engaged in ("masculine") aggressive behavior to be attributed greater pathology than aggressive males, and for males who complained of ("feminine") somatic symptoms to be viewed as more pathological than females with the same complaints. Overall, male and female students did not differ in their ratings of the pathopathology of stimulus persons, although female students were more likely to

recommend counselling by a mental health professional, college dean, or clergyman (sic) than were male students.

Zeldow (1975) reported on two studies of sex bias in clinical judgement. The first study utilized 100 college students, most of whom had never taken a psychology course, and required them to rate the degree of psychopathology reflected in 35 items taken from the Paranoia, Schizophrenia, Psychopathic Deviate, Somatic Complaints, and Depression scales of the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1951). Two forms of this task were administered, according to experimental condition: In Form A all statements were attributed to different "female patients", whereas in Form B the statements were attributed to "male patients." Ratings for each item were then summed according to their original scale membership, to produce 5 scores: one for each MMPI scale. Analyses of variance (sex of rater x sex of patient) revealed no effects or interactions of rater or patient sex, suggesting an absence of sex bias in subjects' ratings of pathopathology. In the second study reported by Zeldow (1975), 80 "psychologically more knowledgeable" subjects (continuing education students in psychology, social workers, medical students in a psychiatry rotation, undergraduate psychology majors, and mental health paraprofessionals) were exposed to eight "case histories" and asked to rate the degree of maladjustment, need for

professional intervention, and prognosis, given competent psychiatric care, of each patient being described. These "case histories" were taken from prominent psychology textbooks (e.g., Davison & Neale, 1973), and involved descriptions of, respectively, "anxiety reaction", "suicidal depression", "hysterical mutism," "amnesia," "obsessive (magical) thinking," "paranoid schizophrenia," "catatonic schizophrenia," and "reactive schizophrenia," each attributed to a different person who was labelled as male or female according to experimental condition. Analyses of variance for each case history indicated that in four cases (obsessive, paranoid schizophrenia, reactive schizophrenia, and hysterical mutism) female judges saw a greater need for psychiatric intervention than did male judges, and that in one case (suicidal depression) female judges were more optimistic about prognosis than were male judges. There were no differences, however, in psychopathology ratings, either as a function of rater sex or patient sex. Based on the findings of both studies, Zeldow concluded that "sex-related bias in clinical judgement is not all-pervasive and that sex of patient rarely elicits bias by itself" (p. 1135).

Three studies on potential penalties for sex-role violations, by Costrich, Feinstein, Kidder, Marecek, and Pascale (1975) suggest that the degree of passivity or aggression exhibited by men versus women relates to non-

clinician judgements of acceptability and psychological adjustment. In the first study, 54 undergraduate social psychology students were exposed to male and female experimental confederates (unknown to subjects as such) who behaved either in an aggressive or passive manner during small group discussions. Subjects were asked to rate each member of their group (including the confederates) on semantic differential scales labelled "Popular-Unpopular" and "Dominant-Submissive." Subsequent analysis of variance indicated a 3-way interaction between subject sex, confederate sex, and confederate behavior: male subjects rated sex-role violators (i.e., males behaving passively and females behaving aggressively) as less popular than did female subjects. Correlational analysis revealed that most of the penalty for sex-role violations occurred for male confederates: the more submissive a man was seen to be, the more he was rated as unpopular, whereas there was no statistical relationship between women's dominance-submission and her popularity rating, suggesting harsher penalties for males than females. In experiment two, 128 undergraduate students listened to one of four tape-recordings of a student discussing a problem with a counsellor. In actual fact, the recordings were of prepared scripts, wherein a male or female "student" discussed problems with a counsellor, either in an aggressive, angry manner, or in a passive, disappointed style. After listening to the tape, subjects were asked to rate the

students on semantic differential items tagged "Dominant-Submissive," "Aggressive-Passive," "Crude-Polite," and "Masculine-Feminine", as well as according to whether or not the student required psychotherapy. As opposed to the first study, the second study found no effect of sex-role violation on popularity ratings, but did reveal that aggressive women and passive men were rated as more in need of psychotherapy than their more stereotypic counterparts (i.e., passive women and aggressive men, respectively). In addition, correlational analysis indicated that the more a man was rated as dominant, the less he was seen as requiring therapy, whereas the more a woman was rated as dominant, the more she was seen as needing therapy. Finally, in experiment three, 60 introductory psychology students were asked to read ten psychotherapy vignettes, and to rate each on 1) their liking for the patient, 2) the amount of discomfort they would experience in dealing with the patient, 3) their perceived difficulty in responding to the dialogue, and 4) how serious they felt the patient's psychiatric problems to be. Nested within the other six, two of the vignettes involved a patient's verbal aggression against his or her therapist (e.g., Patient: "Are you stupid or something? ... Look, I've had it with you ..."), and two involved a patient's dependence on his or her therapist (e.g., Patient: "Please, please help me! ... Help me be my old self ..."). One half of the subject sample were exposed to one patient sex attribution for a given vignette, while

the other half were exposed to the opposite sex attribution (but identical content) for that vignette. Data analysis revealed no patient sex differences for likeability, discomfort, or difficulty in any of the ten vignettes. However, there was a trend ( $p < .06$ ) for aggressive women and dependent men to be seen as having greater psychiatric difficulties than their more stereotypic same-sexed counterparts. The authors concluded from all three experiments that violations of sex-role stereotypes regarding the appropriateness of aggression and passivity are "punished" with attributions of unacceptability and/or psychopathology, although this varied across experiments.

In an experimental paradigm similar to that of Zeldow (1975), Zeldow (1976) examined how 50 male and 50 female college students rated the "emotional maladjustment" of "patients" making statements actually taken from the Masculinity-Femininity and Lie scales of the MMPI. Based on "both conventional and empirical criteria" (p. 301), Zeldow categorized these statements as either "masculine," "feminine," or "neutral" in sex-type. Each statement was attributed to either a male or female patient, according to experimental condition. The author found no sex of judge or sex of patient differences in rated emotional maladjustment, but did find that male raters attributed more maladjustment to women who made "masculine" statements than to women who made "neutral" or "feminine" statements. No similar pattern

was found for female raters. Zeldow concluded that "such findings support claims of discrimination against women in the mental health field while suggesting that the conditions for its occurrence are more circumscribed than is sometimes claimed" (p. 301).

Shinar (1978) conducted a study of person perception as it related to occupation and sex. One hundred fourteen college students rated male or female persons (according to experimental condition) engaged in twelve occupations on 20 bipolar scales. Factor analysis of these scales produced nine orthogonal dimensions which were used as dependent measures in further analyses. Multiple range tests comparing sex-role violations (e.g., a male involved in a "feminine" occupation) to sex-role congruence (e.g., a male involved in a "masculine" occupation) indicated that women in traditionally masculine occupations were viewed as less interpersonally adjusted than women in feminine occupations, whereas men in traditionally feminine occupations were rated as less attractive than men in masculine occupations. As well, female raters had a statistically significant tendency to view males and females than did male raters, although Shinar reported this sex difference to be minimal (less than .19 standard score units), however.

Israel, Raskin, Libow, and Pravder (1978) asked 48 male and 48 female college students to read versions of four "case studies," representing behaviors often found in each



of four diagnostic categories: paranoid schizophrenic, depressed neurotic, phobic compulsive, and alcoholic. Experimental manipulations included male versus female sex attributions, as well as inclusions of either female appropriate abnormal behavior (e.g., shrieking at people on the street) or male appropriate abnormal behavior (e.g., beating someone up) in each case. Thus, subjects were exposed to one of four versions of each case study: male client, sex-appropriate (male) behavior; male client, sex-inappropriate (female) behavior; female client, sex-appropriate (female) behavior; and female client, sex-inappropriate (male) behavior. Subjects were also supplied with an abbreviated version of the Diagnostic and Statistical Manual of Mental Disorders (DSMII; American Psychiatric Association, 1968), which consisted of introductory information on the following categories: social maladjustment without manifest psychiatric disorder, transient situational disturbance, personality disorder, neurosis, and psychosis. After reading their version of each case, subjects were asked to rate the patient described on eight scales: degree of disturbance, intensity of recommended treatment, degree of control over behavior, degree of responsibility, degree of maturity, degree of competence, degree to which the subject would act as the patient did (given similar circumstance), and degree of masculinity-femininity.

Data analyses were presented separately for each case. In the case description of paranoid schizophrenia, female raters judged the patient, regardless of sex, to have less control over his or her behavior and to be less responsible than did male raters. As well, female raters suggested "stronger" treatment and saw patients as less mature and less responsible when said patients were involved in sex-inappropriate behavior than did male raters under the same circumstances. Independent of sex of rater, male patients involved in sex-inappropriate behavior were judged as less disturbed than female patients behaving in a sex-inappropriate manner.

In the "depressed neurotic" case, female raters viewed patients as less responsible and less in control in general, while male raters judged sex-inappropriate patients as less responsible than sex-appropriate patients. Interestingly, regardless of sex of patient, male-appropriate patients were viewed as more mature than male-inappropriate patients, while female-inappropriate patients were seen as more mature than female-appropriate patients, suggesting that the male sex role may have conferred a greater measure of perceived maturity than the female sex-role. Finally, female patients were rated as more disturbed than male patients, and there was a rater sex difference of competence: male raters viewed males as more competent than females, while female raters made no discrimination between the competence of either sex.

For the "phobic compulsive" case, sex-inappropriate patients were viewed as less disturbed than sex-appropriate patients. This finding was further specified by a sex of patient by sex-appropriateness interaction: there was no difference in the perceived level of disturbance between appropriate and inappropriate behavior for male patients, while female patients involved in sex-inappropriate behavior were viewed as less disturbed than females engaged in sex-appropriate behavior. As well, female patients were judged as less responsible than male patients, and female raters rated the responsibility and control of patients in general as lower than did male raters.

In the final case, the "alcoholic," a single relationship was found to be significant: female raters judged sex-inappropriate patients as more disturbed than did male raters, while there were no rater sex differences for sex-appropriate patients. Although the findings of this study are complex, the authors conclude that an overall "anti-female bias" was demonstrated, and that this bias was more common among female raters.

Cowan and Koziej (1979) exposed 120 male and female college students to one of four tape recordings of male-female interactions, wherein dominant and submissive roles were varied in the following manner: dominant male/dominant female, submissive male/submissive female, dominant female/submissive male, and dominant male/submissive female.

Dominant females were rated as more aggressive and more masculine and less feminine and less passive than dominant males. Submissive males, however, were not rated as more feminine and less masculine than submissive females, suggesting that females who violated sex-role stereotypes of appropriate feminine behavior were viewed more extremely than males who violated male sex-role stereotypes of masculinity.

Sharp and Post (1980) examined whether applicants for a sex-role incongruent job would be viewed more harshly by personnel administrators than applicants for a sex-role congruent position. They found that, overall, the 44 male and female administrators they tested did not evidence discriminatory behavior according to sex-role congruence or incongruence. The administrators' sex-role orientation, however, as measured by the Personal Attributes Questionnaire (Spence, Helmreich, & Stapp, 1974), did alter their ratings of job applicants: sex-role stereotypic managers rated females who applied for male-congruent positions less favorably than male applicants for the same jobs on quality of work record, demonstrated initiative, job-related experience and training, predicted success in the position if hired, knowledge of the particular occupational area, and predicted degree of satisfaction in the area if hired. These same stereotypic managers, however, did not rate males applying for female-congruent jobs less favorably than females applying for the same jobs

in any area, except that males were rated as less likely to succeed in the position if hired.

Briere and Sandler (1979), in a study on the effects of rater characteristics on judgements of psychopathology, found that males were more likely to rate MMPI items as reflective of mental disturbance than were females. Interestingly, they also found that sex-typed individuals attributed less pathology than did androgynous subjects. Briere and Sandler referred to this as an "unexpected finding," given that androgynous raters are sex-role violators themselves, and thus might be less likely to harshly judge "abnormal" behaviors in others. The authors hypothesized that androgynous subjects, being high on both masculinity and femininity, might combine the interpersonal orientation of the female role with the analytic, judgement-oriented aspects of the male role, producing individuals who were aware of the subtleties of interpersonal social rules and who were critical of any violations of same. They also noted the work of Block, Von der Lippe, and Block (1973), who linked androgyny to conventional judgements of others.

Malchon and Penner (1981) tested 141 introductory psychology students on the Bem Sex Role Inventory (Bem, 1974), and then exposed them to one of four videotapes of a "case conference." Each tape portrayed four "mental health professionals" (actually graduate student confederates) discussing a "client" who, according to which version of the

videotape was viewed, was either a masculine male, masculine female, or feminine female. The sex-role identity of the clients (i.e., masculine or feminine) was manipulated by systematically varying the sex-type of the clients' reported interests, problem (loss of job vs. loss of fiance), and reaction (aggressive vs. depressive). After viewing the videotape, subjects rated the client on 10 bipolar adjectives (e.g., likeable-not likeable, masculine-feminine) and six clinical scales (emotional discomfort, ability to carry out routine matters of daily life, dangerousness, need for therapy, chances for improvement, and overall psychological adjustment). Results of their analyses indicated that females and feminine clients were viewed more favorably than males and masculine clients, including being seen as more likeable, as having less serious problems, as less likely to hurt themselves or others, and as having greater chances of improvement. Additionally, the sex-role congruence of the client and her/his behavior influenced raters' evaluations of women only: feminine females were rated as better adjusted and more attractive than masculine females. Rater variables, such as sex or sex-role orientation (as measured on the BSRI) did not effect how subjects evaluated clients, except that androgynous individuals rated feminine clients as more like themselves than masculine clients. The authors interpreted their data as generally non-supportive of an anti-female bias in clinical judgement.

A study by Tilby and Kalin (1980) indicated that males who violated sex roles were rated by 107 undergraduates as less mature in five areas (work, family, friends, adjustment, and sexuality), and more in need of psychiatry than sex-role congruent males. Interestingly, their data suggested that the penalty for female sex-role violations is far less severe: sex-role inappropriate females were rated as more dysfunctional in only one of six areas (sexual maturity), and were only slightly more likely to be seen as needing treatment than their sex-role congruent peers. The Tilby and Kalin study is also noteworthy for its findings in the area of rater sex-role effects. Rater scores on the Gender Stereotyping (GS) scale, adapted from Broverman's "Stereotype Questionnaire", were only slightly related to measures of evaluative bias, and then only in one of two subsamples. A Sex Role Ideology (SRI) scale, however, developed by the authors to measure traditional versus feminist attitudes, was moderately correlated with evaluative bias in both subsamples.

Finally, Banikiotes, Kubinski, and Pursell (1981) reported on two analyses of gender, sex-role orientation, and self-disclosure as they effected interpersonal judgements. Only the first study is relevant to the present discussion and will be presented here. The authors categorized 195 male and female psychology students as androgynous or sex-role stereotyped on the Bem Sex Role

Inventory (Bem, 1974), and then presented them with a (fictitious) protocol of an individual's responses on the Jourard Self-Disclosure (JSDS; Jourard & Resnick, 1970). The JSDS requires subjects to indicate the likelihood that they would self-disclose on 40 different topics, of varying degrees of intimacy, to another person. Experimental manipulation resulted in subjects being exposed to one of four protocols: high self-disclosing female, high self-disclosing male, low self-disclosing female, or low self-disclosing male. Subjects were then asked to rate the person who supposedly completed the protocol on his or her level of personal adjustment, likeability, and desirability as a partner in an experiment. Contrary to the author's hypothesis, no effects of rater sex-role were found on subsequent ratings. There were, however, subject sex effects: females were seen as better adjusted, more likable, and more desirable than males. Male raters saw female protocols as better adjusted, more likeable and more desirable partners in an experiment, while female raters did not discriminate between male and female protocols in their evaluations. Similarly, males rated high disclosure protocols as more likeable than low disclosure protocols, while female raters did not differentiate on the basis of disclosure level. There were no interactions between level of disclosure and protocol sex on adjustment, likeability, or desirability, despite studies which suggest that low disclosing males and high disclosing females are considered



to be sex-role congruent, and thus may be rated as better adjusted and/or more likeable than their sex-role incongruent counterparts (Derlega & Chaikin, 1976; Chelvne, 1976).

Summary of non-clinician bias studies. This survey of the non-clinician literature is perhaps more noteworthy for its inconsistencies than its consensus, although certain relationships seem more salient than others. When one considers sex of stimulus person (whether it be "patient," "client," "applicant," etc.) in isolation (i.e., regardless of his or her behavior), a number of studies appear to show a relative absence of sex bias effects (Coie, et al., 1974; Costrich, et al., 1975; Sharp & Post, 1980; Zeldow, 1975; Zeldow, 1976). This generalization must be tempered, however, by other studies which indicate either bias against females (Israel, et al., 1978; Malchon & Penner, 1981) or against males (Banikiotes, et al., 1981; Eisenthal, 1971). Given this variability, perhaps the most prudent conclusion would be that the published research in this area has yet to reveal systematic differences in non-clinicians' judgements of the mental health or acceptability of male versus female stimulus persons.

As suggested by several writers (e.g., Coie, et al., 1974; Israel, et al., 1978; Zeldow, 1978), however, sex of stimulus person may be insufficient information to elicit potential sex bias effects from raters under most

conditions. Instead, as noted by Zeldow (1978), "patient sex differences must be considered in combination with other variables in order for sex-related treatment and assessment differences to emerge" (p. 93). The present review suggests that the sex-role appropriateness of a client's behavior (i.e., the interaction of client sex with the sex-type of his or her behavior) may be a stronger cue for sex-biased responses. A wide variety of studies indicate that at least some clients engaging in sex-role violations (SRVs, i.e., a man behaving in a stereotypically feminine manner, or the reverse) were viewed more harshly by at least some raters than clients behaving in a more sex-role congruent (SC, i.e., sex appropriate) manner (Coie, et al., 1974; Costrich, et al., 1975; Zeldow, 1976; Shinar, 1978; Israel, et al., 1978; Cowan & Koziej, 1979; Sharp & Post, 1980; Tilby & Kalin, 1980; Malchon & Penner, 1981). This relative consensus is moderated by the fact that some studies indicated that male SRVs are viewed more negatively than female SRVs (Feinman, 1974; Costrich, et al., 1975; Tilby & Kalin, 1980), some studies reported more harsh evaluation of female SRVs than male SRVs (Zeldow, 1976; Israel, et al., 1978; Cowan & Koziej; 1979), several found equally negative evaluations of both male and female SRVs (Coie, et al., 1974; Costrich, et al., 1975 (study #2); Shinar, 1978), and two studies found no effects of SRVs on the negativity or positivity of at least some ratings (Costrich, et al., 1975 (Study #2); Banikiotes, et al., 1981).

Sex of rater was often cited in the non-clinician literature as related to type and degree of attributions to stimulus persons although here, too, the findings were quite variable. There was a tendency for male raters to make more harsh attributions with reference to mental illness, psychological adjustment, and/or overall disapproval of behavior, either for all stimulus persons or for those engaged in SRVs (Briere & Sandler, 1979; Eisenthal, 1971; Feinman, 1974; Costrich, et al., 1975; Zeldow, 1976; Shinar, 1978; Banikiotes, 1981), although other studies found no such relationship (Coie, et al., 1974; Zeldow, 1975; Malchon & Penner, 1981). When attributions related to how in control or responsible for their behavior stimulus persons were, female raters perceived clients more negatively (e.g., more out of control) than did male raters (Israel, et al., 1978). Further, female raters were more likely to view stimulus persons, either as a group or when engaged in SRVs, as requiring counselling or psychotherapy than were male raters (Coie, et al., 1974; Israel, et al., 1978; Zeldow, 1975).

The four studies of rater sex-role effects on stimulus person ratings were somewhat contradictory. Malchon and Penner (1981) and Banikiotes, et al. (1981) found no differences between sex-role stereotypic and androgynous individuals in their ratings of clients psychological adjustment, likability, etc., whereas Sharp and Post (1980)

reported that raters classified as stereotypic viewed female SRVs (applying for a traditionally male job) more unfavorably than did non-stereotypic raters. Briere and Sandler (1979), on the other hand, found that androgynous raters rated MMPI statements as more psychopathological than did sex-typed subjects. The single study of sex-role attitudes and beliefs (Tilby & Kalin, 1980) indicated a moderate but variable relationship between traditionality and evaluative bias. The relatively small number of non-clinician studies concerned with rater sex-role variables, in combination with their seeming lack of agreement, precludes any definitive conclusions in this area as yet.

In summary, it appears that the non-clinician judgement literature is far less unanimous in its conclusions than might be desired. Among the factors which may contribute to the contradictions in this literature are a) variability in the quality of the experimental designs, b) differences in how the "stimulus persons" were presented (ranging from single statements to case histories, presented in audio or visual formats), c) differences between studies on the rating scales used for dependent variables (e.g., "mental illness" versus "psychological adjustment" versus "disapproval" versus "likability," etc)., and d) the effects of the passage of time on raters' sex-related attitudes and behaviors.

If one considers a simple "score-box" approach to defining the trends in this literature, however, the following patterns seem more salient: 1) the sex of the stimulus person does not seem to reliably relate to rater judgements of mental health, 2) the stimulus person's sex, in combination with the sex-type of his or her behavior, may predict rater attributions, in that sex-role violations are often rated more harshly than sex-role congruence, 3) male raters appear to make more attributions of mental illness or psychological maladjustment than do female raters, whereas female raters may be more likely to perceive stimulus persons as requiring psychotherapy than may male raters, and 4) there is, as yet, insufficient information on whether a rater's sex-role characteristics directly affects her or his judgements of stimulus persons.

### Clinician bias

There are two major areas of inquiry with respect to evaluating actual clinician bias in clinical judgement: sex differences in the rates of diagnosed mental disorders in North American society, and quasi-experimental observations of actual therapist behavior in clinical settings. Data from each area will be presented below, along with any methodological difficulties which arise from each approach.

Sex differences in rates of mental disorder. A considerable amount of data exist which indicate that women

are more likely to be hospitalized for psychiatric reasons than are men (e.g., U.S. Department of Health, Education, and Welfare, 1970; Gove, 1980; Gove & Tudor, 1973; Mayo, 1976; Dohrenwend & Dohrenwend, 1976), and more likely in general to be identified as suffering from significant psychological symptomatology (Gove, 1979; Gove & Tudor, 1973; Joint Commission on Mental Health and Illness, 1960). Data on the frequencies of types of diagnoses between the sexes also indicates a greater number of "female" disorders than "male" disorders (Kaplan, 1983). Females are more often labelled as neurotic, more likely to be diagnosed as having a Histrionic, Borderline, or Dependent personality disorder, and more frequently diagnosed as depressed, phobic, or anxious (American Psychiatric Association, 1980; Brodsky, 1977; Chesler, 1972; Kaplan, 1983; Statistics Canada, 1970; Weissman & Klerman, 1977). Males, on the other hand, are more likely to receive diagnoses of Anti-social, Compulsive, or Paranoid personality disorders, or of alcoholism or drug addiction (American Psychiatric Association, 1980; Brodsky, 1977; Kaplan, 1983). Kaplan (1983) has referred to these patterns of sex differences in diagnosis as "caricatures" of the male and female sex roles (p. 787), an analysis which is at least in partial agreement with Chesler's (1972) view of sex bias in diagnosis of mental illness.

According to Chesler (1972), society (and therefore clinicians) assigns the label of "madness" to "either the acting out of the devalued female role or the total or partial rejection of one's own sex-role stereotype" (p. 56). She expands on this hypothesis by stating that

women who fully act out the conditioned female role are clinically viewed as 'neurotic' or 'psychotic'. When and if they are hospitalized, it is for predominantly female behaviors such as 'depression', 'suicide attempts', 'anxiety neuroses', 'paranoia', or 'promiscuity'. Women who reject or are ambivalent about the female role frighten both themselves and society ... such women are also assured of a psychiatric label and, if they are hospitalized, it is for less 'female' behaviors, such as 'schizophrenia', 'lesbianism', or 'promiscuity.' Men who act out the female role and who, for example, are 'dependent', 'passive,' sexually and physically fearful' or 'inactive', or who, like women, choose men as sexual partners, are seen as 'neurotic' or 'psychotic'. If they are hospitalized they are usually labeled as 'schizophrenic' or 'homosexual' Men who act out the male role - but are too young, too poor, or too black--are usually incarcerated as 'criminals' or as 'sociopaths', rather than as 'schizophrenics' or 'neurotics' pp. 56-67).

Thus, Chesler interprets sex differences in reported rates of mental disorders as examples of sex bias in psychodiagnosis, arising from societal reaction to both sex-role violation and female sex-role "overcongruence."

As suggestive as incidence rates may be, however, they cannot be considered prima facie evidence of sex bias in clinical judgements per se. Research based upon epidemiological data must be, by definition, correlational in nature, and is often relatively uncontrolled in terms of extraneous or confounding variables (Abramowitz & Dokecki,

1977). With reference to the diagnostic incidence data, as noted by Robinson (1981) and Williams and Spitzer (1983), there are equally viable alternative explanations for such sex differences. These other options include the possibility that a) there are "true" (i.e., biological) differences between the sexes in vulnerability to certain disorders, e.g., the possibility that women may be genetically predisposed towards depression (Rosenthal, 1970; Weissman & Klerman, 1977), b) women may experience greater social stress than men, due to social discrimination and aggression (e.g., Gove & Tudor, 1973; Kaplan, 1983), such that they are more prone to develop psychiatric problems, and c) there may be social rules (e.g., sex-roles) regarding the appropriateness of symptom expression and help-seeking, such that women are more likely to be identified or self-identify as mentally disordered (e.g., Phillips & Segal, 1969; Dohrenwend & Dohrenwend, 1976).

Naturalistic studies of clinician bias. As opposed to conclusions derived from epidemiological data alone, a number of studies have sought to increase experimental control by systematically evaluating therapist behavior in naturalistic (clinical) settings for evidence of sex bias in clinical judgements. Such studies typically control for variables such as clinician sex or patient sex-role appropriateness in an attempt to disconfirm non-bias explanations for differential assessments of men and women.



One of the earliest naturalistic studies in this area was reported by Masling and Harris (1969), who investigated potential sex bias in Thematic Apperception Test (TAT) administration. Clinic files over a five year period indicated that male clinical psychology graduate students administered more TAT cards with "sexual-romantic" themes to female clients than they did to male clients, and that they prolonged testing sessions with female clients by showing more cards overall. Similar behavior was not found for female clinical psychology students. The authors concluded that the male examiners appeared to be influenced by sexually "voyeuristic" needs.

In a replication of the Maslin and Harris (1969) study, Siskind (1973) also found that male clinical psychology interns showed more sexual-romantic TAT cards to women clients, and also prolonged their testing sessions, while female interns did not. Siskind failed to find preferential sexual-romantic card administration to women clients among male clinical psychology staff, but found that, like male interns and male students, male staff spent more time in testing sessions with women clients than men clients by administering a greater number of TAT cards to them.

A study by Brody and Detre (1972), involving nine psychiatric residents and staff social workers (eight of whom were male) and 180 clients, found that female clients seen in intake interviews were more likely than male clients

to be assessed as needing individual psychotherapy, while male clients were more likely than female clients to be referred to group therapy. A similar study by Sue (1976), however, found no evidence of sex-related assignments to group versus individual therapy in a considerably larger and more heterogeneous group of client intakes.

In an often cited study of sex bias in personality assessment, Haan and Livson (1973) reported that clinician gender affected how male and female clients were evaluated on the California Q sort test (Block, 1962). The authors took advantage of the fact that 48 male and 50 female subjects in a 27 year long longitudinal study on growth and development had Q evaluations which "happened to be done by at least one male and one female psychologist" (p. 487). Comparisons by clinician sex indicated that female psychologists judged female subjects as more intellectually competent and self-accepting than did male psychologists, while male psychologists assessed female subjects more in terms of sex-role stereotypes (e.g., socially perceptive, proactive, seeks reassurance, etc.). Both male and female clinicians tended to view males less favorably than females, and there was an overall tendency for male psychologists to rate both male and female subjects less favorably than female psychologists.

As interesting as the Haan and Livson (1973) data may be, their findings were called into question by Werner and Block

(1975), who showed that errors in statistical analysis had produced the Haan and Livson results. Specifically, Haan and Livson used "subjects" as their unit of analysis (48 males and 50 females) when "clinicians" (10 males and 13 females) were more appropriate. This error resulted in incorrectly large degrees of freedom, and an inappropriately small error term, producing falsely significant  $t$  values. Werner and Block (1975) concluded, perhaps prematurely, that the results of their reanalysis provided "further empirical reassurance that the intensive training and calibration undergone by contemporary clinicians can result in personality formulations which are not readily identifiable as dependent on the sex of the judge" (p. 112).

Feinblatt and Gold (1976) reviewed 193 cases from an outpatient child psychiatry clinic, and selected "those cases having at least one symptom on admission which appeared likely to be relevant to characteristics associated with one or the other of the sexes" (p. 111). Of the 79 cases analyzed, the authors found that more boys than girls were referred for treatment of stereotypically feminine traits (emotionality, passivity), whereas more girls than boys were referred for stereotypically masculine traits (verbal aggression, defiance). On this basis, Feinblatt and Gold suggested that "the sex of the child in conjunction with sex-role standards," i.e., sex-role violations, "is a powerful variable affecting the psychiatric referral process" (p. 119).

Strassberg and Anchor (1977) examined the judgements of student therapists (student profession and level of training were unspecified) with reference to clients' self-disclosure levels and improvement over therapy. The authors found that female therapists rated more of their female clients as low self-disclosers than did male therapists, and male therapists tended to rate a greater proportion of both their male and female clients as improved than did female therapists. As the authors note, the interpretation of these results is somewhat difficult, since there was no objective measure used of actual client self-disclosure, and thus the interaction of client response (i.e., disclosure level) to therapist sex could not be statistically "removed" from therapist sex effects on judgements of client disclosure level. As well, although not mentioned by Strassberg and Anchor, male therapists' evaluations of greater client improvement could derive from three sources: a) sex differences in therapist effectiveness, b) sex differences in need to produce improvement (thereby, perhaps biasing perceptions of same), and/or c) sex differences in the extent to which client progress was acknowledged or accepted.

Helms (1978) studied the files of female clients at a university student counselling centre, and found that female counsellors perceived female clients have more presenting problems than did male counsellors. Female counsellors also

saw female clients for more sessions than did male counsellors. The authors suggested that "women counselors are more capable of encouraging women clients to discuss certain problems than are men" (p. 198), leading to a greater number of identified problems and, presumably, a longer series of sessions to deal with said problems.

Barocas and Vance (1974) found that female clinicians at a university counselling centre had, on the average, a considerably larger number of women than men on their caseloads, while no such differences were found for male clinicians. The authors suggested that this effect reflected cultural norms discouraging female authority or control over males.

A study by Abramowitz, Abramowitz, Roback, Corney, and McKee (1976), however, seemingly contradicts the Helms (1975) and Barocas and Vance (1979) findings. Abramowitz et al. found that male psychology trainees, male psychiatry residents, and male psychologist staff were more likely to have female clients than male clients on their caseloads, and likewise, kept their female clients in treatment for longer periods of time than they did for male clients. Women trainees, on the other hand, were only marginally more likely to see women than men in therapy, and were no more likely to extend treatment for one sex than the other. The authors hypothesized that "male therapists are prone to satisfy their sexual curiosity through the

psychotherapeutic transaction", and so "extend their contact with women relative to men" (p.72).

Thus, the Abramowitz et al. (1976), Barocas and Vance (1974), and Helms (1978) studies disagree on which sex of therapist sees women clients for longer periods of time, and disagree (not surprisingly) on the motives and processes underlying those sex differences in treatment each believes to exist. All three studies, however, appear to agree that women are more likely to outnumber men in psychotherapy caseloads, and are more likely to be seen for more treatment session than men.

Such findings are supported by Stein, Del Gaudio, and Ansley (1976), who compared an archival sample of male and female psychiatric patients on the basis of length of time spent in treatment and amount and type of psychotropic medication prescribed to each. Despite the fact that male and female patients were matched in terms of self-reported psychological distress, female neurotic depressives were kept in treatment for more therapy sessions, and were prescribed both more frequent and more potent psychiatric medication than were male neurotic depressives. Interestingly, when the same methodology was applied to a sample of patients with a wider variety of psychiatric diagnoses (i.e., other than solely neurotic depression), no sex differences in psychiatric treatment or use of medication were found (Del Gaudio, Carpenter, & Morrow, 1978).

