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Measures of Psychological Androgyny
in Female Paramedics

by
Lynn M. Collins

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Arts Degree in the Graduate Division
of Rowan College
May 1996

Approved by _____
Professor

Date Approved 5/14/96

ABSTRACT

Lynn M. Collins

Measures of Psychological Androgyny
in Female Paramedics

1996

Dr. John Klanderma

School Psychology

The purpose of this study was to examine whether female paramedics were found to be more psychologically androgynous than female non-paramedics. The study group consisted of forty-two female paramedics. The control group consisted of forty-two females from occupations typically considered to be "feminine" professions. All subjects were administered the Bem Sex Role Inventory and asked to rate themselves on the sixty (60) personality characteristics contained within the instrument. Independent samples *t*-tests were performed on the androgyny scores and the masculine and feminine scores for the questionnaire. The results were contrary to prediction and found that the control group was more psychologically androgynous than the study group. In fact, the paramedic group was found to be more psychologically masculine than androgynous.

MINI-ABSTRACT

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Dr. John Klanderman

School Psychology

The purpose of this study was to examine whether female paramedics were found to be more psychologically androgynous than female non-paramedics. The results of this study found that female paramedics were more psychologically masculine, rather than more androgynous when compared to female non-paramedics.

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Chapter 1: The Problem

Need

In recent years, there has been a substantial increase in the number of women in the work force. Additionally, the number of women entering traditionally male-dominated professions has been steadily increasing. Though society is now observing more women successfully performing jobs in construction, electrical engineering, police sciences, and the emergency medical field, traditional gender stereotypes persist. Men are commonly viewed as more competent and more knowledgeable than their female counterparts by both co-workers and the population that they serve. There is often pressure placed on females to conform and perform to standards set by men, many of which men, themselves, may not meet. Most individuals are concerned, to varying degrees, about how others view them. Ultimately, though, the way [manner in which] people view themselves is even more important to psychological well-being. This study will provide insight into the way that some women who work in a male-dominated profession view some important aspects of their personalities.

Purpose

The Emergency Medical Services (EMS) has been a male-dominated field since its inception in the early 1800s. The profession is commonly associated with such elements as high levels of physical and emotional stress, powerful adrenaline rushes, effective skill performance under strict time constraints and intense pressure, and frequent threats to personal safety. These elements, along with countless others, are commonly thought to be best dealt with by a male. Traditional gender role concepts and stereotypes dictate that men are better able to deal with the stresses and pressures of demand performance in life and death situations. Unfortunately, both male emergency medical personnel, and a large percentage of the general population, share this view. Women are commonly viewed as not possessing the characteristics or traits necessary to perform effectively as a paramedic. In fact, many female paramedics possess characteristics such as independence, assertiveness and aggressiveness; which are viewed as "masculine" traits. However, they also possess qualities such as sympathy, sensitivity and compassion; which are viewed as "feminine" traits. The blending of masculine and feminine traits, known as *androgyny*, and the ability to employ these traits as circumstances dictate, enable female paramedics to effectively deal in a great variety of situations. More importantly, as current research indicates, androgynous individuals are much better at adapting to and dealing with a broad range of social and professional situations than exclusively masculine-typed individuals, due to their flexibility. Being androgynous is very beneficial to people who are continuously called to perform in ever-changing situations.

The purpose of this study is to examine whether female paramedics are found to be psychologically androgynous when asked to rate themselves on measures of personality traits.

Hypothesis

Female paramedics will score higher on measures of psychological androgyny on the Bem Sex Role Inventory than female non-paramedics.

Theory

In order to effectively understand the theoretical concepts of androgyny, it is necessary to first understand the factors that led to the emergence of this personality type. A person's identity as either male or female exerts a strong influence on his or her social behavior. Depending on one's gender, there are clearly defined behavioral norms that demand conformity to specific roles. These roles are partially delineated in accordance with prevailing gender role stereotypes (Unger & Crawford, 1992).

The role prescribed for an individual on the basis of gender not only effects his or her own behavior, but determines certain expectations concerning the appropriate behavior of others as well. However, the tendency to define male and female gender roles in opposite terms exaggerates the perception of differences between the sexes and obscures the recognition of similarities.

