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MMPI performance of (BSRI) androgynous and sex-typed male and female university students.

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MMPI PERFORMANCE OF (BSRI) ANDROGYNOUS AND SEX-TYPED MALE AND FEMALE UNIVERSITY STUDENTS

by

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ABSTRACT

Because the achievement of appropriate sex-typing is widely held to be an important requisite for good adjustment by psychologists, the purpose of this study was to compare the MMPI performance of groups of university students who varied in their orientation to sex roles, as this dimension is measured by the BSRI (Bem, 1974). The BSRI defines sex-typing as the degree to which an individual's self-description conforms to societal stereotypes for his or her sex, reflecting the internalization of cultural norms with respect to appropriate masculine and feminine behaviour. An androgynous person is defined as one who endorses both stereotypically masculine and feminine characteristics as self-descriptive in roughly equivalent proportions. A total of 150 subjects were tested: 50 males, 50 females, and 50 mature females. Results indicated that sex role orientation has an effect on performance on all clinical scales of the MMPI, excepting scales 2, 4, and 9. However, only subjects classified as sex-reversed appeared to be significantly less healthy than the other sex role groups. Androgynous subjects generally fared as well on the MMPI as conventionally sex-typed subjects, though there were indications that an androgynous sex role orientation may be more problematic for females than for males of college age. It was concluded that the importance of sex-typing in theories of mental health has perhaps been overstressed in the literature. A number of technical issues with respect to the usage of the BSRI in further research were discussed.

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Women have served all these centuries as looking glasses possessing the power of reflecting the figure of man, at twice its natural size.

Virginia Woolf

CHAPTER I

INTRODUCTION

The Nature of Sex Role Stereotypes

Broverman, Broverman and Clarkson (1970) have defined sex role stereotypes as highly consensual norms and beliefs about the differing characteristics of men and women. Though the specific content of sex role stereotypes varies from culture to culture, and from time to time, their function in the "... differential socialization of temperament" (Millett, 1970, p. 26) in men and women is a ubiquitous phenomenon which has been the subject of multi-disciplinary investigation and analysis.

A relatively recent and informative contribution to the literature on sex role socialization has been the application of social psychological principles governing intergroup relations, particularly the concept of minority groups (Hacker, 1951), to the study of sex differences. The major effect of this development has been to elucidate a number of sociopolitical factors which influence male/female relations, the most crucial of these being the aspect of differential power between the sexes as human groups. The concept of differential power, and hence the inherently political character of commonly held beliefs about the natures of men and women, has been largely ignored by traditional theorists, who have emphasized biological determinism (Erikson, 1965; Fromm, 1956) and the concept of 'complementary domains' (Parsons & Bales, 1955) to argue for the naturalness of psychological sex differences.

The term 'stereotype' was originally coined by journalist and political commentator Walter Lippman (1922) to refer to 'pictures in the head' that filter the news, affect what one notices, and how one views it. The term was borrowed by social psychologists studying attitude formation, who used it to refer to images of a group and its members which are commonly agreed upon by the members of another group. Though Lippman's major concern was with the truth versus falseness of such images, in social psychology, Sherif and Sherif (1969) state that the distinctive feature of group stereotypes is that they are invariably formulated from the point of view of a dominant group's interests and goals as parties to an intergroup relationship.

A traditional assumption regarding sex role stereotypes is that they derive primarily from biological differences between the sexes, so that where culture is acknowledged as shaping behaviour, it is said to do little more than co-operate with nature. However, Anastasi (1970) suggests that in contemporary society, "... even where physical differences contribute to sex differences in behaviour, the contribution is usually indirect and intricately overlaid with cultural factors." (p. 470) Recent gender identity research would seem to lend support to this assertion. Money (1965) reports that it is now believed that the human fetus is originally physically female, until the operation of androgen at a certain stage of gestation causes those with y chromosomes to develop into males. In terms of 'masculinity' and 'femininity' as opposed to maleness and femaleness, there seems to be no differentiation between the sexes at birth, that is, psychosexual

personality is therefore post-natal and learned. Money (1965) states that:

> ... the condition existing at birth and for several months thereafter is one of psychosexual undifferentiation. Just as in the embryo, morphologic sexual differentiation passes from a plastic stage to one of fixed immutability, so also does psychosexual differentiation become fixed and immutable - so much so, that mankind has traditionally assumed that so strong and fixed a feeling as personal sexual identity must stem from something innate, instinctive, and not subject to post-natal experience and learning. The error of this traditional assumption is that the power and permanence of something learned has been underestimated. (p. 12)

Stoller's (1968) studies at the California Gender Identity Center of cases of genital malformation and consequent erroneous gender assignment at birth, offer concrete evidence of the predominantly cultural character of gender (personality structure in terms of sexual category). It has been found easier to change the sex of a person, whose biological identity turns out to be contrary to his gender assignment and conditioning, through surgery than to undo the educational consequences of years. Stoller (1968) makes emphatic the distinction that sex is biological, gender psychological and therefore cultural: "... gender role is determined by post-natal forces, regardless of the anatomy and physiology of the external genitalia." (p. 48)

Biological sex differences in physique and muscular strength have often also been advanced as a basis for sex role stereotypes, particularly the prevalence of male dominance across cultures and throughout history. However, the amount of such sex differences in dominance varies widely from culture to culture, as does the manner in which it is expressed. Mead's (1935) anthropological study of three primitive societies in New Guinea demonstrated that psychological characteristics associated with traditional sex role stereotypes in one culture may be absent or reversed in other cultures. Her observations refute as well the notion that in primitive cultures, because occupations are predominantly physical, a division of labour on the basis of physical strength is necessarily observed in all cases. Millett (1970) comments that superior physical strength is hardly an adequate category on which to base sex role differentiation within advanced civilizations. It is not a significant factor in political (dominance of one group over another) relations such as race and class, and it is of the nature of 'civilization' that other methods (technology, weaponry, knowledge) are substituted for physical exertion. Even in ancient civilizations, toil was a class factor, with those at the bottom performing the most strenuous tasks whether they were strong or not. Ironically, Anastasi (1970) states that: "...

> ...even modern warfare is not so much a matter of handling spears and javelins as it is a matter of pushing buttons and designing blueprints. Paradoxically, it is the home that is now one of the principal loci of physical occupations, in contrast to the office,

the store, the conference room, or the auditorium."
(p. 467)

Though the fact that the social license to use physical force has been restricted to the male in most cultures operates as a potent enforcer of sex role stereotypes, intimidation (the threat of rape and physical violence) as a 'first cause' of sex-stereotypic behaviour (Brownmiller, 1975) can be distinguished from the rationale that the heavier musculature of the male (a biological characteristic) per se necessitates inherent differences in personality (a social creation). In fact, the widespread exercise of this most crude tactic of social control would even seem to argue against the 'naturalness' of that which it enforces.

The explanations of biological determinism (women have breasts and wombs, therefore...; men are bigger and have penises, therefore ...) for the differentiation of masculine and feminine sex roles appear somewhat simplistic in light of these arguments. As well, they are more than vaguely remniscent of the common mechanism of prejudice whereby a stereotyped characteristic is linked to a distinctive physical trait of the group so portrayed, which thereafter becomes its symbolic justification.

The functionalist theory of 'complementary domains' developed by family sociologists Parsons and Bales (1955) associates masculinity with an 'instrumental' orientation, a cognitive focus on 'getting the job done', and femininity with an 'expressive' orientation, an affective concern for the welfare of others. These notions have as their theoretical antecedents the Victorian concept of 'separate spheres' (which has been less graciously refer-

red to elsewhere as 'patronizing pedestalitis'), the medieval chivalric code, and quite probably the dichotomization of physical and spiritual reality which characterized ancient Greek philosophy.

Like biological determinism, the 'complementary domains' theory fails to deal with the basic issue of the differential power between men and women as groups, and thus would appear incomplete and politically naive as an explanation for the differentiation of sex roles. Polatnick (1975) comments that functionalist role theory implies a certain voluntarism (actors taking on parts) and ignores power differentials between 'actors' and between 'roles'. It likewise implies a unity of purpose or superordinate goal shared by putative equals, that is inconsistent with an intergroup relation characterized by domination and subordination; for example, one would not say that black Africans performed the 'role' of slaves in North America.

John Stuart Mill (1869) was probably one of the earliest political commentators to compare the status of women in western society to that of the black slave in North America. In The Subjection of Women, he stated:

> The general opinion of men is supposed to be, that the natural vocation of a woman is that of a wife and mother... I should like to hear somebody openly enunciating the doctrine - "It is necessary to society that women should marry and produce children. They will not do so unless they are compelled. Therefore, it is necessary to compel them." The merits of the case would

> then be clearly defined. It would be exactly that of the slave-holders of South Carolina and Louisiana - "It is necessary that cotton and sugar should be grown. White men cannot produce them. Negroes will not, for any wages which we choose to give. Ergo, they must be compelled." (quoted in De Crow, 1971, p. 164)

The analogy between 'slave' and 'woman' is by no means a perfect one. However, there is some theoretical justification for viewing women, or the sex-caste system, as the prototype for all subsequent class and race slavery (Engels, 1942). A caste system, by definition, establishes a definite place into which certain members of a society have no choice but to fit (because of their colour or sex or other easily identifiable physical characteristics such as being aged, crippled, or blind). Dunbar (1970) notes that the analogy drawn between the status of blacks and women has to do with the caste status of the black in North America, not with slavery as such, because slave status in the past has not always necessarily implied caste status by birth. The restriction of slavery to black people in North America rested on the caste principle that it was a status rightly belonging to blacks as innately (racially) inferior beings. If a person was black, he was presumed to be a slave unless he could prove otherwise. Dunbar (1970) comments that:

> Caste was inclusive of the slave and free status, just as the caste status of women is inclusive of all economic classes, age, and marital status, though some are more "privileged" and some are more exploited, depend-

ing on the woman's relationship with a man, or whether she has one or not." (p. 487)

The concept of caste is theoretically related to the sociological concept of minority group, where minority is defined as a function of status rather than numerical size of the group. Wirth (1945) defined a minority group as any group of people who because of their physical or cultural characteristics are singled out from others in the society in which they live for differential and unequal treatment. The characteristics of both blacks and women have traditionally been rigidly stereotyped. It is typical of caste systems generally that traits associated with the lower caste will be devalued in the society, or else 'mystified' in some way. Several authors have noted similarities between racial and sexist stereotypes.(Hacker, 1951; Myrdal, 1962; Weisstein, 1971). Millett (1970) summarizes a number of traits which have been stereotypically ascribed to both blacks and women:

> ... inferior intelligence, an instinctual or sensual gratification, an emotional nature both primitive and childlike, an imagined prowess in or affinity for sexuality, a contentment with their own lot which is in accord with a proof of its appropriateness, a wily habit of deceit, and concealment of feeling. Both groups are forced to the same accomodational tactics: an ingratiating or supplicatory manner invented to please, a tentency to study those points at which the dominant group are subject to influence or corruption, and an assumed air of helplessness involving fraudulent appeals for

direction through a show of ignorance. (p. 57)

Polatnick (1975) has suggested that though modern democratic ideology requires that minority groups be defined as 'different' rather than unequal, the essence of a power relationship is clearly evident in most of the basic stereotypes of masculinity and femininity: women are soft, weak, helpless, compliant, in need of care and protection; men are strong, active, assertive, commanding, suited for leadership and managerial roles. The subordinate status of women in the various spheres of societal life has been painstakingly documented by numerous sociologists (Freeman, 1970; Hacker, 1951; Hughes, 1949; Myrdal, 1962; Watson, 1966).

A recent focus of interest in this regard has been on the way in which masculine and feminine stereotypes, as sexist ideology, function within the theory and practice of the various social sciences so as to perpetuate the minority group status of women. Gordon and Shankweiler (1975) reviewed the regnant views on human sexuality contained in a comprehensive sample of marriage and sex manuals from 1830 to the present, and found that a significant dimension of sexist ideology is the manner in which women have traditionally had their sexuality defined for them by male 'experts', whose opinions and advice have reflected the interests of a patriarchal society. They conclude:

> Women in this century have been granted the right to experience sexual desire and have this desire satisfied, but always with the man calling the tune. This we have suggested is a manifestation of the minority group status of women... the changes that have occurred

> in recent sex manuals do not represent a dramatic re-orientation toward female sexual roles. The new findings on female sexuality appear to be poured into the old bottles of male/female relationships. If women have been encouraged to take more initiative, it is in order that they might give more pleasure to their husbands, rather than achieve more autonomy in the sexual realm. (pp. 140-141)

Polatnick (1975) reviewed sociological and psychological literature on sex role differentiation in the family from the point of view of a differential power analysis, and concluded that though the allocation of child-rearing responsibility to women is presented as "... a sacred fiat of nature" (p. 229), it in fact operates as a social control policy which supports male domination in society and in the family, and that women's functioning as child-rearers reinforces their subordinate position. As was the case on the subject of female sexuality (Gordon & Shankweiler, 1975), Bird (1968) has noted that men dominate the top of the profession of child study as well, and dispense 'expert' advice on child-rearing to the actual rearers of children.

This introductory discussion of the nature of sex role stereotypes has primarily intended to clarify their essentially ideological character. As defined by social psychologists, ideology refers to a body of beliefs and values which legitimates the status quo, an important aspect of which may be a dominant group's position relative to other groups in a society (Sherif & Sherif, 1969). In the following section, the discussion will be narrowed

to focus specifically on the ways in which this ideology is expressed in psychological literature on sex role socialization.

Stereotypic Images of Masculinity and Femininity in Psychology

Daddy, Mommy, Dick and Jane

Having dealt generally with the issue of why men and women are differentially socialized to sex role stereotypes, it is useful to review some conceptualizations from developmental psychology of how this is said to occur. Since World War II, social scientists have become increasingly interested in studying the differentiation of sex roles within our own contemporary culture (Komarovsky, 1953; Mead, 1949; Seward, 1946, 1956). They have observed that from infancy, boys and girls are reared in different 'subcultures', that they receive differential treatment in a multiplicity of ways from parents, other adults, and playmates. De Crow (1970) has outlined in detail the ways in which a boy and girl are made aware of what is expected of them in speech, manners, dress, play activities and other aspects of behaviour via the mass media (TV, children's books and textbooks) as well. Essentially what is set in motion is a circle of self-perpetuation and self-fulfilling prophecy, or what Szasz (1970) has described as myth-making:

> To take a simple example, expectations the culture cherishes about his gender identity encourage the young male to develop aggressive impulses, and the female to thwart her own or turn them inward. The result is that the male tends to have aggression reinforced in his

> behaviour, often with significant anti-social possibilities. Thereupon the culture consents to believe the possession of the male indicator, the testes, penis, and scrotum, in itself characterizes the aggressive impulse, and even vulgarly celebrates it in such encomiums as "that guy has balls". The same process of reinforcement is evident in producing the chief "feminine" virtue of passivity. (Millett, 1970, p. 31)

Mussen, Conger and Kagan (1969), a developmental psychology textbook, contains a fairly detailed treatment of how the process of sex-typing is conceptualized in early and middle childhood. Though somewhat dated, their review of the relevant literature will be summarized rather cursorily here, as it reflects the concensus of 'expert' opinion in the postwar years.

A large body of literature presents the social learning theory viewpoint with respect to sex-typing in children. Sears, Maccoby and Levin (1957) report that during the pre-school years, most parents pay considerable attention to the sex-appropriateness of their child's behaviour, rewarding responses that are appropriate to his sex and discouraging those that are not. Thus a small boy will likely be encouraged to fight back if attacked by a peer; a daughter will more likely be punished for that response. Crying, for whatever reason, was found to be far less acceptable to parents from little boys than little girls. A number of studies (Brown, 1956; Fauls & Smith, 1956; Hartup & Zook, 1960; Rabban, 1950) report that by age five, most children have acquired a clear cut concept of sex-appropriate interests and

behaviour. Mowrer (1950) found that children are socially pressured to model themselves after the same sex parent. Several studies (Bandura & Huston, 1961; Mussen & Distler, 1959; Mussen & Rutherford, 1963; Mussen & Parker, 1965) relate the relative nurturance and warmth of the parent to the child's tendency to imitate.

A cognitive-developmental analysis is discussed as a contrast to the social learning theory based literature. According to Kohlberg (1966), a child's basic gender self-concept, his categorization of himself as a boy or girl, becomes the major perceptual organizer and determinant of his activities, values, attitudes and motives. The child cognitively organizes his social world along sex role dimensions; identification is seen as a consequence of sex-typing, rather than the reverse. Kohlberg (1966) and Koch (1956) assert that a child's progress in acquiring sex role standards closely parallels his ability to think abstractly, and to establish stable definitions of physical concepts in general, and thus reflects his overall level of cognitive development.

During middle childhood, children continue to develop increasingly differentiated perceptions of the characteristics associated with the concepts of male and female. School-age children develop a view of the male as physically more powerful and invulnerable than females, and they form a clear concept of differences in sexual anatomy (Conn, 1940; Conn & Kanner, 1947). They acquire idealized stereotypes regarding appearance: a girl should be pretty and small, a boy large and strong (Cobb, 1954; Harris, 1959; Hovland + Janis, 1959; Nash, 1958). As might be expected from the way they are treated in the pre-school years, boys and

girls have been found to exhibit differential behaviour patterns in the aggression/dependency area (Mischel, 1966). Boys are typically expected to be strong, courageous, assertive and ambitious; girls are expected to be sociable, well-mannered and neat, and to inhibit verbal and physical aggression. A number of studies (Bandura & Huston, 1961; Bandura, 1962; Maccoby & Wilson, 1957) have confirmed that most school-age children conform faithfully to the pattern. In addition, Kagan (1964) reports that sex-typed norms for the acceptable expression of emotions are visible in most school-age children. Boys suppress fears and control their emotions more in stressful situations; girls more freely express fears, hurt feelings and general emotional upset.

This brief review suggests that if men and women are different, it is likely because their life experiences from infancy are completely different. From the very beginning, boys are dressed in blue and girls are dressed in pink. Different endearments are used for each, even in the cradle, and these endearments shape their personalities differently. Kagan's (1964) studies of how children of pre-speech age are handled and touched, tickled and spoken to in terms of their sexual identity, put considerable emphasis on purely tactile learning which has much to do with the child's sense of self even before speech is attained.

> Boy-children are given "masculine" toys and girl-children "feminine" toys. The boy is hardened from the start, encouraged to be aggressive, made much of when he is brave and courageous, when he is, in short, displaying all the characteristics that the society

> thinks of as masculine. He is punished when he is soft, afraid, tender, sentimental, when he displays any of the characteristics the society thinks of as feminine. The punishment may simply be disapproval. The girl is conditioned toward "feminine" pursuits and ways. She is encouraged to be shy, to be cowardly, to be submissive, to play quietly in girl fashion, and she is "punished" if she steps into the boy's role. (Fast, 1971, pp. 75-76)

The major effect of these developmental conceptualizations of the process of sex-typing in children is that, as they possess the aura of objectivity and the authority of 'expert' opinion, they are especially effective in the reinforcing of sex role stereotypes. These theories have had the effect of ratifying and rationalizing what has been socially imposed into what 'is' or 'ought to be'. The major thrust of developmental psychology in this area has been "... to counsel a continuous and vigilant surveillance of conditioning... to adherence to sex role stereotype" (Millett, 1970, p. 233).