Because of the relatively small number of naturalistic studies in the area of clinical judgement, and their often contradictory findings, conclusions based on this literature must remain tentative at best. Thus, while it appears likely that male mental health trainees prolong assessment sessions with female clients, as compared to male clients, and may engage in "voyeuristic" assessment behavior, it is less clear whether male staff are to be tarred with the same brush (Davidson & Abramowitz, 1980). Similarly, although female clients appear to be overrepresented in psychotherapy caseloads, and are typically seen for more sessions than male clients (Abramowitz, et al., 1976; Helms, 1978; Stein et al., 1976), the literature is contradictory as to the reasons for such a disparity, or even the gender of therapist responsible for this effect (Abramowitz, et al., 1976; Helms, 1978). The literature is also contradictory as to whether female clients are more often seen as requiring individual treatment than are male clients (Brody & Detre, 1972; Sue, 1976), and whether female clients are more frequently and more potently medicated than male clients (Stein, DelGaudio, & Ansley, 1976; Del Gaudio, Carpenter, & Morrow, 1978).

Data on the harshness of therapist evaluations are also unclear. Strassberg and Anchor (1977) found that, compared to male clinicians, female clinicians rated their female clients as less self-disclosing and less improved after

treatment, and Helms (1978) reported that female clinicians saw their female clients as having more presenting problems than did male clinicians. Yet, as witness Helms' (1978) interpretation of her data, it is not clear whether such clinician sex differences represent greater sensitivity and facilitation skills among women therapists, or a greater willingness to be critical of female clients. This problem is further complicated by those naturalistic studies which found no clinician sex differences in the evaluation of male or female clients (Feinblatt & Gold, 1976; Block, 1975).

Perhaps the most appropriate conclusion to be made from this literature is that while it appears that women are differentially assessed and treated in psychotherapeutic practice, the naturalistic data are insufficiently controlled or convergent at present to determine whether these sex differences are prejudicial or supportive of women, and whether this process is reliably related to clinician gender.

Clinical analogue studies. Clinical analogue studies differ from naturalistic investigations in that they employ a "therapeutic analogue" methodology (cited in the "non-clinician bias" section) in order to provide greater experimental control. Actual mental health clinicians are presented with one of several versions of "client" case material, and are asked to make clinical judgements based on the information available to them. These versions are



identical in all respects except that client gender and sex-role characteristics are varied according to experiment condition. Thus, as opposed to naturalistic data, clinical analogue studies can more precisely relate the products of clinical judgement (e.g., diagnosis, ratings of adjustment) to specific differences in client (or therapist) characteristics. Because a review of the clinical analogue literature reveals a large number of studies of this nature, this data base will be summarized separately according to client and clinician sex and sex-role characteristics, as per Davidson and Abramowitz (1980), Zeldow (1978), and others.

The clinical analogue literature offers only marginal support for the notion that client sex alone, irrespective of client behavior, has a major impact on clinicians' diagnostic or prognostic judgements. Similarly, as noted by Davidson and Abramowitz (1980), this literature "has generally not confirmed allegations of sexism and evaluative prejudice against the female patient" (p. 382). This general absence of "main effects" of client sex must be tempered, however, by the fact that a number of clinical analogue studies do not directly test for client sex differences, per se, but instead proceed directly to an analysis of the client sex by client behavior interaction (e.g., Thomas & Stewart, 1971; Chasen & Weinberg, 1975; Shapiro, 1977), or restrict themselves to a single client sex (e.g., Hill, Tanney, Leonard, & Reiss, 1977).

Of those studies which did test for a client sex effect, three found no diagnostic bias (Abramowitz, Abramowitz, Jackson, & Gomes, 1974; Feinblatt & Gold, 1976; Johnson, 1978), and three reported "only small differences" (Abramowitz, Roback, Schwartz, Yasuna, Abramowitz, & Gomes, 1976, p. 706), "no consistent effect" (Gomes & Abramowitz, 1975, p. 1), or no "salient effect" (Oyster-Nelson & Cohen, 1981, p. 513). Interestingly, when evaluative differences were found, they tended to be anti-male, pro-female biases. Thus, for example, while Stearns and Kimmel (1980) and Oyster-Nelson and Cohen (1981) found no client sex differences in most of the diagnostic-evaluative measures they employed, both reported that male clients were seen as having more serious problems and as being more disturbed than female clients. Similarly, Gomes and Abramowitz (1976) found that of four measures of psychosocial functioning, including "mental disorder," only "emotional maturity" varied according to client sex, such that female clients were rated as more mature than males. Finally, Teri (1982) reported that of six indices of psychological functioning, including maladjustment and social functioning, sex differences were found in only one instance: female clients were rated as functioning more positively as a spouse than were male clients. Only two studies could be found which presented sex differences in favor of or neutral toward male clients. Hobfall and Penner (1978) reported that male clients were rated as having more positive self-concepts

than were female clients, and Warner (1978) found that when engaged in identical behaviors, female clients were more often assigned a diagnosis of Hysterical personality disorder, whereas males typically received a diagnosis of Antisocial personality. Even in the Warner (1978) study, however, the author suggested a relative bias against males, since Hysterical Personality Disorder was thought to be considerably more amenable to treatment than was Antisocial Personality Disorder.

A similar pattern was found for clinicians' prognostic and treatment planning judgements of male and female clients. While Billingsley (1977) found no client sex differences in therapist-assigned treatment goals, Abramowitz, et al. (1976) and Teri (1982) noted that males were given a poorer prognosis than were females, and Abramowitz, et al. (1976) reported that males were more likely than females to be assigned to group therapy. Similarly, Oyster-Nelson and Cohen (1981) indicated that although no client sex differences were found for judgements of number of sessions required, most appropriate form of treatment, or how good a candidate for psychotherapy a client might be, male clients were rated as more in need of psychological treatment than were female clients.

Although the clinical analogue literature indicates a relative dearth of consistent client sex differences in clinical judgements, and very little support for the notion

of discrimination against women in mental health practice, it can be argued that such simple "gender main effects" may not tap the greater complexity inherent in psychotherapeutic sex bias. Instead, one might assume that attributions of deviance (e.g., psychopathology) would most likely occur under conditions involving some form of rule-breaking. Thus, in the current context, a number of studies have focussed on the notion of sex-role conformity, hypothesizing that a client whose behavior significantly departs from sex-role expectations of his or her gender would be rated as more dysfunctional than would a sex-role congruent individual.

The clinical analogue literature on the interaction of client gender and the sex-type of his or her behavior is, however, contradictory and often negative. Stearns, Penner, and Kimmel (1980), Oyster-Nelson and Cohen (1981), Fisher, Dulaney, Fazio, Hudak, and Zivotofsky (1976), Johnson (1978), and Pringle (1973) all found no interaction between client gender and the sex-type of client behavior, indicating that client sex-role violations did not result in increased judgements of maladjustment or psychopathology. Similarly, Billingsley (1977) found no relationship between client sex and either explosive (masculine) or restrictive (feminine) behavior on therapists' choice of treatment goals. Teri (1982) reported that sex-role violations had no effect on maladjustment ratings or assessments of level of

functioning, except that women engaging in masculine behaviors were rated as less likely to function well as a spouse. Finally, Abramowitz, Weitz, Schwartz, Amira, Gomes, and Abramowitz (1975) reported that females indicating medical school aspirations were not rated as more maladjusted than males with the same aspirations although, as will be discussed later, there was bias according to therapist characteristics.

In opposition to the eight studies which found no effect of sex-role violations, six studies present data indicating that sex-role nonconforming persons are seen as more dysfunctional. Perhaps best known of these is the work by Feinblatt and Gold (1976). In addition to the investigation reported earlier, wherein it was reported that boys and girls who violated their respective sex-roles were more likely to be referred for outpatient treatment, Feinblatt and Gold also did an analogue study testing the attributions of graduate student clinicians to hypothetical sex-role violations. Children of both sexes who violated their sex-roles were rated as more in need of treatment and more likely to fail in the future than were sex-role congruent children, and there was a trend for sex-role violators to be rated as more severely disturbed.

A study by Tilby and Kalin (1979) indicated that adolescent males who violated sex-roles regarding masculine behavior were evaluated by teachers in an educational

psychology course as less mature in four areas (relationships with friends, emotional stability, planning for the future, and sexual identity), more disturbed, more difficult to treat, and having a poorer prognosis than sex-role congruent males. Two other studies highlight the negative effects for males of violating male sex-roles: Tribich (1977) found that males who responded to a crisis by crying were seen as more disturbed than females engaged in the same behavior, and Miller (1974) reported that passive males were rated as less healthy than passive females. Finally, in their study of school counsellors' responses to female students, Thomas and Stewart (1971) found that females with deviant career goals (engineering) were rated as needing more counselling than those with conforming goals (home economics).

Those studies finding a sex-role violation effect are contradicted, however, by three studies reporting that sex-role violators are viewed more positively than sex-role conforming individuals. Gomes and Abramowitz (1976) sampled 182 members of the American Psychological Association and found that sex-role deviant females were rated as significantly more emotionally mature than were sex-role conforming women. They found no other differences between sex-role violators and non-violators on mental disorder, social adjustment, prognosis, etc., and tentatively concluded that "enhanced professional sensitization" (p. 1)

had created a neutral or pro-woman expectation in the psychotherapists they studied. Similarly, Shapiro (1977) found that counsellors viewed sex-role "atypical" women more positively than sex-role "typical" women, and Chasen (1975) reported that 120 members of the National Association of School Counsellors exhibited "counter stereotypic bias" in that they rated active girls and passive boys as psychologically healthier than passive girls and active boys. Because the measure Chasen used (the Chasen Diagnostic Sex-Role Bias scale) sums therapists' responses to active girls and passive boys, and then compares this score to the reverse (the sum of passive girls and active boys), it is not possible to determine with confidence whether one gender's sex-role violation was more contributory to the effect than the other.

The effects of clinician sex on clinical judgement have been widely studied in the clinician analogue literature. As noted by the reviews of Zeldow (1978), Abramowitz and Dokecki (1977), Davidson and Abramowitz (1980), and Whitley (1979), most studies show little or no sex bias due to clinician sex. Reports by Abramowitz, et al. (1976), Gomes and Abramowitz (1976), Feinblatt and Gold (1976), Chasen (1975), Chasen and Weinberg (1975), Billingsley (1977), Lowery and Higgins (1979), Teri (1982), Maxfield (1976) and Triblich (1977) all indicate that evaluations of mental disturbance, psychopathology, etc., are basically unrelated

to sex of rater. When main effects or interactions of rater sex on pathology judgements were found in the literature, no obvious pattern of differences were apparent. Shapiro (1977), for example, found that while male counsellors evaluated clients involved in sex-role violations more negatively than did female counsellors, females were more critical than males of sex-role congruent individuals. Tilby and Kalin (1979) reported that males rated male adolescents as less mature in terms of planning for the future than did females, but that females rated male adolescents involved in sex-role incongruent behavior as having a less mature sexual identity than did males. Stearus, Penner, and Kimmel (1980) found little evidence of rater sex differences, except that female therapists rated female clients as more depressed than did male therapists, whereas males exceeded females in their ratings of clients' independence. Finally, Oyster-Nelson and Cohen (1981) reported that male psychologists rated relationship problems as less severe than did their female colleagues, whereas Thomas and Stewart (1971) found that male counsellors were less accepting than female counsellors of clients in both sex-role congruent and sex-role violation conditions.

A review of the literature indicates that, as per pathology judgements, clinician sex does not appear to relate to ratings of prognosis. Thus, while Gomes and Abramowitz (1976) found that male therapists were more



likely than female therapists to assign a positive prognosis to clients, and Billingsley (1977) reported that female therapists were more likely than male therapists to assign an explosive client a poor prognosis and a restricted client a more positive one, most studies find no sex differences in rater prognostic judgements (Abramowitz, et al., 1976; Feinblatt & Gold, 1976; Stearns, Penner, & Kimmel, 1980; Teri, 1982).

There do, however, appear to be some interesting sex differences in type of treatment or treatment goal choices, although here, too, no distinct trends emerge. Billingsley (1977), for example, found that female therapists chose more "masculine" treatment goals (e.g., "ability to think logically," "assertiveness") for clients than did male therapists whereas male therapists chose more "feminine" treatment goals (e.g., "ability to express emotions", "awareness of feelings of others") in comparison to their female colleagues. Lowery and Higgins (1979) reported that male therapists were more likely to recommend vocational counselling for male clients than were female therapists, while female therapists were more likely to recommend such counselling for female clients than were male therapists. Oyster-Nelson and Cohen (1981) noted that, in addition to suggesting more treatment sessions for clients than male therapists, female therapists were more likely to recommend insight-oriented counselling. Male therapists, in turn,

were more likely than female therapists to recommend systematic desensitization and cognitive-behavioral therapy. Finally, Hill, et al. (1977) reported that female counsellors rated therapy as more profitable for women considering a sex-inappropriate career (engineering) or who reported fears of rape than did male counsellors. Considering these studies together, one is led to the conclusion that while clinician sex may affect treatment recommendations, little conclusive evidence exists to link these sex differences to sex bias, per se.

The limited literature on clinician sex-role orientation and sex-role attitudes, although somewhat ambiguous, suggests that traditional therapists are more accepting of sex-role congruence than sex-role violation. Thus, Chasen (1975) found that sex-role traditional males were biased against sex-role incongruent clients, and C.V. Abramowitz, et al. (1976) reported that sex-role traditional clinicians suggested more treatment for mothers of deviant boys than for fathers of same. Similarly, Gomes and Abramowitz (1976) noted that sex-role traditional clinicians rated females as more socially adjusted than males, a perception in line with sex-role expectations that females should be more socially competent than males in the same situation (Broverman, et al., 1972).

Several studies, however, indicate that this relationship between sex-role traditionality and reaction to sex-role

deviance is less than straightforward. For example, although Chasen (1975) found sex-role traditional males to be critical of sex-role violations, she found in the same study that sex-role nontraditional males were significantly biased against sex-role congruent individuals. Teri (1982) found that sex-typed therapists rated clients overall as more socially and vocationally adequate than did non-sex-typed therapists. Finally, Tilby and Kalin (1979) reported that although sex-role traditional subjects were more likely to stereotype clients, sex-role ideology was unrelated to sex bias, and sex-role stereotyping did not translate into major sex-role bias in most cases.

Several studies have examined the effect of clinicians' traditional social values on clinical judgements, as opposed to traditional sex-role values, per se. Although Davidson and Abramowitz (1980) stated that the literature "acquitted the value-traditional clinician of charges of evaluative discrimination ..." (p. 388), the analogue literature does appear to implicate traditionality in judgement differences. Thus, although Chasen (1975) found no effects of clinician and authoritarianism, Abramowitz, et al. (1973) determined that conservative clinicians rated "left-wing", politically active women as more pathological than did more liberal clinicians. Similarly, Abramowitz, et al. (1975) noted that traditional counsellors rated a woman aspiring to medical school as more maladjusted than men with the same career

goals, and Abramowitz, et al. (1976) reported that clinicians with traditional social values were more likely than their less traditional peers to rate clients in general as less emotionally mature. Congruent with these studies is the finding by Schwartz and Abramowitz (1975), who reported that traditional psychiatrists recommended insight-oriented therapy as more appropriate for women (who are stereotypically considered more verbal and accepting) than men, while nontraditional therapists recommended the reverse.

The last clinician variable to be studied in detail as it affects potential sex bias in clinical judgement is that of clinical experience. According to which theory one consults, greater experience might bestow upon clinicians either more accurate and unbiased diagnostic abilities (Abramowitz & Docecki, 1977), or greater identification with the prevailing social system, and thus a more negative response to social rule-breakers (Szasz, 1970). The limited literature in this area, however, offers little evidence in either direction. Two studies found no effects of clinical experience (C.V. Abramowitz, et al., 1976; Billingsley, 1977), while three studies reported contradictory effects. Thomas and Stewart (1979) found that male counsellors appeared to become more accepting of both sex-role violations and sex-role congruence as they became more experienced, while the reverse held true for females: more

experienced women clinicians were more critical than their less experienced female peers. Schwartz and Abramowitz (1979) reported that experienced psychiatrists rated women as better candidates for drug treatment than men, while less experienced psychiatrists did not appear to make such distinctions. Finally, Lowery and Higgins (1979) reported that experienced therapists were more likely than less experienced therapists to rate men as more severely disturbed than women.

#### Summary of Sex Bias Literature

This review of the sex bias literature points to the importance of considering experimental/observational methodology when formulating general conclusions. Given that the current literature involves data gathered from archival sources, actual clinical practice, and "analogue" experiments, and includes both clinicians and non-clinicians as subjects, it is not surprising that contradictions are common. Each of the major variables of interest will be described below, as they relate to methodology and type of subject.

#### Client sex

Naturalistic and archival data indicate that women are considerably more likely than men to receive a wide variety of psychiatric diagnoses. Further, several studies indicate

that women are over-represented on therapist caseloads, are seen for more sessions than men, and may be more likely than men to be referred to individual (versus group) psychotherapy. In contrast, clinician and non-clinician analogue studies generally find little evidence of sex discrimination against women. In the case of clinician analogue studies, in fact, those sex bias effects that were found tended to be of the "anti-male" or "pro-female" variety.

Part of the inconsistency between naturalistic and analogue studies in this area may relate to the relatively uncontrolled nature of the former. Most naturalistic studies are restricted to post-hoc analyses of simple sex effects, with little opportunity to examine how client sex might interact with client behavior to produce clinical attributions of psychopathology. There is little information, for example, on how women with a diagnosis of "depression" differ behaviorally from women who do not receive such a diagnosis, since diagnostic rates are (by definition) concerned only with individuals who are attributed the disorder.

Alternatively, however, there may be bias effects based solely on client gender, as suggested by the naturalistic data, while "the analogue, although experimentally pristine, may have become so transparent to sophisticated clinician-subjects as to ensure findings coated with social

desirability" (Davidson & Abramowitz, 1980, p. 391).

Although this argument has obvious face validity, it does not explain why non-clinician analogue studies, employing relatively nonsophisticated college students, also tend to report an absence of client sex main effect, although to a lesser extent.

#### client sex x client behavior

It has been suggested that the relative absence of client sex main effects in the experimental literature may relate in part, to the inappropriateness of considering a clients' gender without also examining the sex-type of his or her behavior (e.g., Zeldow, 1978). Although the naturalistic literature has no light to shed in this area, clinical and non-clinical analogue studies have directly examined the interaction of client gender and sex-type of client behavior. Unfortunately, the results of these studies have not been especially enlightening. Non-clinician analogues have tended to report that sex-role violations (males or females behaving in a manner more socially appropriate for the other sex) result in greater rated psychopathology, although several non-clinician studies contradict this trend and find no sex-role violation effects. Thus, one might hypothesize that under certain conditions sex-role incongruent behavior results in attributions of mental disturbance from non-clinician raters, but that the necessary parameters for such an effect are relatively unknown.

As tentative as the non-clinician data might be, the clinician analogue literature is even more ambiguous. Of the 17 major studies in this area which examine a client gender x behavioral sex-type interaction, eight found no effect, six found that sex-role violations resulted in higher pathology ratings, and three found that sex-role congruent individuals were rated as more dysfunctional than sex-role violators. This wide range of findings led Davidson and Abramowitz to conclude that clinical analogues "provide virtually no confirmation of claims that clinicians show favoritism to the sex role conforming man or woman" (p. 385).

#### Rater sex

Naturalistic and demographic data on the potential effects of rater sex on attributions of pathology are relatively sparse. Generalizing from a limited literature, it appears that male therapists may extend assessment interviews with female clients beyond that which they would do with male clients, and that female clinicians may make slightly more harsh attributions than may male clinicians. All in all, however, the limitations of naturalistic research in this area preclude definitive statements with reference to clinician sex. In contrast, the clinician and non-clinician literature much more directly examines clinician sex effects.



The non-clinician analogue studies involving rater sex have tended to agree on two points: male raters generally attribute more pathology to stimulus persons than do female raters, and female raters appear more likely than male raters to consider stimulus persons to be in need of psychotherapy. While the latter might be seen as a form of pathology attribution as well, it is possible that, given the interpersonal focus of the female sex-role, women's ratings in this area may reflect a more general belief in the value of psychotherapy, per se.

In opposition to the non-clinical analogue data, however, the clinician analogue literature typically reports either no rater sex differences in judgements of mental disorder, or contradictory findings. These relatively null data led Zeldow to tentatively conclude that "for experienced clinicians, sex of judge alone does not affect psychological or psychiatric assessment (1978, p. 92).

#### Other rater variables

The search for rater characteristics (other than sex) which might moderate judgements of psychopathology has been limited to the analogue literature, since naturalistic studies are relatively uncontrolled in this regard. Given that a central premise of much of the sex-bias-in-judgement literature relates to the notion that clinicians may reflect the traditional sex-role values of society, it is not

surprising that an increasing number of analogue studies have examined the effects of rater sex-role attitudes and orientation. More surprising is the relative absence of rater sex-role effects in non-clinician studies, where bias differences appear more common. Clinician studies, are slightly more likely to find sex-role attitude effects, although here, too, the results are somewhat contradictory. When considered in their entirety, however, these studies tend to indicate that traditional clinicians are more likely to attribute pathology than non-traditional clinicians, and may be more prone to do so in the presence of sex-role violations.

In addition to sex-role variables, the analogue literature has considered clinical experience as a possible moderator. Since non-clinician analogues, by definition, are incapable of testing this variable, investigation in this area has been limited to clinician analogue studies. On balance, however, no clear relationship between experience and clinical judgement emerges from the literature.

### Summary

When the clinical judgement literature is considered as a whole, it appears that several conclusions may be warranted:

1. Despite its non-experimental and relatively uncontrolled nature, the naturalistic literature is strongly suggestive of societally-determined sex

differences in clinical diagnoses (Davidson & Abramowitz, 1980).

2. There are no conclusive data at present, however, which relate the sex differences found in naturalistic studies to sex bias in clinical judgement per se, as opposed to the probable effects of sex-role socialization, sex discrimination, etc.
3. As indicated in reviews by Abramowitz and Dokecki (1977), Davidson and Abramowitz (1980), Smith (1980), Whitley (1979), and Zeldow (1978), the clinician analogue data indicate little evidence of sex bias in clinical judgement, both in terms of client characteristics and clinician variables. As noted by Davidson and Abramowitz (1980), however, the widespread awareness among clinicians of the work of Broverman, et al. and other researchers in clinical judgement may make the typical analogue paradigm relatively transparent to clinician-subjects, producing potentially invalid results.
4. The non-clinician analogue study, although theoretically less face valid, attenuates the potential for hypothesis-guessing by its subjects, and thus may allow for more direct exploration of potential sex-bias effects. Perhaps for this reason, sex bias is somewhat more common in non-clinician analogues, especially in the case of sex-role violations and for male raters.

### Attribution Theory and Perceptions of Psychopathology

The literature reviewed thus far reflects the efforts of researchers to define the social conditions under which the perceived psychopathology of an individual may vary, with specific attention to sex and sex-roles. This process of assigning labels to the behavior of others as a function of social variables, however, is not new to social psychologists. Attribution theory, as established by Heider (1958), and expanded upon by Jones and Davis (1969), Kelley (1973), and others, outlines

how people make causal explanations, about how they answer questions beginning with "why?" It deals with the information they use in making causal inferences, and with what they do with this information to answer causal questions. The theory has developed within social psychology primarily as a means of dealing with questions of social perception ... In all such instances, the questions concern the causes of observed behavior and the answers of interest are those given by the man (sic) in the street. Thus, attribution theory concerns what Heider has called "naive psychology". (Kelley, 1973, p. 107).

In its search for the parameters of the labelling process, attribution theory specifies a construct called "locus of control" (Heider, 1958), which locates the responsibility for a given behavior either within the actor (internal explanations) or outside the actor (external explanations). Whether an attribution specifies internal or external causes is thought to influence what characteristics are assigned the actor and/or his or her environment. Attribution theory has developed two bodies of literature

with regards to locus of control and labelling: those explanations an individual uses for his or her own behavior (actor attributions), and those explanations for an actor's behavior employed by others (observer attributions). While actor attribution studies offer important information in areas such as self-perception (e.g., Bem, 1972), self-esteem (e.g., Solley & Stagner, 1956), and gender-related self-expectancy (e.g., Feather, 1969), the literature most relevant to clinical judgement relates to the notion of observer attributions.

#### Observer attributions and clinical judgement

In his most cited work in the area, Kelley (1973) discriminates between two forms of observer attributions: "covariation", involving attributions based on observations of an individual's behavior over time, and "configuration", based on more limited data gathered from a single observation. Since, in their most typical form, clinical judgements (and clinical judgement experiments) involve the assigning of characteristics to an individual based on a single event (e.g., a clinical interview or an isolated observation), the configuration model appears to be the most relevant approach to attributions of psychopathology. Kelley notes that configural attributions produce less certainty in the observer, being based on less information than covariant attributions, and are subject to a "discounting principle" - that "the role of a given cause in

producing a given effect is discounted if other plausible causes are also present," (Kelley, 1973, p. 113).

Similarly, from a cultural anthropology perspective, Edgerton (1969) notes that the labeling process involves the simultaneous consideration of a variety of possible "causes" or factors until the most salient label (attribution) is accepted.

Given that configural observer attributions are thought to involve an evaluation of multiple hypotheses regarding the causes of behavior, an attributional theory of clinical judgement should include descriptions of a) the explanations for the behavior which are available to the observer, b) the process whereby these explanations are reduced to a single assumption of cause, and c) the ultimate label placed on the individual or a function of that assumption.

Perhaps the most straightforward use of attribution theory in this regard has been articulated by Coie, Pennington, and Buckley (1974). Based on attribution theory and certain premises of "role theory" (Sarbin & Allen, 1968), Coie et al hypothesize that the process of assigning a label of mental illness to an individual involves the evaluation of a number of possible explanations for his or her behavior, based partially on his or her conformity to social role expectations. Specifically, those behaviors which are considered "inappropriate" or violations of role expectations are typically attributed to internal factors or

dispositions, while role-congruent ("appropriate") behaviors are explainable in terms of social expectations and thus typically receive external attributions of cause. As noted by Jones, Davis, and Gergen (1961),

When a person's behavior is very much in line with clear and potent social expectations, we tend to treat it as externally caused and uninformative with regard to a wide range of personal characteristics. When it departs from normative expectations, on the other hand, we tend to locate the cause for the departure in motivational forces peculiar to the person (p. 303).

Coie et al suggest that sex-role stereotypes (as described earlier) represent a particularly powerful set of social expectations which might interact with attributional factors to produce sex discrimination in assigned psychopathology. Specifically, as indicated by writers such as Chesler (1972), an individual acting in a manner which violates sex-role stereotypes concerning "appropriate" behavior for his or her gender might receive an attribution which reflected an internal locus, including the label of mental disorder. A sex-role congruent individual, however, would tend to be described as responding to external factors.

Such an approach to sex-role violations implies, of course, that males violating male sex-roles are as likely to receive an attribution of psychopathology as are females who violate female sex-roles to an equal extent. Chesler (1972), however, argues that women are more likely to be

labelled as "sick" when engaged in sex-role violations than are males, due to society's tendency to locate the causes of female behavior within the individual while viewing males' behavior as more externally caused. Since mental health workers are "trained and sanctioned by society" to make internal attributions of psychopathology (Robinson, 1981), the effect of this potential misattribution process on clinical judgement might be to increase the likelihood that females (especially ones violating female sex-roles) would be labelled as mentally ill. Zeldow and Greenberg's (1975) test of this hypothesis, i.e., that "women are the victims of inappropriate (unfair) attributions" (p. 112) will be discussed in an upcoming section of this paper.

There is, however, an opposite prediction which could be made on the basis of attribution theory. Given the greater social valuation of male traits over female ones (e.g., Broverman, et al., 1970, 1972; Chesler, 1973; Weitz, 1977), external justification for female sex-role violations might be greater than for male sex-role violations, since rejection of the female role generally implies movement toward the (more valued) male role (Tilby & Kalin, 1980). Thus, attribution theory might predict greater internal attributions (i.e., psychopathology) for the less externally-explainable case: a male rejecting the (socially valued) male sex-role to take on the (socially devalued) female role.



Although data suggesting that male sex-role violations are judged more harshly than female sex-role violations can be found in the literature (e.g., Shinar, 1978; Tilby & Kalin, 1980), other studies are equally clear that female sex-role violations are rated more negatively than male ones (e.g., Israel, et al., 1978; Zeldow, 1976). Further research in this area is required to determine which sex-role violation (male or female) is more likely to receive which causal explanation (internal or external), and to then trace this differential locus of causation to specific behavioral labels (e.g., psychopathology) for each actor sex x behavioral sex-type interaction.

#### Studies using an attributional approach

Although much of the clinical judgement analogue literature involves hypotheses which imply an attributional perspective (i.e., tests of the effects of sex-role violations), a relatively small number of studies have explicitly used attribution theory to test the relationship between sex-roles and ratings of psychopathology (Robinson, 1981). The following is a brief review of the latter studies, most of which have been discussed earlier, from the perspective of attribution theory. The first two studies to be described relate to two assumptions often made by attributional investigations in this area: 1) that situationally inappropriate behaviors actually produce a

shift toward internal attributions and labels of mental disorder (Calhoun, Selby, & Wroten, 1977), and 2) that observer attributions regarding an actor's behavior do, on occasion, draw on the actor's sex as a causal variable (Zeldow & Greenberg, 1975). The remaining studies will be reviewed in terms of the light they shed on sex-role-related attributions of psychopathology.

Calhoun, et al. (1977) noted that although internal causal explanations for behavior had been linked to greater attributed psychopathology (Calhoun, Peirce, Walters, & Dawes, 1974), there were little data available on how the situational context of an actor's behavior might mediate this internality-psychopathology relationship. The authors found that an actor whose behavior was situationally inappropriate (i.e., crying during a job interview) was attributed greater mental illness than was an actor whose behavior was less inappropriate (i.e., crying in her own room), and that such attributions were greater when the explanation for the behavior was internal (i.e., conflict over the reality of death) than when it was external (i.e., stress due to a recent death in the family). They concluded that "the situational appropriateness of behavior has a significant effect on the degree to which an individual may be considered 'mentally ill'", and that "behavior which is described as being caused by external pressures results in the least amount of attributed psychological disturbance" (p. 99).

Although the Calhoun, et al. (1977) data offer support for the notion that violation of rules regarding the appropriateness of certain behaviors may result in internal causal explanations and attributions of psychopathology, their study did not examine actor or observer gender or the sex-role appropriateness of behavior as independent variables. Thus, the Calhoun study does not establish whether the relationship between one form of inappropriateness (crying during a job interview) and pathology attributions can be generalized to the domain of sex-role violations.

Zeldow and Greenberg (1975) directly examined the question of whether observers consider actor gender to be an explanation for certain behaviors, ranging from sex-role congruent to sex-role incongruent. They found that, as predicted, sex of actor was invoked as a causal explanation more frequently when the actor was engaged in sex-role congruent behavior, as opposed to sex-role neutral or sex-role discrepant behavior. Further there was a trend ( $p < .10$ ) for men to make more sex attributions than women, and men were found to make more "inappropriate" sex attributions (i.e., sex-based explanations for sex-role neutral behaviors) than did women. Surprisingly, these inappropriate attributions were more likely to occur when men were rating men. Zeldow and Greenberg conclude that "at least a portion" of the explanations observers offer for

actors' behaviors are based on actor sex. Given that masculine traits are generally preferred by society over feminine ones, the authors suggest that the tendency for men to make inappropriate sex attributions to men may represent a form of pro-male bias. They offer the intriguing hypothesis that "it may not be that womens' attitudes are disparaged because of their sex, but rather that male positions are enhanced, at least in the eyes of the males" (p. 119).

While somewhat unexpected in the specific, the Zeldow and Greenberg data generally support the hypothesis that actor sex and sex-role congruence may be involved in the attribution process. The remaining studies reviewed here specifically examine how the situational appropriateness effect described by Calhoun, et al (1977) and the sex attribution effect defined by Zeldow and Greenberg (1975) may interact or combine to affect attributions of mental disorder.