The most widespread and persistent view of masculinity-femininity (M-F) is that there are two types of people, masculine ones and feminine ones. This model, because it

attempts to place people in one of two categories, is guilty of oversimplification. The model is both naive and conservative in its assumption that all or most women are feminine and all or most men are masculine. Additionally, this model not only ignores all of the variability from one individual to the next, but also the potentially great similarities between the genders.

A somewhat more sophisticated conceptualization is that M-F can be represented by various gradations on a continuum. With this model, individuals presumably fall at varying points along a scale. The scale is unidimensional and bipolar. Thus, all of the varieties of masculinity and femininity are represented on a single scale. Therefore, the idea is that masculinity and femininity are opposites.

Numerous psychological tests have been devised to measure M-F. Virtually all of them are based on the unidimensional, bipolar continuum model. This is the most important criticism of the M-F tests (Hyde, 1985). Researchers do not feel that M-F is so simple that it can be viewed on a single scale. They believe that several scales must be employed in order to capture its complexity. Moreover, researchers do not believe that M-F is bipolar. Bipolarity, in effect, means that the more masculine one is, the fewer feminine traits one exhibits, and vice versa. Most researchers do not believe this to be the case.

There are other important criticisms to the common M-F tests. One is that the psychologists who construct these tests never precisely define what they mean by "masculinity" or "femininity." Further, some studies emphasize gender role preference (what one would like to be); whereas, others emphasize gender role adoption (what one

actually does). It is not clear which of these tests measures true masculinity or femininity. For example, there may be a contradiction between one's gender role preference, which may be masculine, and one's gender role adoption, which may be feminine. Therefore, which is the individual, masculine or feminine? One M-F test may indicate "masculine," and another may indicate "feminine."

Finally, there is a confusion between the M-F of personality versus the M-F of behavior (Spence & Helmreich, 1978). Should one be scored on the basis of one's personality traits (e.g., nurturance, warmth), or on the basis of one's behavior (e.g., cooking, child-rearing)? The ambiguity about exactly what is meant by masculinity and femininity persists.

All of these problems and criticisms of the M-F models and the measures used to test them led researchers to develop the concept of androgyny. *Androgyny*, a word that combines the Greek roots *andro* (male) and *gyn* (female), refers to a balance or blending of masculinity and femininity. Androgyny was reflected in Jung's (1971) concepts of *anima* (feminine part of the self in men) and *animus* (masculine part of the self in women). Jung believed that the two must be integrated within each of us if the self is to be complete. Androgyny has been newly rediscovered because psychologists have needed a way to discuss masculinity and femininity without automatically accepting the absolute assumptions of traditional theories (Cook, 1985). As psychologists have used the term in research, psychological androgyny refers to the blending or balancing of psychological traits that are stereotyped masculine or feminine.

It is helpful to understand the things that androgyny is not. Androgyny is not a synonym for liberal attitudes about women's roles in society. A person may see himself or herself as less gender typed than others and, at the same time, have traditional beliefs about gender roles. Secondly, androgyny does not refer to sexual orientation. A homosexual or bisexual orientation in one's sexual attraction bears no necessary relation to psychological androgyny, or, for that matter, any other pattern of gender typing. Finally, androgyny does not refer to physical, sexual, or sex-related characteristics.

The concept of androgyny is based on a two-dimensional model of M-F. The idea that instead of masculinity and femininity being opposite ends of a single scale, they are two separate dimensions; one running from not feminine to very feminine, and the other from not masculine to very masculine. This allows for androgynous people -- people who are high in both masculinity and femininity. It also allows for masculine people and feminine people.

Two noted psychologists, Sandra Bem and Janet Spence, have done substantial research on androgyny and have developed inventories for the measurement of individual differences in androgyny. Research has indicated that androgyny is preferred over both masculine and feminine typology. As an ideal, androgyny permits freedom from gender role stereotypes and allows people to express their opposite-gender tendencies. In reality, androgynous people have been shown to do better in a wide variety of situations, because they are capable of being masculine or feminine when the situation calls for it (Bem, 1976). In contrast, stereotyped individuals may do well when stereotyped

behavior is required, but poorly in situations demanding cross-gendered behavior (Bem, 1976). In short, androgynous people have an advantage because they are flexible.