The ideological impact of these child-rearing formulas is underlined by Maccoby and Jacklin's (1975) definitive review of the most recent literature on psychological sex differences, in which it is made apparent that many aspects of the conventional wisdom about the personalities of children are patent falsehoods. On the side of myth, they place the following beliefs:

1) that girls are more "auditory", boys more "visual";

2) that girls are more "suggestible" than boys;

3) that girls are "cataloguers" - better at repetitive

tasks - boys the "conceptualizers", superior at higher-level cognitive tasks;

4) that boys are more "analytical";

5) that girls lack "achievement motivation";

6) that girls have lower self-esteem;

7) that girls are more sly, devious and cunning;

8) that girls are more "sociable" than boys.

(Maccoby & Jacklin, 1976, pp. 88-89)

Lest these findings suggest that women are in any immediate danger of emerging from their sex role stereotype, the following section explores some ways in which contemporary concepts of mental health are formulated around sexist ideology, and in practice enforce notions of masculine superiority and feminine inferiority.

Dick Is A Prince - Jane Is A Mess

A distinctive feature of stereotypes which probably serves to enhance their effectiveness is that labels and adjectives applied to the dominant group are almost invariably more favorable than those applied to the minority group. Freeman (1971) notes that "... the fact that... both sexes tend to value men and male characteristics, values and activities more highly than those of women has been noted by many authorities." (p. 126) Sherif and Sherif (1969) state that "... it is not unusual for subordinate groups'... images of themselves... (to) reflect some of the unfavorable evaluation placed upon them by others, amounting at times almost to self-hatred." (p. 277)

It may be noted, and has been suggested by the discussion

of sex-typing in children, that the characteristics stereotypically associated with the concepts of 'masculine' and 'feminine' can typically be lined up in direct polar opposition, for example, aggressive/not aggressive, stoical/emotional, large/small, etc. It is generally true of linear thought that whenever two concepts are opposed in this fashion, there is a preferred pole and a devalued pole (for example, beautiful/ugly, good/bad, true/false, white/black, love/hate). As well, there is experimental evidence that stereotypically masculine traits are typically viewed as more socially desirable than feminine traits, and that males generally are esteemed more than females.

Brown (1957) found that among children aged five to eleven years, boys show stronger preference for the masculine role than girls do for the feminine role. While girls would sometimes prefer to have been boys, the reverse is seldom the case. This finding is consistent with the expressed sex role preferences of adults (Brown, 1957; Lynn, 1959). Smith (1939) found results to suggest that children, as they grow older, increasingly learn to give males prestige. He reports that: a) with increase in age, boys have a progressively poorer relative opinion of girls, and girls have a progressively better relative opinion of boys; and b) with increase in age, boys have a progressively better opinion of themselves, and girls have a progressively poorer opinion of themselves. Gray (1959) reported that among school children, boys who perceived themselves as more like their fathers were perceived more favourably by their peers. Girls who saw themselves as more like their mothers were seen less favourably by

their peers.

That women themselves subscribe to the devaluation of 'feminine' characteristics is consistent with the out-group self-hatred hypothesis discussed previously. That is, a subordinate group which is unfavourably stereotyped by a more powerful group often tends to adopt the value system of the group which exercises control over the major facets of their lives (Sherif & Sherif, 1969).

Kitay (1940), reporting on a college sample, observed a high degree of similarity between males and females with regard to their attitudes towards women. Women shared with men a prevailing unfavourable attitude towards their own sex. Alper and Korchin's (1952) college-age women subjects were found to be more prone to accentuate cultural stereotypes about the relative academic abilities of the two sexes. Fernberger's (1949) college-age subjects subscribed overwhelmingly to the notion that males and not females have 'all-around superiority'. Komarovsky (1946) and Wallin (1950) observed that in general, most members of this society esteem males more highly than females. McKee and Sheriffs (1959) confirmed the finding that college men and women regard males more highly than females. This was especially evident on forced-choice measures; where subjects were permitted more freedom of response, the partiality for males seemed to imply not necessarily an unfavourable opinion of females, but certainly a less favourable opinion. Rosenkrantz, Vogel, Bee, Broverman and Broverman (1968) report that stereotypically masculine traits are more often perceived by college students as socially desirable than are attributes which are stereotypically feminine.

A witty experiment (Goldberg, 1968) demonstrated that women, having internalized the disesteem in which they are held, despise both themselves and each other. The method consisted simply of asking women college students to respond to the scholarship in an essay signed alternately by one John McKay and one Joan McKay. In making their assessments, the women generally agreed that John was a remarkable thinker, Joan an unimpressive mind. Yet the articles were identical; the reaction was dependent on the sex of the supposed author.

A more intensive investigation (Toews, 1972) applied minority group theory to women, studying women's relationships with and attitudes towards their own sex within a context of femininity as a low-prestige stereotype. It focused particularly on the effects of the negative aspects of the feminine sex role stereotype and the women's willingness to associate with other women, both symbolically (in having a sense of belonging and common identity with other women) and in actual relationships. It was found that women who rejected in themselves negative feminine traits exhibited a corresponding rejection of other women as associates, comparable to the minority group member who adopts the characteristics of the dominant group and rejects his own group. The incorporation of socially desirable feminine qualities in self-concept enhanced same-sex affiliation in women somewhat, but the women overall exhibited significantly less same-sex affiliation than a male sample.

Brown (1958) states that "... the superior position and privileged status of the male permeates nearly every aspect, major

and minor, of our social life... and the most basic social institutions perpetuate this pattern of masculine aggrandizement." (p. 235) Millett (1970) comments that a revelatory consideration is that strictly from the viewpoint of semantics, the function of norm is unthinkingly delegated to the male - otherwise, one might plausibly speak of 'feminine' behaviour as active, and 'masculine' behaviour as hyperactive or hyperaggressive.

If it is apparent that masculine characteristics are preferentially valuated in the society at large, there is evidence as well that the views of mental health professionals reflect the cultural consensus. In a study of seventy-nine clinicians, Broverman, et al. (1970) found that their concepts of a healthy, mature man did not differ significantly from their concepts of a healthy adult. However, the clinicians' concepts of a mature, healthy woman did differ significantly from their adult health concepts. They were significantly less likely to attribute traits which characterize healthy adults to a woman than to a healthy man. On the face of it, the finding that clinicians tend to ascribe male-valued stereotypic traits more often to healthy men than to healthy women may appear trite. However, an examination of the content of these items suggests that this trite-seeming phenomenon conceals a powerful, negative assessment of women:

> For instance, among these items, clinicians are more likely to suggest that healthy women differ from healthy men by being more submissive, less independent, less adventurous, more easily influenced, less aggressive, less competitive, more excitable in minor crises,

> having their feelings more easily hurt, being more emotional, more conceited about their appearance, less objective, and disliking math and science. This constellation seems a most unusual way of describing any mature, healthy individual. (Broverman, et al., 1970, pp. 4-5)

As well, in the Broverman, et al. (1970) study, the clinicians' professional concepts of mental health were found to be strongly related to social desirability as perceived by non-professionals (Rosenkrantz, et al., 1968). This finding represents a replication of several previous investigations. Three studies in the late 1950's, utilizing Q-sort techniques, found social desirability to be strongly related to clinical ratings of behaviour by mental health professionals. In Kogan, Quinn, Ax, and Ripley (1957), social desirability was found to be positively related to clinicians' judgments of health versus sickness. Cowen (1961) found a correlation of .91 between judgments of social desirability and 'normal' scale values of a large number of personality trait items. Among psychologists, Wiener, Blumberg, Segman, and Cooper (1959) reported a correlation of .75 between social desirability and judgments of 'adjustment'. They suggest that their high correlation reflects a tendency for judges, in making judgments about the adjustment value of behaviours in the absence of additional information, to "... resort to a concept of social acceptability of specific behaviours." (p. 319) While it is a quite plausible hypothesis that adjustive behaviours and socially desirable behaviours are, in fact, highly overlapping behavioural classes, given the congruence between social desirability and sex

role stereotypes, one might question the extent to which mental health professionals in their practice cultivate in their female clients characteristics which they would consider unhealthy in a man, but which they feel represent good 'feminine' adjustment.

A number of authors have analyzed the anti-female content of psychological theories and the overt and subtle ways in which sexist ideology is reflected in research and clinicial practice (Broverman, et al., 1970; Chesler, 1972; De Crow, 1971; Greer, 1970; Millett, 1970; Shainess, 1970; Weisstein, 1971). It is beyond the scope of this discussion to treat these manifestations in great detail; the main point to be made is that the practice of psychology, whether billed as a behavioural science or a healing art, is by no stretch of the imagination a benign or value-free endeavour. The extent to which most therapists foster social conformity and social control rather than self-actualization was indicated by the results of a survey of therapists in the U.S. conducted by Goldman and Mendelsohn (1969). According to Szasz (1961), clinical psychology, like psychiatry, functions as a form of social control through a combination of three distinct roles: 1) theoretical scientist - one who is expert on game-playing behaviour; 2) social engineer - one who sorts out players and assigns them to games they can play; 3) social manipulator - one who influences people to induce them to play, or cease to play, certain games. In the psychologist's primary role as a social engineer, he sorts people into pigeonholes of 'identities' in which they belong; and in his role as a social manipulator, or therapist, he makes sure that they stay there.

Broverman, et al. (1970) suggest that the individual focus of psychology results in an 'adjustment' notion of health, that is, health consists of a good adjustment to one's environment. Given that in our society, men and women are systematically trained from birth to fulfill different social roles, an adjustment standard of health automatically leads to a double standard of health. Thus, for a woman to be healthy, from an adjustment viewpoint, she must adjust to and accept the behavioural norms for her sex, even though these behaviours are generally less socially desirable and considered to be less healthy for the generalized, competent, mature adult.

Most mental health professionals in recent years have acknowledged the ego damage done to blacks and other colonial peoples as a result of living in a white supremacist society, and the bankruptcy of the 'adjustment' concept with respect to blacks. The similarly adverse effects of a masculine supremacist society upon women have not been so acknowledged. Thus, women are placed

> ... in the conflictual position of 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. (Broverman, et al., 1970, p. 6)

Because stereotype 'masculinity' is identified and asserted through the negation and devaluation of its opposite, masculinity

and femininity have been conceptualized in psychology as bi-polar ends of a single continuum, a construct which Bem (1974) notes, "... automatically builds in an inverse relationship between the two concepts." (p. 155) That the preferred, valued, esteemed, socially desirable, etc., constellation of personality traits and behaviours are located at the 'masculine' end of the continuum poses problems for individuals of both sexes. Males are faced with the spectre of a virtually unattainable ideal. Women are more or less forced to choose between two equally unpleasant alternatives. The following section explores the way in which these dilemmas are ratified by theories which seek to equate psychological adjustment with adherence to sex role stereotype, a notion which exerts tremendous conformity pressures on both sexes, and fosters the preservation of the status quo with respect to sex roles.

Castrating Bitches and Sad Ladies

In the research on sex role identification and psychological adjustment, the double standard of mental health - human, and 'female' - imposes a curious 'Catch-22' effect which is quite appalling in operation: because the 'norm' for females is a pathological one, women are clinically rated negatively if they conform to it; on the other hand, if they manifest too many masculine 'virtues', they are rated negatively because they are females. In this type of research, "... it is useless to talk about women being different but equal; all of the tests I can think of have a 'good' outcome and a 'bad' outcome. Women usually end up at

the 'bad' outcome." (Weisstein, 1971, p. 144)

The basic premise of this literature is that because the adoption of culturally prescribed masculine and feminine sex role behaviour receives systematic social reinforcement, there is reason to expect psychological adjustment to vary with appropriate attainment of a masculine or feminine sex role identity. Ample evidence has been found to support the idea that 'masculine' males are better adjusted than 'feminine' males. In a study which compared personality differences between adjusted and maladjusted college students (the 'maladjusted' sample drawn from a college counselling centre client population), Heilbrun (1960) found that male clients tended to be more 'effeminate' than normals relative to sex stereotypes. In a fairly straightforward fashion, male clients displayed the following characteristics:

> ... lower need for achievement; less orderly; less likely to seek out friends; more desirous of being cared for; less dominant in his personal relationships; more likely to feel inferior, timid, and inadequate in relating to others; less able to see something through once it is started; more aggressive; and perhaps less driven heterosexually. (Heilbrun, 1960, p. 344)

A subsequent study supported the notion that high identification with one's father (that is, greater 'masculinity') is associated with better adjustment for college males (Heilbrun, 1962). Cosentino and Heilbrun (1964) reported a relationship between aggression anxiety, manifest anxiety and greater 'femininity' in either

sex. Heilbrun (1964) found that conformity to cultural stereotypes of masculinity by adolescent males was associated with strength of ego identity.

The tidy congruence between conformity to the valued masculine stereotype and various manifestations of good psychological adjustment quickly breaks down when applied to feminine stereotypes. The 'distaff' results of these same studies are described by their authors as 'troublesome' and 'equivocal'. In Heilbrun's (1960) study, the personality differences between adjusted and maladjusted college students were investigated using the Need Scales scored on the Gough Adjective Check List and the judgments of psychologists of the adjustment values associated with the behaviours characterizing each need, as criteria. The 'adjustment values' were differentially judged for each sex. The judges' ratings of ten of the fifteen needs defined them as adjustive or maladjustive in a male college student, and showed strikingly consistent agreement with the test findings (that is, significant differences between the adjusted and maladjusted male groups appeared on all these need scales). However, between the female groups, significant differences appeared on only five of the twelve scales defined by the judges as having adjustive or maladjustive significance. This lack of congruence is neatly accounted for by the author's conclusion that the males must have constituted a 'sicker' group, or they would not have been in therapy in the first place. The data demonstrate that the maladjusted males were undoubtedly a more disturbed group than the maladjusted females, but the author displays a certain lack of insight as to

the real implications of this finding.

The 'adjustment values' of each need scale were differentially rated for each sex by a pool of twenty-four psychologists. Of the fifteen scales, only nine fell into the same category of adjustment value for both males and females (either adjustive, maladjustive, or of neutral value with respect to adjustment). On six of the need scales, the adjustive values were rated sufficiently differently for each sex as to place them in a different category of adjustive value. These differential judgments were predictably sex-stereotypic in character. For example, Deference and Intraception were rated neutral with respect to males, and adjustive with respect to females; Exhibition and Autonomy were rated neutral with respect to males and maladjustive with respect to females; Dominance was rated adjustive with respect to males, and neutral with respect to females; and Succorance was rated maladjustive with respect to males, and neutral with respect to females.

A comparison of the nine need scales upon which there was agreement as to the category of adjustive value for both males and females (denoting a similar though not equivalent standard of adjustment), reveals that the maladjusted males were indeed more disturbed relative to the female client sample. However, of the six scales which were differentially rated as to category of adjustment value for males and females, both maladjusted males and females differed significantly from their 'normal' counterparts on only one, the need for Succorance. As previously stated, Succorance was defined as maladjustive for males and of neutral significance with respect to adjustment in females. Yet Succorance,

the need to be taken care of, which might be translated behaviourally into the tendency to seek help, is probably the most crucial characteristic relative to membership in the maladjusted (counselling centre client) sample. Ironically, the mean Succorance scale scores for the male and female client groups were identical. Though the need to seek help was defined by the raters to be neutral with respect to adjustment in females, the fact of having sought help was the original definitive characteristic of the 'maladjusted' sample. When his 'maladjusted' and 'normal' female groups were found to differ significantly on only five of the twelve expected measures, it did not occur to Heilbrun to question how healthy his criteria for normal 'feminine' adjustment might be; nor did he wonder what all those not-so-badly-adjusted women were doing in therapy in the first place.

It is enlightening as well to consider that Heilbrun (1960) reports rank order correlations between the judges' adjustment values of the fifteen Adjective Check List needs and students' ratings of the social desirability of these needs (data from Heilbrun, 1958) were .86 for females and .84 for males. This is a strong indication that male-valued sex role stereotypes in the minds of the judges were of considerable influence in the establishment of differential standards of adjustment.

In the bi-polar conceptualization of masculinity and femininity which is implicit in the hypotheses and methodology of this type of research, the feminine sex role stereotype typically consists of small doses of valued masculine traits and large doses of less valued feminine traits. Thus it comes as no surprise that

'femininity' in females is generally associated with poorer adjustment. In a comparison of female college dropouts and women who adjusted successfully to college, Heilbrun (1964) reported that the non-adjusters showed a more 'feminine' personality pattern. Heilbrun (1962) earlier found that a high degree of identification with a 'feminine' mother was associated with poorer adjustment in college females. This confirmed the general findings of Helper (1955), Lazowick (1955), and Sopchak (1952), all of whom observed that while identification with the father is related positively to adjustment in the male, identification with the mother is either unrelated or negatively related to adjustment in the female.

Heilbrun's (1964) study of the personality characteristics of maladjusted and normal college women and their mothers provides a good example of the paradoxical situation of women in the literature on sex role identification and adjustment. This study demonstrated that if identifying with a 'feminine' mother (that is, adhering to the feminine stereotype) is bad for you, identifying with a 'masculine' mother is worse. The study (Heilbrun, 1964) represented a continuation of previous research (Heilbrun, 1960; Heilbrun & McKinley, 1962) which aimed at clarifying the role of maternal child-rearing practices in the etiology of schizophrenia in females. Heilbrun (1960) found that schizophrenic daughters perceived their mothers' child-rearing attitudes as significantly more authoritarian and controlling than the normal daughter sample. Heilbrun and McKinley (1962) compared the perceptions of college women who provided normal MMPI profiles with

others who provided highly deviant profiles, and found that the disturbed group also perceived their mothers as more authoritarian, controlling, hostile, and rejecting of their homemaker role, than did the controls. The personalities of the disturbed women whose mothers were perceived as authoritarian differed from normal controls who shared that perception of their mothers in the direction of greater 'masculinity', that is, they tended to be less deferent, and more autonomous, exhibitionistic, dominant and in need of change than the controls. Heilbrun (1964) found that this perceived 'authoritarian-controlling' factor in the mothers' child-rearing attitudes was also perceived by the disturbed daughters as a masculine attribute; hence he concluded that their deviant 'masculine' personality pattern was explicable in terms of a high degree of identification with an 'inappropriate' masculine maternal model.

Thus do the arbitrary uses of feminine stereotypes in psychology place women in a 'no-win' situation - 'femininity' in females is associated with poorer adjustment, but it does not follow that 'masculinity' in females is adjustive; if anything, it is even more negatively assessed. The extreme stress placed on the importance of the mother's role in healthy child development in studies such as this one is a case in point. The message is clearly that if Mommy doesn't 'act like a woman', she will produce schizophrenic daughters (and homosexual sons). Millett (1970) comments upon this "... habit of discovering and deploring instances of feminine dominance" (p. 222) in psychology:

It became eminently fashionable to regard sexual iden-

> tity, especially for the male, as so crucial to ego development that any frustration of the demands of masculine prerogative would result in considerable psychic damage, described either as neurosis or homosexuality. In its extreme forms, this attitude insists it is therapeutic necessity, somehow an issue of social health, that male supremacy continue unchallenged. (p. 222).