As presented earlier, Coie, et al (1974) suggested that actor sex in combination with the sex-role appropriateness of actor behavior may impact on observer attributions, such that sex-role violations would result in internal explanations and thus greater assessed psychopathology. The authors found that, as hypothesized, individuals whose behavior constituted a sex-role violation (i.e., aggressive females, males with somatic complaints) were attributed

marginally greater psychopathology ( $p < .08$ ). Their most noteworthy findings, however, related to the effects of sex-typed situational stress on attributions of psychopathology: males engaging in deviant behavior as a result of career-related (masculine) stress were attributed significantly less psychological disorder than were females in the identical situation. Interestingly, the reverse did not hold for females: i.e., women behaving in a deviant manner were not rated as less disordered than men in the case of relationship-related (feminine) stress, although women in this condition were seen as requiring less professional help than males in the same circumstance. The authors explained the mediating effects of type of stress on pathology attributions as follows: behavior which occurred in the context of sex-appropriate stress (e.g., career-related difficulties for males) was seen as more socially explainable and therefore more externally motivated, whereas response to sex-role inappropriate stress (e.g., career-related concerns for women) did not "make sense" in terms of (external) social rules, and thus produced greater internal attributions of pathology.

The two studies, described earlier, by Tilby and Kalin (1979, 1980) examined rater response to sex-role violations as well. The authors explicitly hypothesized that since male sex-role violations involve movement toward the more socially-devalued female role, while female sex-role

violations entail greater involvement in the socially-valued male role, male sex-role violations should appear less externally explainable than female sex-role violations and should be rated as more pathological. As predicted, in the study where both male and female sex-role violations were considered (Tilby & Kalin, 1980), sex-role deviant males were rated as less well adjusted than sex-role congruent females on five of seven measures across two samples, whereas sex-role deviant females were rated as less adjusted than sex-role congruent males on two measures in one sample, and not at all in a second sample. Their other study (1979) did not include female stimulus persons, and thus no comparison could be made across sex. Male sex-role violators in this study were, however, more harshly evaluated on measures of maturity and psychological disturbance than were their sex-role congruent peers.

As interesting as the above-reported findings are, however, Tilby and Kalin raised a second point of considerable value for the sex-bias-in-attribution literature. Especially in their 1979 (b) study, the authors addressed the effects of general level of psychological disturbance as it relates to the sex-role appropriateness of an actor's behavior. Since much of the previous literature examined how sex-role violations were evaluated in what were primarily described as psychiatric patients or otherwise disturbed individuals, Tilby and Kalin's paradigm utilized

stimulus-persons who were "normal" in all respects except for the sex-role deviance of their lifestyles and occupations. In showing that such individuals were attributed greater pathology than sex-role congruent persons, the authors demonstrated that the sex-role violation effects found for psychologically disturbed stimulus-persons could be generalized to "normal" individuals engaged in sex-role deviance.

This finding of parallel attributions across degree of pre-existing dysfunction must be tempered, however, by the fact that Tilby and Kalin did not directly compare "psychiatric" stimulus persons to "normal" ones in their studies. Other research indicates that observers are more likely to make internal explanations for the behaviors of individuals considered to be mentally disturbed than for normal individuals (Calhoun, Johnson, & Boardman, 1975; Snyder, 1977). How such a tendency to make internal causal attributions for maladjusted persons would interact with response to sex-role violations in "normal" and "abnormal" individuals is therefore unknown, although the Tilby and Kalin data is suggestive.

The final study to be reviewed here was done by Robinson (1981), who explicitly used an attributional approach in her examination of clinicians' and clients' explanations and judgements of client problems. The author analyzed the response of 20 clinicians (13 males, 7 females) and 24

clients (17 males, 7 females) to a questionnaire which inquired as to the reasons involved in the client's request for psychotherapy and, in the case of the therapists' questionnaire, included a nine-point rating scale on the perceived extent of client maladjustment and questions related to treatment goals. Client and therapist responses to these questions were then content-analyzed and coded by two undergraduate assistants on the basis of a highly detailed procedural manual, producing ratings for locus of causality of client problems (internal, mutual, external) and stability (ranging from "highly stable": an enduring problem which is present across most situations, to "highly unstable": an occasional or new problem which may only occur in certain situations).

Robinson found that both male and female clients and therapists viewed clients' problems as having an internal locus and being relatively stable. Therapists did not discriminate between men and women in terms of locus or stability of client problems, nor did they indicate bias with reference to treatment goals or maladjustment ratings. Probably because of the low cell size for female therapists (7), a test of therapist sex differences in ratings of locus, stability, treatment goals, and maladjustment were not done, so this aspect of the literature could not be examined. Robinson did find, however, that traditional therapists, as defined by the Attitudes Toward Women Scale



(Spence & Helmreich, 1972) and the Sex Role Ideology Scales (Kalin & Tilby, 1978) perceived clients' problems to be more internal and stable than did non-traditional therapists.

When considered together, the few attributionally-based studies in this area suggest that sex-role inappropriate behaviour may motivate more causal explanations involving internal attributions, with the most common attribution of this type being psychopathology or maladjustment. Unfortunately, these studies rarely examine whether, in fact, manipulation of their sex-role-related independent variables actually produce a shift in causal attributions; instead merely assuming that greater attributed psychopathology signals a more internal locus of causality. As well, such studies have yet to compare the effects of sex-role violations on raters' perceptions of "normal" versus "abnormal" stimulus-persons in the same analysis, although Tilby and Kalin's (1980) data suggest there may be no differences in this regard.

Robinson's (1981) study was an admirable attempt to bring attribution theory directly into an analysis of actual clinical judgement. Unfortunately, no doubt due in part to the difficulties inherent in obtaining actual clinicians and clients for quasi-experimental research, Robinson's sample size is sufficiently small to warrant concerns about her conclusions, especially given a) the low statistical power of her design to reject a null hypothesis of no sex

differences, and b) the inappropriateness of her use of multivariate methods (i.e., multiple regression analysis, canonical correlation analysis) with such a small sample size. Finally, the Robinson study did not directly test the effects of sex-role violation, per se, thereby limiting its applicability to the attribution literature surveyed here.

#### Attributional Options: Psychopathology Versus Criminality

As noted earlier, the primary focus of the attributional literature in this area has been to examine the relationship between sex-role violations and attributions of pathology. Increases in psychopathology attributions have been seen as indirect evidence that out-of-role behaviors cause raters to make internal or person-based explanations for what they observe. The author of the present paper would suggest, however, that the "jump" from pathology attributions to assumptions of internal explanations cannot easily be made on the basis of the majority of the literature surveyed in this area. The potential problem which arises relates to the fact that most clinical judgment analogues, almost by definition, provide the observer/rater with a single class of explanatory responses: those involving psychopathology or related attributions (e.g., prognosis, treatability). Unfortunately, a potential confound arises since it is not clear whether, when attributing psychopathology to sex-role violations, the observer is attempting to indicate mental

disturbance per se or perhaps the more general notion of deviance. Thus, for example, it is possible that the observer who is exposed to a sex-role violation may attribute greater psychopathology primarily due to the absence of any other (perhaps more suitable) indicators of deviance or abnormality in the experimental methodology. In such an instance, greater pathology ratings associated with sex-role deviance might constitute an artifact, arising from insufficient attributional options available to the rater.

As noted by Scheff (1966) and others, there exists another major form of social deviance besides psychopathology: that of criminality or intentional law-breaking. Criminality, however, differs from psychopathology in its seemingly more instrumental focus (Cohen, 1955; Gold, 1970; Morris, 1964); often functioning as a way to accomplish goals, satisfy needs, or acquire goods (Grosser, 1951).

From an attributional perspective, one might expect that criminal behavior would be more likely than psychopathology to be explained as an externally-caused act, given its goal-oriented and instrumental nature. For example, the typical explanation for why an individual robs a bank would seemingly include certain external (non-person-based) considerations, such as the monetary rewards entailed in such behavior. Thus, robbery may, to a certain extent, "make sense," thereby attenuating the need for internal explanations.

Unfortunately, there is almost no equivalent to the the clinical judgement analogue literature for criminality attributions, and thus there are little data at present which define the relationship between attributed criminality and psychopathology, either in terms of locus of causality or as a function of sex-role congruity. Such data would seemingly prove quite useful in disentangling the related phenomena of deviance, causal locus, and type of attribution in the clinical judgement analogue literature.

Investigations which examined the effects of various sex-role violations on criminality and pathology attributions would appear especially germane given the probable impact of sex-roles on both types of deviance. As has been described, various aspects of psychopathology have been linked to traditionally "feminine" traits such as passivity, withdrawal, "acting in" instead of "acting out," etc. (e.g., Chesler, 1972 ; Kaplan, 1983). Similar theoretical analyses have related criminality to the traditional male role (Shover & Norland, 1978). Okley (1972), for example, states that

Criminality and masculinity are linked because the sort of acts associated with each have so much in common. The demonstration of physical strength, a certain kind of aggressiveness, visible and external "proof" of achievement, whether legal or illegal -- these are facets of the ideal male

personality and also much of criminal behavior ...  
The dividing line between what is masculine and  
what is criminal may be at times a fine one (p.  
72).

In a similar vein, a number of writers have hypothesized that the passivity and interpersonal focus of the female role discourages women's involvement in crime (e.g., Payak, 1963; Haskell & Yablonsky, 1974; McCord, 1958), producing lower rates of female law-breaking in North American society as compared to males (e.g., Klein, 1973; Shaver & Norland, 1978). Although it appears clear that criminality is more related to the male than female sex-role, however, a number of studies of self-reported criminal acts among non-incarcerated individuals indicate that the frequency and form of female criminal behavior may be considerably closer to that of males than would be suggested by a sex-role analysis or police statistics (Cold, 1970; Hindeland, 1971).

The single analogue study on rater judgements of male and female criminality available in the literature (Pisterman, 1982) generally supports the notion that criminal behavior is seen as male sex-typed. Pisterman found that although male and female criminality was viewed as equally "serious," in most cases females involved in a criminal offense were rated as more psychopathological and more in need of treatment than males involved in the same crime. This relationship may reflect a process whereby criminality was

seen as an aspect of the male role, such that female criminality represented a sex-role violation and was accordingly attributed greater emotional instability. As with other judgement analogue studies, however, the absence of locus of causality measures and attributional options other than psychopathology render this conclusion somewhat tentative.

From an attributional perspective, then, there appear to be two equally plausible predictions about observer attributions to sex-role deviance. As indicated by a number of studies, sex-role violations in general may lead to internal explanations, and thus greater pathology attributions. Alternatively, sex-role violation effects may vary according to actor sex, with male sex-role incongruence explained internally, and female sex-role incongruence rated as more externally-based, due to the "logic" of seeking a more socially-valued (masculine) role. In the latter case, one might hypothesize that male sex-role violations would produce more psychopathology attributions (being "out of role," socially unexplainable behavior), whereas female sex-role violations might be more likely to be rated as more criminal (being "out of role," but at least partially externally explainable).

Unfortunately, even such an augmented model may be incomplete since, as indicated by Pisterman (1982), female criminality may be seen as more pathological (and therefore

perhaps more internal) than male criminality. This potential variability in the locus and meaning of different attributions as a function of the interaction of gender and sex-role violation underlines the necessity of including measures of internality-externality along with attributional options such as pathology and criminality in studies in this area. The addition of such locus of causality measures would provide more conclusive data on whether, for example, female sex-role violations provide sufficient social status through the acquisition of male traits to offset the negative effects of sex-role incongruity.

#### Introduction to the Current Study

The present study represents an attempt to address the difficulties and ambiguities in the sex-bias-in-attribution literature described thus far, through the use of an experimental design which considered locus of causality, along with attributions of relative psychopathology and criminality, as functions of various forms of sex-role violations and congruence in male and female actors.

#### Rationale for using a student-analogue methodology

The author of the present study chose to use a student-analogue methodology, despite the claims of writers such as Davidson and Abramowitz (1980) and Robinson (1981) that such studies are not especially generalizable to the population

of interest, i.e., clinicians. The basis for the author's choice in this regard are outlined below.

Non-clinicians and naive psychology. Although non-clinician studies of response to deviance may be easily seen as analogues to the clinical judgement process, such studies need not relate to the behavior of clinicians in order to be considered valid. As per much of social psychology, studies in this area may concern themselves with the reactions and attributions of people in general or, as in the present study, may focus on the behavior of university students. This alternate focus may explain, in part, the plethora of studies in the literature which use non-clinicians as subjects (Abramowitz & Dokecki, 1977; Davidson & Abramowitz, 1980).

As appropriate as it may be to study non-clinicians per se in this area, however, it is probably also true that one must understand aspects of the basic social psychology of an individual in a given domain before one can move on to explain his or her behavior as a function of additional training or experiences. This "naive" perspective (Heider, 1958) would seem to suggest that non-clinician studies may be relevant to analyses of clinical judgement precisely because they are non-clinical. A "step-wise" approach, involving first an examination of sex bias in perceptions of deviance among lay individuals, followed by an analysis of the effects of subsequent clinical training, would appear to



broaden our understanding of bias in clinical judgement beyond that which we could ascertain by studying clinicians alone. Unfortunately, as witness the previous review of the literature, there is significant ambiguity in the non-clinical literature as to the presence or absence of sex bias in perceptions of mental health. Similarly, there are no studies in this area which directly examine the locus of causality perceptions among observers as they attribute pathology (or criminality) to individuals engaged in sex-role deviance. Given these significant gaps in the non-clinical literature, it may be premature to attempt more complicated explanatory models of sex bias in clinical judgement among clinicians, where the effects of clinical training must be considered as well.

Hypothesis-guessing. As noted by Davidson and Abramowitz (1980), it is likely that the typical clinical judgement analogue experiment may be relatively "transparent" to clinician-subjects, given the impact of certain widely cited studies of sex-role stereotyping among psychotherapists (e.g., Broverman, et al., 1970). On this basis, hypothesis-guessing by clinicians would seem likely, producing findings potentially confounded by the effects of social desirability. Non-clinicians (i.e., first year university students) would be far less likely to be exposed to such studies, and thus would be less likely to recognize the experimental paradigm or its aims.

Subject availability. Finally, given the probable complexity of research in this area, a study examining causal locus and multiple attributions to sex-role deviant behavior must, of necessity, involve a sufficiently large sample size to support the use of multivariate analysis (Tatsuoka, 1971). Studies of clinicians typically involve relatively small ns (e.g., Robinson, 1981), due to the difficulties inherent in recruiting care-givers for experiments not directly relevant to their specific clinical practice, and thereby discourage the use of more complex statistical analyses. University students, however, are generally available in larger numbers, and are typically willing to participate in experiments involving a large number of variables requiring multiple responses.

Based on these considerations, a student-analogue design was employed in the present study. It was understood that such an approach implied certain limitations, especially with reference to generalizability, which would be considered in the integration and discussion of results.

#### Attributional targets

The stimuli or "attributional targets" to be used in a given sex bias study would appear to be an important aspect of its experimental design, since subject response to these stimuli constitute the measures used to assess the presence or absence of sex discrimination. Thus, for instance, a

stimulus used to represent "sex-role appropriate behavior" should accurately tap that domain, given that subject response to that stimulus would be interpreted as response to sex-role appropriateness per se. Unfortunately, studies in this area have used a wide variety of representations of what are purported to be the same independent variables (e.g., "sex-role congruence," "sex-role violation," "social acceptability," etc.).

Scenarios versus statements. The vast majority of clinical and non-clinical analogues in the attribution-to-deviance literature have utilized one or more variants of Asch's (1946) impression formation paradigm (Abramowitz & Dokecki, 1977). This methodology typically compares ratee response to identical "case studies," involving a male client or patient in one condition, and a female client/patient in the other. As described earlier, differences in attributions to the two cases are ascribed to the effects of client sex, and are presented as evidence of sex bias.

While this "case study" approach has been useful in pointing to the probability of sex bias in attributions to sex-role deviance, there appear to be several problems associated with such a methodology: 1) typically only one to three or four "cases" or scenarios are used in each investigation (e.g., a "depressed patient," a "psychopath," etc.), thus limiting the generalizability of any conclusions

which might extend beyond the specific cases used, 2) there is a relatively high risk of effects confounding, in that a number of different behaviors are described in each scenario (e.g., "Judy has been staying hidden in her room, day and night, for the last three weeks. She has been crying and refusing to eat. She often finds herself thinking about death, and how easy it would be to 'end it all'"), thereby making it difficult or impossible to assess which behaviors, in fact, are responsible for the sex-related shift in attribution, and 3) extending the second point, some behaviors in a given "case" may be masculine sex-typed, some may be feminine, and some may be neutral, making it relatively difficult to assess a "sex of rater x sex-type of rater's behavior" interaction (the actual effect of interest in these studies).

Given the complexity of such scenarios, with their resultant difficulties in definition and interpretation, an alternative methodology utilizing more simple stimuli might be warranted. Zeldow, for example, in two of the only studies of this type (Zeldow, 1975; Zeldow & Greenberg, 1975) examined rater responses to single, one sentence statements derived from the California Psychological Inventory (CPI; Gough, 1957) and the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1951). Such a choice of experimental stimuli not only decreases the likelihood of multiple, competing behaviors per stimulus,

but also allows for control over type and (in some cases) sex-type of statements, since CPI and MMPI items have been standardized and normed in terms of type of behavior (e.g., "Communality" or "Depression") and, for certain items, sex-type of behavior (i.e., "Masculinity-Femininity").

On this basis, the present study concerned itself with subject responses to a variety of single sentence statements from the MMPI, which were categorized in terms of sex-type, social acceptability, and type of behavior, and attributed to male or female stimulus-persons. The specific hypotheses of this study are outlined below.

### Hypotheses

#### Part 1.

Part 1 hypotheses related to the sex-appropriateness of the MMPI items used as stimuli in the present study.

1) It was hypothesized that there would be evidence of sex-typing in the construction of the MMPI. Overall, it was thought that there would be more female appropriate clinical MMPI items than male appropriate ones, since the literature indicates psychopathology to be a relative female sex-typed attribution. Similarly, among those items rated as "socially unacceptable" behavior, more items would be female appropriate than male appropriate.

2) It was hypothesized that the MMPI scales would be sex-typed. Being more passive in orientation, Hypochondriasis, Depression, Hysteria, Psychasthenia, and Schizophrenia would be significantly female sex-typed, whereas the more active Paranoia, Psychopathic Deviate, and Hypomania would be male sex-typed (Kaplan, 1983). The sex-type of the validity scales was not hypothesized, although of interest.

### Part 2.

Part 2 hypotheses related to the principle concerns of the present study, examining rater and actor variables as they interacted to affect potential sex bias.

3) It was hypothesized that the multiple sex-role related rater variables used in the present study would be interrelated, and would be reducible to a smaller number of dimensions. The composition of these reduced dimensions was not hypothesized in the specific, but was expected to approximate the notions of "Femininity", "Masculinity," "Sex-Role Acceptance," and "Sex-Role Attitudes."

4) It was hypothesized that ratings of criminality and pathology would correlate with attributions of internality-externality. Specifically, behavior rated as pathological would be associated with internal attributions, whereas behavior rated as more criminal would be associated with external attributions.

5) It was hypothesized that the rated pathology and criminality of MMPI scales would vary according to ratee sex. Specifically, Hypochondriasis, Depression, Hysteria, Psychasthenia, and Schizophrenia, being theoretically more feminine, would be rated as more pathological and less criminal for male ratees than for female ratees, whereas the more masculine Paranoia, Psychopathic Deviate, and Hypomania scales would be rated as less pathological and more criminal for male ratees than for female ratees.

6) It was hypothesized that the changes in pathology and criminality attributions found in hypothesis #5 would parallel, respectively, internality and externality attributions.

7) It was hypothesized that pathology and criminality attributions would vary according to combinations of ratee sex and the sex-role appropriateness and social acceptability of ratee behavior. The primary hypothesis concerning ratee variables involve their interactions, rather than any one variable alone. Two of these variables (sex of ratee and sex-type of ratee behavior), in fact, were not expected to affect rater attributions. In other words, it was hypothesized that extent and type of rater attributions would be essentially unrelated to ratee sex alone, or the sex-type of the behavior alone. The third variable, the social acceptability of the ratee's behavior, would have a simple effect in that, obviously, unacceptable

behavior would be rated as more pathological or more criminal than socially acceptable behaviors. Finally, one of the lower order interactions (ratee sex x social acceptability of ratee behavior) was expected to be nonsignificant. While either sex involved in socially unacceptable behavior would be seen as deviant, this interaction would not be predictive of the extent of criminality or psychopathology attributions.

The three way interaction of ratee sex, sex-type of behavior, and social acceptability was of major importance. Specifically, for male ratees, behavior which was socially acceptable would not be judged as more criminal or pathological according to it's sex-type. Behavior that was socially unacceptable would be seen as more criminal (but not more pathological) if it was sex-role appropriate, and more pathological (but not more criminal) if it was sex-role inappropriate. For female ratees, socially acceptable behavior would not be judged as more criminal or more pathological on the basis of it's sex-type. Behavior that was socially unacceptable would be seen as more pathological (but not more criminal) if it was sex-role appropriate, and more criminal (but not more pathological) if it was sex-role inappropriate.

5. It was hypothesized that the changes in pathology and criminality attributions found in hypothesis #7 would parallel, respectively, attributions of internality and externality.



6. It was hypothesized that ratings of pathology and criminality to ratee sex and sex-type and appropriateness of ratee behavior would vary according to rater sex-role characteristics. The following relationships were expected:
- a) Males, masculine subjects, sex-role conservative subjects, and subjects who tend to see behaviors as generally unacceptable and/or generally sex-typed would ascribe higher levels of pathology and criminality to ratees than would females, feminine subjects, sex-role liberal subjects, and subjects who tend to see behaviors as generally acceptable and/or equally appropriate for both sexes. The effects of androgyny and undifferentiation were unpredicted, although of interest.
  - b) Certain interactions between rater variables and combinations of ratee variables were hypothesized. For unacceptable and (to a lesser extent) sex-typed behaviors, males, masculine subjects, sex-role conservative subjects, and subjects who tend to see behaviors as unacceptable or sex-typed would be more likely to attribute pathology or criminality than their counterparts in the presence of sex-role violations. Specifically, they would be more likely to attribute pathology to males engaged in more female-appropriate behavior, and to attribute criminality to females

engaged in more male-appropriate behaviors.

Interactions between rater variables (e.g., rater sex x sex role attitudes) were of interest but unpredicted.

7. It was hypothesized that the relationships found in hypothesis #9 would be paralleled by specific shifts in internal-external attributions. Specifically, characteristics of ratees and raters and their interactions which produced greater pathology ratings would also produce more internal attributions, whereas greater criminality ratings will be paralleled by more external attributions.

## METHOD

### Subjects

Subjects for the present study consisted of 290 male and female undergraduate students at the University of Manitoba. All subjects were enrolled in Introductory Psychology courses, and participated voluntarily as a means of gaining course credit. As outlined in university policy, these students were informed by their instructors of their option to write a paper in lieu of experimental participation.

### Procedure

This experiment was conducted in two parts, each with a separate sample. Part one was run to determine the sex-role specificity of the stimulus items. Once the sex-role appropriateness and social acceptability of each item was defined, they were used as stimuli in the Part Two procedure to test the major hypotheses of the study.

#### Part One

One hundred forty subjects (76 males and 64 females) participated in Part One. Each subject was presented with a 123 item questionnaire, and was asked to rate "how socially

acceptable for a) a man, and b) a woman" each item appeared to be on a five point Likert-like scale (see Appendix A for example). Unknown to these subjects, the questionnaire items consisted of the 71 items from a popular short-form (Mini-Mult; Kincannon, 1968) of the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1951), reworded, when necessary, in the "clinical" direction (e.g., item #2 of the MMPI is "I have a good appetite", and is normally scored negatively to indicate appetite problems in the current study this was reworded as "I don't have a good appetite" so that the statement represented a directly clinical/dysfunctional statement). In addition to the Mini-Mult items, 52 additional items from the Masculinity-Femininity scale of the MMPI standard-form were used, randomly worded in the masculine or feminine direction. See Appendix B for the 123 items used as stimuli.

Subject ratings of the male and female acceptability of each item produced four types of information: a mean female appropriateness score for each item, a mean male appropriateness score for each item, a mean female appropriateness score for all items, and a mean male appropriateness score for all items. From this data a six-fold typology of sex-role appropriateness and social acceptability was created. First, three general item categories were defined: those items scoring above both the male acceptability mean and the female acceptability mean

(socially acceptable items), those items scoring above the acceptability mean for one sex and below the acceptability mean for the other sex (male or female sex-typed items), and those items scoring below the means for both male and female acceptability (socially unacceptable items). These groups were then further divided according to whether each item was rated as more acceptable for a male, or for a female. Thus, the final typology involved six stimulus groups; 1) items socially acceptable for either sex, but more so for males (acceptable/male), 2) items socially acceptable for either sex, but more so for females (acceptable/female), 3) items acceptable for males, but not females (sex-typed/male), 4) items acceptable for females, but not males (sex-typed/female), 5) items socially unacceptable for either sex, but more appropriate for males (unacceptable/male and 6) items socially unacceptable for either sex, but more appropriate for females (unacceptable/female). This typology was then used in Part Two to define six social acceptability x sex-role appropriateness stimulus conditions.

### Part Two

One hundred fifty subjects (66 males and 84 females) participated in Part Two, none of whom had been exposed to Part One. Part Two consisted of a variety of measures and procedures. In overview, subjects were recruited to

participate in "Experiment Multi-Test" which, they were informed, consisted of a number of unrelated studies run in a single setting to save time and effort for the various investigators. During a two hour period, subjects were exposed to three "experiments", conducted by three "experimenters" who were, in reality, graduate student accomplices. In order of presentation, these were 1) "Experiment S.A.S." (consisting of three sex-role measures, described below), 2) the "Laterality Assessment Inventory" (a measure of left or right handedness, used to distract subjects from the fact that the experiments were not, in fact, unrelated) and 3) the "Manitoba Deviance Judgement Inventory" (M.D.J.I; involving subject ratings of the 123 items evaluated in Part One). Deception was used in this study because it was felt that subjects who made the cognitive connection between the sex-role assessment found in the S.A.S. and the rating tasks of the M.D.J.I. might correctly guess the major hypotheses of the study (involving response to sex-role deviance), thereby potentially biasing their responses. In order to evaluate this possibility, an open-ended question was attached to the M.D.J.I. to test whether subjects were aware that the S.A.S. and M.D.J.I. were both part of a single experiment. The actual instruments used in Part Two are described below, by "experiment".

### Experiment S.A.S.

"Experiment S.A.S." consisted of three measures: the short-form of the Attitudes Toward Women Scale (AWS; Spence & Helmreich, 1972; Spence, Helmreich, & Stapp, 1973), the Bem Sex Role Inventory (BSRI; Bem, 1974), and a measure developed for this study, the Tendency to Sex-Type Scale (TST). This "experiment" was administered by a graduate student confederate, who collected the inventories after they were completed, and left the room before the next "experiment" was run.

The Attitudes Toward Women Scale was developed by Spence and Helmreich to measure attitudes toward "the rights, roles, and privileges women ought to have or be permitted" (Spence and Helmreich, 1978), although it has since been used as a general measure of conservative versus liberal sex-role attitudes (e.g., Briere & Lanktree, 1984). The full scale consists of 55 items, each scored from 0 ("agree strongly") to 3 ("disagree strongly"), summing to a scale range of 0 to 165. The scale is scored such that a low value indicates conservatism, whereas higher scores denote a "profeminist, egalitarian attitude" (Spence & Helmreich, 1978).

The fifteen-item short-form of the AWS (Spence, Helmreich, & Stapp, 1973) has become a popular substitute for the longer, 55 item full scale. As per the full scale,

items are scored from 0 to 3, and are summed to produce a maximal score of 45. According to Spence and Helmreich (1978), the short-form generally correlates well with the full scale ( $r=.91$ ), and is internally reliable (Chronbach  $\alpha=.89$ ). Studies of the construct validity of the short-form generally parallel those of the full scale, indicating for example, that males usually score more conservatively than females (Heath & Gurwitz, 1977; Minnigerode, 1976; Spence & Helmreich, 1978).

The Bem Sex Role Inventory (BSRI; Bem, 1974) is a 60 item scale developed to test the extent of subjects' self-reported masculine and feminine personality traits. Subjects are asked to rate themselves on 20 positive masculine characteristics (e.g., "Independent", "Assertive"), 20 positive feminine characteristics (e.g., "Affectionate", "Cheerful"), and 20 positive neutral characteristics (e.g., "Helpful", "Friendly"), according to what is "true of them". Items are scored from 1 (never or almost never true) to 7 (always or almost always true), and range from 20 to 140 for both the summated Masculinity and Femininity scales.

In her initial paper, Bem (1974) suggested a scoring technique which utilized t-tests of the difference between a subjects Masculinity score and his/her Femininity score. Significantly higher Femininity indicated a Feminine sex-type, significantly higher Masculinity indicated a Masculine



sex-type, and a non-significant difference between Masculinity and Femininity was designated as "Androgyny".

Responding to criticisms that her scoring procedure did not discriminate between subjects endorsing a high degree of masculine and feminine items and those endorsing an equal but low degree of both (Spence, Helmreich & Stapp, 1975), as well as concerns over the appropriateness of using the *t* statistic (e.g., Strahan, 1975), Bem has essentially discarded the *t*-score method of interpreting the BSRI. While partially endorsing the scoring approach used by Spence, et al. (1975), which involves the use of Masculinity and Femininity medians to define sex-role orientation, Bem now generally recommends a multiple regression approach to the BSRI. This strategy involves the use of the Masculinity and Femininity scores as continuous variables, entered into a multiple linear regression equation along with a multiplicative "Masculinity x Femininity" interaction term. In the event of a significant interaction, post-hoc analyses can be done to determine what balance of masculinity and femininity produced the effect.

In a recent review and comparative statistical analysis, Briere, Ward, and Hartsough (1983) found further support for avoiding the use of discrete sex-role orientation categories. In addition to a variety of statistical anomalies associated with the use of the currently used scoring systems, Briere et al. found that these systems

rarely reach a consensus on which subjects are members of which sex-role groups. For example, in their sample of 848 BSRI's, the t-score and median-split methods disagreed 66% of the time on who was an "androgynous" subject, and seriously disagreed on the balance of traits which defined those subjects. These difficulties lead Briere et al. to comment that "the assessment of androgyny with the BSRI--by any means--must remain at best equivocal" (p. 302).

On this basis, scores on the Masculinity and Femininity scales were used as continuous variables in the present study, as well as Bem's (1977) suggestion of a continuous, multiplicative interaction term ( $M \times F$ ) to test for androgyny or undifferentiation effects. As well, however, a "four groups" factorial analysis was done, to test the effects of Bem's original sex-role orientation typology on the dependent variables discussed later. Groups were divided per Spence's "median split" technique (Spence, et al., 1975), such that subjects above the sample Masculinity and Femininity medians were categorized as "androgynous", those below both medians were labelled "undifferentiated" and those above one median and below the other were either male or female sex-typed.

The Tendency to Sex-Type Scale was developed specifically for the present study, in an attempt to measure subjects' general tendency to view behaviors as equally acceptable for both sexes or as more appropriate for one sex, relative to

their peers. In addition, a second scoring procedure assessed each subjects' overall acceptance of behaviors, across sex. The measure consisted of 24 items randomly selected from the California Psychological Inventory (CPI; Gough, 1957), including statements like "I get very nervous when I think someone is watching me", and "I used to steal when I was younger". The subject was asked to rate "how socially acceptable each statement is for a) a male and b) a female in North American society", thereby producing a "male acceptability score" and a "female acceptability score" for each item. In order to obtain a measure of acceptability differences across sexes, a difference score was produced for each item by subtracting the subjects' female acceptability score for that item from his or her male acceptability score on the item. However, because a relative measure is desired, each subject's difference score on each item was compared to the difference scores of all other (149) subjects on the same item, through the use of standard (z) score transformations. The absolute values of these z scores were then averaged across all 24 items to produce a summary Tendency to Sex-Type score for each subject. A lower score on this measure indicated a relative tendency to view behaviors as being equally socially acceptable for both sexes, while a higher score indicated a relative tendency to view behaviors as more socially acceptable for one sex than for the other.