Definitions

Emergency Medical Services (EMS): The large branch of medical care that provides prehospital treatment. Fire departments, rescue companies, ambulance squads and paramedic units are all part of this branch of service. Firefighters and Emergency Medical Technicians (EMTs) provide basic life support techniques. Paramedics provide advanced life support techniques such as drug therapy, cardiac monitoring, intravenous therapy and other invasive procedures.

gender-typed: The gender traits and behaviors that mirror society's view of what is appropriate for a male or female. Also incorporated into this is the integration of these traits with one's self concept.

paramedic: A professional emergency medical treatment provider who renders advanced life saving techniques in the prehospital setting. Continuous certification at the state and national level are required. Successful completion of a two-year college program of didactic study and field internships are required for initial certification.

trait: A distinguishing quality or characteristic.

trait inventory: An itemized list of characteristics or adjectives that describe aspects of personality.

Assumptions

It is assumed that since this is an anonymous self-report procedure, that dishonesty will have no significant impact on scores. It is assumed that there will be a continuity in data collections since the individual assisting in collection will be debriefed and informed regarding the administration process. It is also assumed that there will be no significant differences in scores based on subject's age differences, differences in levels of education, or length of time in the field. Additionally, it is assumed that there will be no significant difference in scores for paramedics that are exposed to urban environments during routine rotations. For example, the paramedics in two of the projects contained in this study are assigned to regular rotations in Camden City, New Jersey. It is assumed that this regular exposure to the added pressures and dangers of this particularly harsh urban environment will not produce a significant difference in the scores for these individuals.

Limitations

This study is limited to female paramedics who serve in the South Jersey region.

Overview

The relevant research on prior applications of the Bem Sex Role Inventory will be illustrated in Chapter 2. In addition, research on androgyny that is applicable to this study will be reviewed. These studies will assist in the understanding of androgyny in general and clarify the measures used in this study.

In Chapter 3, the test samples, operational measures, materials, variables, test design, and procedure employed in this study will be defined and detailed.

The results will be interpreted in Chapter 4 and all of the analyzed data will be presented. The study group will be compared with the control group and the comparisons will be clearly depicted through tables and figures.

The entire study will be summarized in Chapter 5 and the conclusions regarding the results and the implications for future research will be discussed.

Chapter 2: Review of Literature

Introduction

The idea of androgyny is an ancient one, rooted in classical mythology and literature (Heilbrun, 1973). The term "androgyny" comes from *andr* (man) and *gyne* (woman) and is used in biology to describe flowers bearing both staminate and pistillate parts; it means, in general, both masculine and feminine. In contrast to both masculinization and feminization, androgyny does not require a man or a woman a total and exclusive acceptance of the sex role traits characteristic of the opposite sex (Taylor & Hall, 1982). Both sexes maintain their typical traits but incorporate the traits of the opposite sex into their behavior patterns. Thus, both men and women should be assertive and submissive, cautious and adventurous, dependent and independent, and so forth.

The term *androgyny* has been widely used by researchers of various disciplines to denote any balancing or blending of the sexes. Therefore, there are different types of androgyny. Physically androgynous individuals are technically hermaphrodites. However, physical androgyny can also refer to an individual's outward mannerisms such as verbal behavior, body language, and dress style. There are also psychologically androgynous individuals. Psychological androgyny refers to the balancing of psychological or "personality" traits from both sexes. Psychologically androgynous

individuals incorporate both masculine and feminine personality characteristics into their behavior patterns. These traits are not "touchable," as in the case of physically androgynous individuals. The study at hand deals exclusively with psychological androgyny.

Recently, androgyny has been rediscovered to define new possibilities for individuals who do not "fit" into the traditional classifications of "masculine" and "feminine." Since the early 1970s, androgyny has been positioned within a broader model in psychology to explain similarities and differences among individuals according to the degree to which they or others describe themselves in terms of personality characteristics traditionally associated with men and those associated with women (Cook, 1987).