The literature on sex role identification and psychological adjustment seems to have had the effect of elevating the notion of adherence to sex role stereotype to the stature of a new morality. The following section explores a line of literature which suggests that this credo is enforced by mental health professionals by the manner in which designations of psychopathology are made.

Crazies

A number of studies have noted marked differences in the personality profiles of hospitalized male and female schizophrenics. Letailleur, Morin and LeBorgne (1958) postulated a reversal of the sex roles in schizophrenia as a function of the disease process. In a study of behavioural disturbance and social adjustment utilizing the MMPI in groups of male and female schizophrenics, Gross (1959) reported that the female schizophrenics were much more prone to admit freely to pathology and to act out symptomatology, while the males showed conscious and unconscious denial and constriction of behaviour.

Cheek (1964), in a comparison of interaction profiles of male and female schizophrenics with normal controls, confirmed

the finding that only male schizophrenics presented the classic pattern of schizophrenic 'withdrawal', characterized by low total activity and low rates of dominance, disagreement and projected hostility. Female schizophrenics presented a sharply contrasting profile of overactivity and dominance. The author suggests that differences between male and female schizophrenics may have been obscured in the literature on schizophrenia because males have been the primary focus of research. McClelland and Watt (1968) commented as well that in reading most schizophrenia studies, it is difficult to determine whether male or female patients or both were tested, or whether theories that are developed and discussed are meant to be applied to males or females or both. They concluded that "... nine times out of ten it is safe to assume the samples and theories are male, as elsewhere in psychology." (p. 226)

Cheek (1964) also raised the question of a selection factor in the hospitalization process, along sex role lines, and suggests that the overacting, dominant female schizophrenic and the underactive, passive male schizophrenic may be more susceptible to hospitalization, because they are 'culturally anomalous'. Reference has been made previously to the idea that the stereotypically greater tendency of the female to 'seek help' may operate as a selection factor in the instance of voluntary psychotherapy. As well, there is evidence that extreme deviance from conventional sex role behaviour may influence decisions regarding involuntary hospitalization, release from hospital, and subsequent recommittal. Angrist, Dinitz, Lefton and Pasamanick (1968) followed the psychiatric careers of hundreds of women and reported that a signi-

ficant factor affecting their re-hospitalization was their refusal to function 'domestically', that is, along appropriate sex-stereotypic lines.

McClelland and Watt (1968) studied the sex-typed responses of schizophrenics and normals on a number of measures of conscious attitudes and preferences, attitudes towards one's body, fantasy and storytelling patterns, and preferences for abstract geometric figures. They reported a general pattern of more 'masculine' test behaviour among female schizophrenics and more 'feminine' test behaviour among male schizophrenics.

Several studies have reported a tendency towards sex role reversal in the characterization of male versus female psychiatric wards as well. Female wards are generally 'noisier' than male wards (McClelland & Watt, 1968). Lorr and Klett (1965) found that statistically, psychiatrically hospitalized women exhibited more 'excitement' than men, whereas the men manifested a higher degree of retardation and apathy. Lorr, O'Connor and Stafford (1960) reported that female psychiatric patients scored higher than males on a measure of 'hostile belligerence', defined as hostile, irritable, noisy, resistive, bossy and paranoid behaviours. Rapoport (1968) characterized female psychiatric wards as 'more potentially violent' than male wards.

Other studies of the characteristics of mental patients which suggest that there is a selection process involved in the distribution of diagnostic labels along clearly sex-stereotypic lines, add meaning to these findings. Chesler (1972) reports that most women who are psychiatrically hospitalized display

'feminine' psychiatric symptoms such as depression, frigidity, paranoia, psychoneurosis, suicide attempts and anxiety, whereas men are more likely to be psychiatrically hospitalized for 'masculine' diseases such as alcoholism, drug addiction, personality disorders and brain diseases. However, there are still fewer men psychiatrically hospitalized for any reason, than women. Phillips (1969) comments that:

> ... the symptoms of men are much more likely to reflect a destructive hostility towards others, as well as a pathological self-indulgence...; ... women's symptoms, on the other hand, express a harsh, self-critical, self-depriving and often self-destructive set of attitudes. (quoted in Chesler, 1972, p. 60)

However, men who fully act out the 'masculine' deviant role as described are far more likely to be incarcerated as 'criminals' or 'sociopaths' than hospitalized as 'schizophrenics' or 'neurotics'. Chesler (1972) concludes that the trend which clearly emerges is that behaviour which is labelled 'mental illness', whether it appears in men or in women, is either the acting out of the devalued female role, or the total or partial rejection of one's sex role stereotype.

This section, and the preceding three sections, have explored various manifestations of stereotypic beliefs about men and women in psychological literature. It would appear on the basis of this review that contemporary standards of mental health are consciously and sub-consciously formulated to some considerable degree around notions of the sex-typed appropriateness of attitudes

and behaviours, judgments which are frequently tinged with stereotypic overtones. Theoretical and practical disadvantages of dichotomous 'masculine' and 'feminine' ideals of adjustment have been suggested, and the following section will review some additional evidence that sex-typing as it is currently conceptualized may be a less than desirable goal for individuals of both sexes. A novel theoretical construct, that of psychological androgyny, will be discussed as an alternative.

The Concept of Psychological Androgyny

There is some theoretical support in the literature for the notion that highly sex-stereotypic males as well as females experience psychological difficulties. According to both Kagan (1964) and Kohlberg (1966), who are representative respectively of the social learning and cognitive-developmental theories of sex role socialization previously discussed, the highly sex-typed individual is motivated to keep his behaviour consistent with an internalized sex role standard, a goal which is presumably accomplished by suppressing any behaviours that might be considered undesirable or inappropriate for his sex. The deleterious effects of an extremely feminine sex role self-concept have been elaborated throughout this discussion; they have been described as representing a frightful narrowing of experience (Nunes & White, 1972). However, there are aspects of the feminine sex role stereotype which are positive, valuable and adjustive traits for any person, and their inhibition in a male may seriously limit the range of behaviours available to him as he moves from situation

to situation.

Mussen's (1961) longitudinal follow-up of Jones' (1938, 1939 a & b, 1940) adolescent growth studies' subjects failed to confirm any hypothesized relationship between masculinity of interests during adolescence and good adult adjustment. The earlier studies had reported that a high degree of masculine identification during adolescence was generally associated with concurrent emotional security. Mussen (1961) reported that though the highly masculine boys became adults with greater than average ego control and with typically masculine attitudes and beliefs, they appeared to be relatively lacking in dominance, capacity for status, and self-acceptance (as measured by the California Psychological Inventory) and were relatively high in needs for abasement (as measured by the Edwards Personal Preference Schedule). Mussen (1961) concluded: "On the basis of these findings, these men might be described as poorly adjusted and inadequate individuals, strikingly changed from what they had been during adolescence." (p. 20).

Mussen (1962), in a study seeking to clarify this finding, reported that the relative 'instrumental' and 'expressive' components of the subjects' personalities, characteristics associated with masculine and feminine sex-typing respectively, had remained relatively stable over the two intervening decades, but the statuses of the two groups (high and low masculine males) with respect to self-confidence had changed considerably. Mussen (1962) attributed this change to failure on the part of the highly masculine subjects to develop social skills and traits associated with the 'expressive' or feminine orientation which may be

essential for the achievement of satisfactory personal relationships and vocational success in adulthood. He suggests that failure to develop these characteristics has adverse long-term consequences, resulting in important personal, social, and vocational frustrations which tend to lessen self-confidence, self-acceptance and underlying emotional security, and increase feelings of inadequacy and negative self-evaluations in the highly masculine males.

Harford, Willis and Deabler (1967) also report that high masculinity in males is correlated during adulthood with high anxiety, high neuroticism, and low self-acceptance. In addition, Maccoby (1966) comments that greater intellectual development has been correlated quite consistently with cross-sex typing, that is, with masculinity in girls and with femininity in boys. Boys and girls who are more sex-typed have been found to have lower overall intelligence, lower spatial ability, and lower creativity.

Bem (1974) has suggested that the traditionally dichotomous conceptualization of masculinity and femininity has served to obscure two very plausible hypotheses: first, that many individuals might be 'androgynous' (that is, possessing both masculine and feminine components within their personalities); and secondly, that the highly sex-typed individual might be limited in his flexibility to respond adaptively to a variety of situational demands.

In order to operationally define the concept of 'androgyny' as a meaningful theoretical construct, Bem (1974) has developed a Sex Role Inventory (BSRI) in which the Masculinity and Femininity scales represent logically and empirically independent dimensions, so that masculinity and femininity are not methodologically in-

versely related, as is the case in most psychometric measures of these concepts. Thus, on the basis of the BSRI, a person can be described as both masculine and feminine; he or she does not have to be either masculine or feminine. Also, as much as is probably possible, the item content of the BSRI mitigates the devaluation or 'lesser' valuation of femininity which has characteristically been implicit in such opposition. The Masculinity and Femininity scales represent constellations of traits which are positive in value and either masculine or feminine in connotation. Because the BSRI was based on a conception of the sex-typed person as someone who has internalized society's sex-typed standards, items were selected as masculine or feminine on the basis of sex-typed social desirability, rather than differential endorsement by males and females, as most other sex role inventories have done. The BSRI characterizes a person as masculine, feminine or androgynous as a function of the difference between his or her endorsement of socially desirable masculine or feminine personality characteristics. A person is thus sex-typed to the extent that this difference score is high, and androgynous to the extent that this difference score is low.

The BSRI also includes a Social Desirability scale that is completely neutral with respect to sex. This scale now serves primarily to provide a neutral context for the Masculinity and Femininity scales, but it was utilized during the development of the BSRI to ensure that the inventory would not simply be tapping a general tendency to endorse socially desirable traits. Psychometric analyses of initial normative data on the BSRI have con-

firmed that the Masculinity and Femininity scales are empirically as well as logically independent (average $r = -.03$), that the Androgyny score is internally consistent (average $\alpha = .86$), reliable over a four-week interval (average $r = .93$), and uncorrelated with the tendency to describe oneself in a socially desirable direction (average $r = -.06$) (Bem, 1974).

An initial empirical study (Bem & Lenney, in press) sought to establish a behavioural correlate to sex-typing versus androgyny as indicated by BSRI performance, by investigating the avoidance of cross-sex behaviour in simple, everyday activities. The study focussed on the question: do masculine men and feminine women actively avoid activities which are stereotyped as more appropriate for the opposite sex, moreso than androgynous or sex-reversed subjects; and, if they must perform cross-sex activity for some reason, does it cause them significantly greater discomfort to do so? The experimental situation was specifically structured in great detail so as to encourage the choice of cross-sex behaviour by the subjects. The results of this study indicated that the sex-typed subjects were significantly more stereotyped in their choice of activities than androgynous or sex-reversed subjects, who did not differ significantly from each other. In addition, sex-typed subjects experienced significantly more discomfort after performing cross-sex activities (for example, felt nervous or peculiar) than the androgynous or sex-reversed subjects. The authors concluded that:

> ... it would appear that cross-sex activity is problematic for sex-typed individuals, and that traditional

> sex roles do produce an unnecessary and perhaps even dysfunctional pattern of avoidance for many people. (Bem, 1975, p. 8)

A subsequent study (Bem, 1975) demonstrated a similar pattern with respect to 'independent' and 'nurturant' behaviours, and offered additional support for the notion that androgynous subjects are more likely than non-androgynous subjects to display behavioural adaptability across situations (that is, to engage in whatever behaviour seems most appropriate at the moment, regardless of its stereotype as appropriate for one sex or the other). Bem (1975) compared the responses of sex-typed, sex-reversed, and androgynous males and females to situations which demanded a stereotypically masculine and a stereotypically feminine behaviour. A standard conformity paradigm was used to test subjects' independence from social pressure, a behaviour that had been rated as significantly masculine in its connotation. The second situation involved nurturant interaction with a tiny kitten, behaviour which had been rated as significantly feminine in its connotation.

Androgynous subjects of both sexes displayed a high level of masculine independence when under pressure to conform, and they displayed a high level of feminine playfulness when given the opportunity to interact with a tiny kitten. The non-androgynous subjects, both sex-typed and sex-reversed, all displayed some degree of behavioural deficit, though the pattern of findings differed for males and for females. Masculine males displayed masculine independence, but not feminine playfulness, and feminine males displayed feminine playfulness, but not masculine indepen-

dence. Masculine females displayed greater independence than feminine females, but they also displayed a moderate amount of playfulness. The feminine females displayed the poorest performance across both experimental situations, that is, they were inhibited in their ability to display effectively even stereotypically feminine nurturant behaviour.

These findings are important for a number of reasons. Primarily, they provide the first empirical demonstrations that there exists a distinct class of people who can appropriately be termed androgynous, whose sex role adaptability enables them to engage in situationally effective behaviour without regard for its stereotype as masculine or feminine. Secondly, the findings with respect to the masculine males' behaviour are consistent with Mussen's (1962) theory that highly masculine males may be constricted in their ability to effectively function in situations demanding 'expressive' or stereotypically feminine behaviours. Thirdly, the paradoxically poor performance of the feminine females under both test conditions ('independence' and 'nurturance') suggests that exclusive socialization to an extreme feminine stereotype, albeit a cluster of socially desirable and positively valued human traits, may be dysfunctional and a poor formula for the psychological health of women.

As there appear to be fairly clear cut behavioural differences between sex-typed and androgynous individuals, and as these differences occur in areas which might be hypothesized to have important interpersonal and intrapsychic consequences, a question which logically arises is whether androgynous and sex-typed indi-

viduals in a non-clinical sample would perform differently in objective psychological testing, on a measure such as the Minnesota Multiphasic Personality Inventory (MMPI). That is, both in style of self-presentation on the BSRI, and in the experimental situations described previously, the sex-typed individuals have emerged as persons who feel strongly that it is incumbent upon them to present themselves in a conventionally sex-stereotypic manner to others, and whose responses are regulated by their perception and interpretation of situational cues in the light of their implications with respect to masculinity and femininity. The androgynous individuals, on the other hand, appear less traditional in their sex role self-concepts, in that they endorse as self-descriptive both same- and opposite-sex characteristics with little attention paid to their stereotypic appropriateness, and they exhibit greater adaptability and comfort with cross-sex behaviour as well. On this basis, differences between androgynous and sex-typed groups of each sex in their responses to an evaluative test situation such as the MMPI might be suspected, and a differential response pattern for males and females as well. Assuming that such differences do emerge, a second question pertains to what kind of effect a person's sex role orientation has on how he or she fares in clinical assessment, that is, whether conventionally sex-typed individuals display a more 'normal' MMPI performance than androgynous individuals, or vice versa.

In the following section, some relevant literature on the MMPI will be reviewed, and a number of hypotheses will be developed with respect to the MMPI performance of androgynous versus sex-

typed individuals.

The Minnesota Multiphasic Personality Inventory (MMPI)

Since its initial publication in 1943, the Minnesota Multiphasic Personality Inventory (MMPI) has become one of the most important diagnostic tools in the clinical and counselling fields. It is designed to provide an objective assessment of some of the major personality characteristics that affect personal and social adjustment. Today it is perhaps the most widely used personality test, and the body of reported research concerning the MMPI is truly enormous.

The construction of the MMPI and the derivation of the basic scales are described in detail by Hathaway and McKinley in a series of papers that have been collected in Welsh and Dahlstrohm (1956). An MMPI Handbook (Dahlstrohm & Welsh, 1960, revised 1972) is a definitive summary of much of the major literature on the MMPI, and represents an organized account of current MMPI usage in clinical practice together with updated findings on its various validities. Most of the research findings discussed in this section have been reported in one or the other of these authoritative texts.

When the MMPI was initially developed, it was recognized that college students constituted a unique sub-sample within the generalized normal population, and that their MMPI performance differed in numerous ways from both older adults and non-college educated persons within the normal population, the latter probably as a function of both educational level and socioeconomic class.

Two validation studies reported in Welsh and Dahlstrohm (1956) involving large (N > 5,000 for each sex) college student samples (Black, 1956; Goodstein, 1956) confirmed the necessity of special norms in using the MMPI as a screening test in clinical work with university populations. Literally hundreds of studies have been conducted in the last three decades concerning MMPI validity, screening and prediction problems with respect to various types of college groups. However, the major research has focussed either on the influences of differential demographic characteristics, such as ethnic, regional and religious background or choice of major on MMPI performance, or it has been concerned with the task of differentiating MMPI performance characteristics of selected 'maladjusted' sub-groups from the rest of a generalized 'normal' college population, for screening and prediction purposes.

A weakness of previous research from the point of view of the present investigation is that it would appear that much has been presumed in terms of the homogeneity of the 'normal' or typical college populations. Specifically, the BSRI normative data indicates that there exists a wide range of 'normal' differences among college students within each sex with respect to the personality dimension of orientation to sex roles. This may or may not have been the case twenty-five or even ten years ago, but it would seem to be the case at present, and one of the objectives of the present study will be to evaluate the effect these differences in orientation may have on MMPI performance.

The finding that there exists considerable latitude among the members of each sex within a 'normal' college population with

respect to the dimension of sex role self-concept is one that deserves careful examination in light of prevalent views regarding the desirability of conventional sex-typing, and the attribution of nearly every imaginable psychological problem to some failure in this regard. In effect, such views would be confirmed in the present investigation by results indicating a significant main effect of sex role orientation on MMPI scores in the direction of increasing deviancy corresponding to non-adherence to sex role stereotype. However, such a finding would suggest the presence of a rather crude stereotypic sex bias within the test as well, and it is not really expected that such will be the case in any global, across-the-board fashion.

However, there is considerable justification from previous MMPI research to suggest that the dimension of orientation to sex roles measured by the BSRI might have some observable effect on MMPI performance in 'normals'. Technically, what the BSRI taps is a sex-stereotypic social desirability response set, which was demonstrated during the validation of the test to be empirically independent from a generalized socially desirable response tendency. The effects of both the sex factor and the social desirability response set on MMPI performance have been identified and exhaustively researched in the literature, as conceptually unrelated influences. However, to the best of the writer's knowledge, a possible inter-relationship between the two effects has not heretofore been advanced. The present study is therefore intended to serve as an exploratory venture in this direction.

Sex was perhaps the earliest identified background factor

having significant influence on MMPI test behaviour. Hathaway and McKinley found it necessary to furnish separate T-score values for men and women for almost all of the basic clinical scales (excepting only scales 4, 6, and 9) (Dahlstrohm & Welsh, 1960). Hathaway and Briggs' (1957) normative T-score conversion tables with K-corrections contained in Appendix H of Dahlstrohm and Welsh (1960) offer clear support for this decision.

Additional findings have been provided on college students by Drake (1953), who found a large sex difference in frequency of endorsement on a majority of the MMPI items. The forty-three items showing the greatest differences were collected in the sex differential (Sd) scale, listed in Appendix I of Dahlstrohm and Welsh (1960). Appendix E of Dahlstrohm and Welsh (1960) contains data on frequency of 'true' responses to most MMPI items, generated by the revised Minnesota normal group (Hathaway & Briggs, 1957) and the original college reference group used in several scale derivations by Hathaway and McKinley (1940a). The table shows large percentage differences in frequency of endorsement of numerous items, but these sex differences have apparently not been analyzed for statistical significance, nor does the table indicate in which cases 'true' is the deviant direction of response.