The second measure on the TST - subject acceptance of behavior in general - hereafter referred to as Tendency to Accept Behavior (TAB), was formed by averaging each subject's standardized male acceptability score and his/her standardized total female acceptability score for each item. In this way, a lower score indicates lower levels of acceptance of behaviors relative to one's peers, while a higher score indicates greater relative acceptance. See Appendix C for copies of the AWS, BSRI, and TST.

#### Laterality Assessment Inventory

The "Laterality Assessment Inventory" (LAI) was used in the present study as a distracter, intended to reinforce to the subject that the various "experiments" in Part Two were separate and unrelated. It was administered by a graduate student confederate, who was only present during this "experiment". Before being distributed to subjects, this inventory was described as a "test of neuropsychological organization, involving which side of the brain is used for certain physical tasks". The inventory asks the subject to "indicate your preferences for the use of your right or left hands, feet or eyes in the following activities ...". The subject is then to rate 14 activities on a 5-point scale, ranging from "a very strong Left preference" to "a very strong Right preference". The LAI is actually the first section of a study on hemispheric dominance done by Schultz

and Briere (1981), and is known to take the average subject 1 to 2 minutes to complete. See Appendix D for a copy of the LAI.

### Manitoba Deviance Judgement Inventory

The "Manitoba Deviance Judgement Inventory" was the last task presented to subjects during "Experiment Multi-test." As per the other sections of Part Two, the MDJI was administered by a separate person (the writer), and was presented as an independent experiment. Because the procedure involved in administering the MDJI was somewhat complex, it will be presented here in four stages: 1) overview of the procedure, 2) development of the audio tape, 3) description of the rating task, and 4) transformation of the data.

#### Overview of the MDJI.

The MDJI phase of Part Two represents one of the major aspects of the current study. In this phase subjects were asked to rate the probable psychopathology and potential for criminality of speakers making the 123 statements analyzed in Part One. In order to test the effects on raters of a male making each statement, as compared to a female making the same statement, subjects were randomly assigned to one of two groups: one where the speakers/ratees were all female, and one where they were all male. Since each of the

123 statements had been previously categorized as to sex-type and social acceptability, the MDJI thus provided the opportunity to test rater attributions of pathology and criminality to stimuli involving males or females making male- or female-appropriate, socially acceptable or unacceptable statements. In an attempt to increase the stimulus impact of the ratee sex manipulation (male or female speaker), subjects were presented with the audio-taped voices of male or female accomplices making each statement at the same time that they were reading that statement during the rating task.

#### Development of the audio tape.

Two audiotapes were used for this study; one with male voices and one with female voices. In each case, speakers were recruited among the graduate student population at the University of Manitoba, and among workers at a local community health centre. Speakers ranged in age from 23 to 35, and did not include anyone with an obvious speech impediment, foreign accent, or other unusual speech characteristic. Speakers were given a random list of 7 to 10 statements, and asked to read them in a normal voice into a tape recorder microphone. Except for the re-taping of incomplete, incorrectly read, or unusual recordings (e.g., throat clearings, stuttering, etc.), no attempt was made to edit or otherwise "improve" speaker performance. After the 123 statements had been collected for each sex, the

(randomly ordered) recordings were duplicated onto two other tapes (one with female voices and one with male voices) in the order in which they appeared in the MDJI.

Description of the rating task.

According to the "sex of ratee" condition, subject groups were presented with either the "male" form or the "female" form of the "Manitoba Deviance Judgement Inventory". Prior to the beginning of the rating task, the following statement was read to all participants:

"In a few moments, the experiment will begin. A series of statements will be read to you over a loudspeaker. As each statement is spoken, you are asked to read the same statement to yourself from the experiment booklet you have before you. Your job will be to make certain decisions about each statement, without knowing anything else about the speaker. You should note that the voices heard over the loudspeaker are being read by various (men/women) to give you a feel for how each statement would sound if someone actually said it to you. Are there any questions? Please turn now to page 3 of your booklet."

As indicated in Appendix E, page 3 of the MDJI began with the following instructions, which were also read aloud to all subjects:

"In a few moments we will begin the rating procedure. First, you will hear the tape recording say "Number One". You will then hear a (man/woman) saying the first statement listed below in the booklet. Please read sentence Number One in this booklet at the same time as you hear it being spoken. After reading and hearing the statement, you will rate the (man/woman) on each of the three scales found below the sentence in this booklet. The three scales are:

- A) To what extent is this (man/woman) mentally disturbed,
  - B) To what extent is this (man/woman) likely to break laws or be delinquent, and
  - C) What are the reasons for this (man/woman's) behavior. Rating scale "c" is asking you to decide whether the (man's/woman's) statement is explainable by external forces (for example: caused by the environment, the situation around (him/her), society's demands, the problems (she/he) has to face in the world, etc.), or by internal forces (for example: caused by (his/her) thought processes, (his/her) needs, (his/her) personality, (his/her) internal conflicts, etc.).
- If you have any questions at this point, please ask the experimenter. If not, please proceed to the next section. Remember, read and rate each



statement only when you hear that statement over the speaker system.

After these instructions, each of the 123 items categorized in Part One were presented, followed in each case by three associated 7-point rating scales: "To what extent, would you guess, is this (man/woman) mentally disturbed" (ranging from "not at all" to "very"), "To what extent, would you guess, is this (man/woman) likely to break laws or be delinquent" (ranging from "not at all" to "very"), and "what are the reasons for this (man's/woman's) behavior" (ranging from "internal" to "external". To aid subjects in the internality-externality task, the following was written in large letters on the blackboard at the front of the experimental rooms:

1	2	3	4	5	6	7
<u>Internal</u>				<u>External</u>		
thought processes				environment		
needs				situation around (him/her)		
personality				society's demands		
internal conflicts				problems (he/she has to face in the world)		

Presented at 20 second intervals, the tape played each of the 123 statements, while subjects moved through each of the 123 statements in the booklet, rating each on pathology, criminality, and internality-externality.

Upon completion of the rating task, subjects were asked to turn over their questionnaires, and answer the following:

1. "What were your impressions of experiment Multi-Test" and
2. "What do you think the investigators in the Manitoba Deviance Judgement Inventory experiment are trying to study?"

#### Transformation of the data.

Prior to transformation, the two forms (male ratee vs female ratee) of the MDJI consisted of three ratings (pathology, criminality, and internal-external) for each of the 123 items, yielding a total of 369 scores per subject. Based on the six item categories defined in Part One (acceptable/male, acceptable/female, sex-typed/male, sex-typed female, unacceptable/male, and unacceptable/female), the MDJI ratings were summed to form six scales, each of which were expressed by three scores (pathology, criminality, and internal-external). Thus, after transformation, each subject in Part Two had 24 scores on one of the two forms of the MDJI. For example, a subject given the male form of the MDJI would have summary ratings of pathology, criminality, and internality-externality for males involved in six types of behavior, ranging from socially acceptable, male appropriate to socially unacceptable, female appropriate.

## Data Analyses

### Part One Data

Stimulus check. In order to determine whether the procedure used to define "male appropriate" and "female appropriate" items was effective, a series of three correlated t-tests were done, each comparing the "male appropriate" versus "female appropriate" forms of the acceptable, sex-typed, and unacceptable categories. The dependent variable in all these cases was a score formed by the "male appropriateness" rating minus the "female appropriateness" rating for each item of the category, summed to produce a summary "male-female appropriateness" score. If, for example, the t-test comparing acceptable/male with acceptable/female was significant, with the mean of each possessing opposite signs, one could assume that the "male appropriate" form was; in fact, more male appropriate, and that the "female appropriate" form was more female appropriate.

Hypothesis #1. The hypothesis of sex bias in the construction of the MMPI was tested by a 2 (sex appropriateness: male, female) x 3 (social acceptability: acceptable, sex-typed, unacceptable) chi-square analysis, involving all items except those which were taken from the Masculinity-Femininity scale (which were arbitrarily worded in the male or female direction by the experimenter). In

the case of a significant result, individual one-sample chi-squares were performed to identify the cells whose values varied significantly from the expected proportions.

Hypothesis #2. The hypothesis of sex-typing in MMPI scales was tested by a one-sample Hotelling's  $T^2$  Analysis (Tatsuoka, 1971), using the P3D subprogram of the BMDP series of statistical software (Dixon, 1983). This statistical procedure is the multivariate extension of the one-sample univariate t-test, used in the present study to simultaneously compare a vector of difference-score means to a vector of zeros (the "null" vector). In its current application, a significant  $T^2$  would indicate a non-zero value for a linear combination of difference scores, pointing to significant differences in male or female appropriateness of the MMPI scales. In the present study, the summed "male appropriateness" scores for each of the MMPI scales were compared to the summed "female appropriateness" scores for each scale. In the event of a significant  $T^2$  analysis, post-hoc univariate t-tests were performed on each scale separately, to determine which were significantly more male or female appropriate. Here, as throughout the analyses, post-hoc tests had to achieve a significance of  $p < .01$  in order to be considered significant.

#### Part Two data

Reliability of the TST and TAB scales. Since two new measures were used in the present study (the Tendency to Sex-Type scale and the Tendency to Accept Behavior scale), it was felt appropriate to test their statistical reliability. Broadly defined, tests of reliability compare the variance in a measure which is due to "true" differences among subjects with the variance which is due to sampling or measurement error (Chassen, 1979). This ratio of "true" to "error" variance is usually expressed as a reliability coefficient. The reliability tests chosen for the current study were Cronbach's alpha coefficient of reliability (Cronbach, 1960), and the Spearman-Brown "split half coefficient" (Mehsens & Ebel, 1967) due to their superior psychometric qualities, and their popularity as indices of potential measurement error. Analysis was done through the RELIABILITY subprogram of SPSS, version 8 (Hull & Nie, 1981), once for the TST score, and once for the TAB score.

Hypothesis #3. The hypothesis concerning the relationship between the various sex-role related rater measures (Sex, Masculinity, Femininity, AWS, TST, and TAB) was tested by factor analysis, using the FACTOR subprogram of SPSS, version 6 (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). The specific factoring technique utilized was the PA2 procedure, known generically as iterative principal factoring. PA2 replaces the diagonals in the initial correlation matrix with communality estimates ( $R^2$ s), which

are "upgraded" or improved as the program repeats itself (iterates) on successively reduced matrices. The iterative procedure terminates when "the difference between the two [last] successive communality estimates are negligible" (Nie, et al., 1975). Following PA2, all factors with eigenvalues greater than one were extracted per Kaiser's rule (Kaiser, 1960; Tatsuoka, 1971), and subjected to Varimax rotation.

Hypothesis #4. The hypothesis concerning the relationship between an overall tendency to make internal or external attributions and ratings of criminality and pathology was examined through the use of multiple regression analysis (MRA: Kerlinger & Pedhazur, 1973). Using SPSS subprogram NEW REGRESSION (Hull & Nie, 1981), a step-wise (forward inclusion) multiple linear regression procedure was invoked, using the total criminality rating (each subject's criminality rating averaged across all items) and total pathology rating (pathology ratings averaged across all items) as independent variables, predicting each subject's total internality-externality rating (averaged across all items).

Hypothesis #5. The hypothesis of differences in the rated pathology and criminality of MMPI scales according to ratee sex was assessed through two Hotelling's  $T^2$  analyses. In both analyses the independent variable was ratee sex, however in one analysis the dependent variables were

pathology ratings of the MMPI scales, and the other analysis was on criminality ratings. The dependent variables were formed by reconstructing the original Mini-Mult scales from which the experimental items were taken, and summing the items within each scale to produce pathology and criminality ratings for each. In the event of a significant main effect, post-hoc Discriminant analyses and univariate t-tests were done.

Hypothesis #6. The hypothesis that the increases in criminality and pathology ratings cited in hypothesis #5 would be paralleled by a shift in internality-externality attributions on those scales was tested by a Hotelling's  $T^2$  analysis, with the independent variable being ratee sex and the dependent variables being the summed internality-externality ratings for each scale.

Hypothesis #7. The hypothesis concerning criminality and pathology attributions to various ratee variables and their interactions was tested by the multivariate approach to repeated measures analysis of variance. The multivariate approach was utilized because the "univariate" repeated measures ANOVA is a "mixed-effects" model analysis, where a "subjects" factor is formed as a random effect nested within one or more between-subjects factors (Nie, 1983). This mixed-effects approach carries with it certain relatively restrictive "compound symmetry" assumptions about the variance-covariance matrix to be used (Huynh & Mandevill, 1979). As noted by Glass and Stanley (1970, p. 470),

An important assumption for the test [of the null hypothesis] to be valid in the mixed model is that the correlations of all pairs of levels of the fixed factor across the population of random factor levels must be the same. Violations of this assumption work to increase the actual probability of a type I error ... when heterogenous correlations among the pairs of levels of the fixed factor are suspected, special measures must be taken to insure the validity of the F-test ...

Since, as noted by Greenhouse and Geisser (1959) and others, such homogeneity of correlations is far less common than often assumed, and given the unlikeliness that the current (somewhat complex) study would satisfy this requirement, an alternate approach to repeated measures ANOVA was sought.

By using the relatively conservative multivariate procedure recommended by Glass and Stanley (1970), Winer (1962), and Hull and Nie (1981), wherein "the covariance structure of the [model] can have any pattern" (Hull & Nie, 1981, p. 50), the limitations of the mixed-effects model (i.e., compound symmetry) can be avoided, thereby insuring the validity of the F tests.

In the present study, the multivariate analysis took the form of two 2(ratee sex) x (2(social acceptability of ratee's behavior) x 3(sex-role appropriateness of ratee's behavior) repeated measures ANOVAs, one for pathology attributions, and one for criminality attributions, where the between groups factor was "ratee sex" and the within-



subjects factors were "social acceptability" and "sex-role appropriateness." The statistical program used for this analysis was the "repeated measures" facility of the MANOVA sub-routine contained in the ninth version of SPSS (Hull & Nie, 1981), using the "approximate multivariate F" procedure (p. 51).

Hypothesis #8. The hypothesis of internality-externality attributions paralleling the changes in pathology and criminality attributions found in hypothesis #7 was tested with the same multivariate repeated measures ANOVA used in hypothesis #7, except that the dependent variable was ratings of Internality-Externality.

Hypothesis #9. The hypothesis that ratings of pathology and criminality to ratee variables would vary according to rater variables was tested through a "multi-tiered" (Briere, Downes, & Spensley, 1983) multivariate approach, which involves testing for global multivariate effects followed by increasingly more specific analysis in the event of continued statistical significance (Cohen & Cohen, 1975). In the present study, the global assessment was done through two Multivariate Multiple Linear Regression analyses (MMLR: Finn, 1974). MMLR is the multivariate extension of the "univariate" multiple regression (MRA) model, with the primary difference being that MMLR can solve for a vector (or series) of dependent variables, while MRA is constrained to a single one.

In the present study, the independent variables were ratee sex (0=female, 1=male), the rater variables (sex (0=male, 1=female), AWS, Femininity, Masculinity, TST and TAB), and their lowest order interactions, while the dependent variable vector consisted of pathology scores (in analysis #1) and criminality scores (in analysis "#2) to the six ratee stimulus conditions (e.g., acceptable/female). Higher order interactions were not tested, given a) the difficulty in formulating hypotheses concerning even 3-way interactions of rater variables (especially since none were hypothesized in the present study), and b) the rapid increase in the number of independent variables produced when seeking to represent all possible interactions among 6 predictors.

In the current study, MMLR was done through the covariate facility of the MANOVA subprogram of SPSS, version 8 (Hull & Nie, 1981), which produces a) the multivariate test of the relationship between the Y vector (the dependent variables) and the predictor variables, b) "univariate" tests of those individual dependent variables which were significantly predicted (within the Y vector) by the independent variables, and c) "univariate" multiple regression data on the significance of each independent variable in the prediction of each dependent variable. However, due to the fact that interactions were included in the present analysis, and given that the MMLR algorithm of MANOVA does

not allow for hierarchical inclusion of predictors, it was only possible to use part "a" of the output. This was because the MANOVA version of MMLR would have considered the predictors and their interactions simultaneously, when, as noted by Cohen and Cohen (1975), the contribution of interaction terms must be considered only after the individual effects of each component variable have been removed in a step-wise procedure (p. 292). To deal with this problem, SPSS (and other statistical programs) offer a "hierarchical" MRA solution, which considers individual variables before their interactions, and then considers any additional variance accounted for by interactions after the individual effects have removed. Unfortunately, this option is not included within the MMLR procedure found in SPSS's MANOVA.

On this basis, the following three-tiered approach to hypothesis #9 was done. First, the two MMLR analyses were run, in order to assess the multivariate relationships between a) pathology attributions to the six stimulus categories and the predictor variables, and b) criminality attributions and the predictor variables.

Second, in the event of a significant MMLR finding, separate MRAs for each dependent variable in the Y vector and the predictor variables were run on a different SPSS program (NEW REGRESSION), which accommodates hierarchical inclusion. This hierarchical procedure entered the set of

all single independent variables (e.g., sex) at Step One, and then entered the set of all two-way interactions (e.g., sex x TST) at Step Two. The test of the significance of the interactions is the  $F$  value of the  $R^2$  change when the interaction set is included in the equation. As noted by Cohen and Cohen (1975), in the event that the set of interaction terms is significant then, and only then, can the individual interaction terms within the set be tested for significance separately. When the interaction set is significant, the contribution of each interaction is tested by examining the  $R^2$  change in the variance accounted for by the interaction set upon removal of the given interaction term in question (Hull & Nie, 1981, p. 101). With regards to this "protected  $F$  sets procedure", Cohen and Cohen (1975) report that:

This procedure is effective in statistical inference in [multivariate analysis] for several reasons. Since the number of sets is typically small, the investigation-wise Type 1 error does not mount up to anywhere nearly as large a value over the test for sets as it would over the tests for the frequently large total number of IVs. Then, the tests of single IVs are protected against inflated stepwise Type 1 error rates by the requirement that their set's  $F$  meet the alpha significance criterion. Further, with Type 1 errors under control, both the  $F$  and  $t$  tests are relatively powerful (for any given  $n$  and  $f^2$ ).

Thus, both types of errors in inference are kept relatively low and in good balance". (p.163)

Third, the simple (zero-order) correlations for all variables (other than interactions terms) involved in significant MRA equation were examined, to determine the relationship between the stimulus conditions and the separate predictor variables.

Finally, in order to test both the traditional notion of sex-role orientation (involving the use of "masculine", "feminine", "androgynous" and "undifferentiated" groups) as well as the multiple regression approach (as tested in the MMLR), two 2 (ratee sex) x 4 (rater sex-role orientation) MANOVAs were done using the six stimulus groups as dependent variables.

Hypothesis #10. The hypothesis that changes in pathology and criminality predicted by Hypothesis #9 would parallel changes in internality-externality was tested by Multivariate Multiple Linear Regression analysis, followed by Multiple Regression analysis and zero-order correlations, exactly as per hypothesis #9. The dependent variables, however, were the internal-external attributions to the six stimulus categories rather than criminality or pathology. In order to also test the relationship between I/E attributions and the traditional sex-role categories, a MANOVA was done as per hypothesis #9, only using I/E attributions as dependent variables.

## RESULTS

The results of this study will be presented in the order in which they were cited in the Methods section. Results from Part One will include a) the tabulations used to classify the MMPI items into stimulus categories, b) the stimulus check on the male versus female appropriateness of the stimulus categories, and c) the tests of hypotheses #1 and #2. Part Two results will include a) statistical information on the measures used in Part Two (e.g., the pathology, criminality, and internal-external measures, the AWS, etc.), b) the reliability analysis of the TST measure, and c) the analyses of hypotheses #3 to #8.

### Part One

#### Item Classification

As described in the Methods section, the mean male appropriateness and female appropriateness scores for each of the 123 items was determined in order to classify them into stimulus categories. Across all items, the mean male appropriateness score was 4.15 (S.D.=0.519, range=3.203) and the mean female appropriateness score was 4.45 (S.D.=0.497, range=2.902). See Table 1 for male appropriateness and female appropriateness scores for each item, as well as each item's stimulus category membership.

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Insert Table 1 about here  
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Because of an obvious relationship between female appropriateness and social unacceptability (tested in hypothesis #1, to follow), there was a relative imbalance in the numbers of items per stimulus category, producing the following frequencies: acceptable/Male=9, acceptable/Female=16, Sex-typed/Male=35, Sex-typed/Female=31, Unacceptable/Male=5, Unacceptable/Female=27.

#### Stimulus check

t-tests of the difference between male and female appropriateness scores for acceptable, sex-typed and unacceptable behaviors were significant in each case. Acceptable/Male was rated as more male appropriate than was acceptable/Female ( $t(139)=11.45$ ,  $p<.001$ ), sex-typed/Male was rated as more male appropriate than was sex-typed/Female ( $t(139)=20.67$ ,  $p<.001$ ), and Unacceptable/Male was rated as more male appropriate than was Unacceptable/Female,  $t(149)=9.09$ ,  $p<.001$ . See Table 2 for means and standard

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Insert Table 2 about here  
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deviations.

### Hypothesis #1

Chi-square analysis of the clinical items (those in scales other than scale 5) revealed a significant relationship between the sex appropriateness of items and their social acceptability,  $\chi^2(2)=7.423$ ,  $p<.024$ . See Table

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Insert Table 3 about here  
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3 for frequencies.

Post-hoc one-sample chi-squares of sex appropriateness differences, given the total contingency table, for the three social acceptability categories indicated no differences for acceptable behavior ( $n=5$  vs  $n=8$ ,  $\chi^2(1)=0.692$ , ns) or sex-typed behavior,  $n=15$  vs  $n=16$ ,  $\chi^2(1)=0.032$ , ns. In the case of unacceptable behavior, however, there were significantly more female appropriate than male appropriate items,  $n=4$  vs  $n=23$ ,  $\chi^2(1)=13.370$ ,  $p<.001$ . The overall ratio of male appropriate to female appropriate items (24 vs. 47, respectively), tested by binomial analysis, was statistically significant,  $p<.001$ .

### Hypothesis #2

Hotelling's  $T^2$  analysis revealed a significant difference between the "male appropriateness" scores and "female appropriateness" scores for the 12 MMPI scales,



$F(12,128)=37.577, p<.0001$ . See Table 4 for the means,

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 Insert Table 4 about here  
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standard deviations, and associated t-tests for each scale.

Examining each separately, eight of the twelve scales were found to be more female appropriate than male appropriate. They were: scale 1-Hypochondriasis ( $t(139)=10.24, p<.001$ ), scale 2-Depression ( $t(139)=-12.20, p<.0001$ ), scale 3-Hysteria ( $t(139)=-9.62, p<.0001$ ), scale 6-Paranoia ( $t(139)=-7.48, p<.0001$ ), scale 7-Psychasthenia ( $t(139)=-11.78, p<.0001$ ), scale 8-Schizophrenia ( $t(139)=-4.77, p<.0001$ ), scale F ( $t(139)=-6.45, p<.0001$ ), and scale K,  $t(139)=-4.96, p<.0001$ . One scale was more male appropriate than female appropriate (scale 5-Masculinity-Femininity:  $t(139)=21.05, p<.0001$ ), and three scales were not significantly male or female appropriate (scale 4-Psychopathic deviate:  $t(139)=-2.26, ns$ , scale 9-Mania:  $t(139)=-0.23, ns$ , and scale L:  $t(139)=-1.00, ns$ ).

## Part Two

### Effect of Deception

Of the 150 subjects, none indicated in the open response section that they had guessed the true relationship between the Part Two experiments (i.e., that they were all part of the same experiment). On this basis, all subjects were included in the Part Two analyses.

### Descriptive Statistics

Condescriptive analysis produced means and standard deviations for each of the variables used in Part Two. The mean score on the Attitudes Toward Women scale was 32.50 (S.D.=7.188), whereas the Tendency to Sex-Type scale had a mean of 0.764 (S.D.=0.296). The Masculinity and Femininity scores on the Bem Sex Role Inventory had means of 96.50 (S.D.=15.38) and 97.07 (S.D.=14.17), respectively. The mean pathology rating, across 123 items, was 2.579 (S.D.=0.805), which on a scale of 1 (not at all) to 7 (very), indicates a tendency to view the stimulus items as nonpathological. This also occurred for the criminality ratings (Mean=2.597, S.D.=0.838), where there was a tendency to see items as not reflecting criminality. The internal-external rating, across items, had a mean of 3.180 (S.D.= 0.560), suggesting a tendency for subjects to view items as internally caused.

### Reliability of the Tendency to Sex-Type Scale

Reliability analysis of the TST produced two separate coefficients. The Cronbach's alpha for the 24 item scale was .833. Calculation of Spearman-Brown's "split half" coefficient produced a value of .785. See Table 5 for the

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Insert Table 5 about here  
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item-to-total correlations of the items composing the TST.

Reliability analysis of the TAB produced a Chronbach's alpha of .854, and a Spearman-Brown "split-half" coefficient of .835. See Table 6 for item-to-total correlations for the

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 Insert Table 6 about here  
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TAB scale.

### Hypothesis #3

Factor analysis of the sex-role related variables proceeded in two steps. Step one, calculation of the simple  $r$ s between each rater variable, indicated significant correlations between sex (female) and liberal Attitudes Toward Women ( $r=.423$ ,  $p<.001$ ), sex (female) and Femininity ( $r=.187$ ,  $p<.050$ ), sex (female) and Masculinity ( $r=-.267$ ,  $p<.001$ ), sex (female) and TAB ( $r=.158$ ,  $p<.050$ ), Attitudes Toward Women and TAB ( $r=.249$ ,  $p<.001$ ), and TST and TAB,

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 Insert Table 7 about here  
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$r=-.336$ ,  $p<.001$ . See Table 7 for the correlation matrix.

Factor analysis of the correlation matrix produced three factors with eigenvalues in excess of 1.0, accounting for, respectively, 27.6%, 22.8%, and 17.5% of the original variance, such that the three factors together comprised 67.8% of the total variance (see Table 8). A varimax

rotation of these three factors produced the matrix of

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 Insert Table 8 about here  
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coefficients presented in Table 9. Factor I, named "Female", loaded on sex (female) and liberal Attitudes Toward Women. Factor II, named "Sex Role Acceptance", loaded positively on Tendency to accept behavior and negatively on Tendency to Sex-Type. Factor III, named

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 Insert Table 9 about here  
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"Male", loaded on sex (male) and Masculinity.

#### Hypothesis #4

Multiple regression analysis of subjects' total internal-external score, as predicted by their total criminality and pathology ratings, was significant,  $F(2,136)=13.552$ ,  $p<.001$ . As indicated in Table 10, both total criminality and total pathology ratings were effective predictors, Beta ( $=.574$ ,  $F(1,137)=24.99$ ,  $p<.001$ ), and Beta ( $=-.302$ ,  $F(1,137)=6.850$ ,  $p<.01$ ), respectively. Inspection of the signs of the beta weights indicates that total criminality was associated with a higher external score, whereas total pathology was related to higher internality. Interestingly, the correlation between the two predictors, total pathology and total criminality, was relatively high,  $r=.732$ ,  $p<.001$ .

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Insert Table 10 about here  
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### Hypothesis #5

Hotelling's  $T^2$  analysis of sex of ratee differences in rated pathology was significant,  $R_c = .386$ ,  $F(12, 133) = 1.943$ ,  $p < .035$ . Inspection of the univariate  $F$  tests, as presented in Table 11, revealed a single scale which was significantly different between male and female ratees. Males received significantly more pathological attributions when engaged in female behavior than when engaged in male behavior (difference =  $-.52$ ) as compared to females (difference =  $-.41$ ) for scale 5 (scored as male minus female)  $F(1, 144) = 7.289$ ,  $p < .008$ . Discriminant analysis of the multivariate sex of

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Insert Table 11 about here  
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ratee effect pointed to scale 5 as well, with a  $c$  of  $-.537$ .

Hotelling's  $T^2$  analysis of sex of ratee differences was also significant for criminality ratings,  $R_c = .409$ ,  $F(12, 130) = 2.170$ ,  $p < .017$ . Inspection of the univariate  $F$  tests (see Table 12) indicated that males were rated as significantly more criminal when engaged in female behavior than when engaged in male behavior (difference =  $-.48$ ) as compared to females (difference =  $-.33$ ) for scale 5 behaviors

( $F(1,131)=17.872$ ,  $p<.001$ ). Discriminant analysis also underlined the meaningfulness of the scale 5 sex difference (scale 5:  $\underline{c}=-.795$ ) and pointed to a higher criminality

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 Insert Table 12 about here  
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rating for males than females on scale L,  $\underline{c}=.404$ .

### Hypothesis #6

Hotelling's  $T^2$  analysis of differences in attributed internality vs externality according to ratee sex was statistically significant,  $R_c=.385$ ,  $F(12,127)=1.837$ ,  $p<.049$ . Univariate ANOVAs indicated that this was due to male sex-role violations receiving more external attributions on scale 5 behaviors than did female sex-role violations  $F(1,138)=4.527$ ,  $p<.035$ . This finding was reinforced by Discriminant Function Analysis (scale 5:  $\underline{c}=.435$ ), as

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 Insert Table 13 about here  
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indicated in Table 13.

### Hypothesis #7

Multivariate repeated measures analysis of variance of pathology attributions indicated main effects of social acceptability ( $F=460.99$ ,  $p<.001$ )<sup>1</sup> and of sex appropriateness

( $F(1,144)=79.94$ ,  $p<.001$ ), but not of ratee sex, ( $F(1,144)=0.155$ , ns). At the level of two-way interactions, the social acceptability by sex appropriateness interaction was significant ( $F=145.37$ ,  $p<.001$ ), whereas the ratee sex by social acceptability interaction was nonsignificant ( $F=0.305$ , ns), as was the ratee sex by sex appropriateness interaction,  $F=2.29$ , ns. The three-way interaction was also nonsignificant,  $F=0.803$ , ns. See Table 14 for means and

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 Insert Table 14 about here  
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standard deviations.

Post-hoc assessment of the direction of these effects on pathology attributions will proceed in the order of their presentation above.

#### Social Acceptability.

Correlated  $t$ -tests of the social acceptability main effect indicated that, as would be expected, socially unacceptable behavior was rated as more pathological than either sex-typed behavior ( $t(146)=-28.54$ ,  $p<.001$ ) or socially acceptable behavior,  $t(146)=-30.12$ ,  $p<.001$ .

#### Sex Appropriateness of Behavior.

Examination of the means for male appropriate behavior (2.804) versus female appropriate behavior (2.602) indicated

that these behaviors seen as male appropriate were rated as more pathological than those behaviors seen as female appropriate.

Social Acceptability x Sex Appropriateness.

Testing the simple main effects within the significant social acceptability x sex appropriateness interaction with correlated  $t$ -tests indicated that although sex-typed, male appropriate behavior was rated as no more pathological than sex-typed female appropriate behavior ( $t(148)=1.02$ ,  $ns$ ), socially unacceptable, male appropriate behavior was rated as more pathological than socially unacceptable, female appropriate behavior ( $t(148)=18.92$ ,  $p<.001$ ), and socially acceptable, male appropriate behavior was rated as less pathological than socially acceptable, female appropriate behavior,  $t(145)=-4.39$ ,  $p<.001$ . See Figure 1 for a graphic

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Insert Figure 1 about here  
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representation of this interaction.

Multivariate repeated measures analysis of variance of criminality attributions indicated main effects of social acceptability ( $F=220.972$ ,  $p<.001$ ), and of sex appropriateness ( $F(1,131)=341.359$ ,  $p<.001$ ). There was no ratee sex effect,  $F(1,141)=2.924$ ,  $ns$ . As well, there were interactions of ratee sex and sex appropriateness



( $F(1,131)=4.197$ ,  $p<.042$ ) and social acceptability by sex appropriateness,  $F=154.956$ ,  $p<.001$ . There was no ratee sex by social acceptability interaction ( $F=1.189$ , ns), nor was there a three-way interaction of ratee sex x social acceptability x sex appropriateness,  $F=0.567$ , ns. See Table

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Insert Table 15 about here  
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15 for means and standard deviations.