The psychological characteristics traditionally associated with each gender are diverse yet widely recognized by members of a particular society. Masculine characteristics are instrumental/agentive in nature, involving goal orientation, assertive activity, self-development, and separation from others (Cook, 1987). Feminine characteristics are expressive/communal, focussing upon emotionality, selflessness, sensitivity, and interpersonal relationships (Cook, 1987). Androgyny represents a combination of the expressive/communal (feminine) and instrumental/agentive (masculine) personality dimensions.

Androgyny theory is typified by some commonly held assumptions about the nature of masculinity and femininity (Cook, 1987). It is assumed that masculinity and femininity are independent, positive trait dimensions existing in everyone to some extent.

Although these dimensions have been stereotypically labeled as the domain of one gender alone, each dimension is actually characteristic of both men and women in varying degrees (Cook, 1987). Individuals can be meaningfully described by the extent to which they endorse each dimension as self-descriptive. Additionally, both masculinity and femininity dimensions have a powerful impact upon a person's psychological functioning that is not gender-specific (Cook, 1987). For instance, both men and women benefit from being autonomous (masculine) and emotionally sensitive (feminine).

Benefits of Androgyny

A common assumption concerning androgyny is that it represents an ideal of human functioning. Many studies have attempted to demonstrate the superior adaptability, flexibility, and psychological health of androgynous individuals compared to individuals categorized into other gender roles.

One hypothesis that has received particular attention in androgyny literature relates to the superior behavioral flexibility of androgynous individuals. Androgynous people have been widely hypothesized to be able to engage in either or both masculine and feminine behaviors depending upon the requirements of the specific situation (Bern, 1975; Bern, *et al.*, 1976).

In a study by Sandra Bern (1975), one proposed consequence of psychological androgyny; sex role adaptability, was examined. Bern hypothesized that psychologically androgynous individuals might be more likely than either masculine or feminine individuals to display sex role adaptability across situations, engaging in situationally

effective behavior without regard for its stereotype as more appropriate for one gender or the other (Bem, 1975). Bem's earlier work had established examples of stereotyped behaviors. During her development of the Bem Sex Role Inventory (BSRI; 1974), she had identified several behaviors and characteristics that were deemed by several groups of subjects to be masculine, feminine, or neutral. These items were labeled masculine if subjects deemed them more appropriate for a male in American society. They were labeled as feminine if they were deemed more appropriate for a woman in American society, and neutral if they were appropriate for both genders.

One of Bem's major beliefs is that a non-androgynous sex role can seriously restrict the range of behaviors available to an individual as he or she moves from situation to situation. According to both Kagan (1964) and Kohlberg (1966), the highly sex typed person becomes motivated, during the course of sex role socialization, to keep his or her behavior consistent with an internalized sex role standard; that is, he or she becomes motivated to maintain a self-image as masculine or feminine. This goal is presumably accomplished by suppressing any behavior that might be considered undesirable or inappropriate for his or her gender (Bem, 1975).

In contrast, because his or her self-definition excludes neither masculinity nor femininity, the androgynous individual should be able to remain sensitive to the changing constraints of the situation and engage in whatever behavior seems most effective at the moment, regardless of its stereotype as appropriate for one sex or the other (Bem, 1975). Thus, whereas a narrowly masculine self-concept may inhibit so-called masculine

behaviors, an androgynous self-concept allows an individual to engage freely in both masculine and feminine behaviors.

A review of the relevant literature corroborates Bem's assumption that a high level of sex typing may not be desirable. For instance, high femininity in females has consistently been correlated with high anxiety, low self-esteem, and low social acceptance (e.g., Cosentino & Heilbrun, 1964; Gall, 1969; Gray, 1957; Sears, 1970; Webb, 1963). Although high masculinity in males has been correlated during adolescence with better psychological adjustment (Mussen, 1961), it has been correlated during adulthood with high anxiety, high neuroticism, and low self-acceptance (Harford, Willis, & Deabler, 1967; Mussen, 1962). Additionally, greater intellectual development has been correlated quite consistently with cross sex typing; that is, with masculinity in girls and with femininity in boys (Bem, 1975). Boys and girls who are more sex typed have been found to have lower overall intelligence, lower spatial ability, and lower creativity (Maccoby, 1966).