Given that there are large sex differences in the frequency of endorsement of individual items, sex differences in the intercorrelations among the basic scales have been identified as well (see Appendix K, Dahlstrohm & Welsh, 1960). From this it follows that the relative frequency of specific score patterns also varies according to sex, and frequencies of two-point high-point codes

have been tabulated separately for each sex in Appendix M of Dahlstrohm and Welsh (1960).

From the point of view of the present investigation, the existence of large sex differences in frequency of endorsement of individual MMPI items strongly suggests that the content of such items is connotatively sex-linked in one way or another. That is, it may be much more stereotypically appropriate or socially acceptable for persons of one sex to endorse or not endorse a given item, than the opposite sex. And it may be that differences in orientation to sex roles as measured by the BSRI will be reflected in differential amounts of sensitivity and/or obedience to such cues.

The factor of social desirability attached to the content of individual MMPI items has also been advanced by many researchers as an important influence affecting variance in responses to the MMPI, and has been considered by some to be a source of serious distortion in personality measurement. Heineman (1953) obtained social favorability ratings for each item of the MMPI from a college sample. His data are contained in Appendix F of Dahlstrohm and Welsh (1960), and it is apparent that the items vary widely in perceived desirability as rated by college students. Hanley (1957), working with independently derived ratings of social desirability, found that the probability of endorsement of a given item was a function of its rated desirability of content and the level of sensitivity of the endorser to such socially unfavorable implications.

Edwards (1957) and Fordyce (1956) demonstrated that there are

strong relationships between measures of socially unfavorable implications of items and the scores on both validity and clinical scales of the MMPI. Their position at the time was that the MMPI might be susceptible to the effect of a pervasive response tendency to give a stereotypic self-representation, so that scale scores would reflect the extent to which the subject wished to appear socially acceptable and worthy of positive regard, more than they would reflect a realistic or accurate self-appraisal.

Subsequent factor-analytic studies, particularly the work of Block (1965) have modified this contention somewhat. Block (1965) discovered firstly that the variance previously identified as Welsh's factor A (Welsh & Dahlstrohm, 1956) was substantially the same as that with which Edwards (1957) had been working; and secondly, by utilizing external personality data available on his research subjects, Block was able to identify a number of stable personality correlates of normal subjects who scored at each end of this general underlying dimension of personality variance, which he termed the alpha dimension. However, rather than considering this dimension as a source of error or distortion, he prefers a characterological interpretation rather than the previous state or defense inferences, and concludes that such differences in style of response actually turn out to be the basis for some of the important trait discriminations on the test, but that they are related to actual trait variance with respect to the alpha dimension, which has an influence on the way subjects orient themselves to the test (Dahlstrohm, 1969).

The reported evidence of considerable male/female differences

with respect to individual item endorsement, scale intercorrelations, and frequency of specific score patterns would suggest that the sex of the test subject may function as an important mediating variable with respect to the alpha dimension. That is, an individual taking the MMPI is inevitably experiencing the test situation as either a male or female who has some level of concern regarding the adequacy of his or her self-presentation as masculine or feminine. The evidence presented earlier regarding the role of stereotypic images of masculinity and femininity in ratings of social desirability and judgments of mental health suggests that there are important differences between what is considered to be socially desirable for a male and for a female. It is therefore logical to suggest that a man and a woman who may both strongly wish to appear socially acceptable as members of their respective sexes, will orient themselves quite differently to the test, with respect to their sensitivity to the favorable or unfavorable implications of responding in a certain way to items, on the basis of sex-typed appropriateness. Similarly, men and women who are not so strongly motivated in this direction might be expected to approach the test differently than their more strongly sex-typed counterparts.

This study will therefore utilize the BSRI as an external criterion of subjects' orientation to sex roles, and will then examine differences between sex-typed and androgynous groups' MMPI performance within each sex. It should be emphasized that the study represents only a small-scale exploratory investigation into a very complex area, but one which is felt to be justified on the

basis that the range of 'normal' differences with respect to sex role orientation within each sex in this society is undoubtedly in a state of transition, a development which necessarily has implications for the regnant concepts of mental health and definitions of deviancy in the clinical and counselling fields.

In the following section, some additional information regarding the use of the BSRI in classifying individuals as to sex role orientation will be presented, and a number of specific hypotheses with respect to the effect of sex role orientation on MMPI performance, which have been suggested by the present discussion, will be elaborated.

Statement of Problem

As stated previously, the BSRI (1974) contains Masculinity and Femininity scales which are logically and empirically independent of each other. The Masculinity and Femininity scores indicate the extent to which a person endorses stereotypically masculine and feminine personality characteristics as self-descriptive. On the basis of his responses, a person also receives an Androgyny score, defined as F - M, the simple difference between his or her endorsement of masculine and feminine personality characteristics. The Androgyny score reflects the relative amounts of masculinity and femininity the person includes in his or her self-description, and as such perhaps best characterizes the nature of the person's total sex role orientation. The greater the absolute value of the Androgyny score, the more the person is sex-typed or sex-reversed, with high positive scores indicating femininity and high

negative scores indicating masculinity. A 'masculine' sex role thus represents not only the endorsement of masculine attributes, but the simultaneous rejection of feminine attributes, and vice versa. In contrast, the closer the Androgyny score is to zero, the more the person is considered to be androgynous, an 'androgynous' sex role representing more equal endorsement of both masculine and feminine attributes.

Because scores on the BSRI are based on strength of endorsement of socially desirable, positively toned personality traits, it has been suggested (Spence, Helmreich & Stapp, 1975; Strahan, 1975) that a distinction is warranted between androgynous individuals who score high in both masculinity and femininity and those who score low in both. As lower scores represent a rather more negative self-appraisal, it is possible that high-high and low-low scorers may differ from one another in important behavioural or psychological ways. Though in a non-clinical sample there appear to be very few low-low scorers (1%) in the absolute sense of the term (those who score below the 3.50 midpoint for both M and F scales), Bem and Watson (1976) now advocate that high-high and low-low scorers be distinguished from one another on a relative basis via a median split. Therefore, on the basis of their BSRI scores, subjects in this study will be classified in the following manner:

		M score: Above Median	M score: Below Median
F score	Above Median	Androgynous	Feminine
	Below Median	Masculine	Undifferentiated

One-way analyses of variance will be carried out for each sex for the main effect of sex role orientation on the L, F, and K validity scales, the ten clinical scales of the MMPI, and three derived measures of overall MMPI profile elevation. Additionally, Bem and Watson (1976) advocate that data from the BSRI ought to be analyzed without classifying subjects in any way, through the use of multiple regression techniques. Therefore, subjects' M, F, and A scores will be correlated with each of the sixteen MMPI performances measures listed above, in order to clarify which dependent variables might be a function of subjects' masculinity, femininity, or androgyny alone, and which are a function of more than one of these.

A number of hypotheses as to the predicted direction of results have been suggested throughout this discussion. The first, obviously, is the null hypothesis, that is, that the variable of sex-role orientation will have no significant effect on subjects' MMPI performance whatsoever. The bulk of reported evidence attesting to the importance of appropriate sex-typing to good psychological adjustment would seem to belie the chances of this result. However, if this should be the case, it would be a finding of some importance which would raise serious questions about the methods and motives of much previous research.

A second possibility is a 'global' main effect of sex role orientation across all sixteen measures of MMPI performance for both sexes, such that scale scores would increase systematically with increasing non-adherence to sex role stereotype. In simple terms, this would mean that conventionally sex-typed individuals

of both sexes would appear to be 'healthier' across-the-board than their less strongly sex-typed counterparts. Though this finding would support traditional notions of the desirability of conventional sex-typing, it would also, as previously stated, point towards the existence of a large stereotypic sex bias within the MMPI. As no one in the past thirty-five years of MMPI research has uncovered such a major effect previously, it is rather unlikely that one in fact exists.

A third possibility is that the effect of sex role orientation on MMPI performance will be different for males and females. Much evidence has been presented to suggest that traits stereotypically associated with masculinity are more socially desirable and favorably viewed clinically than stereotypically feminine traits. It might thus be hypothesized that the feminine subjects of both sexes may look less 'healthy' than their androgynous or masculine counterparts. Stated another way, it might be the case that androgynous and masculine women will display a more 'normal' MMPI performance than feminine women, but that androgynous and feminine males will appear less 'healthy' than conventionally sex-typed males. Such a finding would lend support to the notion that a more 'masculine' pattern of test-taking behaviour in both sexes is more favorably viewed clinically, and would argue for the suggestion of a negative bias against stereotypic femininity within the MMPI.

A fourth possibility is that androgynous subjects of both sexes may display a more 'normal' MMPI performance than either their sex-typed or sex-reversed counterparts. Such a finding

would lend support to the theory that sex role flexibility is indeed healthier and more adaptive than more rigid sex-typing.

A fifth possibility suggested by the evidence of sex differences in the frequency of MMPI scale score patterns, is that the effects of sex role orientation on MMPI performance within each sex will be scale specific.

It is difficult to hypothesize with respect to the MMPI performance of the 'undifferentiated' groups. It will be of research interest to note in what ways they may or may not differ from androgynous subjects, as these findings may contribute evidence in the current controversy as to whether a distinction between high-high and low-low androgyny is truly warranted.

CHAPTER II

METHOD

Subjects

Subjects were drawn from students enrolled in eight psychology and sociology courses during intersession and summer session of 1976 at the University of Windsor. Participation of subjects in the testing was voluntary, in the sense that no grade point incentives were offered, and any student who did not wish to be tested could opt out. However, all testing was conducted during regularly scheduled class sessions, and in each case the majority of those present participated in the testing, so that subjects cannot be said to be self-selected volunteers in the ordinary sense of that term. The selection of classes to be used in the study was based solely on the willingness of the professors to donate class time for testing purposes.

The subjects' motivation to generate valid MMPI data can be considered to be fairly strong, in that all subjects were requested to sign their names to their test forms, and all subjects were offered the option of individual feedback from a psychologist if they so wished, as well as general feedback about the results of the study.

A sampling problem which was encountered is that undergraduate social science classes at the University of Windsor generally have a female to male ratio of approximately three to one. A second difficulty was that intersession and summer session enrollments contain a somewhat larger proportion of extension stu-

dents than is the case in fall and winter day classes. Most of these extension students are grade and high school teachers who are upgrading their teaching certification. A third sampling problem from the point of view of MMPI and BSRI norms is that many of these students are considerably older than what is usually implied by the phrase 'college-age', and the application of norms derived from populations younger than twenty-five is not really appropriate in the case of these older individuals.

Out of a total of 162 subjects who were tested, twelve subjects had to be eliminated from the sample because of suspected invalid MMPI data. A profile was discarded if any one of the validity scales was $\geq T = 70$. Out of the 150 subjects remaining, 100 were females and 50 were males. As sufficient numbers of the female subjects were mature students, the sample was divided at the midpoint for a female group ($N = 50$) and a mature female group ($N = 50$). The mean ages of these respective groups support the advisability of this procedure. The mean age for the female group was 21 years, and the mean age for the mature female group was 33 years. The presence of considerable numbers of mature women students on university campuses is a relatively recent phenomenon, and their personality characteristics are felt to be of unique research interest in themselves. As well, the opportunity to obtain BSRI data on an older age group is felt to be of value, as normative data on this test is thus far available only on a college-age sample. Whether the aspect of sex role orientation measured by the BSRI is one that modifies with age is a question that may be deserving of further investigation. Though the mean

age of the male sample is 25 years, the median age for this group is 22.6 years, which is still within the range which is usually considered to be 'college-age'. As MMPI data are generally reported in age intervals of 16-25, 26-35, and so forth, it is felt that male data from the present study can be appropriately compared to reported data on other 'college-age' male groups.

Materials

The IBM Group Booklet Form of the MMPI was utilized in the present study. The MMPI is a self-report measure consisting of 566 items, to which the subject is asked to respond 'true' or 'false' on an official answer sheet which is provided with each booklet. Three validity scales and ten clinical scales bearing medical model names such as Hypochondriasis, Depression, etc., are scored in ordinary clinical usage of the test. A description of the meaning and derivation of the individual scales is contained in Welsh and Dahlstrohm (1956). Reliability and validity data on the MMPI are reported in the same text, and information on test administration, the various forms of the MMPI, scoring, profiling, and coding of scores is available in the MMPI Manual (Hathaway & McKinley, 1967).

The Bem Sex Role Inventory (BSRI) was published in 1974. It is a self-report paper and pencil test consisting of a list of 60 personality traits on which the subject is asked to rate himself on a scale from 1 ('never or almost never true') to 7 ('always or almost always true'). A copy of the BSRI is reproduced in the Appendices. Reliability and validity data on the BSRI are con-

tained in Bem (1974) and were reported in the Introduction. Separate Masculinity and Femininity scales are scored for each subject by simply adding together the subject's ratings of the items on each scale and dividing by 20 to obtain a mean self-rating. Twenty additional trait items which are neutral with respect to a sex-stereotypic connotation are intermingled with the scored items on the page to provide a neutral context for the M and F scales. An Androgyny score is generated for each subject by simply subtracting the M score from the F score.

Procedures

All testing was carried out in group classroom settings. Subjects were told that the testing was being done for research purposes, and were assured of the confidentiality of individual test results. The MMPI was administered to all subjects before the BSRI. Standard instructions printed on the front of the test booklet were utilized. All questions regarding the instructions were handled in the manner suggested in the MMPI Manual (Hathaway & McKinley, 1967). The BSRI was administered to all subjects in a second testing session which took place from one to three days later. Instructions were printed on the front of the answer sheet.

All test forms were scored by hand. The MMPI was scored utilizing the official answer keys and each subject's scores were then charted on an official profile sheet. The BSRI was scored according to instructions contained in the Scoring Packet (Bem & Watson, 1976) for hand scoring.

Statistical Analysis

Data were analyzed by computer at the University of Windsor. Programs were constructed from the Statistical Package for the Social Sciences (SPSS)(1975). Subprogram REGRESSION was utilized for the correlational analyses. Subprogram ONEWAY was utilized for the analyses of variance.

CHAPTER III

RESULTS

Classification of Subjects

Subjects within the male, female and mature female groups were initially classified into four sex role orientation categories via a median split. Median scores for the M and F scales were obtained for the entire sample. Scores of male subjects were weighted X 2 for this procedure to equalize the number of scores statistically for sex, as advocated in the BSRI Scoring Packet (Bem & Watson, 1976). The Masculinity scale median score = 4.98. The Femininity scale median score = 4.89. Subjects were then classified on the basis of their M and F scores as follows:

		M score: Above Median	M score: Below Median
F score	Above Median	Androgynous	Feminine
	Below Median	Masculine	Undifferentiated

Table 1 lists the numerical and percentage frequency of subjects within each sub-sample who were classified into each sex role orientation category.

Table 1. Numerical and Percentage Frequency of Subjects in Various Sex Role Orientation Categories as Defined by a Median Split of Both M and F Scores

Sex Role	N	Males %	N	Females %	N	Mature Females %
Feminine	8	16%	23	46%	20	40%
Androgynous	7	14%	12	24%	13	26%
Masculine	24	48%	2	4%	9	18%
Undifferentiated	11	22%	13	26%	8	16%
Totals	50	100%	50	100%	50	100%

Subjects were also classified into sex role orientation categories on the basis of their BSRI simple Androgyny difference (F-M) scores, hereafter referred to as A scores. This procedure was undertaken to serve as a further test of the comparative utility of the two methods of classification. The A score was utilized instead of the Androgyny t-ratio, as Bem (1974) has stated that the two indices are virtually identical ($r = .98$), and the t-ratio value can be approximated by multiplying the A score by 2.322. A decision was made to combine the near sex-typed with the sex-typed category, and the near sex-reversed with the sex-reversed category for each sex due to insufficient n's in these groups. Thus subjects were classified as feminine, androgynous, or masculine on the basis of the following criteria:

FEMININE $A > +.50$

ANDROGYNOUS $+.50 \geq A \geq -.50$

MASCULINE $A < -.50$

It should be noted that the t-value approximation for $|.50|$ (X 2.322) $= 1.16$, which is roughly equivalent to the original cut-off value for androgyny of $|t| \leq 1.00$ utilized by Bem (1974). Table 2 lists the numerical and percentage frequency of subjects within each sub-sample who were classified into each sex role orientation category by this method.

Table 3 presents the cross-classification of subjects categorized by these two different methods. While the two systems do not appear to differ very much in the way they define masculinity and femininity, there is a considerable difference in the way they define androgyny.

Table 2. Numerical and Percentage Frequency of Subjects in Various Sex Role Orientation Categories As Defined by A Score.

Sex Role	n	Males %	n	Females %	n	Mature Females %
Feminine	5	10%	29	58%	20	40%
Androgynous	20	40%	16	32%	20	40%
Masculine	25	50%	5	10%	10	20%
Totals	50	100%	50	100%	50	100%

Table 3. Percentage Frequency of Subjects in Three Sex Role Categories Defined by A Score for Each of Four Sex Role Categories Defined by a Median Split.

FEMALES n=50		Median Split			
		Fem. n=23	Undiff. n=13	Andr. n=12	Masc. n=2
A Score	Fem. n=29	91%	46%	17%	0%
	Andr. n=16	9%	54%	58%	0%
	Masc. n=5	0%	0%	25%	100%

MATURE FEMALES n=50		Median Split			
		Fem. n=20	Undiff. n=8	Andr. n=13	Masc. n=9
A Score	Fem. n=20	95%	12.5%	0%	0%
	Andr. n=20	5%	75%	77%	33%
	Masc. n=10	0%	12.5%	23%	67%

MALES n=50		Median Split			
		Fem. n=8	Undiff. n=11	Andr. n=7	Masc. n=24
A Score	Fem. n=5	62.5%	0%	0%	0%
	Andr. n=20	37.5%	73%	86%	12.5%
	Masc. n=25	0%	27%	14%	87.5%

As can be seen in Table 3, of those subjects who are androgynous as defined by a median split, 14% of the males and 42% and 23% of the females and mature females respectively are not defined as androgynous on the basis of their A scores. Likewise, 22% of the males and 26% and 16% of the females and mature females respectively are defined as undifferentiated by a median split, and over half of these females and three-quarters of these mature females and males would be defined as androgynous on the basis of their A scores. Thus, one question which logically arises is whether it is necessary or desirable to distinguish between high and low androgyny.

A second consideration is that while the undifferentiated groups are composed largely of individuals who would otherwise be defined as androgynous, there are still numerous subjects in these groups who are in fact sex-typed on the basis of their A scores, but who are simply less enthusiastic endorsers. The undifferentiated classification basically separates out and lumps together all relatively low endorsers, regardless of the degree of sex-stereotyping in their self-presentation. While this may be a desirable procedure for some purposes, if one's focus of interest is on the differential effects of a stereotypic versus nonstereotypic self-presentation, as in the present study, classification of subjects on the basis of their A scores may be the preferred method. This is the rationale for the dual classification of subjects and data analysis in the present study.

Group Mean Raw Data

Table 4 presents group mean raw scores and T-score transformations for the 13 MMPI scales for males in the various sex role orientation categories as defined by a median split and by A score. Tables 5 and 6 contain the same information for the female and mature female groups respectively.