Post-hoc analyses of these effects on criminality ratings will proceed in the order of their presentation above.

#### Social Acceptability.

Correlated  $t$ -tests of the social acceptability effect indicated that socially unacceptable behavior was rated as more criminal than socially acceptable behavior ( $t(143)=-19.73$ ,  $p<.001$ ) or sex-typed behavior, ( $t(143)=-20.83$ ,  $p<.001$ ).

#### Sex Appropriateness.

Examination of the means for male versus female appropriateness indicates that those behaviors seen as male appropriate (mean = 3.013) were rated as more criminal than those behaviors seen as female appropriate (mean = 2.503).

#### Ratee Sex x Sex Appropriateness.

Correlated  $t$ -tests of male versus female appropriateness for male versus female rates indicated that male appropriate behaviors were rated as more criminal than female appropriate behaviors for both male rates ( $t(78)=12.17$ ,  $p<.001$ ) and female rates ( $t(63)=14.17$ ,  $p<.001$ ), but that, as indicated in Figure 2, this difference

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 Insert Figure 2 about here  
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was greater for female rates.

**Social Acceptability x Sex appropriateness.**

Testing the components of the social acceptability x sex appropriateness interaction with correlated  $t$ -tests indicated that sex-typed, male appropriate behavior was seen as more criminal than sex-typed, female appropriate behavior ( $t(147)=19.34$ ,  $p<.001$ ), that socially unacceptable, male appropriate behavior was rated as more criminal than socially unacceptable, female appropriate behavior ( $t(147)=19.34$ ,  $p<.001$ ), and that socially acceptable, male appropriate behavior was seen as less criminal than socially acceptable, female appropriate behavior,  $t(148)=-4.39$ ,

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 Insert Figure 3 about here  
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$p<.001$ . See Figure 3 for a graph of this interaction.

### Hypothesis #8

Multivariate repeated measures analysis of variance of internality-externality (IE) scores indicated main effects of social acceptability ( $F=48.14$ ,  $p<.001$ ) and sex appropriateness ( $F(1,138)=4.71$ ,  $p<.032$ ), but not ratee sex,  $F=0.20$ , ns. At the two-way interaction level, the social acceptability by sex appropriateness interaction was significant ( $F=40.19$ ,  $p<.001$ ), whereas the ratee sex by sex appropriateness interaction was nonsignificant ( $F(1,138)=1.106$ , ns), as was the ratee sex by social acceptability interaction,  $F=0.494$ , ns. The three-way interaction was similarly nonsignificant,  $F=1.416$ , ns. See

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 Insert Table 16 about here  
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Table 16 for means and standard deviations.

Post-hoc analysis of the direction of these effects on IE attributions will proceed in the order of their presentation above.

#### Social Acceptability.

Correlated t-tests of the social acceptability main effect indicated that sex-typed behaviors were rated as more externally-caused than socially acceptable behaviors ( $t(143)=-9.08$ ,  $p<.001$ ), and that socially unacceptable behavior was rated as more internally-caused than either

sex-typed behavior ( $t(141)=3.02$ ,  $p<.003$ ) or socially acceptable behavior,  $t(143)=8.14$ ,  $p<.001$ .

#### Sex Appropriateness of Behavior.

Examination of the means for male versus female appropriate behavior (3.29 vs. 3.16, respectively) indicated that those behaviors seen as female appropriate were rated as more internally-based than those seen as male appropriate.

#### Social Acceptability x Sex-Appropriateness.

Testing the simple main effects within the significant social acceptability by sex appropriateness interaction with correlated  $t$ -tests indicated that sex-typed, male appropriate behavior was rated as more externally-based than sex-typed, female appropriate behavior ( $t(145)=10.68$ ,  $p<.001$ ), and that socially acceptable, female appropriate behavior was rated as more externally-based than socially acceptable, male appropriate behavior,  $t(147)=-2.81$ ,  $p<.006$ . There were no differences in IE ratings for socially unacceptable, male appropriate behaviors versus socially unacceptable, female appropriate behaviors,  $t(145)=0.64$ , ns.

#### Hypothesis #9

Multivariate Multiple Regression Analysis of the effects of rater variables and ratee sex on pathology attributions

to the sex stimulus categories was statistically nonsignificant,  $F(162, 660.36)=1.038$ , ns. See Table 17 for

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 Insert Table 17 about here  
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MMLR results.

Examining the effects of rater variables and ratee sex on pathology attributions to each stimulus condition, by MRA, indicated nonsignificant equations in each instance (see Table 18), suggesting an absence of rater or ratee variable effects for pathology attributions. Although interpretation of the simple correlations between rater (ratee variables and psychopathology attributions is highly problematic in the absence of significant MMLR and MRA equations, it was noted that all were nonsignificant except for rater sex and sex-typed/Male ( $r=.186$ ,  $p<.023$ ), Sex-typed/Female ( $r=-.221$ ,  $p<.007$ ), Acceptable/Male ( $r=-.199$ ,  $p<.015$ ), and

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 Insert Table 18 about here  
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Acceptable/Female,  $r=-.191$ ,  $p<.019$ .

MMLR analysis of criminality attributions to the stimulus categories was statistically significant, however,

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 Insert Table 19 about here  
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$F(162, 642.74)=1.366$ ,  $p<.005$ . See Table 19 for MMLR results.

An examination of the effects of rater variables and ratee sex on criminality attributions to each stimulus condition, by MRA, indicated significant equations for sex-typed/Male, sex-typed/Female, Acceptable/Male, and Acceptable/Female, but not for Unacceptable/Male or

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 Insert Table 20 about here  
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Unacceptable/Female (see Table 20).

Multiple Regression Analysis results for each of the four significant stimulus conditions are presented below, as are their associated simple rs.

Sex-typed/Male (ST/M).

Multiple Regression Analysis of criminality attributions to male sex-typed behavior was significant at both step one, involving the single variables block ( $F(7,138)=2.692$ ,  $p<.012$ ), and at step two, involving the interactions block,  $F(27,118)=1.684$ ,  $p<.030$ . However, since, as indicated in Table 20, the variance added by the interaction block was nonsignificantly higher than the variance accounted for by the single variables block ( $R^2$  change=.158), the interaction variables were disregarded in the equation. The resultant equation, limited to the step one variables, indicated that males rated more criminality to male sex-typed behaviors than did females,  $t=-2.86$ ,  $p<.005$ . See Table 21 for MRA results.

An examination of the effects of rater variables and ratee sex on criminality attributions to each stimulus condition, by MRA, indicated significant equations for sex-typed/Male, sex-typed/Female, Acceptable/Male, and Acceptable/Female, but not for Unacceptable/Male or

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Insert Table 20 about here  
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Unacceptable/Female (see Table 20).

Multiple Regression Analysis results for each of the four significant stimulus conditions are presented below, as are their associated simple rs.

Sex-typed/Male (ST/M).

Multiple Regression Analysis of criminality attributions to male sex-typed behavior was significant at both step one, involving the single variables block ( $F(7,138)=2.692$ ,  $p<.012$ ), and at step two, involving the interactions block,  $F(27,118)=1.684$ ,  $p<.030$ . However, since, as indicated in Table 20, the variance added by the interaction block was nonsignificantly higher than the variance accounted for by the single variables block ( $R^2$  change=.158), the interaction variables were disregarded in the equation. The resultant equation, limited to the step one variables, indicated that males rated more criminality to male sex-typed behaviors than did females,  $t=-2.86$ ,  $p<.005$ . See Table 21 for MRA results.

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 Insert Table 21 about here  
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As compared to the MRA results, simple correlation analysis indicated that not only were males more likely to make criminality attributions to ST/M ( $r = -.264$ ,  $p < .001$ ), but that subjects who were more conservative on the AWS were more likely to attribute criminality than were their more liberal cohorts,  $r = -.166$ ,  $p < .044$ . See Table 21 for correlation results.

Sex-typed/Female (ST/F).

Multiple Regression Analysis of criminality attributions to female sex-typed behaviors was statistically significant at step one ( $F(7,140) = 3.298$ ,  $p < .002$ ) and at step two ( $F(27,120) = 1.698$ ,  $p < .028$ ) although, as indicated in Table 20, the interaction block did not add significantly greater variance to the equation ( $R^2$  change = .135). Thus, the final equation consisted of the block of single variables entered at step one. This regression equation indicated that higher criminality attributions to female sex-typed behaviors were made when the ratee was male ( $t = 2.42$ ,  $p < .017$ ), and when the rater was male,  $t = -2.80$ ,  $p < .006$ . See Table 22 for MRA

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 Insert Table 22 about here  
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results.



Simple correlation analysis supported the MRA results in producing relationships between male rater sex and criminality attributions ( $r = -.264$ ,  $p < .001$ ) and male ratee sex and criminality attributions ( $r = .209$ ,  $p < .01$ ). Correlation analysis also reported, however, a relationship between conservative AWS scores and higher criminality ratings ( $r = -.186$ ,  $p < .023$ ) which did not occur in the MRA results. See Table 22 for correlation results.

Acceptable/Male (A/M).

Multiple Regression Analysis of criminality attributions to acceptable, male appropriate behaviors was statistically significant at step one ( $F(7, 140) = 4.036$ ,  $p < .0005$ ) and at Step two ( $F(27, 120) = 2.132$ ,  $p < .003$ ) although, as indicated in Table 20, the interaction block did not add significant predicted variance to the regression equation ( $R^2$  change = .156). Thus, the equation at Step one (consisting of the single variable block) was considered the best model of the data. This equation indicated that higher criminality attributions were made to A/M behaviors when the ratee was male ( $t = 2.30$ ,  $p < .023$ ), and when the rater was male,  $t = -3.59$ ,

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 Insert Table 23 about here  
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$p < .001$ . See Table 23 for MRA results.

Simple correlation analysis supported the MRA results for rater sex ( $r = -.306$ ,  $p < .001$ ) and ratee sex ( $r = .197$ ,  $p < .016$ ).

Acceptable/Female (A/F).

Multiple Regression Analysis of criminality attributions to acceptable, female appropriate behaviors was statistically significant at step one ( $F(7, 139) = 2.533$ ,  $p < .0175$ ) and step two, ( $F(27, 119) = 1.745$ ,  $p < .0224$ ) although, as indicated in Table 20, the block of interaction variable did not account for significantly greater variance in criminality scores than did the individual variables block entered at step one ( $R^2$  change = .171). The resultant (step one only) equation indicated the male raters attributed greater criminality to A/F than female raters ( $t = -2.53$ ,  $p < .012$ ), and that male ratees engaged in A/F behaviors were viewed as more criminal than female ratees engaged in the same behavior ( $t = 2.06$ ,  $p < .041$ ). See Table 24 for MRA

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 Insert Table 24 about here  
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results.

Simple correlation analysis supported the MRA results for rater sex ( $r = -.256$ ,  $p < .002$ ) and ratee sex ( $r = .183$ ,  $p < .026$ ), as well as indicating a relationship between conservative AWS and higher attributions of criminality,  $r = -.159$ ,  $p < .053$ .

MANOVA results.

Multivariate Analysis of Variance (MANOVA) of differences in pathology attributions to the six stimulus conditions according to sex-role orientation category and ratee sex was nonsignificant for sex-role ( $F(18,376.67)=0.618$ , ns), ratee sex  $F(6,133)=0.899$ , ns), and the sex-role x ratee sex interaction,  $F(18,376.67)=0.882$ , ns. See Table 25 for

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 Insert Table 25 about here  
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relevant means.

MANOVA of differences in criminality attributions according to sex-role orientation category and ratee sex was nonsignificant for sex-role ( $F_{18,368.18}=0.844$ , ns), significant for ratee sex ( $F(6,130)=2.520$ ,  $p<.024$ ), and nonsignificant for the sex-role x ratee sex interaction,  $F(18,368.18)=0.667$ , ns. See Table 26 for means for each

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 Insert Table 26 about here  
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condition.

Post-hoc analysis of the ratee sex effect, by univariate ANOVA and Discriminant Function Analysis, indicated that male ratees were viewed as more criminal than female ratees for four types of behavior: Male appropriate/socially

acceptable, Female appropriate/sex-typed, Female appropriate/socially acceptable, and Female

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 Insert Table 27 about here  
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appropriate/socially unacceptable (see Table 27).

#### Hypothesis #10

Multivariate Multiple Linear Regression Analysis of the effects of rater variables and ratee sex on internal versus external (IE) attributions to the six stimulus categories was statistically nonsignificant,  $F(162,625.11)=1.106$ , ns.

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 Insert Table 28 about here  
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See Table 27 for MMLR results.

Examining the effects of rater variables and ratee sex on internality-externality attributions to each stimulus condition, by Multiple Regression Analysis, indicated significant equations for 3 variables at step two: ST/M ( $F=1.636$ ,  $p<.038$ ), U/M ( $F=2.680$ ,  $p<.001$ ), and U/F  $F=1.576$ ,  $p<.051$  (see Table 28). However, due to the failure of the global MMLR analysis of I/E attributions to reach statistical significance, these post-hoc MRA results must be

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 Insert Table 29 about here  
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considered irrelevant (Cohen & Cohen, 1975, p. 162).

Multivariate Analysis of Variance of differences in IE attributions to the six stimulus conditions according to sex-role orientation category and ratee sex was nonsignificant for sex-role ( $F(18,359.70)=0.932$ , ns), ratee sex ( $F(6,127)=1.690$ , ns), and the sex-role x ratee sex interaction,  $F(18,359.70)=0.714$ , ns. See Table 29 for means

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Insert Table 30 about here  
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for each condition.

## DISCUSSION

The present study examined a variety of hypotheses concerning non-clinical raters' reactions to sex-role deviance and conformity. The results of this investigation will be summarized below, and integrated with the existing literature where possible. In general, the discussion of these findings and their implications will proceed in the order in which they were presented in the results section.

### Sex bias and the MMPI

Based on the fact that the MMPI was designed to discriminate the basic forms of psychopathology (Hawthaway & McKinley, 1951), it was hypothesized that MMPI items might reflect sex bias present in clinical attributions of mental disorder. Specifically, it was assumed that since psychopathology has been considered by some to be a female-typed attribution (e.g., Chesler, 1972; Kaplan, 1983), and given the generally higher rates of diagnosed mental disorder among women in North American society (e.g., American Psychiatric Association, 1980; Gove, 1980; Statistics Canada, 1970), more clinical MMPI items would be female appropriate than male appropriate and, of these items, those deemed more socially unacceptable would be more likely to be female appropriate.

The data from the current study supported both hypotheses. Female appropriate items outnumbered male appropriate ones by nearly a 2:1 margin (47 versus 24), and MMPI items categorized as "socially unacceptable" were more than five times more likely to be female appropriate than male appropriate (23 versus 4).

A related hypothesis concerning the sex-type of MMPI indices was that when the individual items were summed according to their scale memberships, those scales thought to reflect greater passivity or expressivity (i.e., Hypochondriasis, Depression, Hysteria, Psychasthenia, and Schizophrenia) would be rated as more female than male appropriate, and the more "active" or "aggressive" scales (i.e., Paranoia, Psychopathic Deviate, and Hypomania) would be rated as more male appropriate than female appropriate.

In general, this hypothesis was supported by the data, although primarily for the "feminine" disorders. As predicted, Hypochondriasis, Depression, Hysteria, Psychasthenia, and Schizophrenia were rated as more female appropriate than male appropriate. Contrary to prediction, however, Paranoia was rated as more female appropriate than male appropriate, and the two other scales hypothesized to be more male appropriate (Psychopathic Deviate and Hypomania) were not significantly sex-typed in either direction. One might speculate from these findings that, overall, undergraduate subjects tend to see psychiatric

disorder as more feminine than masculine, but that those forms of psychopathology seen as least passive (e.g., Psychopathic Deviate and Hypomania) may gain enough male associations to neutralize the general femininity attributed to mental disorder, per se, resulting in an essentially neutral sex-role status for these scales.

Considered together, the MMPI findings support the contention of Chesler (1972) and others that attributions of mental disorder are in some way sex-role related. These data cannot, however resolve the issue of whether the female role is devalued by society, and therefore seen as 'sicker' than the male role (e.g., Broverman, et al., 1970), or whether the female role involves stresses and restrictions which produce actual psychological disturbance (e.g., Gove, 1972) and thus subsequently becomes associated with psychopathology in the minds of observers. The presence of such sex-role-related attributions in response to the MMPI, however, may partially explain why, prior to standardization, this measure typically produces higher ratings of pathology in women than men (Dahlstrom, Welsh, & Dahlstrom, 1972). Similarly, such findings may lend some credence to Kaplan's (1983) position that "masculine-biased assumptions about what behaviors are healthy and what behaviors are crazy are codified in diagnostic criteria" (p. 786).



### Relationships between rater variables

Prior to the major analyses of this study, the relationship between subject variables was examined, with special reference to the two newly created Tendency to Sex-Type (TST) and Tendency to Accept Behavior (TAB) scales. As found by Spence and Helmreich (1972, 1973), women's scores on the Attitudes Toward Women scale (AWS) were more "pro-feminist" than were men's, and, as per Bem (1974), being male was associated with Masculinity on the Bem Sex Role Inventory (BSRI) whereas being female was correlated with Femininity. Tendency to Accept Behavior scores, interestingly, were positively associated with being a female subject, and with more "pro-feminist" scores on the AWS. As would be predicted, TAB and TST were negatively correlated.

The finding that Tendency to Accept Behavior was associated with being female would appear to be supported by the non-clinician analogue data, which tend to indicate that males make more harsh or unfavorable judgements than do females (e.g., Banikiotes, 1981; Costrich, et al., 1975; Eisenthal, 1971; Feinman, 1974; Shinar, 1978; Zeldow, 1976). This relationship does not appear to hold, however, for clinician raters (Davidson & Abramowitz, 1980).

The relationship between non-traditional sex-role attitudes on the AWS and greater Tendency to Accept Behavior

in the present study is a relatively new finding, since very few non-clinician studies have examined evaluative behavior in the context of sex-role attitudes. The data presented by Tilby and Kalin (1980) would appear the most relevant, since they examined traditional versus non-traditional "sex-role ideology" as it related to sex-bias in evaluations. Those authors found that a more feminist ideology was associated with less harshness in attributions to sex-role incongruence. The clinician data, which has more often included measures of sex-role traditionalism, tend to parallel the Tilby and Kalin study in reporting that traditional raters are more critical than non-traditional raters of sex-role violations. Thus, the sex-bias literature offers some qualified support for the present data, but is limited by the fact that these findings have been restricted to sex-role incongruent behavior. This support is further qualified by the fact that, in the present study, Tendency to Sex Type was unrelated to sex-role attitudes. Further research appears warranted in this area, in order to disentangle the concepts of general tendency toward evaluative harshness versus specific negative reactions to sex-role related behaviors.

Factor analysis reduced the sex rater variables used in the present study to three dimensions. Specifically, per Bem's (1974) notion of the orthogonality of masculinity and femininity, these traits loaded on two different factors,

whereas the third factor ("sex-role acceptance") loaded positively on TAB and negatively on TST. Interestingly, AWS appeared in the "female" factor, rather than on what was hypothesized to be a forth "sex-role attitudes" factor. This pattern suggests that AWS may relate more to rater sex than a general notion of traditional-nontraditional attitudes, at least in the context of the current variables. per se.

#### Locus of explanation and type of attribution

As noted earlier, a central premise of much of the attributional work in the area of observer response to deviance is that out-of-role or inappropriate behavior will tend to be explained by forces internal to the actor. Writers such as Jones et al. (1961), Calhoun, et al. (1977) and Kelley (1973) hypothesize that this process arises from the observer's inability to isolate an external cause for the actor's behavior. Jones, et al. (1961) concluded, for example, that "the most probable inference for role-departure of this type is that the person reveals something of his (sic) 'true self' through his failure to perform the expected role" (p. 303). Coie, et al. (1974), among others, further hypothesize that attributions of mental disorder become more likely as dispositional (internal) inferences increase.

On this basis, the present study sought to examine the relationship between psychopathology attributions and internal explanations for various behaviors. Criminality attributions were included in this study as well, based on a hypothesis that criminality, involving goal-oriented behavior in most cases, may "make more sense" to observers and thus may be more likely to covary with external explanations. The use of both "attributional options," one internal and one external, was thought to allow for a more fine-grained analysis of rater response to deviant behavior.

As indicated in the results section, multiple regression analysis indicated that criminality was, in fact, associated with more external explanations, while psychopathology was related to a greater degree of internality. However, given that only 16.7% of the variance in locus of explanation was accounted for by criminality and psychopathology attributions, combined, and given that criminality and pathology ratings were highly correlated ( $r=.732$ ), the extent to which these attributions were "free to vary" as a function of shifts in causal explanations was a concern. Specifically, it appeared that much of the variance in criminality and pathology attributions (83.2%) was unrelated to causal locus (i.e., internality or externality), and that both attributional options were seen by subjects as highly related constructs, such that high levels of attributed criminality, for example, were typically accompanied by high

levels of attributed pathology. Thus, although subjects did seem to discriminate between pathology and criminality attributions to some extent, and in the hypothesized directions, the strength of this differentiation was less than had been hoped. Instead, subjects appeared to consider both criminality and psychopathology to be highly related measures of a broader construct, "deviance," such that offering them two attributional options may have been at least partially redundant.

Despite the somewhat attenuated state of the relationship described above, however, the data do support the notion that attributions of psychopathology parallel a movement toward internal causal explanations. Further, the data indicate that, as hypothesized, criminality may represent a more external attribution to deviance. On this basis, a more detailed examination of attributional option and locus of causation to deviant behavior, using psychopathology and criminality ratings, appeared to be supportable.

#### Attributional response to MMPI Scales

Hypotheses 5 and 6 were the first tests of the "meta" hypothesis that sex-role violations would differentially produce greater criminality or psychopathology attributions according to actor sex, and that these changes would parallel differential ratings of internality-externality. In the present instance, this test involved an examination

of rater responses to male and female actors engaged in the behavior defined by 12 MMPI scales.

Results of this analysis indicated that sex of ratee/actor affected responses to a single scale: Masculinity-Femininity. Male actors engaged in the sex-role violations (versus congruence) in this scale were rated as both more psychopathological and more criminal than were female actors engaged in scale 5 sex-role violations versus congruence. Male actors involved in the more female appropriate behaviors reflected in the Hypochondriasis, Depression, Hysteria, Paranoia, Psychasthenia, or Schizophrenia scales, however, were not rated as significantly more criminal or pathological than female actors engaged in these behaviors.

An analysis of locus of causal explanations for males and females producing the behaviors tapped by the MMPI scales indicated that, as hypothesized, actor sex differences in perceived internality-externality occurred only where differences in criminality or psychopathology were found. Surprisingly, however, this relationship was not as expected, in that male sex-role violations were seen as more externally caused than female violations, despite the greater deviance attributed to the former. In all other scales, however, internality-externality did not vary according to actor sex.

The data concerning subject response to males and females engaged in the behaviors found in the Masculinity-Femininity scale are generally supported by the literature, in that a number of studies indicate that non-clinicians rate sex-role violators more harshly than they do sex-role congruent individuals (Coie, et al., 1974; Costrich, et al., 1975; Cowan & Koziej, 1979; Israel, et al., 1978; Malchon & Penner, 1981; Sharp & Post, 1980; Shinar, 1978; Tilby & Kalin, 1980; Zeldow, 1976). The fact that male sex-role violations were viewed as more criminal and more pathological than female sex-role violations would appear to support the findings of writers such as Costrich, et al. (1975), Feinman (1974), and Tilby and Kalin (1980) who suggest that heightened sex-role restrictions on male behavior produce more negative reactions to male sex-role violations than to female ones. The current data does not, however, support the hypothesis that sex-role violations will differentially produce pathology or criminality attributions based on actor gender. Instead, male sex-role violators were attributed both more pathology and more criminality than were female sex-role violators, suggesting, again, that in the present study subjects did not discriminate between criminality and psychopathology in their attributions of deviance.

Such a conclusion is somewhat constrained, however, by the form of the MMPI analysis. This limitation relates to

the method of scoring the Masculinity-Femininity scale, which involved subtracting subjects' responses to the "Feminine" items from their responses to the "Masculine" items. This procedure therefore produces a measure of subjects' reactions to both masculine and feminine behaviors in the same scale. Although this approach reflects the MMPI's notion of masculinity and femininity as opposing ends of a bipolar continuum (Dahlstrom, Welsh, & Dahlstrom, 1972), the more recent research suggests that masculinity and femininity are independent constructs and thus should be considered separately (Bem, 1974; 1975; Spence & Helmreich, 1978, 1979). In the present investigation, the net result of making the bipolar assumption regarding masculinity-femininity in the MMPI analysis is that one cannot ascertain whether, for example, raters attributed less pathology and criminality to women engaged in masculine behavior, per se, or whether the effect was partially due to subtracting subjects' responses to women engaging in feminine behavior.

Another difficulty in the interpretation of the M-F scale finding is that the male and female sex-role violations in question may not be directly comparable, since they involve different behaviors. For example, male sex-role violations may be rated more negatively than female sex-role violations because the former involves female appropriate behaviors which, in the present study, are less socially acceptable. Together, these concerns suggest that findings based on the M-F analysis should be considered tentative at best.



The finding that subjects attributed greater externality to men engaged in sex-role violations than women engaged in the theoretically equivalent behavior seems to conflict with the predictions of Jones, et al. (1961), and Kelley (1973) in general, and Coie, et al. (1974) in specific, that socially deviant behaviors such as sex-role violations produce greater observer inferences of internal causation. Given that male sex-role violations were viewed more harshly than female ones, it is surprising that male violations were explained more externally. As will be discussed at a later point, however, the greater unexpectedness of male sex-role violations, relative to female ones, may produce a tendency for subjects to explain the former in terms of unstable, external causes.

The initial hypothesis of the current study, however, was that female sex-role violations, in specific, would be seen as more externally motivated and more likely to involve criminality than female sex-role congruence. Since the test of scale 5 was, ultimately, a comparison of the impact of male versus female violations, such a hypothesis was not addressed in that analysis. Unfortunately, due to the skew toward female appropriate items on the MMPI, no other scales were significantly male appropriate, and thus the female sex-role violation hypothesis could not be assessed in the MMPI analyses.

Attributional response to gender, social acceptability, and sex-appropriateness

These concerns regarding the social acceptability and sex appropriateness of the stimulus behaviors tested in the MMPI analyses were part of the basis for the more complex analyses involved in testing hypotheses 7 and 8. These latter hypotheses were concerned with whether attributions of pathology and criminality would vary according to actor sex as it interacted with the sex-role appropriateness and social acceptability of the actor's behavior.

As indicated by Hypothesis 7, actor sex was not related to criminality or pathology attributions in the repeated measures analysis. This failure to find evidence of sex discrimination based on actor sex alone is in agreement with the majority of non-clinician studies in this area (e.g., Coie, et al., 1974; Costrich, et al., 1975; Sharp & Post, 1980; Zeldow, 1975, 1976), as well as with more clinician analogue studies (e.g., Abramowitz, et al., 1976; Billingsley, 1977; Chasen, 1975; Feinblatt & Gold, 1976; Gomes & Abramowitz, 1976; Lowery & Higgins, 1979; Maxfield, 1976; Teri, 1982). Such findings support the suggestions of writers such as Davidson and Abramowitz (1980) and Zeldow (1978) that the effects of sex bias in perceptions of psychopathology may relate to more complex phenomena than actor sex alone.

The current study also indicated that, overall, behaviors rated as socially unacceptable were rated as more reflective of pathology and criminality than socially acceptable behaviors, and that male sex-appropriate behaviors were rated as more criminal and pathological than female sex-appropriate behaviors. The finding regarding social acceptability was as hypothesized, and is intuitively obvious given the tautology that socially unacceptable behavior will be attributed more deviance (i.e., pathology, criminality) than behavior deemed by society to be acceptable.

The finding of greater criminality and pathology attributions for male appropriate versus female appropriate behavior was not hypothesized, and appears contrary to expectation given the literature, and given that far more female appropriate items were found to be socially unacceptable than male appropriate items in Part 1. The key to this finding, however, lies in the Social Acceptability x Sex Appropriateness interactions which were significant for both criminality and psychopathology attributions, and which preclude the interpretation of the sex appropriateness main effects alone.

Examination of this interaction, for both criminality and pathology, indicates that the elevated attributions to male appropriate behaviors occurred primarily in the "socially unacceptable" category. This tendency to rate socially

unacceptable, male appropriate behavior as more criminal and pathological than socially unacceptable, female appropriate behavior may be partially an artifact of, ironically, the tendency for subjects to rate unacceptable behaviors as more female appropriate than male appropriate. Specifically, the fact that, overall, MMPI items were rated as more female appropriate (mean=4.45) than male appropriate (mean=4.15) meant that, as described in the Methods section, items had to be, on average, less male appropriate than female appropriate in order to be classified as socially unacceptable. The net effect of this phenomenon was, as indicated in Table 2 of the Results section, that "male appropriate" items in the "Unacceptable" Category were, in fact, less male appropriate than "female appropriate" items in this category were female appropriate, as well as being far less frequent (4 versus 23). In turn, it follows that this relatively lower male appropriateness value for male appropriate, socially unacceptable items would "drive down" the overall acceptability of male items in the Socially Unacceptable category, thereby resulting in higher criminality and pathology attributions to male appropriate behavior, as per the "Social Acceptability" main effect.

In addition to the potential effects of MMPI sex appropriateness, however, two analogue studies indicate that male sex-typed pathological behaviors may be judged as more disturbed and as reflecting a more negative prognosis

(Billingsley, 1977) or may be described in more negative terms (Stearns, et al., 1978) than female sex-typed behaviors of the same sort. In the present study,<sup>6</sup> where such effects were found for unacceptable behaviors, but not for socially acceptable ones, one may hypothesize that if an individual's behavior is not obviously socially acceptable, the presence of "masculinity" in said behavior will increase the likelihood that it will be perceived more negatively. Part of this effect may relate to the fact that since male traits are often more valued by society than female ones, male behavior which is not highly socially acceptable may be viewed as somewhat incongruent, and therefore perhaps rated more harshly. Alternatively, the greater activity and instrumentality attributed to the male role may cause it to be viewed as more threatening when socially unacceptable, thereby motivating more severe assessments.

The current data also indicate that female appropriate, socially acceptable behavior was attributed both greater pathology and greater criminality than male appropriate, socially acceptable behavior. These results would appear to support the well-known Broverman, et al. (1970) finding that clinicians rated the average "socially competent adult women" as less mentally healthy than the ideal ("adult") standard, whereas men were considered to be equally as healthy as the ideal adult. Other clinician and non-clinician studies also indicate that male traits are

generally rated as more valued than female traits (e.g., Broverman, et al., 1972; MacBrayer, 1960; McKee & Sherriffs, 1957), suggesting that the current finding relates to the tendency of subjects to see socially acceptable female appropriate traits as somehow less healthy than the equivalent male appropriate traits.

Interestingly, this relationship did not hold for sex-typed behaviors. Subjects attributed more criminality (but not more pathology) to male sex-typed than female sex-typed behavior. This relationship between male sex-typed behaviors and criminality was expected, in light of a literature which reports that criminality is viewed as a generally masculine cluster of traits (e.g., Oakley, 1971; Pisterman, 1982; Shover & Norland, 1978). These data suggest that deviant male sex-typed behavior is considered more reflective of potential criminality, but is not considered any more pathological than female sex-typed behavior. Although male sex-typed behavior was not, in fact, expected to be seen as more pathological, the reverse was assumed to be true: i.e., that given societal trends toward devaluing female traits, sex-typed feminine behaviors would be rated as more dysfunctional than equivalent masculine behavior. The current data suggest that such sex appropriateness effects may be limited to behaviors more grossly acceptable or unacceptable, at least for psychopathology attributions.

Given the hypothesis that sex-role violations would produce attributions of criminality or psychopathology under certain actor sex and social acceptability conditions, the interaction of actor gender, sex appropriateness, and social acceptability becomes a major focus. In the case of psychopathology attributions, however, there were no significant interactions beyond the sex appropriateness x social acceptability effect discussed earlier. Thus, it appears that for this sample of non-clinician subjects, sex-role violations by either actor sex did not produce greater attributions of mental disorder, regardless of the social acceptability of the behavior being examined.