Bem (1975) sought to demonstrate both the behavioral adaptability of the androgynous individual, as well as the behavioral restriction of the non-androgynous individual. In one study, Bem used a standard paradigm to test the hypothesis that masculine and androgynous subjects would remain more independent from social pressures than feminine subjects. In a second study, she tested the hypothesis that androgynous and feminine subjects would both be more nurturant than masculine subjects. Taken together, these two studies offered one test of the hypothesis that non-androgynous subjects would "do well" only when the situation called for behavior which

was congruent with their self-definition as masculine or feminine, whereas androgynous subjects would do well regardless of the sex role stereotype of the particular behavior in question (Bern, 1975). Thus, they would perform as well as masculine subjects on the masculine task, and they would perform as well as feminine subjects on the feminine task.

Bern administered the BSRI to male and female undergraduate students in order to classify them as masculine, feminine, or androgynous. Subjects were then asked to perform a task that, on the basis of pretests, had been classified as either masculine or feminine. In the first study, resistance to social pressure (a masculine characteristic) was assessed in a situation in which subjects could choose to maintain their independence by assigning the label "funny" to objectively funny cartoons and the label "unfunny" to objectively unfunny cartoons or to conform to the opinions of others who were programmed to label funny cartoons as unfunny and vice versa. As predicted, androgynous subjects (both male and female) were more resistant to pressures to conform than other subjects.

In the second study, subjects were provided with the opportunity to interact with (nurture) a kitten. Androgynous men spent more time playing with the kitten than the other groups. There was no significant difference found for androgynous females.

The results of these two studies, indeed, suggest that androgynous individuals feel freer to behave in a manner consistent with the demands of the situation than sex typed people. In these studies, androgynous people were able to both maintain independence

under social pressure to conform and be nurturant. Additionally, the studies suggested that sex typing imposes stereotypically defined behavioral restrictions on people.

Bem has conducted subsequent studies on nurturance that have yielded similar results. Follow-up studies designed to determine whether low levels of nurturance in her previous study could be related to a dislike or fear of animals, or reluctance to act assertively in interpersonal situations by initiating interaction were conducted. The results again indicated that masculine subjects were less nurturant than both feminine and androgynous individuals.

Sex typed individuals not only feel more compelled than androgynous ones to respond within the confines of the stereotypically defined sex roles, but are also more likely to avoid cross-sexed behavior, even if it costs them money to do so (Bem & Lenney, 1976). Subjects were asked to perform three sex-appropriate, three sex-inappropriate, and three neutral activities while the researchers pretended to photograph them. After performing each activity, subjects were asked to indicate how they felt about themselves. Sex typed individuals reported the greatest discomfort after performing a sex-inappropriate activity and felt worse about themselves after their activity. Overall, the results of the work of Bem and her colleagues suggest that the behavior of people who adhere to stereotypically defined conceptions of themselves is severely restricted.

These suggestions obviously call into question the validity of the traditional assumption that masculine men and feminine women typify mental health (Hyde, 1985). Instead of facilitating general social or psychological adjustment, a high level of sex

typing may limit not only the behavioral flexibility of individuals, but their potential for growth as well (Bem, 1975).

In a conceptual replication and extension of the study by Bem and Lenney, Helmreich and Spence (1979), rated college students on their comfort in and preference for performing several series of masculine, feminine, and neutral activities. Results indicated that androgynous and masculine subjects of both sexes had higher comfort ratings, independent of type of task, than did feminine and undifferentiated subjects (those who endorse neither masculine nor feminine traits as self-descriptive). These findings suggest the importance of instrumentality and expressiveness (Helmreich, Spence, & Holahan, 1979). Additionally, masculine subjects were found to have a stronger preference for sex typed tasks than individuals in the other categories.