Profile Elevation Measures

In addition to examining differences in group mean scores on the individual MMPI scales between the various sex role orientation categories, three derived measures of profile elevation were calculated and compared as well. Profile elevation is considered to be a general indicator of abnormality, as "... the tendencies of all the scales are in the same direction" (Bier, 1956, p. 593), such that higher scores are indicative of poorer general adjustment and lower scores of more satisfactory adjustment. A number of different methods of quantifying profile elevation as an index of abnormality have been utilized in MMPI research. Modlin (1956) utilized a simple average score of the nine clinical scales, noting that while such a score is not overly discriminative, if markedly abnormal (that is, $\overline{T} > 70$), it "... unexceptionally signifies major pathology spread among several scales." (p. 393) An alternative possibility suggested is averaging the subject's four highest clinical scales. Modlin (1956) refers as well to Ruesch and Bowman's calculation of a neurotic (N) score, the average of scales 1-3, and a psychotic (P) score, the average of scales 6-8. He suggests that the N score is more appropriately designated the anxiety (A) score.

Table 4. Mean Raw Scores and T-Score Transformations for 13 MMPI Scales for Males in Sex Role Orientation Categories as Defined by a Median Split and by A Score

Scale	L	F	K	1	2	3	4	5	6	7	8	9	0
Median Split													
Fem.	3.00	5.75	15.75	14.63	21.00	24.38	24.38	32.88	12.13	32.63	31.63	19.00	30.13
T	46	57	56	58	60	64	63	73	62	70	68	55	55
Andr.	3.14	4.71	15.00	13.00	19.86	21.71	22.57	28.43	9.86	25.57	25.57	22.71	23.43
T	46	54	55	54	58	59	59	66	56	55	56	64	48
Masc.	3.38	4.00	15.29	10.96	18.50	18.71	21.38	24.54	7.83	23.92	25.00	20.75	23.67
T	47	53	56	49	55	54	56	58	50	52	55	59	49
Undif.	4.36	4.73	14.55	13.27	20.73	20.55	23.00	28.55	9.18	28.27	27.36	21.27	27.91
T	51	54	54	55	59	57	60	66	53	60	60	61	53
A Score													
Fem.	3.40	7.80	13.60	14.20	21.80	23.20	24.40	32.20	12.20	34.00	34.80	20.40	36.40
T	47	61	52	57	62	62	63	73	62	73	73	58	63
Andr.	3.70	4.10	15.55	13.15	19.70	21.25	22.70	29.60	9.40	26.75	25.90	20.25	25.10
T	48	53	56	54	58	58	59	68	54	57	56	58	50
Masc.	3.36	4.24	15.16	11.32	19.04	19.24	21.72	24.48	8.24	24.80	25.64	21.44	23.84
T	47	53	55	50	56	55	56	58	50	53	56	61	48

Table 5. Mean Raw Scores and T-Score Transformations for 13 MMPI Scales for Females in Sex Role Orientation Categories as Defined by a Median Split and by A Score

Scale	L	F	K	1	2	3	4	5	6	7	8	9	0
Median Split													
Fem.	3.57	3.65	15.70	12.78	21.78	20.65	21.48	39.96	8.65	28.57	26.22	19.09	27.83
T	48	52	56	49	54	53	56	43	52	56	55	55	53
Andr.	4.58	4.17	14.58	15.67	20.67	23.25	21.67	38.75	11.00	25.58	26.83	21.58	21.17
T	52	53	54	55	52	57	56	46	59	51	57	61	46
Masc.	4.50	6.00	14.00	17.50	19.50	25.00	23.00	30.50	7.50	28.00	28.00	22.00	22.00
T	51	58	53	59	50	61	60	62	49	55	58	63	47
Undiff.	3.69	4.54	13.39	12.54	21.69	21.69	22.23	37.69	10.62	27.85	27.69	18.62	31.15
T	49	54	52	49	54	55	58	48	58	55	57	54	56
A Score													
Fem.	3.55	3.90	14.52	12.76	22.17	20.34	21.31	39.97	9.21	28.69	26.03	19.17	28.86
T	48	52	54	49	55	52	54	43	53	56	55	55	54
Andr.	4.44	4.38	15.19	14.50	20.88	23.63	21.88	37.63	10.88	26.13	27.88	19.63	25.50
T	52	53	55	58	52	58	55	48	58	51	57	56	50
Masc.	4.00	4.40	14.80	15.60	18.60	23.60	24.20	34.80	8.60	26.40	28.00	22.80	19.60
T	50	53	54	55	49	58	59	54	52	52	58	64	45

Table 6. Mean Raw Scores and T-Score Transformations for 13 MMPI Scales for Mature Females in Sex Role Orientation Categories as Defined by a Median Split and by A Score

Scale	L	F	K	1	2	3	4	5	6	7	8	9	0
Median Split													
Fem.	3.35	3.00	15.60	13.15	21.45	22.15	20.90	39.80	9.95	27.85	25.85	19.25	26.50
T	47	50	56	50	54	56	54	44	56	54	55	55	52
Andr.	3.62	3.39	16.62	11.23	20.62	22.46	23.92	39.23	13.54	22.92	28.08	22.92	25.62
T	48	51	58	46	52	56	61	45	66	46	58	64	51
Masc.	3.00	6.67	14.44	13.22	19.11	23.11	24.33	35.44	9.56	25.78	27.67	21.55	24.78
T	46	59	54	50	49	57	62	52	55	51	57	61	50
Undif.	3.13	4.50	13.75	11.13	20.13	20.13	21.38	38.63	8.88	24.88	24.13	20.75	25.88
T	46	54	52	46	51	52	55	46	52	50	52	59	51
A Score													
Fem.	3.40	3.15	15.40	13.10	22.15	22.20	21.05	40.00	9.85	28.55	26.15	19.50	27.55
T	47	50	56	40	55	56	55	43	55	55	55	56	53
Andr.	3.25	3.70	14.80	11.25	20.75	21.90	22.90	38.45	12.35	23.35	26.65	22.00	26.30
T	47	52	54	46	52	55	59	46	63	46	56	63	21
Masc.	3.30	6.30	16.40	13.00	17.20	22.20	24.00	36.50	8.80	24.80	26.80	21.30	21.60
T	47	59	58	50	46	56	62	52	52	49	56	61	47

Table 7. Mean Profile Elevation Scores for Males, Females, and Mature Females in Sex Role Orientation Categories as Defined by a Median Split and by A Score

		$\bar{H}$	$\bar{A}$	$\bar{P}$
Males				
Median Split				
Fem.	T	72.25	61.13	66.63
Andr.		57.71	53.86	59.57
Masc.		61.04	52.58	52.25
Undiff.		65.82	57.55	58.27
A Score				
Fem.		73.20	60.60	69.80
Andr.		62.80	55.85	57.75
Masc.		61.96	53.64	53.64
Females				
Median Split				
Fem.	T	60.09	52.57	54.30
Andr.		61.92	56.25	55.58
Masc.		63.00	57.00	54.00
Undiff.		61.54	53.08	56.69
A Score				
Fem.		60.45	52.55	54.79
Andr.		61.31	55.13	56.31
Masc.		63.40	54.00	54.20
Mature Females				
Median Split				
Fem.	T	60.40	53.50	54.90
Andr.		53.08	52.77	50.54
Masc.		63.11	52.67	54.33
Undiff.		59.75	49.25	51.50
A Score				
Fem.		61.15	53.95	55.35
Andr.		55.65	51.95	51.10
Masc.		60.80	50.60	52.70

In the present study, a $\overline{H}$ score (the average of an individual's four highest clinical scale T-scores), a $\overline{A}$ score (the average of T-scores for scales 1, 2, and 3), and a $\overline{F}$ score (the average of T-scores for scales 6, 7, and 8) were calculated for each subject as indices of profile elevation. Table 7 presents group means for the three derived measures of overall profile elevation for males, females and mature females in sex role orientation categories as defined by a median split and by A score.

Analyses of Variance

Two one-way analyses of variance (ANOVAS) were performed for the main effect of sex role orientation as defined by a median split and by A score on each of the 13 MMPI scales and three profile elevation measures. Separate analyses were carried out for males, females, and mature females.

Males

Significant main effects of sex role orientation as defined by a median split for males were indicated on MMPI scales 1, 3, 5, 6, 7, and 8, and on all three profile elevation measures. Significant main effects of sex role orientation as defined by A score for males were indicated on MMPI scales F, 5, 6, 7, 8, and 0, and on profile elevation measure $\overline{F}$.

For each measure in which a statistically significant effect of sex role orientation was indicated by the ANOVAS, subsequent t-tests were performed in order to more closely examine the nature and direction of group differences. The Bartlett-Box F (Winer, 1971) was used as the test for homogeneity of variances, as it is

amenable to unequal n's, and is considered to be a more powerful test than the Hartley F max or the Cochran test (p. 209). Where measures met the criterion for homogeneity of variances, t-tests are based on pooled variance estimates. Significant Bartlett-Box F's are so indicated, and t-tests in these cases are based on separate variance estimates. Results are presented scale by scale for ease of comparison and clarity of discussion.

Table 8 indicates that feminine males as defined by A score scored significantly higher on scale F than androgynous or masculine males, who did not differ significantly from each other.

Table 8. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale F for Males.

Scale F — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	59.2600	29.6300	3.856	0.028	*
Within Groups	47	361.1602	7.6843			
Total	49	420.4202				

Scale F — Contrast Tests

		t	prob. (df = 47)	
1	F/A	2.670	0.010	**
2	F/M	2.621	0.012	*
3	A/M	-0.168	0.867	
4	F/AM	2.775	0.008	**
5	A/MF	-2.088	0.042	*
6	M/AF	-1.027	0.060	

* $p < .05$
** $p < .01$

Table 9 indicates that males defined as undifferentiated and feminine by median split scored significantly higher on scale 1 than masculine males. Note that while the androgynous and undifferentiated groups did not differ from each other, the undifferentiated group was significantly different from the masculine group, whereas the androgynous group was not. Scale 1 results for males

classified by A score just missed statistical significance ($F = 2.995$, $p = 0.058$), but confirmed the finding that masculine males scored significantly lower ($t = -2.395$, $p = 0.021$) than androgynous and feminine males, though the masculine and androgynous groups considered alone did not differ from each other.

Table 9. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 1 for Males.

Scale 1 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	100.2031	33.4010	3.851	0.015	*
Within Groups	46	399.0195	8.6743			
Total	49	499.2227				

Scale 1 — Contrast Tests

		t	prob. (df = 46)	
1	F/A	1.066	0.292	
2	F/M	3.050	0.004	**
3	F/U	0.988	0.328	
4	A/M	1.614	0.113	
5	A/U	-0.192	0.849	
6	M/U	-2.158	0.036	*
7	FA/MU	1.821	0.075	
8	AM/FU	2.114	0.040	*
9	M/AFU	-3.180	0.003	**
10	F/AMU	1.905	0.063	

* $p < .05$
** $p < .01$

Table 10 indicates that males defined as feminine by median split scored significantly higher on scale 3 than masculine and undifferentiated males. Note that while the undifferentiated and androgynous groups did not differ significantly from each other, the undifferentiated group differed significantly from the feminine group, whereas the androgynous group did not. Scale 3 results for males classified by A score missed statistical significance ($F = 2.707$, $p = 0.075$), but confirmed the finding that feminine males scored significantly higher than masculine males

($t = 2.014$, $p = 0.50$), and that masculine males scored significantly lower than androgynous and feminine males ($t = -2.323$, $p = 0.025$), though the masculine and androgynous groups considered alone did not differ significantly from each other.

Table 10. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 3 for Males.

Scale 3 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	207.3398	69.1133	4.991	0.005	**
Within Groups	46	636.9961	13.8477			
Total	49	844.3359				

Scale 3 — Contrast Tests

		t	prob. (df = 46)	
1	F/A	1.382	0.174	
2	F/M	3.730	0.001	**
3	F/U	2.215	0.032	*
4	A/M	1.880	0.066	
5	A/U	0.650	0.519	
6	M/U	-1.356	0.182	
7	FA/MU	2.903	0.006	**
8	AM/FU	1.910	0.062	
9	M/AFU	-3.297	0.002	**
10	F/AMU	2.761	0.008	**

* $p < .05$
** $p < .01$

Table 11 indicates that males defined as feminine by median split scored significantly higher on scale 5 than the other sex role groups, who considered alone did not differ significantly from each other, though masculine males scored significantly lower than the non-conventionally sex-typed groups considered together. Again the androgynous and undifferentiated groups did not differ significantly from each other.

Table 12 indicates that males defined as feminine and androgynous by A score scored significantly higher than masculine males, and that feminine males scored non-significantly higher than andro-

Table 11. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 5 for Males.

Scale 5 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	457.2266	152.4088	4.340	0.009	**
Within Groups	46	1615.2930	35.1151			
Total	49	2072.5195				

Scale 5 — Contrast Tests

		t	prob. (df=46)	
1	F/A	1.450	0.154	
2	F/M	3.445	0.001	**
3	F/U	1.572	0.123	
4	A/M	1.527	0.134	
5	A/U	-0.041	0.968	
6	M/U	-1.856	0.070	
7	FA/MU	2.191	0.034	*
8	AM/FU	2.253	0.029	*
9	M/AFU	-3.196	0.003	**
10	F/AMU	2.440	0.019	*

* p < .05
** p < .01

Table 12. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale 5 for Males.

Scale 5 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	424.6641	212.3320	6.056	0.005	**
Within Groups	47	1647.8555	35.0607			
Total	49	2072.5195				

Scale 5 — Contrast Tests

		t	prob. (df=47)	
1	F/A	0.878	0.384	
2	F/M	2.661	0.011	*
3	A/M	2.882	0.006	**
4	F/AM	1.847	0.071	
5	A/MF	0.642	0.524	
6	M/AF	-3.387	0.001	**

* p < .05
** p < .01

gynous males. Note that this is the first instance where the androgynous group considered alone differed significantly from the masculine group.

Table 13 indicates that males defined as feminine by median split scored significantly higher on scale 6 than masculine and undifferentiated males. The androgynous and undifferentiated groups did not differ significantly from each other, but the undifferentiated group differed significantly from the feminine group, whereas the androgynous group did not. The masculine males scored significantly lower than the non-conventionally sex-typed groups considered together.

Table 14 indicates that males defined as feminine by A score scored significantly higher on scale 6 than androgynous and masculine males, who did not differ significantly from each other. The masculine males again scored significantly lower than the non-conventionally sex-typed groups considered together.

Table 15 indicates that males defined as feminine by median split scored significantly higher on scale 7 than all other male groups. While the androgynous and undifferentiated males did not differ significantly from each other, the undifferentiated males scored significantly higher than the masculine males, whereas the androgynous males did not. The masculine males scored significantly lower than the non-conventionally sex-typed groups considered together.

Table 16 indicates that males defined as feminine by A score scored significantly higher on scale 7 than the androgynous and masculine groups, who did not differ significantly from each other.

Table 13. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 6 for Males.

Scale 6 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	115.8008	38.6003	6.193	0.002	**
Within Groups	46	286.7031	6.2327			
Total	49	402.5039				

Scale 6 — Contrast Tests (df = 46)

		t	prob.		
1	F/A	1.755	0.086		
2	F/M	4.211	0.000	**	
3	F/U	2.537	0.015	*	
4	A/M	1.887	0.065		
5	A/U	0.559	0.579		
6	M/U	-1.483	0.145		
7	FA/MU	3.144	0.003	**	
8	AM/FU	2.289	0.027	*	
9	M/AFU	-3.584	0.001	**	
10	F/AMU	3.216	0.002	**	

* $p < .05$
** $p < .01$

Table 14. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale 6 for Males.

Scale 6 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	68.3398	34.1699	4.806	0.013	*
Within Groups	47	334.1641	7.1099			
Total	49	402.5039				

Scale 6 — Contrast Tests (df = 47)

		t	prob.		
1	F/A	2.100	0.041	*	
2	F/M	3.032	0.004	**	
3	F/U	1.450	0.154		
4	F/AM	2.687	0.010	**	
5	A/MF	-0.927	0.359		
6	M/AF	-2.999	0.004	**	

* $p < .05$
** $p < .01$

Table 15. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 7 for Males.

Scale 7 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	500.8828	166.9609	8.692	0.000	**
Within Groups	46	883.6172	19.2091			
Total	49	1384.5000				

Scale 7 — Contrast Tests

		t	prob. (df =46)	
1	F/A	3.110	0.003	**
2	F/M	4.867	0.000	**
3	F/U	2.137	0.038	*
4	A/M	0.879	0.384	
5	A/U	-1.275	0.209	
6	M/U	-2.730	0.009	**
7	FA/MU	2.166	0.036	*
8	AM/FU	4.114	0.000	**
9	M/AFU	-3.921	0.000	**
10	F/AMU	3.878	0.000	**

* p .05
** p .01

Table 16. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale 7 for Males.

Scale 7 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	354.7422	177.3711	8.096	0.001	**
Within Groups	47	1029.7578	21.9097			
Total	49	1384.5000				

Scale 7 — Contrast Tests

		t	prob. (df =47)	
1	F/A	3.098	0.003	**
2	F/M	4.012	0.000	**
3	A/M	1.389	0.171	
4	F/AM	3.725	0.001	**
5	A/MF	-1.707	0.094	
6	M/AF	-3.720	0.001	**

* p .05
** p .01

The masculine males scored significantly lower than the non-conventionally sex-typed groups considered together.

Tables 17 and 18 contain results for scale 8 for males classified by median split and by A score respectively. Scale 8 is the only clinical scale whose results failed to pass the test for homogeneity of variances. None of the t-tests in either table reached statistical significance.

Table 19 indicates that males defined as feminine by A score scored significantly higher on scale 0 than masculine and androgynous males, who did not differ significantly from each other. The masculine males scored significantly lower than the non-conventionally sex-typed groups considered together. Though scale 0 results for males classified by median split were non-significant, feminine and undifferentiated males scored significantly higher than androgynous and masculine males considered together ($t = 2.022$, $p = 0.049$).

Table 20 contains results for profile elevation measure $\overline{H}$ for males classified by median split. Results for this measure failed to pass the test for homogeneity of variances. However, the table indicates that males defined as feminine by median split scored significantly higher than masculine males, and significantly higher than the other sex role groups considered together. Profile elevation measure $\overline{H}$ results for males classified by A score were non-significant, and also failed to pass the test for homogeneity of variances ($F = 6.679$, $p = 0.001$).

Table 17. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 8 for Males.

Scale 8 ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	277.1016	92.3622	3.443	0.024	*
Within Groups	46	1234.1367	26.8291			
Total	49	1511.2383				

Scale 8 Contrast Tests[1]

		t	df	prob.
1	F/A	1.684	9.0	0.126
2	F/M	1.923	7.8	0.091
3	F/U	1.193	9.0	0.263
4	A/M	0.371	11.1	0.717
5	A/U	-0.993	14.6	0.336
6	M/U	-1.590	18.8	0.128
7	FA/MU	1.242	12.2	0.238
8	AM/FU	2.164	12.2	0.051
9	M/AFU	-2.116	12.2	0.056
10	F/AMU	1.655	12.2	0.124

* $p < .05$
** $p < .01$

Table 18. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale 8 for Males.