These data are in opposition to a number of non-clinician studies which indicate that sex-role violators of one or both sexes are rated as more psychopathological than are sex-role congruent individuals (e.g., Coie, et al., 1974; Israel, et al., 1978; Tilby & Kalin, 1980), although they agree with a minority of non-clinician studies which find no sex-role violation effects on attributions of mental disorder (e.g., Costrich, et al., 1975; Banikiotes, et al., 1981). The current findings also parallel the majority of clinician studies in this area, which tend to find no sex-role violation effects (Davidson & Abramowitz, 1980). Interestingly, the non-clinician study most similar to the current study, in terms of using MMPI items for stimuli, also found no interaction between sex-typed behaviors (e.g., Depression, Somatic Complaints, Psychopathic Deviate) and

actor sex on ratings of maladjustment or mental disturbance (Zeldow, 1976).

The absence of sex-role violation effects in this analysis is in seeming contrast to the differences found earlier for females versus males involved in scale 5 MMPI behaviors ("Masculinity-Femininity"). This difference appears to be due to the composition of the stimuli used in the two analyses.

In the MMPI analysis, the Masculinity-Femininity scale consisted of those items originally identified by Hathaway and McKinley as maximally discriminating between males and females. In order to accomplish the greatest amount of "masculinity" for this scale, all male-typed items were added together and all female-typed items were subtracted. The net effect of this scoring procedure was that this scale represented the presence of masculinity and the absence of femininity (or the reverse), as per the original MMPI notion of masculinity and femininity as opposite ends of a bipolar continuum.

In the repeated measures analysis, however, masculinity and femininity were considered as independent constructs, forming their own scales in combination with various levels of social acceptability. Thus, items from the Masculinity-Femininity scale were distributed among male and female categories in the repeated measures analysis, and occurred in both "sex-typed" and "socially acceptable" stimulus groups.



Given this substantial variation in the ingredients of the stimuli across analyses, the findings of these two approaches may not be very comparable. Of the two, the author supports the repeated measures results over the MMPI data, since the former is more congruent with modern views of masculinity and femininity (e.g., Bem, 1974) and is more specific with reference to social acceptability. Further, the latter approach involves the subtraction of certain items, which complicates interpretation. It is not clear, for example, whether a given subject's score on the Masculinity-Femininity scale is the result of greater reaction to masculinity or lesser reaction to femininity, or a midpoint between both. Indeed, one possible explanation for the significant MMPI finding and negative repeated measures result is that the MMPI data may represent greater deviance attributions to sex-role violations in combination with lesser attributions to sex-role congruence, whereas the absence of such concatenation in the repeated measures design may not have produced enough of an effect to achieve statistical significance. Finally, as noted earlier, it is not clear whether the male and female sex-role violations arising from the M-F scale analysis are even comparable, since they are based on different behaviors (i.e., female appropriate versus male appropriate).

There was, however, a marginally significant ( $p < .042$ ), disordinal interaction between actor sex and sex

appropriateness for criminality attributions in the repeated measures analysis. This interaction reflected the fact that although male appropriate behaviors were rated as more criminal than female appropriate behaviors for both actor sexes, the sex-appropriateness difference in criminality was larger for female actors than male actors due to a greater increase in criminality ratings for female actors engaged in male appropriate behaviors than male actors involved in male appropriate behaviors. This interaction supports the hypothesis of increased criminality for female sex-role violations, although the small effect size involved and the overriding tendency for male appropriate behavior to be rated more criminal, regardless of actor sex, diminish definitive statements with regards to female sex-role violations and criminality attributions. These data do suggest, however, that female sex-role violations may be perceived as non-pathological, due to the logic of engaging in socially valued (masculine) behavior, yet be seen as criminal due to the deviance inherent in sex-role violations, per se.

The locus of explanation findings, as related to hypothesis 8, were variable in their support for the hypothesized attributional framework. As predicted by Chesler (1972) and others, female appropriate behaviors were explained more by forces internal to the actor than were male appropriate behaviors. In the absence of an actor sex

x sex appropriateness interaction, this finding suggests that, irrespective of actor sex, socially acceptable female traits are perceived as more internal or intra-psychically derived than are male traits. These data appear to provide further support for the notion that society devalues female characteristics relative to male ones, such that feminine behaviors are more frequently explained in terms of ideosyncratic processes than are masculine behaviors.

A main effect of social acceptability was found in the present study, generally in the hypothesized direction. Post-hoc analysis indicated that, as expected, socially unacceptable behavior was perceived as more internally-based than sex-typed or socially acceptable behavior. This finding is congruent with the predictions of the attribution literature (e.g., Calhoun, et al, 1977; Jones & Davis, 1965; Jones, et al., 1961; Kelley, 1973) that those behaviors which violate rules governing social acceptability will be seen as evidence of individual idiosyncrasy, and thus the "reason" for said behavior will be located within the individual.

Further analysis of the social acceptability effect also indicated that sex-typed behavior was rated as more external than socially acceptable behavior. While this finding, too, is seemingly congruent with the attribution literature (e.g., Jones et al., 1961), further interpretation of the social acceptability effect must take into account its

modification by a social acceptability x sex-appropriateness interaction, as discussed below.

Post-hoc analysis of the social acceptability x sex appropriateness interaction indicated that male sex-typed behavior was rated as more external than female sex-typed behavior, and that female appropriate, socially acceptable behavior was explained more externally than male appropriate, socially acceptable behavior. Interestingly, there were no sex appropriateness differences in locus of explanation for socially unacceptable behavior.

The finding of greater ratings of externality for male sex-typed behavior than female sex-typed behavior reinforces the notion that male traits are considered more valuable in our society than are female traits, and thus confer upon the actor an external justification for masculine behaviors. The absence of actor sex differences in this area suggests that greater externality is attributed to male sex-typed behavior and greater internality is attributed to female sex-typed behavior for both male and female actors, with the implication being that the sex-type of an actor's behavior may be more relevant to the attributions he or she ultimately receives than his or her actual sex.

In contrast to sex-typed behavior, however, the reverse appears to pertain for socially-acceptable behavior: female appropriate behaviors are rated as more external than male

appropriate behaviors. This effect appears to be due, in part, to the general tendency for clinical behaviors (e.g., MMPI items) to be rated as more female appropriate than male appropriate in the current study. Because the mean female appropriateness score in this sample was higher than the mean male appropriateness score (4.45 vs 4.15), the item classification procedure outlined in the methods section required higher female appropriateness than male appropriateness in order for an item to be classified as socially acceptable. This difference in criteria would produce an overall greater level of a acceptability for female appropriate than male appropriate socially acceptable items, resulting in higher levels of attributed externality.

In addition to the item categorization effect, however, the greater female appropriateness of MMPI items may produce a second explanation for the greater externality attributed to female appropriate, socially acceptable behaviors. Specifically, another area of attribution theory, concerned with observer attributions to successful performance (e.g., Deaux & Emswiller, 1974; Feather & Simon, 1975) indicates that "success or failure is differentially evaluated in accordance with expectations about whether the task involved is more appropriate for one sex than for the other" (Post, 1981, p. 692), with the frequent result that male success is attributed to talent while female success is defined in terms of easiness of the task or chance outcomes (Deaux &

Emswiller, 1974; Feather & Simon, 1975; Feldman-Sumner & Kiesler, 1974). Feather and Simon (1975) explain this phenomenon in terms of a cognitive consistency model (Abelson, Aronson, McGuire, Newcomb, Rosenberg, & Tannenbaum, 1968), predicting that female success on a male appropriate task will be viewed as unexpected, and, as such, attributed to external or unstable causes. In the current context, female appropriate behavior which is also highly socially acceptable represents an unexpected event, since in the present data most (85%) of all socially unacceptable items were female appropriate, and 49% of all female appropriate items were socially unacceptable (versus 17% of all male appropriate items). Thus, from a cognitive consistency perspective, the unexpected "success" reflected by female appropriate items being socially acceptable might be explained by observers as due to external causes.

The final analysis of the social acceptability x sex appropriateness interaction revealed no sex appropriateness differences in locus of causality for socially unacceptable behaviors. This tendency to see socially unacceptable behavior as internally-based, regardless of its relative sex-type, suggests that sex-appropriateness effects on locus attributions may be limited to those behaviors which are, to some extent, socially appropriate. There are no data in the literature to either support or contradict this finding, other than the general notion that those individuals

considered by observers to be mentally disturbed are typically attributed internal causes for their behavior (Calhoun, et al., 1975; Snyder, 1977). In this regard, it is possible that the general tendency to explain aberrant behavior as internally-derived may override the probably less powerful effects of sex-appropriateness on locus of explanation.

#### Effects of Rater Variables

The last group of hypotheses dealt with the effects of observer characteristics of judgements of various behavior types. The present study found effects of rater variables on attributions of criminality, but not on psychopathology judgements or causal explanations.

The failure to find rater differences in attributions of psychopathology or causal explanations may be due to at least two phenomena: the statistical "conservatism" of multivariate procedures such as Multivariate Multiple Linear Regression analysis with respect to individual (univariate) findings, and the overall tendency for rater variables to have, at best, only minor impact on rater attributions of psychopathology. The multivariate conservatism issue relates to the fact that multivariate analyses tests the more global notion of a relationship between two or more sets of variables. In such an analysis, a small number of only moderately significant variables may become "lost" in a variable set where most relationships are non-significant.

As noted by Cohen and Cohen (1975), we are willing, in most cases of multi-variable analyses, to make a "trade-off" between making a few Type II errors in order to prevent the larger number of Type I errors (the experiment-wise error rate) which would result from testing all univariate relationships separately. On this basis, we will assume (as per the discussion section) that only those effects verified by multivariate significance are interpretable, and will describe below the contribution of each rater variable to attributions of criminality and psychopathology.

Rater sex was found to be related to attributions of criminality, but not (at least at the multivariate level) to pathology. Specifically, males appeared to attribute greater criminality than did females to four types of behavior: sex-typed/Male, sex-typed/Female, Acceptable/Male, and acceptable/Female. There were, however, no rater sex differences to socially unacceptable behavior, regardless of whether it was more male appropriate or female appropriate, nor were there differential responses to sex-role violations versus sex-role congruence.

The absence of multivariate rater sex effects for pathology attributions was contrary to hypothesis, and is inconsistent with a number of non-clinician studies (e.g., Costrich, et al., 1975; Eisenthal, 1971; Zeldow, 1975), although other studies find no such relationship (e.g., Coie, et al., 1974; Malchon & Penner, 1981; Zeldow, 1975),



or find that female raters are more critical than male raters (e.g., Israel, et al., 1978). It should be noted, however, that were the present study to consist of univariate analyses (as do many studies in the literature), it, too, would have reported greater male attributions of psychopathology. Instead, the present analysis suggests that when considered in the context of all other variables, rater sex does not appear to impact significantly on attributions of mental disturbance. This conclusion seems appropriate, considering the wide variety of findings in the literature with regard to this relationship.

The significant effect of rater sex on criminality attributions, given the absence of effects on psychopathology, is noteworthy. Specifically, it appears that, in contrast to pathology attributions, males are more willing to attribute criminality to socially acceptable or sex-typed behaviors than are females. Although interpretation of this finding is hindered by the absence of a literature on criminality attributions, one might speculate that part of this effect may be due to the relative sex-role specificity of criminality versus pathology labels. In particular, given that "criminality" appears to be a more male-oriented activity than "psychopathology," it is possible that male subjects are more aware of/concerned with the latter attribution, or are more likely to project it onto others, producing more male

attributions of criminality to various behaviors than female attributions of same.

It is probable, however, that a major reason for the disparity in rater sex effects for criminality versus pathology attributions lies in the interpretive constraints arising from the multivariate analyses. Specifically, at the univariate level, male gender was associated with both higher criminality and higher psychopathology ratings. Thus, perhaps the most accurate statement with regard to the rater sex findings is that although males appear to attribute more criminality and pathology than do females at the univariate (most simplistic) level, this relationship ceases to remain significant for pathology attributions when all other rater variables (and rater sex) are considered as well. Such an interpretation places that the current findings in agreement with the majority of rater sex findings in this area, but also indicates that the more complex results of multivariate analysis negate the importance of such findings for pathology attributions.

Less explainable, however, is the absence of rater sex differences in criminality attributions to unacceptable behaviors, as opposed to sex-typed or socially acceptable behaviors. In light of the inconsistencies in the literature with regard to rater sex differences in pathology attributions, per se, differences in what is, in effect, a rater sex x ratee social acceptability interaction become

even more difficult to interpret. One possibility, however, is that since socially unacceptable behaviors were rated as considerably more criminal than sex-typed or socially acceptable behaviors in the present study, there may be a "cellar effect" in terms of the extent to which criminal behavior can be differentially perceived on the basis of rater sex. In other words, at the level of sex-typed or socially acceptable behavior, the degree of criminality perceivable is relatively small and ambiguous, allowing for any biases associated with rater sex to operate to a greater extent, whereas the degree of criminality associated with socially unacceptable behavior may be sufficiently large and obvious as to eliminate any bias due to rater sex.

Ratee sex was included in the MMLR analyses of ratee variables in order to test the impact of rater variables on attributions to male and female ratees involved in various behaviors. As per the earlier analyses, ratee sex did not relate to pathology or locus of explanation ratings. Unexpectedly, however, males were rated as more potentially criminal than females in the current analysis. Although the literature clearly indicates that males are more likely to engage in criminal acts, and therefore may be attributed a greater proclivity in this area, the repeated measures analysis had shown no ratee sex effects for either pathology or criminality attributions. The reasons for this disparity are unclear, beyond the probability that the MMLR analysis

had greater statistical power to find differences if they existed, and that more variables were controlled for in the latter analysis. To the extent that the current (MMLR) analysis is more accurate in this regard, the general notion of no actor sex differences in attributed psychopathology (as suggested by the clinical judgement literature) may not extend to judgements regarding criminality.

Besides the effects of ratee sex alone, there were no interactions of rater variables and ratee sex on criminality or pathology attributions to the various behavior conditions. This finding indicates that in the present study, rater sex and sex-role differences did not affect attributions to sex-role congruence or sex-role violations. Such null findings were in opposition to the hypotheses of this study, since males, masculine subjects, sex-role conservative subjects, and subjects who tended to see behaviors as more unacceptable or more sex-typed were expected to attribute greater criminality and/or pathology to sex-role violations than were their peers with opposite valences on these variables. Such data reiterate an earlier conclusion of this study, with reference to the repeated measures analysis, that sex-role violations appear to exert, at best, only a minor influence on attributions of pathology or criminality.

Beyond the notions of sex-role congruence or violation, rater sex-role variables were generally limited in their

relation to attributions in the present study. As noted earlier, no multivariate effects of rater variables on psychopathology attributions were found. In the case of criminality attributions, however, subjects' scores on the Attitudes Toward Women Scale were predictive of their responses to male sex-typed, female sex-typed, and socially acceptable, female appropriate behaviors. In each case, sex-role conservative raters attributed more criminality than did sex-role liberal/"pro-feminist" raters.

This sex-role conservatism effect suggests that traditional sex-role attitudes are associated with more harsh attributions, at least in the case of criminality. No studies could be found in the non-clinician literature which examined sex-role ideology and overall willingness to attribute any form of deviance, although Abramowitz, et al. (1976) reported that clinicians with traditional values were more likely than non-traditional clinicians to rate clients in general as less emotionally mature. Although Tilby and Kalin (1980) reported effects of sex-role traditionality as well, these related to harsh evaluations of sex-role violation; a phenomenon not found in the present study. In its present context, this sex-role attitudes effect may, in fact, represent a broader cluster of attitudes involving social conservatism or traditionality, as per Abramowitz, et al. (1976), such that most behaviors -- regardless of their specific sex-role status -- are viewed more critically.

Although there were some sex-role attitude effects, a theoretically related construct -- sex-role orientation -- was not found to predict attributions of criminality or psychopathology, either by MMLR or MANOVA analyses. This absence of sex-role orientation effects is in agreement with studies by Malchon and Penner (1981) and Banikiotes, et al. (1981), but contradicts the (mutually contradictory) findings of Sharp and Post (1980) and Briere and Sandler (1979), who reported respectively, that sex-typed subjects rated female sex-role violations less favorably than did androgynous subjects, and that androgynous subjects attributed more overall pathology than did sex-typed raters. Given the existence of three studies finding no sex-role orientation effects on rater attributions, and two studies finding contradictory effects, it appears likely that the level of masculinity, femininity, undifferentiation, and androgyny a rater self-reports is not predictive of his or her attributions to others' behavior.

The last rater variables to be examined in the present study were the Tendency to Sex-type (TST) and Tendency to Accept Behavior (TAB) scales. Although these scales achieved reasonably reliability ( $\alpha = .833$  and  $.854$ , respectively), neither was a significant predictor of rater attributions. In the case of the TAB, this meant that subjects' general tendency to view behavior as appropriate or inappropriate did not significantly relate to their

willingness to attribute criminality or pathology to specific behaviors, although in most cases the correlation was in the hypothesized direction (negatively related to attributions). This failure to predict attributions of deviance may be due to difficulties inherent in the TAB, or may suggest that subjects' general "criticalness" of one set of rater behaviors may not relate to their specific attributions of criminality or psychopathology to another set of behaviors.

The TST was also an ineffective predictor of rater attributions, although in all cases the direction of the correlation was as hypothesized (positively related to criminality attributions). This finding suggests that subjects' tendency to stereotype (view most behaviors as more appropriate for one sex than the other) did not affect their attributions to rater behaviors, sex-role violations or otherwise. This non-relationship is relatively congruent with the Tilby and Kalin (1980) study, where a stereotyping measure ("Gender Stereotyping") was nonsignificantly related to a summary measure of sex bias ("Overall Adjustment Bias"), although in the predicted direction, and only marginally related in two out of four other tests of bias. In Tilby and Kalin's other study (1979), however, using more sophisticated subjects and male ratees only, raters scoring higher on Gender Stereotyping attributed greater disturbance to sex-role violators than did subjects scoring lower on

Gender Stereotyping. Unfortunately, neither Tilby and Kalin study examined the relationship between tendency to stereotype and raters' overall attributions of disturbance, so a complete comparison with the present study is not possible.

The failure of rater sex-role characteristics to have a strong, reliable impact on rater attributions may, in part, relate to the general absence of sex-role violation effects in the present study. Since much of the (limited) literature on rater variables relates to response to sex-role violations (e.g., Sharp & Post, 1980; Tilby & Kalin, 1979, 1980), it is perhaps not surprising that, given the overall non-responsiveness of subjects to sex-role congruence or incongruence, few moderating rater variables were found.

As noted earlier, Multivariate Multiple Linear Regression analysis and Multivariate Analysis of Variance indicated no effects of rater sex or sex-role characteristics on causal explanations for the various behavior conditions studied. This is not altogether surprising, given the absence of rater sex effects on causal explanations in the Post (1981) study, and both of the Feldman-Summers and Kiesler (1974) experiments. Two studies on rater sex-role attitudes, however, implicate sex-role traditionality in rater judgements. Robinson (1981) found that more traditional scores on the AWS and SRIS resulted in greater internal



explanations for client behaviors, and Post (1981) reported that subjects whose AWS scores indicated a sex-role traditional outlook were more likely to explain a male students' failure in medical school in terms of lack of motivation (an internal attribution). Sex-role orientation, however, has not been studied thus far in relation to causal explanations.

The current data suggest that such rater variables are not major predictors of how subjects will explain behavior. Although it is quite possible that causal explanations are, in fact, more a function of ratee variables than rater variables, two other factors may also relate to these null findings. First, the measure used to assess locus of explanation was merely the question "what are the reasons for this (man's/woman's) behavior," scored on a scale ranging from "internal forces" to "external forces", and including examples of each. Such a measure may be relatively ineffective in tapping perceived locus of causality, as compared to procedures used in other analogue studies.

Secondly, the use of single sentences for stimuli may have precluded accurate assessment of subject explanations. Specifically, as will be discussed later, these stimuli may have contained insufficient information about the stimulus person in question, resulting in relatively unreliable ratings of causal locus. In contrast, the "case histories" or

scenarios used in other studies may have allowed for more confident and definitive judgements as to the "cause" of the stimulus person's overall behavior. At present, it is unclear which of these factors (if any) impacted on the causal locus findings of the current study, given the paucity of literature on rater variables and perceived causality, and the introduction of a relatively new methodology (i.e., single sentence statements) in the present investigation.

Relationship between locus of explanation and deviance attributions

It was hypothesized, in general, that those situations which produced higher pathology ratings would be associated with more internal explanations, whereas situations involving higher criminality attributions would be more explained in terms of external forces or events. The presence of such a covariation would lend credence to an attributional theory of response to deviance.

Across all stimulus conditions, the predicted relationship between attributions and locus of explanation was found to a limited degree. Multiple regression analysis indicated that psychopathology attributions were associated with internal explanations, whereas criminality attributions were related to more external explanations. These results are tempered, however, by the fact that subjects tended to

make internal attributions overall, and that the total variance in locus of explanation accounted for by criminality and pathology attributions together was less than 17%.

When the relationship between assigned locus of explanation and attributions of criminality and pathology was examined for the various combinations of rater and ratee conditions, mixed support was found for an attributional approach.

In the analysis of MMPI scales, greater criminality and psychopathology was attributed to the male sex-role violation versus male sex-role congruence than female sex-role violation versus congruence. As noted earlier, however, this increase in deviance attributions to male sex-role violations was associated with greater external explanations, relative to female sex-role violations. In the repeated measures analysis, there were no sex-role violation effects on pathology attributions or locus of explanation, and only a marginal effect occurred for criminality attributions. Instead, in addition to a general effect of socially unacceptable behavior being rated as more pathological, criminal, and internally-caused than more acceptable behavior, a social acceptability x sex-appropriateness interaction indicated that socially acceptable female behavior was rated as more criminal, pathological, and external than was socially acceptable male

behavior. In the case of sex-typed behavior, male appropriate statements were seen as more criminal, but not more pathological, than female appropriate behavior. As well, although socially unacceptable male behavior was attributed greater criminality and pathology than was socially unacceptable female behavior, there were no sex differences in locus of explanation for unacceptable behavior.

These data appear to suggest that, in the case of socially unacceptable behavior, the expected increases in pathology and criminality attributions were mirrored by a concomitant increase in internal explanations for such behavior, as hypothesized. This relationship between deviance attributions and internal explanations did not hold, however, for socially appropriate behavior. Instead, female appropriate behavior was rated as more deviant and more external than male appropriate behavior.

Summarizing these findings, it appears that subjects in the present study may have viewed both criminality and psychopathology as roughly equivalent manifestations of generalized deviance, such that, with the exception of sex-typed behaviors, these ratings typically covaried in response to the various stimulus categories presented. This general deviance attribution is hypothesized to operate as a function of social expectations regarding masculine and feminine behavior, as well as relating to the implications of male instrumentality in the context of abnormal behavior.

In this regard, socially unacceptable male behavior (including, in one instance, sex-role violation) represents a variance from societal expectations of masculinity as socially acceptable, resulting in higher ratings of potential deviance than equivalent (more socially expected) female behaviors. As well, the greater instrumentality associated with the male role may "add" to the negative value of socially less-accepted male behavior by increasing its threatening or more overt connotations. In contrast, socially acceptable male behavior may appear more likely and more stable to subjects than the equivalent socially acceptable female behavior, producing less attributed deviance to the former than the latter.

The impact of social acceptance of masculine and feminine behavior on attributions may also extend to the locus of explanation for these behaviors. In general, we might expect that masculine behaviors would be explained more externally than feminine behavior, since such behaviors may be more socially valued (e.g., McKee & Sherrifs, 1959) and therefore more externally justified (Tilby & Kalin, 1980). This general principle may be modified, however, by attributional phenomena described by Deaux and Emswiler (1974), Feather and Simon (1975), Feldman-Summers and Kiesler (1974) and others, who indicate that success and failure on a task may receive differential attributions on the basis of a) the sex-type of the task, and b) the gender

of the actor. Based partially on cognitive consistency theory, this model suggests that, in most cases, "success is cognitively linked to 'maleness'" (Feldman-Summers & Kiesler, 1974, p. 854), and thus males are perceived as more likely to succeed and females more likely to fail. On this basis, male failures and female successes are unexpected events, and are more likely to be explained in terms of external and/or unstable causes (Post, 1981).

Assuming that socially acceptable behavior represents greater successfulness in satisfying society's norms than unacceptable behavior, the cognitive consistency model might predict that unacceptable behavior would be rated as more external; both due to the general tendency to assign externality to masculinity, and because of the specific perception of these behaviors as less successful than socially acceptable behavior. In contrast, socially acceptable feminine behavior would be rated as more externally located than socially acceptable masculine behavior, due to the socially unexpected nature of the former.

This modified attributional approach is able to explain the greater externality assigned to female (versus male) socially acceptable behavior. Unexplained, however, is the finding that no sex appropriateness differences occurred for socially unacceptable behavior, despite the prediction that male appropriate behavior would be seen as more externally

located than female appropriate behavior in this regard. As noted earlier, the high internality and absence of sex-appropriateness effects in this category may suggest that the general tendency to explain highly unacceptable/abnormal behavior in terms of internal, idiosyncratic processes (Calhoun et al., 1975; Snyder, 1977) may override any locus of explanation effects assigned on the basis of relative masculinity or femininity. To the extent that this is true, it may be that, as suggested by some writers (e.g., Billingsley, 1977), gender-linked attributional processes in this area are more relevant to behaviors which fall short of extreme abnormality.

This attributional model would also appear relevant to the sex-role violation effect found in the MMPI scale analysis. Specifically, the greater deviance and externality to male sex-role violations than female ones may be explained in terms of the unexpected and socially incongruent notion of males engaging in devalued (feminine) behavior, producing greater deviance attributions and externality explanations for male sex-role violations than female sex-role violations.

Surprisingly, in light of the MMPI results, there were only minor sex-role violation effects in the repeated measures analysis. As noted earlier, the incongruity between the two analyses appears to be due to differences in the construction of the stimuli used in each, which produced

significant disparities in stimulus composition, complexity, and theoretical basis (i.e., masculinity and femininity as bipolar versus independent constructs). The net effect of the inadequacy of the MMPI M-F scale as a test of sex-role violation effects is that its results are ambiguous and should probably be interpreted with considerable scepticism.

In contradistinction to the MMPI data, the repeated measures analysis offers a more specific and controlled assessment of sex-role violation effects on attributions and causal explanations. The absence of any strong relationship between sex-role violations and criminality, pathology, or causal attributions in this analysis is at relative variance with much of the non-clinician analogue literature, but in relative agreement with the clinician analogue data (Abramowitz & Dokecki, 1977; Davidson & Abramowitz, 1980; Zeldow, 1978). The only exception to this absence of effects involved a marginally significant interaction between actor sex and sex-appropriateness, such that females engaged in male appropriate behaviors received a slightly increased criminality rating relative to males engaged in these behaviors. There were, however, no significant differences in locus of explanation for this interaction.

The absence of major sex-role violation effects in the repeated measures analysis could be attributable either to methodological difficulties in the current study which produced insensitivity to existing sex-role violation



effects, or to an actual absence of sex bias in response to sex-role deviance. The former possibility will be discussed in greater length at a later point, but one aspect of methodology will be addressed here.

Although the majority of non-clinician studies report sex-role violation effects, several (e.g., Costrich, et al., 1975; Banikiotes, et al., 1981; Zeldow, 1975) do not. Perhaps most noteworthy of the latter group is the study by Zeldow (1975), who found that sex of actor did not interact with type of psychopathology attributed to him or her, even though several of these abnormal behavior patterns (e.g., depression, somatic complaints, and psychopathic personality) are known to be relatively sex-typed. Thus, for example, his failure to find differences in the extent of maladjustment attributed to males versus females who engaged in (female sex-typed) depressive or somatic complaints constituted an absence of sex-role violation effects for these behaviors. Although this study supports the current investigation's failure to find sex bias effects in psychopathology attributions to sex-role deviance, it is presented here primarily on the basis of the methodology it employed.

Specifically, the Zeldow study used MMPI items for stimuli, as per the current study. Thirty five items were selected from MMPI scales 1, 2, 3, 4, 6, and 8 on the basis of Harris and Lingoe's (1975) diagnostic subscales, and then

summed to produce five stimulus scales: Paranoia, Schizophrenia, Psychopathic Deviate, Somatic Complaints, and Depression. University students' pathology attributions to each scale were then analyzed in five 2 x 2 factorial analyses, with independent variables being sex of "patient" and sex of judge.

In light of the fact that the current study and the Zeldow (1975) investigation represent the only studies known to the author which utilize MMPI items for stimuli, and given that both studies found no sex-role violation effects in college students, it is possible that the use of stimuli based on MMPI items may affect the ability of this methodology to detect existing sex-role deviance effects. This and other methodological issues will be discussed in an upcoming section.

Alternatively to a methodological explanation, however, it is possible that the present study accurately reflects a relative absence of sex-role violation effects on pathology attributions in this sample. Given the impact of the women's movement in the last ten years, numerous writers have suggested that sex bias may have become substantially less common in both clinicians' and nonclinicians' evaluations of others' behavior (e.g., Aslin, 1977; Gomes & Abramowitz, 1976; Hill, et al., 1977; Malchon & Penner, 1981; Maslin & Davis, 1975; Shapiro, 1977; Shinar, 1978). This possibility seems especially valid when one considers

that most clinician and nonclinician studies showing sex-role violations effects were published before 1980. An equally likely alternative, however, is that, as suggested by Davidson and Abramowitz (1980), widely disseminated condemnations of sexism and sex-role stereotyping may have decreased the average subjects' willingness to make sex biased attributions in experiments, while leaving actual sex biased behavior relatively untouched.

The last area to be considered in the present study involved the relationship between rater variables and both deviance attributions and causal explanations. In agreement with the conclusions of Davidson and Abramowitz (1980), rater characteristics did not appear to have a major impact on responses to the various behavior categories tested. In fact, Multivariate Multiple Linear Regression analysis revealed no global effects of rater variables on psychopathology attributions or causal explanations, and only minor effects on criminality attributions. In the latter case, male raters and ratees scoring traditionally on the Attitudes Toward Women Scale tended to make more criminality attributions to sex-typed and socially acceptable behavior than did, respectively, female raters and traditional raters.

Little can be said from an attributional perspective with regard to these results, since the most direct measure of the attributional process, locus of causal explanation, was

not associated with rater characteristics. This is, of course, a finding in itself, since it was hypothesized at the beginning of this study that those variables which affected attributions of criminality and psychopathology would also impact on locus of explanation. Yet, in the current study, no parallel causal explanations were found for the variations in criminality attributions linked to rater sex and rater sex-role attitudes.

The absence of a rater sex effect is, however, congruent with the limited literature on gender and locus of explanation, which tends to find no relationship between these variables (Post, 1981; Feldman-Summers & Kiesler, 1974). Other studies, on sex-role attitudes and locus of explanation, contradict the current study by indicating that subjects categorized as traditional on the SRIS or AWS tend to make more internal explanations for others' behaviors than do more sex-role liberal subjects (Post, 1981; Robinson, 1981).

The failure of the current study to produce parallel rater sex and sex-role attitudes effects on locus of attribution may in part relate to the fact that deviance attributions in these cases were limited to criminality. There is no literature at present which links attributions of delinquency to causal explanations, beyond the hypotheses of the present investigation. It may be, in fact, that the relationship between locus of explanation and attributions

of deviance in the findings described earlier were primarily due to covariation with psychopathology ratings, rather than criminality. Alternatively, the current absence of findings with regard to criminality and locus of explanation may be due to limitations of the causal locus scale, as described in the next section. Regardless of the specifics for these two findings, however, the present data do seem to indicate that rater variables are relatively non-contributory to the general process of attributions to deviant behavior.

#### Summary of Major Findings

As hypothesized, the present study found strong evidence that the MMPI (or, more accurately, the MiniMult version) was sex-typed. Not only were there considerably more female appropriate clinical items than male appropriate ones, items found to be socially unacceptable were far more likely to be female appropriate ( $n=23$ ) than male appropriate ( $n=4$ ). As might be expected, when these items were summed into scales, almost all were more female appropriate.