A second important dimension of psychological well-being entered into the issues surrounding the measurement of androgyny (Worell, 1978). Spence, *et al.* (1975) found that both male-valued and female-valued scores on their instrument contributed to a measure of self-esteem. These authors suggested that masculinity and femininity may contribute in an additive way to an individual's positive self-evaluation. Consequently, their definition of androgyny included absolute strength as well as the relative balance of masculinity and femininity scores (Spence, *et al.*, 1975). A four-fold scoring system for conceptions of well-being was demonstrated in the correlations between the Personal Attributes Questionnaire (an instrument developed by the authors to measure androgyny) and a measure of self-esteem. When androgyny was defined in terms of both response

strength and balance, androgynous individuals scored the highest on measures of self-esteem, followed by those who were sex typed masculine.

A third indication of effective psychological functioning is the extent to which individuals can remain relatively free from obvious pathology or self-defeating patterns of behavior (Worell, 1978). Recent evidence suggests that androgynous males, and some androgynous females, endorse the fewest negative self-statements (Kelly, Caudill, Hathorn, & O'Brien, 1977; Wiggins & Holzmueller, 1978).

Finally, some investigators have hypothesized that the flexibility of androgynous individuals that is presumed to operate in instrumental and expressive domains will be manifested in more effective functioning in a wide variety of cognitive and interpersonal life-style variables (Worell, 1978). This particular hypothesis has received little attention and requires more examination before any further comment can be made on the issue.

Androgyny Literature

Androgyny literature is clearly rooted in the broader traditions of sex role psychology. The focus upon personality traits in the androgyny literature evolves specifically from earlier research, particularly in the measurement of masculinity-femininity (Cook, 1987). Traditional conceptualizations of masculinity and femininity viewed a clear differentiation between genders in a wide range of characteristics to be typical and desirable (Spence & Sawin, 1985). These psychological attributes were presumed to evolve logically and smoothly from physiological sex differences present

from birth or before (Kaplan & Bean, 1976). Manifestation of "feminine" attributes by women and "masculine" attributes by men signaled fulfillment of a basic genetic destiny.

Measurements of Psychological Androgyny

In psychology, masculinity and femininity have traditionally been conceptualized as bipolar ends of a single continuum; accordingly, a person has had to be either masculine or feminine, but not both. This gender-role dichotomy has served to obscure two very plausible hypotheses: first, that many individuals might be androgynous; that is, they might be both masculine and feminine depending on the situational appropriateness of various behaviors; and conversely, that strongly gender-typed individuals might be seriously limited in the range of behaviors available to them as they move from situation to situation (Bem, 1974). Research on the conceptualization of M-F subsequently indicated that representation of masculinity and femininity as a single, bipolar, unidimensional trait was inadequate to convey the complexity of the sexes' self-descriptions (Cook, 1985). Constantinople's (1973) research review was representative of a broader reorientation in sex role psychology, in which a pervasive dichotomization of the sexes in psyche and function was no longer viewed as the necessary and desirable consequence of physical sex differentiation (Spence & Sawin, 1985).

Androgyny measures are based upon some commonly held assumptions about the nature of masculinity and femininity (Cook, 1985). It is assumed that masculinity and femininity are independent, positive trait dimensions existing in everyone to some extent. Secondly, individuals can be meaningfully described by the extent to which they endorse

each dimension as self-descriptive. Finally, both masculinity and femininity dimensions have a powerful impact upon a person's psychological functioning that is not gender-specific. Androgyny measures elicit self-descriptions from respondents that are converted into separate masculinity and femininity scores. The scale scores are used as continuous scores or to classify individuals into a sex role typology. The most popular androgyny measures have been the BSRI (Bem, 1974) and the Personality Attributes Questionnaire (PAQ; Spence & Helmreich, 1978).

Using the assumptions about androgyny and the measures of masculinity and femininity, researchers have attempted to determine systematic correlates and consequences of these dimensions. One group of studies focuses on the meaningfulness of the masculinity and femininity dimensions as represented on the androgyny measures and the implications of the expressive/communal and instrumental/agentic distinctions contained therein (Cook, 1987). The second group of studies is more speculative, but with more provocative implications for counseling psychologists (Cook, 1987). Here, researchers assume that the self-descriptions provided by the androgyny measures extend past the simple M-F content to indicate different types of individuals, potentially distinguishable by a wide variety of traits, attitudes, and behaviors (Cook, 1987). Thus, androgyny means more than simply endorsing both sets of androgyny measure items; it is a new sex role alternative with broad implications for an individual's functioning.