Scale 8 ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	368.8672	184.4336	7.588	0.002	**
Within Groups	47	1142.3711	24.3058			
Total	49	1511.2383				

Scale 8 Contrast Tests[2]

		t	df	prob.
1	F/A	1.787	4.2	0.148
2	F/M	1.839	4.2	0.140
3	A/M	0.225	42.6	0.823
4	F/AM	1.825	4.5	0.142
5	A/MF	-1.649	4.5	0.174
6	M/AF	-1.795	4.5	0.147

* $p < .05$
** $p < .01$

[1] Bartlett-Box $F = 4.177$, $p = 0.006$, therefore t-tests are based on separate rather than pooled variance estimates.

[2] Bartlett-Box $F = 6.573$, $p = 0.002$, therefore t-tests are based on separate rather than pooled variance estimates.

Table 19. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale O for Males.

Scale O — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	665.6406	332.8203	5.145	0.010	**
Within Groups	47	3040.3711	64.6887			
Total	49	3706.0117				

Scale O — Contrast Tests

		t	prob. (df = 47)	
1	F/A	2.810	0.007 **	* p < .05
2	F/M	3.188	0.003 **	** p < .01
3	A/M	0.522	0.604	
4	F/AM	3.145	0.003 **	
5	A/MF	-1.882	0.066	
6	M/AF	-2.683	0.010 **	

Table 20. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Profile Elevation Measure $\overline{H}$ for Males.

$\overline{H}$ — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	1050.5625	350.1875	3.080	0.036	*
Within Groups	46	5229.6250	113.6875			
Total	49	6280.1875				

$\overline{H}$ — Contrast Tests[3]

		t	df	prob.	
1	F/A	1.540	8.1	0.162	* p < .05
2	F/M	2.915	8.7	0.017 *	** p < .01
3	F/U	1.545	11.2	0.151	
4	A/M	-0.378	6.2	0.718	
5	A/U	-0.906	6.7	0.395	
6	M/U	-2.013	17.9	0.059	
7	FA/MU	0.319	9.1	0.757	
8	AM/FU	1.984	9.1	0.079	
9	M/AFU	-1.223	9.1	0.252	
10	F/AMU	2.271	9.1	0.049 *	

[3] Bartlett-Box F = 3.484, p = 0.000, therefore t-tests are based on separate rather than pooled variance estimates.

Table 21 indicates that males defined as feminine by median split scored significantly higher on profile elevation measure $\overline{A}$ than masculine males. While masculine males scored significantly lower than the non-conventionally sex-typed groups considered together, the androgynous and undifferentiated groups did not differ significantly from each other or from either the masculine or feminine groups considered individually. Profile elevation measure $\overline{A}$ results for males classified by A score were non-significant and t-tests failed to confirm that males defined as feminine by A score scored significantly higher than either the androgynous or masculine groups, or that the masculine males scored significantly lower than the non-conventionally sex-typed groups.

Tables 22 and 23 contain results for profile elevation measure $\overline{P}$ for males classified by median split and by A score respectively. These results failed to pass the test for homogeneity of variance. However, Table 22 indicates that males defined as feminine by median split scored significantly higher on profile elevation measure $\overline{P}$ than masculine males. While the androgynous and undifferentiated groups did not differ significantly from each other, the undifferentiated males scored significantly higher than the masculine males, whereas the androgynous males did not. The masculine males scored significantly lower than the non-conventionally sex-typed groups considered together. Table 23 indicates that males defined as masculine by A score scored significantly lower on profile elevation measure $\overline{P}$ than androgynous and feminine males considered together.

Table 21. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Profile Elevation Measure $\bar{A}$ for Males.

$\bar{A}$ ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	518.2500	172.7500	3.398	0.025	*
Within Groups	46	2338.3750	50.8342			
Total	49	2856.6250				

$\bar{A}$ Contrast Tests

		t	prob. (df = 46)	
1	F/A	1.970	0.055	
2	F/M	2.935	0.005	**
3	F/U	1.080	0.286	
4	A/M	0.416	0.679	
5	A/U	-1.070	0.290	
6	M/U	-1.911	0.062	
7	FA/MU	1.076	0.288	
8	AM/FU	2.711	0.009	**
9	M/AFU	-2.420	0.020	*
10	F/ AMU	2.298	0.026	*

* $p < .05$ ** $p < .01$

Table 22. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Profile Elevation Measure $\bar{P}$ for Males.

$\bar{P}$ ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	1346.2500	448.7500	6.491	0.001	**
Within Groups	46	3180.3125	69.1372			
Total	49	4526.5625				

$\bar{P}$ [4] Contrast Tests

		t	df	prob.	
1	F/A	1.082	12.9	0.299	
2	F/M	3.042	7.8	0.016	*
3	F/U	1.657	9.8	0.128	
4	A/M	1.544	6.7	0.166	
5	A/U	0.257	8.4	0.804	
6	M/U	-2.599	15.7	0.019	*
7	FA/MU	2.265	16.2	0.038	*
8	AM/FU	1.890	16.2	0.077	
9	M/AFU	-3.669	16.2	0.002	**
10	F/AMU	2.020	16.2	0.060	

* $p < .05$ ** $p < .01$

[4] Bartlett-Box $F = 4.546$, $p = 0.004$, therefore t-tests are based on separate rather than pooled variance estimates.

Table 23. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Profile Elevation Measure $\bar{P}$ for Males.

$\bar{P}$ ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	1112.1875	556.0937	7.655	0.001	**
Within Groups	47	3414.3750	72.6463			
Total	49	4526.5625				

$\bar{P}$ Contrast Tests[5]

		t	df	prob.	
1	F/A	1.609	4.6	0.169	* $p < .05$
2	F/M	2.207	4.2	0.092	** $p < .01$
3	A/M	1.768	32.1	0.087	
4	F/AM	1.929	4.9	0.112	
5	A/MF	-0.953	4.9	0.384	
6	M/AF	-2.577	4.9	0.050	*

[5] Bartlett-Box $F = 4.759$, $p = 0.009$, therefore t-tests are based on separate rather than pooled variance estimates.

Females

Significant main effects of sex role orientation as defined by median split for females were indicated on MMPI scales 1, 5, 6, and 0. Significant main effects of sex role orientation as defined by A score for females were indicated on MMPI scales 3, 5, and 0.

Table 24 indicates that females defined as androgynous by median split scored significantly higher on scale 1 than feminine or undifferentiated females, who did not differ significantly from each other. This is the first instance in which significant differences between androgynous and undifferentiated subjects have emerged. The feminine women scored significantly lower than the non-conventionally sex-typed groups considered together. Scale 1

Table 24. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 1 for Females.

Scale 1 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	111.6875	37.2292	3.101	0.035	*
Within Groups	46	552.3164	12.0069			
Total	49	664.0039				

Scale 1 — Contrast Tests

		t	prob. (df = 46)	
1	F/A	-2.337	0.024	*
2	F/M	-1.847	0.071	
3	F/U	0.203	0.840	
4	A/M	-0.693	0.492	
5	A/U	2.255	0.029	*
6	M/U	1.885	0.066	
7	FA/MU	-0.547	0.587	
8	AM/FU	-2.699	0.010	**
9	M/AFU	1.532	0.132	
10	F/AMU	-2.071	0.044	*

* $p < .05$
** $p < .01$

Table 25. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale 3 for Females.

Scale 3 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	130.5859	65.2930	4.218	0.020	*
Within Groups	47	727.5117	15.4790			
Total	49	858.0977				

Scale 3 — Contrast Tests

		t	prob. (df = 47)	
1	F/A	-2.566	0.010	*
2	F/M	-1.709	0.094	
3	A/M	0.012	0.990	
4	F/AM	-2.625	0.012	*
5	A/MF	1.207	0.233	
6	M/AF	0.867	0.390	

* $p < .05$
** $p < .01$

results for females classified by A score were non-significant, but t-tests confirmed that the feminine women scored significantly lower than the androgynous and masculine women considered together ($t = -2.009$, $p = 0.05$), though androgynous women did not differ significantly from feminine women considered alone.

Table 25 indicates that females defined as androgynous by A score scored significantly higher than feminine women on scale 3, and that feminine women scored significantly lower than the non-conventionally sex-typed groups considered together.

Table 26 indicates that females defined as masculine by median split scored significantly higher on scale 5 than all other groups, but the feminine, androgynous and undifferentiated women did not differ significantly from each other. The feminine women scored significantly lower than the non-conventionally sex-typed groups considered together.

Table 27 indicates that females defined as masculine by A score scored significantly higher on scale 5 than the feminine and androgynous women, who did not differ significantly from each other. The feminine women scored significantly lower than the non-conventionally sex-typed groups considered together.

Table 28 indicates that females defined as feminine by median split scored significantly lower on scale 6 than undifferentiated and androgynous women, who did not differ significantly from each other. Scale 6 results for females classified by A score missed statistical significance ($F = 2.721$, $p = 0.074$), but t-tests confirmed that androgynous women scored significantly higher than

Table 26. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 5 for Females.

Scale 5 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	184.0625	61.3542	4.147	0.011	*
Within Groups	46	680.5000	14.7935			
Total	49	864.5625				

Scale 5 — Contrast Tests

		t	prob. (df=46)	
1	F/A	0.881	0.383	
2	F/M	3.335	0.002	**
3	F/U	1.697	0.097	
4	A/M	2.808	0.007	**
5	A/U	0.687	0.496	
6	M/U	-2.462	0.018	*
7	FA/MU	3.259	0.002	**
8	AM/FU	2.603	0.012	*
9	M/AFU	-2.985	0.005	**
10	F/AMU	3.278	0.002	**

* $p < .05$
** $p < .01$

Table 27. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale 5 for Females.

Scale 5 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	141.0000	70.5000	4.579	0.015	*
Within Groups	47	723.5625	15.3949			
Total	49	864.5625				

Scale 5 — Contrast Tests

		t	prob. (df=47)	
1	F/A	1.915	0.062	
2	F/M	2.719	0.009	**
3	A/M	1.405	0.167	
4	F/AM	3.023	0.004	**
5	A/MF	0.177	0.860	
6	M/AF	-2.150	0.037	*

* $p < .05$
** $p < .01$

Table 28. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 6 for Females.

Scale 6 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	66.0359	22.0286	3.715	0.018	*
Within Groups	46	272.7969	5.9304			
Total	49	338.8328				

Scale 6 — Contrast Tests

		t	prob. (df = 46)	
1	F/A	-2.707	0.009	*
2	F/M	0.642	0.524	
3	F/U	-2.323	0.025	*
4	A/M	1.882	0.066	
5	A/U	0.395	0.695	
6	M/U	-1.684	0.099	
7	FA/MU	0.752	0.456	
8	AM/FU	0.376	0.709	
9	M/AFU	-1.471	0.148	
10	F/AMU	-1.265	0.212	

* $p < .05$
** $p < .01$

Table 29. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale 0 for Females.

Scale 0 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	697.3672	232.4557	4.121	0.011	*
Within Groups	46	2594.6758	56.4060			
Total	49	3292.0430				

Scale 0 — Contrast Tests

		t	prob. (df = 46)	
1	F/A	2.400	0.016	*
2	F/M	1.052	0.298	
3	F/U	-1.277	0.208	
4	A/M	-0.145	0.885	
5	A/U	-3.322	0.002	**
6	M/U	-1.605	0.115	
7	FA/MU	-0.660	0.512	
8	AM/FU	2.510	0.016	*
9	M/AFU	-0.868	0.390	
10	F/AMU	1.189	0.241	

* $p < .05$
** $p < .01$

both sex-typed and sex-reversed women considered together ($t = 2.229$, $p = 0.031$). Masculine and feminine women did not differ significantly from each other under either method of classification.

Table 29 indicates that females defined as feminine and undifferentiated by median split scored significantly higher on scale O than androgynous women. This is a second instance where androgynous and undifferentiated subjects have differed significantly from each other. The table indicates as well that androgynous and masculine women considered together scored significantly lower than feminine and undifferentiated women.

Table 30 indicates that females defined as feminine by A score scored significantly higher on scale O than masculine women, and they also scored significantly higher than the masculine and androgynous women considered together. In this case, however, the feminine and androgynous women did not differ significantly from each other, and the sex-reversed group scored significantly lower than the androgynous and feminine groups considered together.

Mature Females

A significant main effect of sex role orientation as defined by median split for mature females was indicated only on MMPI Scale F. Significant main effects of sex role orientation as defined by A Score for mature females were indicated on MMPI Scales F and 7.

Table 30. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale O for Females.

Scale O — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	409.3828	204.6914	3.337	0.043	*
Within Groups	47	2882.6602	61.3332			
Total	49	3292.0430				

Scale O — Contrast Tests

		t	prob. (df = 47)	
1	F/A	1.379	0.175	
2	F/M	2.442	0.018	*
3	A/M	1.470	0.148	
4	F/AM	2.547	0.014	*
5	A/MF	0.466	0.644	
6	M/AF	-2.044	0.047	*

* $p < .05$
** $p < .01$

Table 31. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by a Median Split for Scale F for Mature Females.

Scale F — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	3	90.9226	30.3075	3.949	0.014	*
Within Groups	46	353.0774	7.6756			
Total	49	444.0000				

Scale F — Contrast Tests

		t	prob. (df = 46)	
1	F/A	-0.390	0.690	
2	F/M	-3.297	0.002	**
3	F/U	-1.294	0.202	
4	A/M	-2.732	0.009	**
5	A/U	-0.896	0.375	
6	M/U	1.609	0.114	
7	FA/MU	-2.865	0.006	**
8	AM/FU	-1.528	0.133	
9	M/AFU	2.941	0.005	**
10	F/AMU	-2.294	0.026	*

* $p < .05$
** $p < .01$

Table 32. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale F for Mature Females.

Scale F — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	69.1497	34.5748	4.335	0.018	*
Within Groups	47	374.8503	7.9755			
Total	49	444.0000				

Scale F — Contrast Tests

		t	prob. (df = 47)		
1	F/A	-0.615	0.541		
2	F/M	-2.880	0.006	**	
3	A/M	-2.8377	0.022	*	
4	F/AM	-2.275	0.032	*	
5	A/MF	-1.227	0.226		
6	M/AF	2.879	0.006	**	

* $p < .05$
** $p < .01$

Table 33. Summary of ANOVA and Contrast t-tests for the Main Effect of Sex Role Orientation as Defined by A Score for Scale 7 for Mature Females.

Scale 7 — ANOVA

Source	df	Sum of Squares	Mean Squares	F	prob.	
Between Groups	2	280.9844	140.4922	4.470	0.016	*
Within Groups	47	1477.1172	31.4280			
Total	49	1758.1016				

Scale 7 — Contrast Tests

		t	prob. (df = 47)	
1	F/A	2.933	0.005	**
2	F/M	1.727	0.091	
3	A/M	-0.668	0.508	
4	F/AM	2.699	0.010	**
5	A/MF	-2.005	0.051	
6	M/AF	-0.880	0.565	

* $p < .05$
** $p < .01$

Table 31 indicates that mature females defined as masculine by median split scored significantly higher on scale F than feminine and androgynous women. While the androgynous and undifferentiated groups did not differ significantly from each other, the androgynous group scored significantly lower than the masculine group, though the undifferentiated group did not. The feminine mature females scored significantly lower than the non-conventionally sex-typed groups considered together.

Table 32 indicates that mature females defined as masculine by A score scored significantly higher on scale F than feminine and androgynous women, who did not differ significantly from each other, though the feminine group scored significantly lower than the androgynous and masculine groups considered together.

Table 33 indicates that mature females defined as feminine by A score scored significantly higher on scale 7 than both androgynous women considered alone, and androgynous and masculine mature females considered together.

Correlational Analyses

Subjects' BSRI M, F, and A scores were correlated separately with each of the 16 MMPI performance measures, in order to clarify which scale elevations might be a function of subjects' masculinity, femininity, or androgyny alone, or which might be a function of more than one of these. Tables 34, 35, and 36 contain correlational data for the males, females, and mature females respectively.

Table 34. Results of Correlation of 16 MMPI Measures with the M, F, and A Scores of the BSRI for Males

MMPI	r	MASC. F	p	r	FEM. F	p	r	ANDR. F	p
L	0.06764	0.22059		0.15446	1.17311		0.03937	0.07450	
F	-0.15968	1.25592		-0.04279	0.08803		0.08532	0.35197	
K	0.20845	2.18043		0.10465	0.53145		-0.08213	0.32598	
1	-0.23761	2.87226		0.25291	3.28014		0.30257	4.83709	*
2	-0.18364	1.67529		0.14512	1.03260		0.20441	2.09299	
3	-0.20783	2.16696		0.35138	6.76141	*	0.33730	6.16216	*
4	-0.14078	0.97060		0.15232	1.14016		0.18117	1.62900	
5	-0.33452	6.04824	*	0.36327	7.29739	**	0.43071	10.93273	**
6	-0.25234	3.26424		0.42746	10.73157	**	0.41096	9.75402	**
7	-0.44269	11.69938	**	0.22324	2.51754		0.42603	10.64424	**
8	-0.31721	5.37014	*	0.18095	1.62486		0.31714	5.36762	*
9	0.23098	2.70526		-0.03414	0.05602		-0.17769	1.54685	
0	-0.37157	7.68868	**	0.02071	0.02060		0.26378	3.58962	
H	-0.24800	3.14578		0.11140	0.60315		0.23143	2.71640	
A	-0.24019	2.93876		0.19504	1.89824		0.27172	3.82642	
P	-0.37015	7.62051	**	0.34503	6.48643	*	0.44449	11.81836	**

* df (1,48), F = 4.04, $p < .05$
** df (1,48), F = 7.19, $p < .01$

Table 35. Results of Correlation of 16 MMPI Measures with the M, F, and A Scores of the BSRI for Females

MMPI	MASC. r	MASC. F	MASC. p	FEM. r	FEM. F	FEM. p	ANDR. r	ANDR. F	ANDR. p
L	0.12280	0.73489		-0.01763	0.01493		-0.12002	0.70158	
F	0.08393	0.34055		-0.07078	0.24168		-0.12167	0.72122	
K	0.10514	0.53656		0.00960	0.00443		-0.08610	0.35847	
1	0.26223	3.54453		0.02968	0.04233		-0.21087	2.23371	
2	-0.27225	3.84246		0.07628	0.28090		0.29119	4.44711	*
3	0.27775	4.01242		-0.18093	1.62457		-0.36666	7.45541	**
4	0.02014	0.01948		-0.23836	2.89144		-0.17858	1.58125	
5	-0.27195	3.83336		0.30682	4.98833	*	0.44651	11.95256	**
6	0.11606	0.65534		-0.07161	0.24738		-0.15051	1.11257	
7	-0.25655	3.38187		0.00747	0.00268		0.23094	2.70425	
8	0.10328	0.51749		-0.23673	2.84971		-0.25069	3.21883	
9	0.36276	7.27375	**	0.09614	0.44779		-0.25454	3.32544	
0	-0.59559	26.38752	**	-0.13542	0.89673		0.43305	11.07901	**
H	0.07299	0.25707		-0.09633	0.44955		-0.12927	0.81575	
A	0.08252	0.32909		-0.02887	0.04003		-0.09214	0.41101	
P	0.00793	0.00302		-0.12185	0.72346		-0.08921	0.38505	

* df (1,48), F = 4.04, $p < .05$
** df (1,48), F = 7.19, $p < .01$

Table 36. Results of Correlation of 16 MMPI Measures with the M, F, and A Scores of the BSRI for Mature Females

MMPI	r	MASC. F	p	r	FEM. F	p	r	ANDR. F	p
L	0.01486	0.01061		0.22140	2.47403		0.08980	0.39022	
F	0.15384	1.16356		-0.42597	10.64004	**	-0.30723	5.00294	*
K	0.11825	0.68067		0.10244	0.50902		-0.04402	0.09318	
1	-0.06998	0.23624		0.05356	0.13808		0.07751	0.29009	
2	-0.31659	5.34694	*	0.04303	0.08903		0.25975	3.47280	
3	0.03884	0.07254		-0.01313	0.00828		-0.03588	0.06186	
4	0.18337	1.67018		-0.24777	3.13947		-0.25065	3.21783	
5	-0.26540	3.63705		0.21176	2.25347		0.29626	4.61830	*
6	0.02725	0.03566		-0.00396	0.00075		-0.02347	0.02645	
7	-0.42439	10.54405	**	0.08366	0.33831		0.35970	7.13330	*
8	-0.00335	0.00054		-0.11117	0.60066		-0.04438	0.09471	
9	0.19135	1.82430		-0.15906	1.24585		-0.21540	2.33541	
0	-0.33027	5.87673	*	-0.01717	0.01416		0.24242	2.99689	
H	-0.18997	1.79701		-0.10250	0.50968		0.09968	0.48171	
A	-0.18599	1.71994		0.03921	0.07392		0.15832	1.23399	
P	-0.24250	2.99900		0.01607	0.01240		0.19224	1.84190	

* df (1,48), F = 4.04, p < .05
** df (1,48), F = 7.19, p < .01

The correlational data provide a good summary of the study's findings generally with respect to the relationship between sex role orientation and MMPI performance. In addition, they clarify a number of questions with respect to the performance of androgynous and undifferentiated subjects.