Using the MMPI scales as dependent variables, only one was considered more deviant when attributed to one speaker sex than the other. Scale 5 (Masculinity-Femininity) was rated by subjects as more pathological and criminal when males were involved in female behaviors than when women were involved in male behaviors. This finding suggests that male sex-role violations may be judged more harshly than female

sex-role violations, perhaps due to the greater incongruity involved in males engaged in socially devalued (feminine) behaviors as compared to females engaged in more socially valued (masculine) behavior. It should be recalled, however, that numerous problems were identified in the interpretation of the scale 5 results.

Although the MMPI scale data were of interest, the findings from that analysis were of questionable validity given the relatively uncontrolled nature of the dependent measures. In order to address these concerns, items were recategorized according to social acceptability, sex appropriateness, and sex of speaker. Analysis indicated that, as would be expected, socially unacceptable behavior was rated as more criminal and more psychopathological than was sex-typed or socially acceptable behavior. Further, there was an interaction of social acceptability and sex appropriateness. Socially unacceptable masculine behavior was attributed greater pathology and criminality than was socially unacceptable feminine behavior, regardless of actor sex. Conversely, socially acceptable feminine behavior was rated more negatively (criminal and pathological) than socially acceptable masculine behavior. The more harsh attributions to masculine behavior which fell short of social acceptability was interpreted as a response to the failure of said behavior to meet subjects' expectations of masculinity as socially valued, as well as due to the

greater threat implied in unacceptable masculine (instrumental) behavior. The greater deviance attributed to socially acceptable feminine behavior was similarly thought to be due to the relative unexpectedness of acceptable feminine behavior, per se, in combination with the tendency for society to devalue optimal feminine traits relative to optimal masculine ones (e.g., Broverman, et al., 1970).

As opposed to what appeared to be a major sex-role violation effect in the MMPI analysis, the second (repeated measures) analysis revealed less attributional response to sex-role deviance. In fact, no sex-role violation effect was found for pathology attributions, and only a minor one was present for judgements of criminality. In the latter instance, the general finding that masculine behaviors were attributed greater criminality than feminine behavior was qualified to some extent by the fact that the increase in criminality from feminine to masculine behaviors was of greater magnitude for female actors than for male ones. This finding relating female sex-role violations to greater criminality (but not pathology) attributions was as hypothesized, suggesting that (socially valued) masculinity in women may be seen as deviant, but not necessarily pathological.

It had been hypothesized that changes in attributions of criminality and pathology in the various analyses would be mirrored by changes in locus of explanation, with

criminality relating to external explanations and pathology relating to internal explanations. The data indicated, however, that such a hypothesis was somewhat overly simplistic, and that locus of explanation may relate more directly to a cognitive consistency model.

The repeated measures analysis indicated that masculine sex-typed behavior was rated as more externally located than feminine sex-typed behavior, whereas the reverse pertained for socially acceptable behavior. Socially unacceptable behavior, interestingly, was not differentially explained according to sex appropriateness. These findings appear to parallel the attribution data in their relationship to social expectations. Specifically, a cognitive consistency model predicts that subjects will relate unexpected events to external, unstable processes such that, as was found, female acceptable behavior and male less acceptable behavior would be explained more externally. The absence of a sex-appropriateness effect for socially unacceptable behavior, however, suggests that such expectation effects may be operative primarily for not obviously unacceptable behaviors. In this regard, ratings of behaviors which are unacceptable for both sexes may not be responsive to the nuances of sex appropriateness, given their overriding negativity and internality.

The last major group of findings related to the impact of rater characteristics on attributions and explanations, and



included the variable of rater sex. Surprisingly, in contrast to the earlier analysis, Multivariate Multiple Linear Regression analysis indicated that although there were no rater sex differences in pathology attributions or causal explanations, males were rated as more potentially criminal than females. This finding is in accord with the criminality literature, but its sudden presence in the current analysis was puzzling. It was hypothesized that the greater statistical power and experimental control of the MMLR analysis may have uncovered a finding less apparent in the earlier analysis.

When rater variables were examined in terms of their effects on criminality, pathology, and locus ratings, only "main effects" of rater sex and sex-role attitudes were found. Male raters and subjects scoring traditionally on the Attitudes Toward Women scale tended to attribute greater criminality to socially acceptable and sex-typed behaviors than did, respectively, female raters and subjects with more non-traditional sex-role attitudes. This finding again reinforces the notion that gender related variables may impact more directly on ratings of behaviors which are not clearly socially unacceptable, due to the tendency for extreme unacceptability to override the more subtle effects of gender appropriateness.

In conclusion, the present study found less evidence of sex-bias in ratings of psychopathology and criminality than

had been hypothesized. The effects of sex-role deviance were less extreme and less pervasive than indicated by previous literature, and characteristics of the observer did not predict sexist perceptions to any extent. No sex discrimination was found for psychopathology attributions although, in the case of criminality judgments, an anti-male bias was found.

There were, however, sufficient data to suggest that sex-role stereotypes are alive and well in our society. The MMPI (Minimult), for example, appears to have been constructed in such a way as to present feminine behavior as considerably less socially acceptable than masculine behavior. Further, there were numerous instances in the present study where masculinity and femininity were perceived differently in terms of social acceptability and level of deviance. Together, these data suggest that sex-roles and stereotyping continue to be powerful forces in our society, such that they exert a significant effect on how we perceive and evaluate behavior in others. The data also suggests, however, that the ways in which these forces combine to produce actual bias on the basis of actor gender may be more complex and circumscribed than occasionally presented.

### Limitations of the Present Study

Although the present study represents an attempt at greater methodological precision in this research area, its "solutions" to previous problems in the literature may have created new problems themselves. Thus, this final section represents the fruits of hindsight, in that it is an enumeration of the changes the author would have made at the outset of this project had he known then what he is aware of now.

As noted in the introduction of this study, the form of experimental stimuli in analogue research is extremely important, since subjects' reactions to these inputs determine the basis from which we generalize to "real" world events.

The author noted that much of the previous work in this area had involved subjects' responses to scenarios or abbreviated "case histories", and suggested that stimuli of such extreme complexity could not be accurately categorized in terms of sex-role appropriateness, social acceptability, etc., since elements within the stimuli may have involved a number of interacting qualities. In response to this concern, it was decided that single sentence statements would be more appropriate stimuli, given their relative simplicity and amenability to quantification on dimensions of sex appropriateness and social acceptability.

In retrospect, however, it is possible that such "simple" statements may have provided insufficient information to the rater for adequate impact on his or her attributions. Specifically, some writers (e.g., Davidson & Abramowitz, 1980) suggest that in order for a valid test of sex bias to occur, the experimental stimuli should be of sufficient length and complexity to allow the subject the opportunity to accept or reject gender variables as relevant to the rating task. Further, it is possible that, in the current study, the use of one sentence statements may have precluded the subject's accurately grasping the theme or problem presented by the rater. In such an eventuality, hypotheses involving sex-role violations may not have been as well tested as might have been possible had longer "case histories" or scenarios been used. For example, a male stating "I don't like sports" might not be considered as sex-role inappropriate as a male described in greater length with regard to his avoidance of typically masculine activities.

A second concern with regard to the present study relates to the large number of statements used as experimental stimuli. Subjects were exposed to 123 statements over approximately a two hour period, in both written and auditory modalities. It is probable that this proved to be an arduous task for most subjects, and may have produced at least two side effects. First, exposure to so many stimuli

may have approximated a desensitization paradigm, wherein subjects became less and less reactive to the appropriateness and gender-related aspects of successive stimuli, especially given the rapidity of their presentation. Second, the mere exposure to so many rating demands (three scales per stimulus, or 369 ratings in total) may have produced fatigue and/or actual resentment: neither of which would be conducive to accurate responding. The probable effect of either of these problems (desensitization or fatigue) would be to decrease between-groups differences and to increase the statistical "error term" for the various analyses described in the results section. Future research in this area might attempt to define a smaller number of more lengthy stimuli which could still be accurately quantified in terms of social acceptability and sex appropriateness. Such an endeavor would not be simple, since care would have to be taken that the various components (i.e., statements or phrases) of a given stimulus were homogenous with regards to the parameters they represented (i.e., "socially acceptable, male appropriate").

A third problem which emerged in the present study involved the procedure for item classification. Because of the inordinate number of female appropriate, socially unacceptable items in the MMPI, the average social acceptability of female appropriate stimuli was lower than that for male appropriate stimuli. This inequality produced

a partial confound between social acceptability and sex appropriateness in the current study although, in the final analysis, the effect may have been relatively minimal. Future research would do well to selectively add or remove stimuli from the various categories to ensure that all sex-appropriateness conditions were equally socially acceptable. Although some writers might argue that such a procedure would decrease generalizability to the "real world" (where, apparently, female appropriate behaviors are less socially valued), it is the author's belief that the greater specificity offered by such an approach would outweigh its disadvantages.

Finally, it is possible that the scale used to evaluate locus of causal explanation may have been too vague or simplistic to effectively tap subjects' perceptions in this area. In contrast to the current study's seven-point scale, ranging from "internal" to "external", Robinson (1981), for example, went to great lengths to train and calibrate subjects in her locus scoring technique. In the absence of such preparation, subjects in the present study may not have fully grasped the concepts of "internality" or "externality", thereby decreasing the overall accuracy or validity of their responses. Future studies in this area might remedy this potential difficulty by conducting a brief training session in the use and meaning of their locus of explanation instrument.

It is probable that the net effect of the aforementioned limitations, if any, would be to underestimate the relationships between the variables tested, rather than creating spurious or artifactual findings. To the extent that this is true, the present findings of sex-role stereotyping and, to a lesser extent, sex bias in nonclinicians' evaluations may represent a conservative estimate of actual sex-role related distortions in this area.

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**APPENDIX A**

Appendix A

PLEASE RATE THE FOLLOWING STATEMENTS AS TO HOW SOCIALLY ACCEPTABLE EACH IS FOR A) A MALE AND B) A FEMALE IN NORTH AMERICAN CULTURE

1. I like Mechanics magazines.

How socially acceptable is this statement for a male?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

How socially acceptable for a female?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

2. I don't have a good appetite.

How socially acceptable is this statement for a male?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

How socially acceptable for a female?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

3. I rarely wake up fresh and rested in the morning.

How socially acceptable is this statement for a male?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

How socially acceptable for a female?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

4. I think I would like the job of a librarian.

How socially acceptable is this statement for a male?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

How socially acceptable for a female?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

5. Little in my daily life keeps me interested.

How socially acceptable is this statement for a male?  
 1      2      3      4      5      6      7

How socially acceptable for a female?  
 1      2      3      4      5      6      7

6. I work under a great deal of tension.

How socially acceptable is this statement for a male?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

How socially acceptable for a female?  
 Not at All            Moderately            Very  
 1      2      3      4      5      6      7

7. Once in a while I think of things too bad to talk about.  
 How socially acceptable is this statement for a male?      How socially acceptable for a female?  
 Not at All      Moderately      Very      Not at All      Moderately      Very  
 1      2      3      4      5      6      7      1      2      3      4      5      6      7
8. I am sometimes troubled by constipation.  
 How socially acceptable is this statement for a male?      How socially acceptable for a female?  
 Not at All      Moderately      Very      Not at All      Moderately      Very  
 1      2      3      4      5      6      7      1      2      3      4      5      6      7
9. When I take a new job, I like to be tipped off on who should be gotten next to.  
 How socially acceptable is this statement for a male?      How socially acceptable for a female?  
 Not at All      Moderately      Very      Not at All      Moderately      Very  
 1      2      3      4      5      6      7      1      2      3      4      5      6      7
10. At times I have fits of laughing and crying that I cannot control.  
 How socially acceptable is this statement for a male?      How socially acceptable for a female?  
 Not at All      Moderately      Very      Not at All      Moderately      Very  
 1      2      3      4      5      6      7      1      2      3      4      5      6      7
11. I am troubled by attacks of nausea and vomiting.  
 How socially acceptable is this statement for a male?      How socially acceptable for a female?  
 Not at All      Moderately      Very      Not at All      Moderately      Very  
 1      2      3      4      5      6      7      1      2      3      4      5      6      7
12. No one seems to understand me.  
 How socially acceptable is this statement for a male?      How socially acceptable for a female?  
 Not at All      Moderately      Very      Not at All      Moderately      Very  
 1      2      3      4      5      6      7      1      2      3      4      5      6      7
13. I wouldn't like to be a singer.  
 How socially acceptable is this statement for a male?      How socially acceptable for a female?  
 Not at All      Moderately      Very      Not at All      Moderately      Very  
 1      2      3      4      5      6      7      1      2      3      4      5      6      7



## Appendix B

### MMPI STATEMENTS

123 modified MMPI items, used as stimuli on M.D.J.I.

1. I like mechanics magazines.
2. I don't have a good appetite.
3. I rarely wake up fresh and rested in the morning.
4. I think I would like the work of a librarian.
5. Little in my daily life keeps me interested.
6. I work under a great deal of tension.
7. Once in a while I think of things too bad to talk about.
8. I am sometimes troubled by constipation.
9. When I take a new job, I like to be tipped off on who should be gotten next to.
10. At times I have fits of laughing and crying that I cannot control.
11. I am troubled by attacks of nausea and vomiting.
12. No one seems to understand me.
13. I wouldn't like to be a singer.
14. I don't feel that it is necessarily best to keep my mouth shut when I'm in trouble.
15. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.

16. I have rarely felt like swearing.
17. I have nightmares every few nights.
18. I find it hard to keep my mind on a task or job.
19. I have had very peculiar and strange experiences.
20. If people had not had it in for me I would have been much more successful.
21. During one period when I was a youngster I engaged in petty thievery.
22. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going".
23. My sleep is fitful and disturbed.
24. When I am with people I am bothered by hearing very queer things.
25. I am disliked by most people who know me.
26. I have often had to take orders from someone who did not know as much as I did.
27. I wish I could be as happy as others seem to be.
28. I am not attracted to members of my own sex.
29. I doubt that many people exaggerate their misfortunes in order to gain the sympathy and help of others.
30. I never get angry.
31. I enjoy reading love stories.
32. I like poetry.
33. My feelings are not easily hurt.
34. I never tease animals.

35. I think I would like the kind of work a forest ranger does.
36. I am certainly lacking in self-confidence.
37. I wouldn't like to be a florist.
38. It doesn't take much argument to convince most people of the truth.
39. I would like to be a nurse.
40. I like to go to parties and other affairs where there is lots of loud fun.
41. At times I have very much wanted to leave home.
42. I have trouble with my muscles twitching or jumping.
43. Much of the time I feel as if I have done something wrong or evil.
44. I am unhappy most of the time.
45. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.
46. I rarely find it necessary to stand up for what I think is right.
47. Betting on a race or game does not help me to enjoy it more.
48. I doubt that most people are honest chiefly through fear of being caught.
49. My table manners are as good at home as when I am out in company.
50. I believe I am being plotted against.

51. Few people will use unfair means to gain profit or an advantage.
52. I have a great deal of stomach trouble.
53. I don't like dramatics.
54. It's rare that I don't get cross or grouchy.
55. I don't like collecting flowers or growing house plants.
56. I have indulged in unusual sex practices.
57. At times my thoughts have raced ahead faster than I could speak them.
58. I believe that my home life is less pleasant than that of most people I know.
59. I don't like to cook.
60. I certainly feel useless at times.
61. I wouldn't like to be a soldier.
62. I used to keep a diary.
63. During the past few years I have been ill much of the time.
64. I have had periods in which I carried on activities without knowing later what I had been doing.
65. I feel that I have often been punished without cause.
66. I have felt better in my life than I do now.
67. What others think of me concerns me.
68. I do not have a great fear of snakes.
69. My memory isn't very good.
70. I am worried about sex matters.

71. I don't have difficulty making talk when I meet new people.
72. I feel weak all over much of the time.
73. I have many headaches.
74. I have had difficulty in keeping my balance in walking.
75. I like everyone I know.
76. I daydream very little.
77. There are persons who are trying to steal my thoughts and ideas.
78. I am not very shy.
79. If I were a reporter I would very much like to report news of the theater.
80. I would like to be a journalist.
81. I believe my sins are unpardonable.
82. I have never had any breaking out on my skin that has worried me.
83. I have used alcohol excessively.
84. I frequently find myself worrying about something.
85. I don't think I would like the work of a building contractor.
86. I don't like science.
87. I don't like hunting.
88. My parents have often objected to the kind of people I went around with.
89. I never gossip.

90. Some of my family have habits that bother and annoy me very much.
91. At times I feel that I can make up my mind with unusually great ease.
92. I should like to belong to several clubs or lodges.
93. I often notice my heart pounding and I am sometimes short of breath.
94. I don't like to talk about sex.
95. I don't get mad easily and then get over it soon.
96. I have periods of such great restlessness that I cannot sit long in a chair.
97. I have been disappointed in love.
98. My parents and family find more fault with me than they should.
99. I don't like to be with a crowd who play jokes on one another.
100. I was a fast learner in school.
101. If I were an artist I would like to draw flowers.
102. It bothers me that I am not better looking.
103. I am not self-confident.
104. I do not blame a person for taking advantage of someone who lays himself open to it.
105. I am rarely full of energy.
106. My eyesight is worse than it used to be.
107. I have never felt that strangers were looking at me critically.

108. Most people make friends because friends are likely to be useful to them.
109. I often notice my ears ringing or buzzing.
110. Once in a while I feel hate toward members of my family whom I usually love.
111. If I were a reporter I wouldn't like to report sporting news.
112. At one or more times in my life I felt that someone was making me do things by hypnotizing me.
113. I never liked "Alice in Wonderland" by Lewis Carroll.
114. I never have periods in which I feel unusually cheerful without any special reason.
115. I wish I were not bothered by thoughts about sex.
116. I think that I feel more intensely than most people do.
117. There never was a time in my life when I liked to play with dolls.
118. Even when I am with people I feel lonely much of the time.
119. I think that few people would tell a lie to keep out of trouble.
120. I am more sensitive than most other people.
121. At periods my mind seems to work more slowly than usual.
122. People often disappoint me.

123. No one cares much what happens to you.



Appendix C-1

Bem Sex Role Inventory

PLEASE RATE YOURSELF ON EACH OF THE FOLLOWING ADJECTIVES, USING THE FOLLOWING 1 TO 7 SCALE

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often True	Usually true	Always or almost always true
Self reliant		Reliable		Warm		
Yielding		Analytical		Solemn		
Helpful		Sympathetic		Willing to take a stand		
Defends own beliefs		Jealous		Tender		
Cheerful		Has leadership abilities		Friendly		
Moody		Sensitive to the needs of others		Aggressive		
Independent		Truthful		Gullible		
Shy		Willing to take risks		Inefficient		
Conscientious		Understanding		Acts as a leader		
Athletic		Secretive		Childlike		
Affectionate		Makes decisions easily		Adaptable		
Theatrical		Compassionate		Individualistic		
Assertive		Sincere		Does not use harsh language		
Flatterable		Self-sufficient		Unsystematic		
Happy		Eater to sooth hurt feelings		Competitive		
Strong personality		Conceited		Loves children		
Loyal		Dominant		Tactful		
Unpredictable		Soft-spoken		Ambitious		
Forceful		Likable		Gentle		
Feminine		Masculine		Conventional		

Appendix C-2

Attitudes Toward Women Scale

FOR EACH OF THE FOLLOWING 15 ITEMS, CIRCLE A, B, C OR D ACCORDING TO YOUR BELIEFS.

The statements listed below describe attitudes toward the roles of women in society which different people have. There are no right or wrong answers, only opinions. You are asked to express your feeling about each statement by indicating whether you (A) agree strongly, (B) agree mildly, (C) disagree mildly, or (D) disagree strongly.

	Agree strongly	Agree mildly	Disagree mildly	Disagree strongly
1. Swearing and obscenity are more repulsive in the speech of a woman than a man.	A	B	C	D
2. Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing the laundry.	A	B	C	D
3. It is insulting to women to have the "obey" clause remain in the marriage service.	A	B	C	D
4. A woman should be as free as a man to propose marriage.	A	B	C	D
5. Women should worry less about their rights and more about becoming good wives and mothers.	A	B	C	D
6. Women should assume their rightful place in business and all the professions along with men.	A	B	C	D
7. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.	A	B	C	D
8. It is ridiculous for a woman to run a locomotive and for a man to darn socks.	A	B	C	D
9. The intellectual leadership of a community should be largely in the hands of men.	A	B	C	D

	Agree strongly	Agree mildly	Disagree mildly	Disagree strongly
10. Women should be given equal opportunity with men for apprenticeship in the various trades.	A	B	C	D
11. Women earning as much as their dates should bear equally the expense when they go out together.	A	B	C	D
12. Sons in a family should be given more encouragement to go to college than daughters.	A	B	C	D
13. In general, the father should have greater authority than the mother in the bringing up of children.	A	B	C	D
14. Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set up by men.	A	B	C	D
15. There are many jobs in which men should be given preference over women in being hired or promoted.	A	B	C	D

Appendix D

LATERALITY ASSESSMENT INVENTORY

Please indicate your preference for the use of your right or left hands, feet or eyes in the following activities, using the following scale:

- 1 = very strong Left preference
- 2 = moderate LEFT preference
- 3 = no preference
- 4 = moderate RIGHT preference
- 5 = very strong RIGHT preference

Try to answer all of the following questions. Only leave a blank if you have no experience at all with the object or task.

A. WHICH HAND DO YOU USE FOR:

	<u>LEFT</u>				<u>RIGHT</u>
1. writing	1	2	3	4	5
2. drawing	1	2	3	4	5
3. throwing	1	2	3	4	5
4. scissors	1	2	3	4	5
5. toothbrush	1	2	3	4	5
6. knife	1	2	3	4	5
7. spoon	1	2	3	4	5
8. broom (upper hand)	1	2	3	4	5
9. striking match	1	2	3	4	5
10. opening box	1	2	3	4	5

B. WHICH FOOT DO YOU USE TO:

11. kick the ball	1	2	3	4	5
12. step on a bug					

C. WHICH EYE DO YOU USE TO:

13. look through a telescope	1	2	3	4	5
14. look through the site of a gun	1	2	3	4	5

D. DO YOU SOMETIMES HAVE A HARD TIME KNOWING WHICH IS YOUR RIGHT AND WHICH IS YOUR LEFT HAND? YES \_\_\_\_\_ NO \_\_\_\_\_

E. DO YOU TEND TO HAVE A HARDER TIME FINDING YOUR WAY AROUND TOWN THAN YOUR FRIENDS OR ACQUAINTANCES? YES \_\_\_\_\_ NO \_\_\_\_\_

You are done. Thank-you for completing this inventory.

Appendix E

MANITOBA DEVIANCE JUDGEMENT INVENTORY

VERSION 2

This is form 2 of the Manitoba Deviance Judgement Inventory. In this session, you will be presented with 123 statements, both by tape recorder and in writing. Your job will be to try to guess how mentally disturbed, if at all, and how likely to break a law, if at all, the woman making each statement appears to be, without actually knowing anything else about her appearance, her life history, etc.

Before we begin, however, please turn to the next page and fill out all of the required information.

NAME:

AGE:

SEX (CIRCLE ONE): MALE FEMALE

MARITAL STATUS (CIRCLE ONE): SINGLE MARRIED DIVORCED/SEPARATED LIVING WITH OPPOSITE SEX OTHER

YEAR AT UNIVERSITY:

MAJOR:

In a few moments we will begin the rating procedure. First you will hear the tape recorded say "number one". You will then hear a woman saying the first statement listed below in this booklet. Please read sentence number one in this booklet at the same time you hear it being spoken.

After reading and hearing the statement, you will rate the woman on each of the three scales found below the sentence in this booklet. The three scales are:

- A. To what extent is this woman mentally disturbed,
- B. To what extent is this woman likely to break laws or be delinquent, and
- C. What are the reasons for this woman's behavior. Rating scale "C" is asking you to decide whether the woman's statement is explainable by external forces (for example: caused by the environment, the situation around her, society's demands, the problems she has to face in the world, etc.), or by internal forces (for example: caused by her internal thought processes, her needs, her personality, her internal conflicts, etc.).

If you have any questions at this point, please ask the experimenter, if not, please proceed to the next section. Remember, read and rate each statement only when you hear that statement over the speaker system.

1. I like Mechanics magazines.

To what extent would you guess, is this woman mentally disturbed?

Not at all			Moderately			Very
1	2	3	4	5	6	7

To what extent would you guess, is this woman likely to break laws or be delinquent?

Not at all			Moderately			Very
1	2	3	4	5	6	7

What are the reasons for this woman's behavior?

Internal						External
1	2	3	4	5	6	7

2. I don't have a good appetite.

To what extent would you guess, is this woman mentally disturbed?

Not at all			Moderately			Very
1	2	3	4	5	6	7

To what extent would you guess, is this woman likely to break laws or be delinquent?

Not at all			Moderately			Very
1	2	3	4	5	6	7

What are the reasons for this woman's behavior?

Internal						External
1	2	3	4	5	6	7

3. I rarely wake up fresh and rested in the morning.

To what extent would you guess, is this woman mentally disturbed?

Not at all			Moderately			Very
1	2	3	4	5	6	7

To what extent would you guess, is this woman likely to break laws or be delinquent?

Not at all			Moderately			Very
1	2	3	4	5	6	7

What are the reasons for this woman's behavior?

Internal						External
1	2	3	4	5	6	7



## NOTES

1. As indicated in Version 9 of SPSS, the algorithm used to calculate multivariate repeated measures analyses does not, for unspecified reasons, print out degrees of freedom for F tests utilizing more than one degree of freedom in the numerator (Hull & Nie, 1981, p. 51). Thus, although the F test is exact (internally performs a degrees of freedom calculation), the specific degrees of freedom used to generate the p value is not output, and thus will not be reported.

Table 1

Male and Female Appropriateness scores and stimulus category membership  
for 123 Stimulus Items

Item#	MA <sup>1</sup>	FA <sup>2</sup>	Member- ship	Item#	MA	FA	Member- ship	Item#	MA	FA	Member- ship
1	6.06	2.94	ST/M	29	3.85	4.47	ST/F	57	4.85	4.89	A/F
2	3.32	5.03	ST/F	30	3.54	4.29	U/F	58	4.06	4.11	U/F
3	4.39	3.96	ST/M	31	2.31	6.25	ST/F	59	5.59	2.87	ST/M
4	2.78	5.82	ST/F	32	3.21	5.73	ST/F	60	3.30	4.60	ST/F
5	3.34	4.05	U/F	33	5.51	3.49	ST/M	61	3.57	5.67	ST/F
6	5.70	4.34	ST/M	34	4.41	5.20	A/F	62	2.97	6.01	ST/F
7	4.70	4.02	ST/M	35	5.84	3.30	ST/M	63	3.45	4.71	ST/F
8	3.67	3.94	U/F	36	2.95	4.51	ST/F	64	3.62	3.73	U/F
9	4.61	3.69	ST/M	37	5.31	3.80	ST/M	65	3.82	4.24	U/F
10	2.84	5.19	ST/F	38	4.96	4.32	ST/M	66	4.55	4.69	A/F
11	3.02	4.36	U/F	39	2.17	6.55	ST/F	67	4.35	5.64	A/M
12	3.66	4.89	ST/F	40	5.89	5.74	A/M	68	5.58	3.55	ST/M
13	4.71	4.46	A/M	41	5.46	4.34	ST/M	69	3.96	4.39	U/F
14	4.98	4.48	A/M	42	4.43	3.94	ST/M	70	3.61	4.59	U/F
15	5.12	3.47	ST/M	43	3.62	3.82	U/F	71	5.26	4.96	A/F
16	3.31	4.96	ST/F	44	3.36	3.95	U/F	72	2.77	4.72	ST/F
17	3.25	4.69	ST/F	45	4.54	4.18	ST/M	73	3.21	4.95	ST/F
18	3.50	4.15	U/F	46	3.24	3.86	U/F	74	2.92	3.81	U/F
19	4.65	4.26	ST/M	47	3.59	4.61	ST/F	75	4.14	4.62	ST/F
20	4.25	3.85	ST/M	48	4.31	4.62	A/F	76	4.96	4.28	ST/M
21	4.89	2.83	ST/M	49	4.45	5.42	A/F	77	4.11	3.66	U/M
22	3.49	4.23	U/F	50	3.51	3.46	U/M	78	5.47	4.37	ST/M
23	3.99	4.41	U/F	51	4.09	4.34	U/F	79	3.64	5.14	ST/F
24	3.32	4.35	U/F	52	4.09	4.36	U/F	80	5.27	5.09	U/F
25	3.20	3.11	U/M	53	4.91	4.06	ST/M	81	3.46	3.72	U/F
26	4.60	4.55	A/M	54	4.54	4.32	ST/M	82	4.36	3.96	ST/M
27	3.89	4.94	ST/F	55	5.34	3.46	ST/M	83	4.75	3.09	ST/M
28	4.58	4.73	A/F	56	4.52	2.82	ST/M	84	4.00	5.08	ST/M

<sup>1</sup>Male acceptability score

<sup>2</sup>Female acceptability score

<sup>3</sup>ST=sex-typed, A = acceptable, U = Unacceptable; M = Male, F = Female

Table 1 (continued)

Item#	MA	FA	Membership	Item#	MA	FA	Membership
85	3.58	5.67	ST/F	107	4.46	4.01	ST/M
86	3.60	5.20	ST/F	108	4.50	3.88	ST/M
87	3.19	5.88	ST/F	109	3.62	4.23	U/F
88	4.18	5.11	A/F	110	3.94	3.73	U/M
89	5.10	3.71	ST/M	111	3.32	5.07	ST/F
90	4.67	4.76	A/F	112	2.71	3.47	U/F
91	5.38	4.84	A/M	113	5.10	3.77	ST/M
92	5.54	4.64	A/M	114	4.30	4.01	ST/M
93	3.87	4.51	ST/M	115	3.83	4.14	U/F
94	3.62	5.01	ST/F	116	4.34	4.84	A/F
95	4.83	4.59	A/M	117	5.46	2.96	ST/M
96	4.81	4.53	A/F	118	3.56	4.17	U/F
97	4.29	5.21	A/F	119	3.93	4.44	U/F
98	4.27	4.51	A/F	120	3.73	5.39	U/F
99	3.81	5.12	ST/F	121	4.13	4.72	ST/F
100	5.54	5.08	A/F	122	4.24	4.65	A/F
101	2.96	5.68	ST/F	123	4.07	3.94	U/M
102	3.86	6.66	ST/F				
103	3.50	4.81	ST/F				
104	4.59	3.68	ST/M				
105	3.29	4.34	U/F				
106	4.71	4.89	A/F				

Table 2

Means and Standard Deviations for Male versus Female Appropriateness  
Across Acceptable, Sex-typed, and Unacceptable Behaviors

Variable	n	Mean sex appropriateness	Standard deviation
Acceptable/Male	140	0.311	0.598
Acceptable/Female	140	-0.482	0.610
Sex-typed/Male	140	1.217	0.869
Sex-typed/Female	140	-1.777	0.971
Unacceptable/Male	140	0.189	0.878
Unacceptable/ Female	140	-0.610	0.748

<sup>1</sup> Negative numbers are more female appropriate, positive numbers are more male appropriate.

Table 3

Frequency of male appropriate versus female appropriate items across three levels of social acceptability

Sex appropriateness	Social Acceptability			(total)
	acceptable	sex-typed	unacceptable	
Male	5	15	4	(24)
Female	8	16	23	(47)
(total)	(13)	(31)	(27)	(71)

Table 4

Means, standard deviations and t-tests of male appropriateness versus female appropriateness scores for 12 MMPI scales

Scale	n	Mean difference between male and female appropriateness	Standard deviation of the difference	t(139)	p<
1	140	-0.738	.853	-10.24	.0001
2	140	-0.650	.630	-12.20	.0001
3	140	-0.423	.529	-9.62	.0001
4	140	-0.106	.558	-2.26	<u>ns</u>
5	140	1.346	.757	21.05	.0001
6	140	-0.418	.661	-7.48	.0001
7	140	-.800	.803	-11.78	.0001
8	140	-.282	.701	-4.77	.0001
9	140	-.012	.588	-0.23	<u>ns</u>
F	140	-.401	.736	-6.45	.0001
K	140	-.504	1.202	-4.96	.0001
L	140	-.080	.951	-1.00	<u>ns</u>

Table 5

Item-to-total correlations for the 24 items composing the TST scale

---

Item #	Item-to-total correlation
1	.18
2	.29
3	.47
4	.45
5	.34
6	.32
7	.43
8	.38
9	.51
10	.48
11	.37
12	.22
13	.25
14	.48
15	.21
16	.38
17	.53
18	.37
19	.37
20	.53
21	.34
22	.45
23	.37
24	.30

---

Table 6

Item-to-item correlations for the 24 items composing the TAB scale

---

Item #	Item-to-total correlation
1	.39
2	.20
3	.45
4	.37
5	.46
6	.24
7	.52
8	.56
9	.47
10	.28
11	.41
12	.53
13	.54
14	.59
15	.36
16	.59
17	.21
18	.60
19	.60
20	.54
21	.23
22	.37
23	.06
24	.31

---



Table 7

Matrix of correlations between six rater variables

---

	Sex	AWS	Femininity	Masculinity	TST	TAB
Sex	1.00					
AWS	.423	1.00				
Femininity	.187	.101	1.00			
Masculinity	-.267	.010	.007	1.00		
TST	.131	.086	.063	-.019	1.00	
TAB	.158	.249	.002	.077	-.336	1.00

---

Table 8

Variance Accounted for by Factor Analysis (before rotation)

---

<u>Variable</u>	<u>Estimated Communality</u>		
Sex	.294		
AWS	.234		
Femininity	.040		
Masculinity	.105		
TST	.163		
TAB	.210		

<u>Factor</u>	<u>Eigenvalue</u>	<u>% of variance</u>	<u>Cumulative % of variance</u>
I	1.66	27.6	27.6
II	1.37	22.8	50.4
III	1.05	17.5	67.8
IV	0.92	15.3	83.1
V	0.54	8.9	92.0
VI	0.48	8.0	100.0

---

Table 9

Factor Structure after Varimax rotation

Variable	Factor I	Factor II	Factor III
sex	<u>.741</u>	.018	<u>-.435</u>
AWS	<u>.603</u>	.102	.056
Femininity	.213	.042	.012
Masculinity	-.037	.037	<u>.553</u>
TST	.220	<u>-.592</u>	.033
TAB	.272	<u>.674</u>	.120

Note; Coefficients considered meaningful (underlined) when  $c \geq .35$ .

Table 10

Multiple Regression Analysis: Predicting Total Internality-Externality  
with Total Criminality and Total Pathology

Variable	$\beta$ at last step	F (1,137) at last step	Equation Multiple R	$R^2$	Equation F	df	p
Total Criminality	0.574	24.99, $p < .001$					
Total Pathology	-0.301	6.850, $p < .01$	.409	.167	13.66	2,137	.001

Table 11

Post-hoc Analyses of the Significant Multivariate Sex of Rater Effect-  
Pathology Attributions

Variable	<u>n</u>	Means		Univariate F(1,144)	<u>p</u>	Discriminant Structure Coefficient <sup>2</sup>
		Male	Female			
Scale 1	146	2.567	2.638	0.219	<u>ns</u>	-.093
Scale 2	146	2.822	2.842	0.010	<u>ns</u>	-.027
Scale 3	146	2.579	2.553	0.036	<u>ns</u>	.038
Scale 4	146	2.916	2.892	0.030	<u>ns</u>	.032
Scale 5	146	-0.518	-0.410 <sup>1</sup>	7.289	.008	<u>-.537</u>
Scale 6	146	3.356	3.386	0.037	<u>ns</u>	-.038
Scale 7	146	3.238	3.228	0.004	<u>ns</u>	.013
Scale 8	146	3.421	3.427	0.001	<u>ns</u>	-.007
Scale 9	146	2.692	2.672	0.004	<u>ns</u>	.013
Scale F	146	3.066	3.058	0.003	<u>ns</u>	.012
Scale K	146	2.735	2.792	0.072	<u>ns</u>	-.053
Scale L	146	2.586	2.262	2.848	<u>ns</u>	.336

<sup>1</sup>Means are negative because Scale 5 was scored in the "male" direction, which meant subtracting female items.

<sup>2</sup>Coefficients considered meaningful (underlined) when  $c \geq .35$ .

Table 12

Post-hoc Analyses of the Significant Multivariate Sex of Rater Effect-  
Criminality Attributions

Variable	<u>n</u>	Means		Univariate <u>F(1,144)</u>	<u>p</u>	Discriminant Structure Coefficient
		Male	Female			
Scale 1	143	2.311	2.106	1.948	<u>ns</u>	.263
Scale 2	143	2.735	2.531	1.965	<u>ns</u>	.264
Scale 3	143	2.655	2.405	3.196	<u>ns</u>	.336
Scale 4	143	3.241	2.970	2.752	<u>ns</u>	.312
Scale 5	143	-0.483	-0.331	17.872	.001	-.795
Scale 6	143	3.324	3.088	1.964	<u>ns</u>	.264
Scale 7	143	3.002	2.727	2.662	<u>ns</u>	.307
Scale 8	143	3.377	3.066	3.117	<u>ns</u>	.332
Scale 9	143	3.123	2.867	2.504	<u>ns</u>	.298
Scale F	143	3.524	3.304	1.276	<u>ns</u>	.213
Scale K	143	3.943	2.766	0.666	<u>ns</u>	.154
Scale L	143	2.241	1.883	4.605	<u>ns</u>	.404

Table 13

Post-hoc Analyses of the Significant Multivariate Sex of Rater Effect-  
Internality-Externality Attributions

Variable	Means		Univariate F(1,138)	p	Discriminant Structure coefficient	
	n	Male				Female
Scale 1	140	3.076	2.907	1.307	<u>ns</u>	.234
Scale 2	140	3.144	3.092	0.266	<u>ns</u>	.105
Scale 3	140	3.250	3.161	0.728	<u>ns</u>	.174
Scale 4	140	3.560	3.672	0.570	<u>ns</u>	-.154
Scale 5	140	-0.608	-0.712	4.527	.035	.435
Scale 6	140	3.072	2.955	0.868	<u>ns</u>	.190
Scale 7	140	2.912	2.828	0.477	<u>ns</u>	.141
Scale 8	140	3.236	3.115	1.130	<u>ns</u>	.217
Scale 9	140	3.498	3.471	0.067	<u>ns</u>	.052
Scale F	140	2.791	2.987	2.274	<u>ns</u>	-.308
Scale K	140	3.441	3.375	0.101	<u>ns</u>	.065
Scale L	140	2.763	2.879	0.364	<u>ns</u>	-.123

Table 14

Means and standard deviations for pathology attributions according to  
ratee sex, sex appropriateness of ratee behavior, and social acceptability

ratee sex	Male Appropriate			Female Appropriate			Marginal Means
	sex-typed	accept- able	Unaccep- table	sex-typed	accept- able	Unaccept- able	
female ( <u>n</u> =69)	2.431 (.908)	1.880 (.765)	4.068 (1.141)	2.290 (.838)	2.225 (1.020)	3.150 (.933)	2.704
male ( <u>n</u> =81)	2.450 (.746)	1.962 (.770)	4.025 (1.069)	2.415 (.808)	2.301 (.893)	3.206 (.836)	2.728
Marginal means ( <u>n</u> =146)	2.442	1.925	4.044	2.359	2.270	3.181	2.728

Note: Numbers in parentheses indicate standard deviations



Table 15

Means and standard deviations for criminality attributions according to ratee sex, sex appropriateness of ratee behavior, and social acceptability

ratee sex	Male Appropriate			Female Appropriate			Marginal Means
	sex-typed	Accept- able	Unaccept- able	sex-typed	Accept- able	Unaccept- able	
female ( <u>n</u> =64)	2.630 (.900)	2.209 (.823)	3.878 (1.360)	1.984 (.748)	2.367 (1.041)	2.648 (.960)	2.619
male ( <u>n</u> =79)	2.827 (.866)	2.491 (.826)	3.982 (1.219)	2.269 (.780)	2.698 (.916)	2.955 (.926)	2.870
Marginal means ( <u>n</u> =143)	2.739	2.365	3.936	2.142	2.55	2.818	

Note: Numbers in parentheses indicate standard deviations

Table 16

Means and standard deviations for internality-externality attributions according to ratee sex, sex appropriateness of ratee behavior, and social acceptability

ratee sex	Male Appropriate			Female Appropriate			Marginal Means
	Sex-typed	Accept-able	Unaccept-able	Sex-typed	Accept-able	Unaccept-able	
Female	3.313	3.378	2.984	3.020	3.570	2.962	3.204
( <u>n</u> =64)	(.537)	(.781)	(.995)	(.601)	(.656)	(.514)	
Male	3.387	3.330	3.042	2.886	3.495	3.00	3.190
( <u>n</u> =76)	(.735)	(.895)	(1.090)	(.656)	(.850)	(.621)	
Marginal means ( <u>n</u> =140)	3.353	3.352	3.016	2.947	3.529	2.993	

Note: Numbers in parentheses indicate standard deviations

Table 17

Multivariate Multiple Linear Regression Analysis of Pathology Attributions  
to Six Stimulus Conditions

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<u>Wilk's Lambda</u>	<u>F(162,660.36)</u>	<u>p</u>
0.264	1.038	.371

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<u>Roots</u>	<u>Wilk's Lambda</u>	<u>F</u>	<u>hypothesis df</u>	<u>error df</u>	<u>p</u>
1 to 6	.264	1.038	162	660.36	.371
2 to 6	.404	0.865	130	672.25	.847
3 to 6	.556	0.721	100	683.00	.979
4 to 6	.722	0.551	72	692.60	.999
5 to 6	.843	0.453	46	701.04	.999
6 to 6	.924	0.439	22	708.27	.989

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Table 18

Multiple Regression Analysis Results for Pathology Attributions to Each  
of Six Stimulus Conditions

stimulus condition	Step One:					Step Two:						
	<u>Single Variable Set</u>					<u>Interaction Variable Set</u>						
	<u>R</u>	<u>R<sup>2</sup></u>	<u>F</u>	<u>df</u>	<u>p</u>	<u>R</u>	<u>R<sup>2</sup></u>	<u>F</u>	<u>df</u>	<u>p</u>	<u>R<sup>2</sup></u> change	<u>p</u> of change
ST/M	.234	.055	1.149	7,139	.336	.498	.248	1.451	27,119	.090	.193	.085
ST/F	.275	.076	1.641	7,140	.129	.470	.221	1.261	27,120	.145	.145	.341
A/M	.250	.063	1.333	7,140	.239	.486	.236	1.374	27,120	.125	.174	.154
A/F	.267	.071	1.521	7,139	.165	.477	.228	1.298	27,120	.172	.153	.263
U/M	.160	.026	0.522	7,139	.817	.399	.159	0.832	27,119	.703	.133	.537
U/F	.126	.016	0.322	7,139	.943	.404	.163	0.861	27,119	.664	.147	.413

Note: ST/M = sex-typed/Male; ST/F = sex-typed/Female

A/M = Acceptable/Male; A/F = Acceptable/Female

U/M = Unacceptable/Male; U/F = Unacceptable/Female

Table 19

Multivariate Multiple Linear Regression Analysis of CriminalityAttributions to Six Stimulus Conditions

<u>Wilk's Lambda</u>	<u>F(162,642.74)</u>	<u>p</u>			
0.176	1.366	.005			
<u>Roots</u>	<u>Wilk's Lambda</u>	<u>F</u>	<u>hypothesis df</u>	<u>error df</u>	<u>p</u>
1 to 6	.176	1.366	162	642.74	.005
2 to 6	.313	1.101	130	654.65	.228
3 to 6	.433	1.024	100	665.43	.424
4 to 6	.560	0.978	72	675.07	.532
5 to 6	.712	0.893	46	683.55	.676
6 to 6	.857	0.853	22	690.82	.659

Table 20

Multiple Regression Analysis Results for Criminality Attributions to Each  
of Six Stimulus Conditions

stimulus conditions	Step One: Single Variable Set					Step Two: Interaction Variable Set						
	<u>R</u>	<u>R<sup>2</sup></u>	<u>F</u>	<u>df</u>	<u>p</u>	<u>R</u>	<u>R<sup>2</sup></u>	<u>F</u>	<u>df</u>	<u>p</u>	<u>R<sup>2</sup></u> change	<u>p</u> of change
	ST/M	.347	.120	2.692	7,138	.012	.527	.278	1.684	27,118	.030	.158
ST/F	.376	.142	3.298	7,140	.003	.526	.276	1.198	27,120	.028	.135	.340
A/M	.410	.168	4.036	7,140	.001	.569	.324	2.132	27,120	.003	.156	.142
A/F	.337	.113	2.532	7,139	.018	.533	.284	1.745	27,119	.022	.171	.128
U/M	.187	.035	0.716	7,138	.658	.413	.171	0.900	27,118	.610	.136	.508
U/F	.255	.065	1.371	7,138	.222	.440	.194	1.049	27,118	.412	.129	.538

Note: ST/M = sex-typed/Male;

ST/F = sex-typed/Female

A/M = acceptable/Male;

A/F = acceptable/Female

U/M = Unacceptable/Male;

U/F = Unacceptable/Female

Table 21

Multiple Regression Analysis of Criminality Attributions to MaleSex-typed Behaviors

Step	Variables	<u>r</u>	<u>p</u>	<u>B</u>	standard error of B	<u>Beta</u>	<u>t</u>	<u>p</u>
1	Stimulus sex	.142	.086	.218	.145	.121	-1.09	.276
	Sex	-.264	.001	-.492	.172	-.273	-2.86	.005
	AWS	-.166	.044	-.011	.011	-.088	-0.96	.338
	Femininity	-.096	.248	-.003	.005	-.055	-0.67	.503
	Masculinity	-.014	.869	-.005	.005	-.092	-1.09	.276
	TST	.075	.367	.448	.267	.147	1.68	.095
	TAB	-.010	.905	.222	.172	.116	1.29	.199

Table 22

Multiple Regression Analysis of Criminality Attributions to FemaleSex-typed Behaviors

Step	Variables	<u>r</u>	<u>p</u>	<u>B</u>	standard error of <u>B</u>	<u>Beta</u>	<u>t</u>	<u>p</u>
1	Stimulus sex	.209	.010	.298	.123	.1-1	2.42	.017
	Sex	-.264	.001	-.409	.146	-.262	-2.80	.006
	AWS	-.186	.023	-.012	.010	-.036	-0.46	.209
	Femininity	-.077	.350	-.002	.004	-.036	-0.46	.649
	Masculinity	-.032	.698	-.006	.004	-.109	-1.32	.191
	TST	.051	.539	.306	.226	.116	1.35	.179
	TAB	-.005	.949	.194	.146	.118	1.33	.184



Table 23

Multiple Regression Analysis of Criminality Attributions to Socially  
Acceptable, Male Appropriate Behaviors

Step	Variables	<u>r</u>	<u>p</u>	<u>B</u>	standard error of <u>B</u>	<u>Beta</u>	<u>t</u>	<u>p</u>
1	Stimulus sex	.197	.016	.300	.130	.179	2.30	.023
	Sex	-.306	.001	-.553	.155	-.330	-3.59	.005
	AWS	-.148	.071	-.005	0.10	-.046	-0.53	.600
	Femininity	-.144	.079	-.006	.005	-.097	-.124	.219
	Masculinity	-.026	.748	-.007	.004	-.123	-1.52	.132
	TST	.031	.712	.319	.240	.113	1.33	.185
	TAB	.027	.749	.257	.154	.145	1.67	.098

Table 24

Multiple Regression Analysis of Criminality Attributions to Socially  
Acceptable, Female Appropriate Behaviors

Step	Variables	<u>r</u>	<u>p</u>	<u>B</u>	Standard error of <u>B</u>	<u>Beta</u>	<u>t</u>	<u>p</u>
1	Stimulus sex	.183	.026	.328	.159	.166	2.06	.041
	Sex	-.256	.002	-.478	.189	-.241	-2.53	.012
	AWS	-.159	.053	-.010	.013	-.072	-0.784	.434
	Femininity	-.100	.226	-.004	.006	-.063	-0.779	.437
	Masculinity	.003	.967	-.004	.005	-.062	-0.741	.460
	TST	.060	.469	.330	.293	.099	1.129	.261
	TAB	-.057	.493	.090	.188	.043	0.478	.634

Table 25

Means of pathology attributions to six stimulus conditions across  
sex-role orientation and ratee sex

		<u>Sex-role Orientation</u>			
		Androgynous	Undifferentiated	Feminine	Masculine
Female Ratees	MST	2.265	2.779	2.416	2.210
	FST	2.158	2.567	2.248	2.145
	MA	1.713	2.192	1.903	1.665
	FA	2.093	2.585	2.231	1.911
	MU	4.232	4.067	4.080	3.815
	FU	3.058	3.325	3.079	3.123
Male Ratees	MST	2.573	2.433	2.368	2.383
	FST	2.521	2.415	2.332	2.358
	MA	2.049	2.000	1.893	1.875
	FA	2.370	2.412	2.262	2.149
	MU	4.131	4.059	3.891	4.000
	FU	3.319	3.275	3.108	3.086

Note: MST = Male appropriate, Sex-typed; FST = Female appropriate, sex-typed; MA = Male appropriate, Socially acceptable; FA = Female appropriate, Socially acceptable; MU = Male appropriate, Socially Unacceptable; FU = Female appropriate, Socially unacceptable

Table 26.

Means of criminality attributions to six stimulus conditions across sex-role orientation and ratee sex

		<u>Sex-role Orientation</u>			
		Androgynous	Undifferentiated	Feminine	Masculine
Female Ratees	MST	2.259	2.936	2.493	2.879
	FST	1.726	2.234	1.907	2.084
	MA	1.879	2.495	2.170	2.315
	FA	2.013	2.756	2.200	2.509
	MU	3.522	4.000	3.693	4.415
	FU	2.307	2.889	2.546	2.903
Male Ratees	MST	2.865	2.881	2.800	2.750
	FST	2.359	2.333	2.251	2.091
	MA	2.440	2.602	2.475	2.483
	FA	2.803	2.740	2.573	2.663
	MU	4.192	3.988	3.791	3.913
	FU	3.124	3.014	2.810	2.833

Note: MST = Male appropriate, Sex-typed; FST = Female appropriate, sex-typed; MA = Male appropriate, Socially acceptable; FA = Female appropriate, Socially acceptable; MU = Male appropriate, Socially unacceptable; FU = Female appropriate, Socially unacceptable.

Table 27

ANOVA and discriminant function results for the sex of ratee effect on  
criminality attributions

<u>Stimulus condition</u>	<u>F(1,135)</u>	<u>p</u>	<u>DFA</u>
MST	1.485	.225	-.308
FST	4.289	.040	-.523
MA	4.111	.045	-.512
FA	3.865	.051	-.496
MU	0.082	.775	-.072
FU	3.325	.070	-.460

Note: DFA = Discriminant Function Analysis Structure Coefficients  
(considered meaningful if  $|c| \geq .35$ ).

MST = Male appropriate, Sex-typed; FST = Female appropriate, sex-typed;  
MA = Male appropriate, Socially acceptable; FA = Female appropriate,  
Socially acceptable; MU = Male appropriate, Socially unacceptable; FU =  
Female appropriate, Socially unacceptable.

Table 28

Multivariate Multiple Linear Regression Analysis of Internal-External  
Attributions to Six Stimulus Conditions

<u>Wilk's Lambda</u>	<u>F(162,625.11)</u>	<u>p</u>			
0.227	1.106	.200			
<u>Roots</u>	<u>Wilk's Lambda</u>	<u>F</u>	<u>Hypothesis df</u>	<u>Error df</u>	<u>p</u>
1 to 6	.227	1.106	162	725.11	.200
2 to 6	.380	0.879	130	637.05	.816
3 to 6	.527	0.750	100	647.86	.963
4 to 6	.658	0.678	72	657.54	.980
5 to 6	.782	0.624	46	666.05	.976
6 to 6	.899	0.567	22	673.37	.945

Table 29

Multiple Regression Analysis Results for Internal-External Attributions  
to Each of Six Stimulus Conditions

stimulus condition	Step One Single Variable Set					Step Two Interaction Variable Set						
	<u>R</u>	<u>R<sup>2</sup></u>	<u>F</u>	<u>df</u>	<u>p</u>	<u>R</u>	<u>R<sup>2</sup></u>	<u>F</u>	<u>df</u>	<u>p</u>	<u>R<sup>2</sup></u> change	<u>p</u> of change
ST/M	.330	.109	2.405	7,138	.024	.522	.272	1.636	27,118	.038	.164	.175
ST/F	.305	.093	2.001	7,137	.059	.486	.236	1.336	27,117	.147	.143	.365
A/M	.248	.061	1.309	7,140	.250	.487	.237	1.382	27,120	.121	.176	.144
A/F	.311	.096	2.104	7,138	.096	.502	.252	1.471	27,118	.082	.155	.246
U/M	.386	.149	3.432	7,137	.002	.618	.382	2.680	27,117	.001	.233	.005
U/F	.373	.138	3.211	7,139	.003	.513	.263	1.576	27,119	.051	.124	.464

Note: ST/M = Sex-typed/Male; ST/F = sex-typed/Female  
 A/M = Acceptable/Male; A/F = Acceptable/Female  
 U/M = Unacceptable/Male; U/F = Unacceptable/Female

Table 30

Means of internality-externality attributions to six stimulus conditions  
across sex-role orientation and ratee sex

		<u>Sex-role Orientation</u>			
		Androgynous	Undifferentiated	Feminine	Masculine
Female Ratees	MST	3.192	3.370	3.291	3.424
	FST	2.842	3.190	3.067	2.977
	MA	3.187	3.384	3.545	3.441
	FA	3.474	3.744	3.436	3.615
	MU	2.944	3.111	2.920	2.938
	FU	2.761	3.119	3.077	2.889
Male Ratees	MST	3.322	3.505	3.405	3.345
	FST	2.931	2.954	2.764	2.925
	MA	3.212	3.327	3.335	3.515
	FA	3.622	3.400	3.357	3.590
	MU	2.883	3.373	2.991	3.040
	FU	2.892	3.240	2.980	2.985

Note: MST = Male appropriate, sex-typed; FST = Female appropriate, sex-typed; MA = Male appropriate, socially acceptable; FA = Female appropriate, socially acceptable; MU = Male appropriate, socially unacceptable; FU = Female appropriate, socially unacceptable



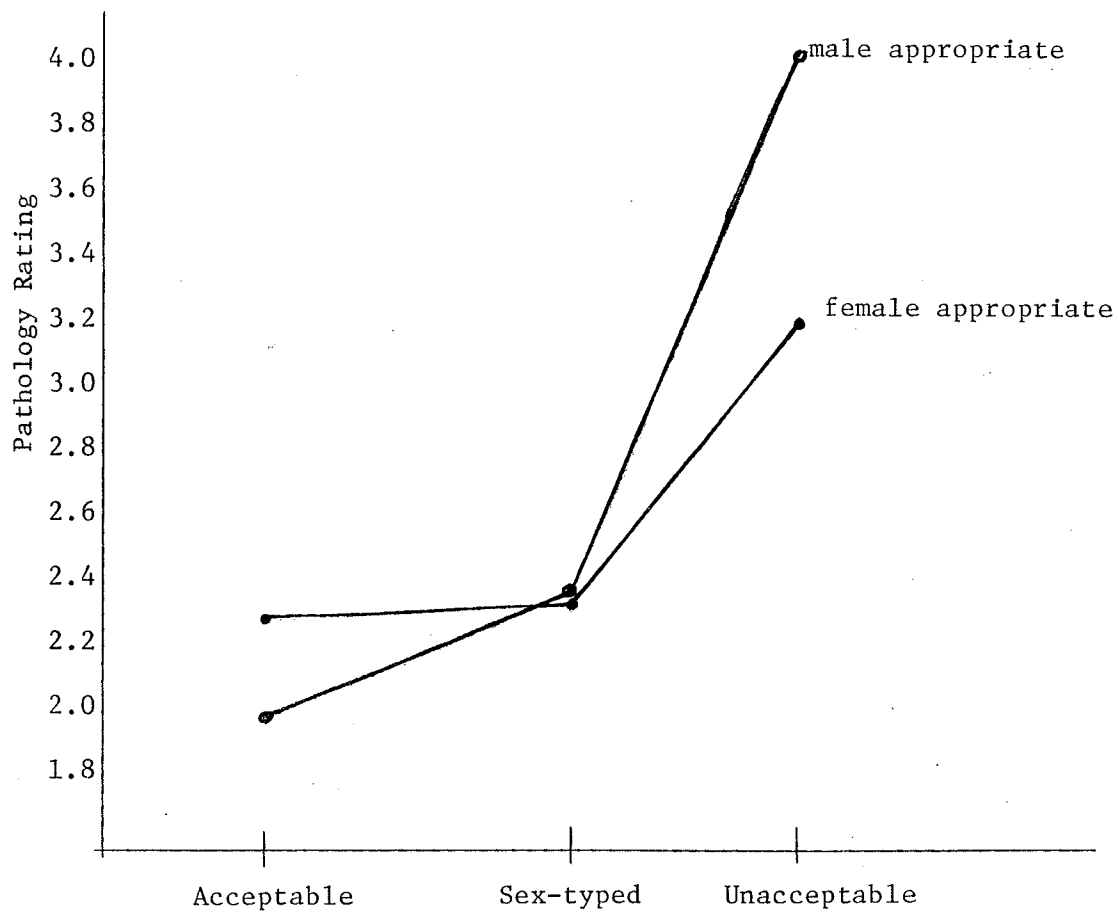


Figure 1. Relationship between sex appropriateness and social acceptability with reference to rated pathology.

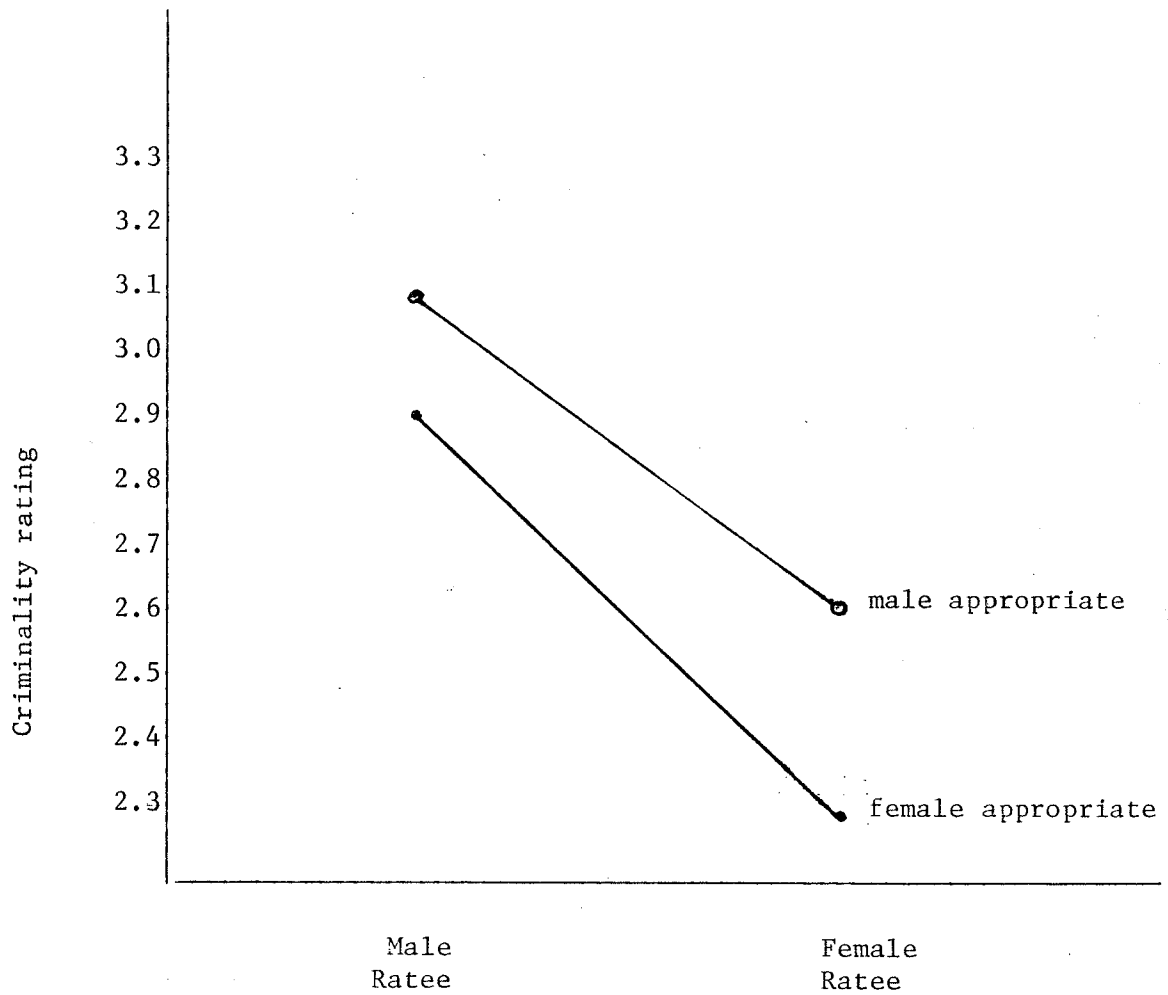


Figure 2. Relationship between ratee sex and sex appropriateness with reference to rated criminality.

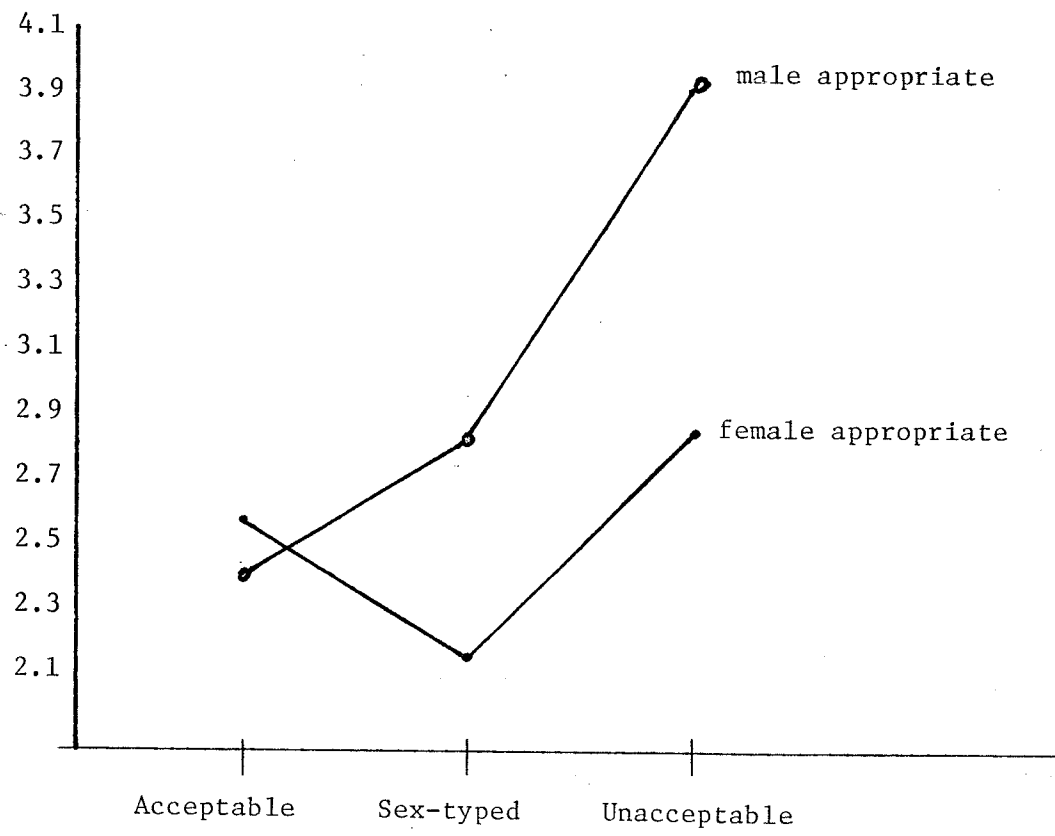


Figure 3. Relationship between sex appropriateness and social acceptability with reference to rated criminality.