As can be seen in the tables, the M scale generally is more consistently negatively correlated with pathology, whereas the F scale tends to be either uncorrelated or moderately positively correlated with pathology. The A score, being keyed in the feminine direction (F-M), establishes an index of the relative weight of the feminine component in an individual's sex role self-concept. This variable appears to be more highly correlated with MMPI performance in most instances than either M or F separately.

The correlations provide a meaningful explanation for the sometimes peripatetic performance of the androgynous and undifferentiated groups relative to the clearly sex-typed and sex-reversed groups. That is, while in no case did the androgynous and undifferentiated males differ significantly from each other, on scale 1 the undifferentiated subjects scored significantly higher than the masculine males, whereas the androgynous males did not. Table 34 indicates that scale 1 correlates $r = -.23$ with M, $+.25$ with F, and $+.30$ with A. The undifferentiated subjects differ from both the androgynous and masculine subjects in scoring lower on M. Similarly, on scale 3 the undifferentiated group scored significantly lower than the feminine group, whereas the androgynous group did not. The undifferentiated males differ from both the andro-

gynous and feminine males in scoring lower on F. Table 34 indicates that scale 3 correlates -.20 with M, +.35 with F, and +.33 with A. Likewise on scale 6, the undifferentiated group scored significantly lower than the feminine group, whereas the androgynous group did not. Again, the undifferentiated subjects differ from the androgynous and feminine subjects in scoring lower on F, which showed a significant +.42 correlation with scale 6 elevation. On scale 7, the undifferentiated males scored significantly higher than the masculine males, whereas the androgynous males did not. The undifferentiated subjects differ from the androgynous and masculine subjects in scoring lower on M, which showed a significant -.44 correlation with scale 7 elevation.

Similar observations can be made about the direction of female results. On scale 1, androgynous women scored significantly higher than feminine or undifferentiated women, who did not differ from each other. Androgynous women differ from both feminine and undifferentiated women in scoring higher on M, which showed a +.26 correlation with scale 1 elevation in females. On scale 0, feminine and undifferentiated women scored significantly higher than androgynous women. These subjects differ from androgynous subjects in scoring lower on M, which was found to be significantly negatively correlated ($r = -.59$) with scale 0 elevation.

Among mature females, androgynous subjects scored significantly lower on scale F than masculine subjects, whereas undifferentiated subjects did not. Androgynous women differ in scoring higher on F, which correlated -.42 with scale F elevation in mature females.

CHAPTER IV

DISCUSSION

Summary of Findings

It has been suggested in the Introduction that the BSRI (1974) represents a novel way of conceptualizing and measuring individuals' orientation to sex roles, in that it has sought to overcome the chief methodological weaknesses of most other psychometric measures which attempt to categorize people as masculine or feminine. First, the traditional dichotomous opposition of masculinity and femininity has demanded that individuals be classified as either masculine or feminine, even though in fact only a small proportion of individuals actually fit these "ideal" categories. Secondly, the feminine "ideal" that results from such a conceptualization is no ideal for anybody, but generally reflects the negative opposites of masculine traits, so that femininity in either sex is a "bad" outcome. Since the personalities of most people contain relative amounts of both connotatively masculine and feminine positive attributes, the BSRI would appear to be a more precise method of quantifying the nature of an individual's total sex role self-concept.

In addition, the BSRI distinguishes a distinct category of individuals who may appropriately be called "androgynous" in that they endorse both masculine and feminine personality traits as self-descriptive in roughly equal proportions. Bem (1975) has demonstrated empirically that these androgynous individuals differ significantly from traditionally sex-typed or sex-reversed individuals in the direction of greater behavioural adaptability, in

that they are able to respond adaptively to situational demands regardless of the sex-typed connotation of the activity or behaviour. This study has hypothesized that such sex role flexibility has important interpersonal and intrapsychic consequences, and has sought to discover whether there are significant differences in the way androgynous individuals perform on an objective measure of psychopathology, the MMPI, as compared to more traditionally sex-typed individuals.

The results may be basically summarized as follows. Sex role orientation as defined by the BSRI appears to have some effect on responses to nearly all the MMPI scales in typical college students. Scales 2, 4, and 9 are the only clinical scales which appear to be unaffected by differences on this dimension, as are validity scales L and K. There is a consistent tendency in males for deviation from sex role stereotype to be reflected in more elevated MMPI scale scores. However, only the sex-reversed males appeared significantly less healthy than the other sex role groups. Thus it can be stated that androgynous college males appear to be at least as healthy as conventionally sex-typed college males in terms of their MMPI performance.

While the results for females indicated significant differences between sex role groups on fewer scales, where there were differences they reflected a similar trend toward a more deviant performance on the part of the non-conventionally sex-typed groups. However, on scales 1, 3, and 6, androgynous women scored significantly higher than sex-typed women, suggesting that it is perhaps more problematic psychologically for a college woman to be andro-

gynous than it is for her male counterpart. On scale O, the androgynous women scored significantly lower than the feminine women, scale O elevation being strongly negatively correlated ($r = -.59$) with M.

Among the mature females, differences in orientation to sex roles did not appear to have much impact on MMPI performance. The masculine mature females scored significantly higher on validity scale F, where the BSRI F scale was found to be moderately strongly negatively correlated ($r = -.43$) with the tendency to give unusual or nonconventional responses. The androgynous mature females also scored significantly lower on scale 7 than the feminine women, where elevation was moderately strongly negatively correlated with BSRI M ($r = -.43$). This would suggest that all other things being equal, androgynous older women tend to differ from conventionally sex-typed women in the direction of being less anxious, fearful or obsessive-compulsive.

Scale 5 - The Mf Scale

Correlational results indicate that scale 5, the Mf scale, is moderately correlated with the BSRI M, F, and A scores. However, the ANOVA findings indicate that only the sex-reversed subjects of each sex scored significantly higher than the other sex role groups. That is, the scale does not reflect subtler differences in orientation to sex roles, and it did not discriminate at all among the mature female groups.

In addition, it should be noted that in absolute terms, all the males in the sample scored high on scale 5, regardless of

their orientation to sex roles, and all the females scored low on scale 5, regardless of their orientation to sex roles. These findings suggest that for normal college students at least, scale 5 is relatively meaningless as an indicator of an individual's orientation to sex roles. Many of the scored items on scale 5 reflect interest patterns and attitudes which, though they might be considered effeminate relative to crude cultural stereotypes, are far more likely to be endorsed than to be denied by college-educated persons of either sex. Thus it is suggested that among college students, while low 5 in a male and high 5 in a female would reflect an anomalous pattern of denial which might be of clinical concern, clinicians should exercise great caution in drawing inferences from high 5 in males or low 5 in females.

Sex-stereotypic Effects in the MMPI

The pattern of results for males clearly indicates that a more feminine pattern of test-taking behaviour appears more pathological. In addition, normal females systematically yield higher raw scores on most scales than normal males, and that is why there are separate T-score norms for males and females. However, if a straightforward bias against stereotypic femininity were involved, then one would expect feminine females to appear less healthy than more masculine females. However, with the exception of scale 0, and scale 7 for mature females, this was not the case in the present study. So the MMPI somehow manages to "reward" conventional sex-typing in both sexes, and sex role flexibility appears to result in more elevated scale scores for both sexes.

People who are defined as androgynous in the present study have been so defined on the basis that they tend not to discriminate in their endorsement of same- and opposite-sex stereotypic traits. Before concluding that non-conventionally sex-typed people are just naturally more disturbed than sex-typed people, it is suggested that it would be of research interest to more closely investigate the issue of stereotypic effects in MMPI performance. It may be possible to identify a number of critical items spread across the various scales which differ greatly in their perceived social desirability or stereotypic appropriateness for one sex than for the other. Such items could be identified initially by focussing on items in each scale which show a large sex difference in frequency of endorsement, using existing reported data (Drake, 1953), and then examining the generalized social favorability ratings of these items, again using existing reported data (Heineman, 1953). This would give an indication of which items might differ greatly in their stereotypic appropriateness for one sex or the other.

It would then be possible to examine the hypothesis that among these highly sex-cued items, masculine males would tend to endorse sex-appropriate and avoid endorsing sex-inappropriate items moreso than androgynous or sex-reversed males. Such a finding would at least in part account for the systematically higher scale scores of non-conventionally sex-typed males.

One can logically speculate as well that a larger proportion of the items identified as highly sex-cued would be stereotypically feminine in content. Thus, if the same pattern of selective

endorsement held true for feminine females, while they might tend to endorse more feminine sex-cued items and thus end up with a higher raw score than masculine males, they would still tend to avoid endorsing the sex-inappropriate items. Androgynous and sex-reversed women, on the other hand, might be likely to end up with even higher raw scores, because they would be as likely to endorse opposite-sex as same-sex items. This might serve as a partial explanation for the paradoxical finding that androgynous women did tend to score significantly higher on several scales than the feminine women in the present study. It would also explain how what at first appears to be a straightforward bias against stereotypic femininity in males can also operate as a bias in favour of conventional feminine sex-typing in females.

If such a distinctive trend can be identified in the profiles of a relatively small sample of unselected normals, as in the present study, the question should be raised as to whether such a tendency might not be exaggerated in the cases of clearly disturbed individuals, so that non-conventionally sex-typed psychiatric patients or therapy clients might appear to be sicker than others with similar problems who manage to give a more sex-appropriate performance in psychological testing.

The High Versus Low Androgyny Controversy

Data in the present study were analyzed using both the median split and the Androgyny score methods of classifying subjects into sex role orientation categories. Among the males, the undifferentiated and androgynous groups as defined by median split did not

differ significantly from each other on any of the MMPI measures. On this basis, such a distinction between high and low androgyny does not appear to be necessary. The undifferentiated group tended to differ from either the masculine or the feminine group in cases where the androgynous group did not, as a function of their scoring low on either M or F. In the two instances where androgynous and undifferentiated females differed significantly from each other, the difference was directly attributable to their differing on M. Thus, if one is interested in studying the separate effects of M and F, the median split is indeed a useful classification system, but a 2 X 2 analysis of variance is more appropriate to such a system.

However, as Table 3 indicates, the undifferentiated category contains all low responders from the three sex role groups as defined by A score, not merely low androgynous subjects. The results of this study indicate that there may be some justification for separating out low scorers per se from all of the sex role groups. While there was considerable overlap between the findings for the two classification systems, some significant differences appeared between groups classified by one system that were unconfirmed by the other system. Thus the low scorers might be considered a potentially confounding influence, creating or obscuring differences as the case may be.

The results of the present study indicate that a good argument can be put forward supporting the utility of the Androgyny score classification system also. Theoretically, if one is concerned with differences in degree of sex-stereotyping, it makes

better methodological sense to order subjects in this fashion. Secondly, the correlational results indicate that the BSRI M scale is more consistently negatively correlated with pathology as measured by the MMPI than the F scale. There seems to be no escaping the fact that stereotypically feminine traits, even though they be positive and socially desirable traits, are still less valued and considered less healthy than stereotypically masculine traits. The A score proved to be a better predictor of MMPI performance than either the M or F scores.

In summary, it appears that both methods of classification have features that recommend them. The median split classification provides a way of studying the separate effects of M and F, as well as separating out low-low scorers. The A score classification system groups individuals who are similar insofar as the relative weights of the M and F components in their sex role self-concepts. A possible compromise between the two methods might be to initially separate out low-low scorers, then classify the remaining sample into sex role orientation groups on the basis of their A scores.

Substantive Issues

A few final comments are in order regarding some characteristics of the data and sample in the present study. First, the distribution of subjects in the various sex role orientation categories was very similar to the normative data supplied by Bem (1974). This suggests that the susceptibility of BSRI data to the influences of regional and sociocultural differences between

diverse North American college student samples may be quite minimal. The scores of the mature females suggest the possibility that the distribution of BSRI scores might change among older populations. However, as the sample of mature females tapped by this study are themselves somewhat atypical of most women in their age group, in that they are university students, most of whom are engaged in either preparing for career involvement or upgrading themselves for career advancement, all that can be stated with certainty is that they differed from the younger women in the study in the direction of being represented in greater numbers in the androgynous and masculine categories, that is, they tended to be less strongly sex-typed than the younger female group.

The finding that 30-40% of subjects of both sexes in the present study fell into the androgynous category underscores the supposition that the range of normal variability with respect to the dimension of orientation to sex roles is increasing in North American society. The finding that for the most part androgynous subjects performed no better and no worse on the MMPI than conventionally sex-typed subjects (the two groups comprising 90% of the sample) suggests that perhaps researchers have focussed so intently on the dimension of masculinity-femininity as a determinant of psychological adjustment that it has been more cognitively congruent for them to pay attention to the 10% of individuals who confirm their bias than to the 90% who do not. Because sex role stereotypes are such powerful social control forces, it is expected that it will yet be a long time before the stress on the importance of conventional sex-typing dies out under the impact of negative

evidence. However, such an eventuality would probably go a long way towards ameliorating the problems in society faced by sex-reversed individuals, which undoubtedly contribute to their more psychologically distressed profiles.

The finding that it may be more psychologically problematic for college-age women to be androgynous than for college-age males may be interpreted in a number of ways. First, in this phase of life more than any other, it is probably true that individuals define themselves in terms of their "masculinity" and "femininity", and experience concern with respect to their adequacy relative to attributes considered central to this definition. Secondly, this is the period in their lives when many young adults are marrying or forming some kind of relatively enduring sexual liaison, and in the dating and mating games women are traditionally expected to take less initiative than men. It is logical to suppose that this pattern might present more problems and conflictual choices to the androgynous woman than to the conventionally sex-typed woman. Thirdly, Maccoby & Jacklin (1975) have reported the finding that young women of college age tend to have a sense that they have less control over their own fates than college-age men do. While this phenomenon bears a rather obvious relationship to the previous point, it can be speculated that the androgynous women might experience greater frustration and anger as a result of such a state of affairs than the conventionally sex-typed women. However, the results for mature females suggest somewhat reassuringly that these may be conflicts and pressures that will be modified by the passage of time.

Looking more closely at the individual MMPI scales on which the androgynous women scored significantly higher than the feminine women, scales 1, 3, and 6, it is also possible that this pattern reflects a trend for androgynous women to utilize stereotypically masculine defenses or coping strategies moreso than feminine women. That is, they might tend to resort more to somaticization, denial and displacement in dealing with conflict and stress than the stereotypically feminine tendency to depressive intro-punitiveness or self-blame.

A concluding comment regarding the relative "positiveness" of the traits contained in the BSRI M and F scales, is that results of the present study indicated that the F traits overall correlated more strongly with pathology as measured by the MMPI than M traits. This indicates that the two scales are not really equivalent in terms of positive value, and the bias is definitely in favour of M traits. Thus, while the construct of psychological androgyny developed by Bem (1974) can be considered to be an important developmental step towards the definition of non-sexist standards of mental health, the pervasive and deeply entrenched anti-feminine bias underlying contemporary psychological criteria for health will indeed be a most difficult concept to uproot.

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APPENDIX A

The Bem Sex Role Inventory (BSRI) (1974)

Name: _____

Sex: _____ Age: _____ Major: _____

Year in School: _____ Occupation: _____
(If other than student)

Telephone: _____ (If you have no phone, please give us some way of contacting you, e.g., your address)

On the back you will be shown a large number of personality characteristics. We would like you to use these characteristics in order to describe yourself. That is, we would like you to indicate, on a scale from 1 to 7, how true of you these various characteristics are. Please do not leave any characteristic unmarked.

EXAMPLE: sly

Mark a 1 if it is NEVER OR ALMOST NEVER TRUE that you are sly.

Mark a 2 if it is USUALLY NOT TRUE that you are sly.

Mark a 3 if it is SOMETIMES BUT INFREQUENTLY TRUE that you are sly.

Mark a 4 if it is OCCASIONALLY TRUE that you are sly.

Mark a 5 if it is OFTEN TRUE that you are sly.

Mark a 6 if it is USUALLY TRUE that you are sly.

Mark a 7 if it is ALWAYS OR ALMOST ALWAYS TRUE that you are sly.

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

Sly	3	Irresponsible	7
Malicious	1	Carefree	5

DESCRIBE YOURSELF

1	2	3	4	5	6	7
NEVER OR ONLY NEVER TRUE	USUALLY NOT TRUE	SOMETIMES BUT INFREQUENTLY TRUE	OCCASIONALLY TRUE	OFTEN TRUE	USUALLY TRUE	ALWAYS OR ALMOST ALWAYS TRUE

Self reliant	
Yielding	
Helpful	
Defends own beliefs	
Cheerful	
Moody	
Independent	
Shy	
Conscientious	
Athletic	
Affectionate	
Theatrical	
Assertive	
Flatterable	
Happy	
Strong personality	
Loyal	
Unpredictable	
Forceful	
Feminine	

Reliable	
Analytical	
Sympathetic	
Jealous	
Has leadership abilities	
Sensitive to the needs of others	
Truthful	
Willing to take risks	
Understanding	
Secretive	
Makes decisions easily	
Compassionate	
Sincere	
Self-sufficient	
Eager to soothe hurt feelings	
Conceited	
Dominant	
Soft-spoken	
Likable	
Masculine	

Warm	
Solemn	
Willing to take a stand	
Tender	
Friendly	
Aggressive	
Gullible	
Inefficient	
Acts as al leader	
Childlike	
Adaptable	
Individualistic	
Does not use harsh language	
Unsystematic	
Competitive	
Loves children	
Tactful	
Ambitious	
Gentle	
Conventional	

APPENDIX B

Raw Data

MALES

S	Age	M	F	A	L	F	K	1	2	3	4	5	6	7	8	9	0	H	A	P
1	23	6.15	2.95	-3.20	1	7	16	14	17	19	21	23	5	23	24	25	25	60	55	48
2	28	6.50	3.45	-3.05	2	2	17	12	16	20	17	25	9	26	23	18	19	59	52	53
3	31	6.65	4.00	-2.65	4	2	16	8	21	16	22	23	9	24	22	21	29	58	50	52
4	31	6.75	4.50	-2.25	10	11	21	11	23	17	21	28	7	24	31	21	36	65	55	55
5	21	5.65	3.65	-2.00	3	10	9	13	28	24	30	34	9	31	36	27	40	76	65	65
6	22	5.90	4.10	-1.80	0	6	14	11	16	15	19	17	6	21	25	16	25	51	48	49
7	26	5.75	4.00	-1.75	4	9	12	8	11	16	28	24	6	20	21	27	19	63	42	45
8	21	5.10	3.70	-1.40	0	6	18	10	14	14	21	18	4	26	26	25	29	60	45	50
9	21	5.70	4.35	-1.35	5	0	22	12	17	22	21	27	10	23	24	22	13	61	54	53
10	25	5.80	4.45	-1.35	4	1	15	8	17	16	20	23	7	22	22	19	11	54	47	48
11	29	6.20	4.85	-1.35	7	0	20	10	19	22	18	25	10	23	23	23	25	60	55	52
12	27	5.15	3.85	-1.30	3	1	17	13	17	24	19	23	9	28	30	17	18	61	56	59
13	29	5.80	4.55	-1.25	2	4	21	12	15	20	21	26	4	27	30	22	20	62	51	54
14	38	5.70	4.45	-1.25	5	3	12	20	24	24	24	23	10	28	26	21	28	67	68	58
15	21	5.20	3.95	-1.25	3	8	8	8	18	19	21	23	10	17	20	20	19	56	50	47
16	22	5.35	4.15	-1.20	2	4	18	9	17	16	20	15	5	22	21	14	30	52	48	46
17	22	5.70	4.70	-1.00	2	2	19	11	14	23	26	23	10	29	30	23	10	65	52	61
18	28	5.05	4.25	- .80	3	3	15	9	17	22	28	38	14	24	26	23	20	71	52	59
19	35	5.45	4.75	- .70	0	4	7	12	18	13	22	15	6	22	21	26	25	59	50	47
20	25	5.25	4.55	- .70	4	2	12	13	26	18	20	39	6	28	26	21	39	71	60	54
21	27	5.05	4.40	- .65	5	6	10	8	23	13	11	17	9	17	20	17	21	54	50	46
22	27	5.25	4.80	- .45	9	3	17	13	22	19	29	26	10	23	24	17	16	64	58	53
23	21	5.15	4.70	- .45	2	1	15	10	20	17	19	27	5	23	24	15	27	57	52	48
24	26	5.05	4.65	- .40	1	1	16	8	14	20	15	27	8	23	25	18	24	59	47	52
25	22	5.35	5.45	.10	6	2	14	18	24	26	22	31	8	24	22	23	19	68	67	51
26	22	5.05	5.15	.10	3	3	18	10	16	21	21	30	11	24	21	20	22	61	51	53
27	22	5.20	5.20	.00	3	6	18	12	20	24	20	29	10	27	28	16	20	63	58	58
28	23	5.50	5.40	- .10	2	4	10	6	18	16	24	38	9	21	23	26	38	71	46	50
29	22	5.05	4.95	- .10	3	6	17	18	25	20	23	23	9	28	29	23	30	67	65	59
30	21	5.50	5.30	- .20	3	9	12	15	19	22	22	19	8	26	27	27	25	63	58	55
31	21	6.60	5.45	-1.15	2	3	16	12	17	23	26	29	14	29	29	25	10	68	55	64
32	26	4.75	5.05	.35	3	5	23	13	14	23	25	34	14	28	29	20	16	69	53	63
33	38	4.65	5.00	.35	3	1	22	19	21	29	25	29	11	29	25	13	19	69	68	59
34	24	4.50	4.95	.45	1	1	13	14	24	27	23	39	11	34	25	17	24	74	65	62
35	20	4.40	4.95	.55	1	5	14	14	16	22	24	31	12	34	28	19	22	67	55	65

S	Age	M	F	A	L	F	K	1	2	3	4	5	6	7	8	9	0	H	A	P
36	23	4.95	5.55	.60	2	10	16	19	30	33	32	38	20	43	50	27	37	91	77	93
37	23	4.45	5.15	.70	8	6	17	12	17	19	19	25	9	22	23	16	33	57	53	51
38	19	4.00	5.15	1.15	4	11	9	13	24	20	21	32	8	32	31	23	38	69	59	62
39	20	3.20	5.10	1.90	2	7	12	13	22	22	26	35	12	39	42	17	52	82	59	78
40	28	4.45	4.70	.25	5	3	19	11	19	22	24	28	9	30	29	23	26	64	55	60
41	22	4.15	4.10	- .05	2	9	10	13	21	20	28	33	11	36	36	22	36	75	59	71
42	32	4.90	4.80	- .10	7	3	18	10	15	21	21	20	6	18	19	16	20	53	50	43
43	31	4.35	4.75	- .10	5	5	20	17	22	19	28	33	9	26	27	20	23	68	61	58
44	21	4.80	4.60	- .20	3	4	15	16	17	19	20	35	11	28	25	24	30	67	56	58
45	21	4.90	4.60	- .30	3	4	15	15	18	22	27	35	9	28	28	28	16	72	57	58
46	36	4.80	4.45	- .35	10	8	10	13	22	19	16	21	10	24	25	16	35	59	57	55
47	20	4.95	4.45	- .50	0	4	9	12	23	19	22	35	9	35	27	22	36	70	57	62
48	23	4.70	4.15	- .55	3	4	13	12	18	15	19	26	8	25	26	21	29	58	52	54
49	31	4.90	4.30	- .60	9	4	19	16	28	30	22	28	11	31	30	18	30	71	71	63
50	21	4.95	3.70	-1.25	1	4	12	11	25	20	26	20	8	30	29	24	26	67	58	59
FEMALES																				
51	19	3.35	5.55	2.20	4	5	13	13	27	18	23	43	7	27	20	19	34	60	55	49
52	23	3.50	5.50	2.00	4	1	20	18	32	24	20	43	11	35	30	16	41	65	65	62
53	21	4.00	5.75	1.75	4	5	10	19	28	26	21	41	11	35	26	19	36	65	64	60
54	21	3.85	5.60	1.75	5	0	9	8	16	17	16	38	10	23	22	24	28	57	43	48
55	22	4.65	5.95	1.30	1	3	11	13	27	21	12	35	7	35	27	15	38	63	56	57
56	20	3.80	5.10	1.30	4	6	13	11	24	19	27	44	7	29	29	21	28	62	52	54
57	23	4.15	5.40	1.25	1	4	21	12	18	20	26	43	12	30	27	20	19	61	49	59
58	23	4.45	5.60	1.15	3	6	9	8	19	18	18	40	6	22	18	20	30	53	46	44
59	21	4.25	5.40	1.15	1	1	18	11	20	21	22	41	8	30	27	20	24	58	50	55
60	20	4.70	5.85	1.15	3	10	12	17	35	22	32	41	8	38	38	21	44	77	65	65
61	19	4.35	5.40	1.05	5	4	21	12	18	22	24	40	8	25	29	17	18	56	50	51
62	23	4.20	5.25	1.05	3	3	14	11	19	17	19	41	7	21	19	18	27	51	47	45
63	21	4.45	5.50	1.05	6	0	15	12	22	23	18	41	8	27	17	16	32	56	53	48
64	20	4.65	5.70	1.05	3	0	20	13	21	20	17	38	9	26	26	17	25	53	52	53
65	21	4.10	5.10	1.00	3	2	18	16	25	25	22	39	9	24	22	21	21	60	59	50
66	18	4.80	5.80	1.00	6	4	20	11	15	20	21	35	6	25	26	22	23	57	47	50
67	21	4.15	5.10	.95	2	5	10	8	25	16	17	41	11	29	23	16	31	58	48	55
68	23	4.40	5.35	.95	2	8	19	13	13	17	28	37	12	30	35	25	16	68	45	63
69	21	4.25	5.10	.85	4	3	20	14	20	18	20	35	7	31	28	14	29	56	51	55
70	23	4.95	5.55	.60	8	5	22	19	22	30	27	40	9	30	28	23	15	67	63	57

S	Age	M	F	A	L	E	K	1	2	3	4	5	6	7	8	9	0	H̄	Ā	P̄
71	19	4.75	5.30	.55	0	4	15	14	20	19	23	40	7	34	33	22	22	64	51	59
72	21	4.65	4.90	.25	5	1	17	11	16	18	16	38	7	22	24	19	26	52	47	48
73	22	4.90	4.95	.05	5	4	14	10	19	24	25	45	12	29	33	14	33	63	51	62
74	22	5.05	6.05	1.00	2	2	13	16	20	18	17	39	9	24	20	18	19	54	52	49
75	20	5.50	6.10	.60	8	6	11	12	21	20	17	40	15	26	23	24	16	61	51	57
76	23	5.55	6.00	.45	2	8	10	17	19	21	21	40	12	23	26	26	24	64	54	57
77	19	5.10	5.15	.05	4	6	12	19	25	22	25	36	13	30	35	22	29	65	60	64
78	20	5.10	5.10	.00	6	4	19	11	16	23	23	40	9	25	23	22	24	59	49	52
79	22	5.40	5.40	.00	6	4	17	16	26	22	19	40	10	25	25	18	26	58	58	53
80	21	5.15	4.90	-.25	5	3	10	22	22	32	17	41	12	20	30	18	28	66	65	55
81	23	5.55	5.25	-.30	3	4	16	18	29	29	26	43	14	34	34	25	18	69	66	66
82	23	5.70	5.30	-.40	8	3	21	14	16	24	20	33	10	24	22	16	16	56	52	51
83	21	6.00	5.45	-.55	2	8	8	18	20	22	30	38	13	26	31	28	19	71	55	60
84	21	5.65	5.00	-.65	7	0	18	11	19	17	19	33	3	23	23	22	18	55	47	44
85	23	5.65	4.90	-.70	2	2	20	14	15	29	26	42	12	27	30	20	17	65	54	59
86	18	5.10	4.40	-.70	4	3	16	15	14	22	22	27	5	23	25	23	11	62	50	47
87	20	5.05	4.25	-.80	5	9	12	20	25	28	24	34	10	33	31	21	33	64	64	61
88	20	3.00	4.80	1.80	6	2	13	17	23	18	20	46	12	30	21	11	44	62	55	56
89	19	3.20	4.20	1.00	7	9	18	17	25	27	32	35	9	36	37	23	34	72	61	64
90	20	3.90	4.85	.95	2	5	11	8	17	15	15	39	7	21	24	15	32	50	43	47
91	20	3.85	4.70	.85	1	4	7	12	27	26	27	44	15	39	35	24	32	70	59	71
92	19	3.95	4.70	.75	3	4	3	3	22	12	19	43	11	25	23	19	35	58	41	53
93	33	3.85	4.50	.65	2	2	15	12	22	20	19	37	9	25	26	16	44	59	51	53
94	23	4.20	4.40	.20	3	7	12	11	25	25	24	35	12	29	27	20	31	62	56	58
95	22	4.70	4.85	.15	6	5	20	14	17	29	15	37	10	25	26	17	19	58	56	54
96	23	4.55	4.45	-.10	7	3	20	10	19	22	27	39	8	23	23	17	16	57	50	49
97	22	4.70	4.50	-.20	1	4	15	15	22	20	20	34	13	24	25	16	26	57	54	56
98	21	4.55	4.35	-.20	7	3	15	15	21	25	25	24	9	24	27	16	27	65	56	53
99	20	4.75	4.40	-.35	3	6	16	14	16	23	21	36	10	26	34	27	30	64	52	58
100	20	4.60	4.20	-.40	0	5	9	15	26	19	26	41	13	35	32	21	35	66	56	65

MATURE FEMALES

S	Age	M	F	A	L	E	K	1	2	3	4	5	6	7	8	9	0	H̄	Ā	P̄
101	36	2.75	5.45	2.70	2	5	10	10	27	14	20	41	5	31	25	14	49	64	51	52
102	[illegible]	2.90	5.45	2.55	7	6	16	15	34	25	21	40	14	36	33	14	49	72	64	67
103	35	3.70	5.80	2.10	4	2	12	13	23	24	14	45	10	26	20	17	32	58	55	51
104	24	3.90	5.80	1.90	1	5	21	13	21	25	25	42	12	37	30	20	27	64	55	64
105	25	3.80	5.55	1.75	4	1	16	13	24	23	19	39	12	35	27	22	30	63	55	62

S	Age	M	F	A	L	F	K	1	2	3	4	5	6	7	8	9	0	H	A	P
106	35	4.10	5.70	1.60	2	2	11	11	21	18	14	36	7	24	17	16	28	50	49	45
107	25	4.25	5.65	1.40	4	0	17	17	18	25	17	39	10	23	23	16	14	57	55	51
108	26	3.85	5.25	1.40	3	1	10	8	18	14	21	37	5	24	20	21	30	55	43	45
109	26	3.85	5.20	1.35	4	2	20	14	16	25	22	42	14	30	29	22	25	63	52	62
110	39	4.55	5.90	1.35	5	0	14	11	20	20	20	41	8	23	18	20	20	54	50	46
111	30	4.10	5.25	1.15	3	3	17	16	18	26	20	39	9	23	22	13	21	56	55	49
112	37	4.00	5.10	1.10	2	12	7	14	30	21	24	35	14	40	40	26	42	74	63	73
113	34	4.55	5.60	1.05	3	5	12	10	17	21	20	39	9	21	24	27	26	59	48	49
114	43	4.20	5.15	.95	2	3	21	18	27	28	21	38	8	29	29	14	28	63	64	55
115	25	4.50	5.45	.95	6	2	21	15	21	20	25	37	9	27	23	19	18	57	53	52
116	26	4.45	5.30	.85	2	3	18	18	20	28	27	48	13	32	31	24	13	67	59	63
117	42	4.20	4.90	.70	3	3	18	14	20	22	25	39	10	28	26	18	29	58	53	55
118	29	4.35	5.00	.65	2	1	16	9	16	22	24	43	11	24	21	19	11	58	47	51
119	26	4.90	5.35	.55	6	2	17	13	18	21	19	39	7	23	36	24	14	60	49	54
120	46	4.60	4.95	.35	2	2	18	11	20	21	20	37	12	21	23	19	24	56	50	52
121	31	5.00	5.40	.40	6	2	19	12	14	18	22	36	7	21	21	17	17	52	46	46
122	45	5.05	5.15	.10	4	6	18	12	13	21	22	39	11	24	25	19	13	56	47	54
123	36	5.55	5.50	- .05	6	2	14	11	20	22	20	36	9	27	22	19	24	54	50	52
124	42	5.10	5.00	- .10	3	1	22	16	14	25	25	36	10	27	26	19	16	59	52	55
125	33	5.40	5.25	- .15	1	1	15	16	25	23	21	33	10	25	25	16	17	59	58	54
126	25	5.25	5.05	- .20	4	6	12	13	18	25	20	38	5	25	20	19	18	55	53	47
127	27	5.50	5.25	- .25	6	1	19	12	17	21	20	40	10	22	23	16	17	54	49	51
128	32	5.80	5.50	- .30	4	3	16	9	17	16	15	39	9	25	21	19	27	53	44	50
129	29	6.05	5.75	- .30	5	3	16	9	17	18	23	38	12	20	20	22	17	58	46	53
130	24	5.40	5.05	- .35	0	5	11	11	17	18	22	38	10	27	30	25	24	61	47	57
131	43	5.80	5.15	- .65	2	7	18	15	10	23	29	36	7	25	33	24	23	66	48	54
132	34	5.55	4.90	- .65	3	3	21	12	21	22	26	39	12	29	29	20	26	59	52	59
133	34	5.80	5.00	- .80	3	4	15	13	18	23	19	45	12	26	24	21	19	58	51	55
134	43	5.00	4.80	- .20	6	7	20	14	17	28	26	39	12	25	33	24	18	67	55	59
135	26	5.15	4.75	- .40	0	9	11	14	27	20	23	31	9	35	30	19	41	65	56	60
136	29	5.00	4.50	- .50	1	3	12	14	22	26	32	41	17	32	33	28	26	75	57	67
137	24	5.35	4.60	- .75	5	5	12	15	23	25	19	27	8	26	28	16	34	63	57	53
138	34	5.75	4.10	-1.65	2	10	9	11	13	17	27	36	11	24	20	25	24	62	44	51
139	41	5.75	4.40	-1.35	3	7	18	15	23	25	22	32	6	24	25	21	23	59	57	49
140	31	5.90	4.70	-1.20	5	10	19	17	17	33	33	37	10	25	32	24	15	73	60	57

S	Age	M	F	A	E	F	K	L	2	3	4	5	6	7	8	9	O	H	A	Pd
141	35	5.40	4.25	-1.15	3	7	12	9	14	15	16	40	5	13	21	19	28	50	42	42
142	36	5.45	4.55	-.90	2	2	17	10	16	19	21	36	8	23	27	18	14	54	46	51
143	37	5.40	4.35	.95	3	5	14	10	34	22	23	41	10	35	29	24	45	71	59	61
144	29	4.55	4.75	.20	5	9	4	12	23	17	21	44	11	26	22	18	32	59	49	56
145	26	4.75	4.85	.10	2	5	18	8	18	19	21	32	4	19	28	22	21	55	48	46
146	40	4.75	4.60	.00	0	0	11	12	21	26	12	38	5	27	18	15	38	54	46	49
147	33	4.70	4.70	-.10	4	8	16	15	16	22	20	40	8	20	22	20	16	62	49	43
148	31	4.60	4.70	-.20	3	0	9	10	15	19	24	39	11	22	24	25	18	54	43	52
149	44	4.90	4.55	-.35	3	8	15	11	15	22	22	38	10	22	21	17	27	64	46	49
150	33	4.90	4.70	-.60	5	1	23	13	17	20	28	37	9	28	29	25	10	54	49	56

VITA AUCTORIS

1951- Born to William and Margaret Ricketts in Cleveland, Ohio, U.S.A.

1968- Graduated as Salutatarian, Class of 1968, from Magnificat High School, Rocky River, Ohio, U.S.A.

1970- Arrived in Windsor, Ontario, Canada.

1973- Graduated with Honours B.A. in Psychology from the University of Windsor, Windsor, Ontario, Canada.

1973- Entered Graduate Studies in Clinical Psychology at the University of Windsor on a University of Windsor Scholarship.