The most popular view of androgyny over the years has been modulation or balance, in which the extreme tendencies inherent within each dimension are tempered or moderated by the presence of the other dimension (Cook, 1987). Thus, masculinity's

potential hyperaggressiveness is moderated by the femininity dimension's concern for others, whereas femininity's possible extreme submissiveness is corrected by masculinity's autonomy and dominance (Cook, 1987). This balance view has typically been represented in research by *t*-ratio scoring, which normalizes the difference between Masculinity and Femininity Scale means by using the standard deviation of the scale scores. Androgyny is operationalized as a lack of statistically significant differences between masculinity and femininity scores (Bem, 1974). Similarly, individuals are classified as sex typed if their scores are significantly different. Occasionally, researchers either utilize a simple difference score in lieu of the more complex *t*-ratio scoring because of its high correlation (.98) or approximate the *t*-ratio score by multiplying the difference score by a conversion factor of 2.322 (Bem, 1974).

The Bem Sex Role Inventory

The BSRI is the instrument being used in this study. It is described in full detail in Chapter 3, however, a general overview is included in this section on androgyny measures. The BSRI was the first instrument created to measure androgyny. It was developed in 1974 by Sandra Bem, a prominent psychologist in the field of sex typing. It is comprised of a Masculinity Scale and a Femininity Scale, each of which contains 20 personality characteristics selected on the basis of sex typed social desirability (Bem, 1974). The BSRI also contains 20 items representing personality characteristics generally thought to be socially desirable for both sexes.

Subjects indicate the extent to which each of the 60 items characterizes them on a 7-point scale ranging from "never" or "almost never true of me" to "always" or "almost always true of me." Respondents are classified on the basis of their scores as sex typed (masculine or feminine) or androgynous. In order to be classified as androgynous, an individual must endorse an approximately equal number of male and female characteristics as self-descriptive. In order to be classified as sex typed, a person must endorse only those attributes that characterize one sex and reject those that characterize the other sex.

Psychometric analyses of the BSRI reveal that, as predicted, the Masculinity and Femininity Scales are empirically independent (O'Leary, 1977). A subject's scores on the scale are internally consistent and reliable over time and are not correlated with the tendency to characterize oneself as socially desirable (O'Leary, 1977).

The second dominant view of androgyny, the additive model, is measured in a slightly different manner than the balance model described above. The additive model has typically been represented by a median split of each score distribution to distinguish high versus low scorers on each dimension. Most frequently, the combined sex score distribution is used to generate medians (O'Leary, 1977). Only high-high scorers earn the label androgynous. Other categories are undifferentiated (low-low) and two sex typed categories representing those with a predominance of one set of characteristics (masculine and feminine) (Spence, *et al.*, 1975).

The Personality Attributes Questionnaire

Spence, et al. (1978) suggested that there is a conceptual distinction between individuals who score androgynous because they endorse neither masculine nor feminine characteristics as particularly self-descriptive and those who characterize themselves as simultaneously highly masculine and highly feminine. Spence's conceptualization of sex role identification thus yielded a four-fold typology; masculine, feminine, androgynous, and undifferentiated. The Personality Attributes Questionnaire developed by Spence, et al., incorporated this four-fold typology. Similar typologies have been proposed by both Berzins, Walling, and Wetter (1978) and Heilbrun (1976).

Androgyny in an Occupational Environment

In reviewing the androgyny literature for this study, it became evident that a large body of research focused on the measures and behavioral consequences of androgyny. Unfortunately, there is virtually no research on androgyny in an occupational setting, much less in the field of emergency medicine. In fact, only one study has been found regarding androgyny in a male-dominated field.

Carolyn Jagacinski (1987) examined the relationship of sex typed traits to performance and satisfaction in engineering. Surveys were sent to male and female engineers with five years or less of professional work experience. Their names were obtained from the membership rosters of nine major scientific and engineering societies. The twelve-page survey contained questions relating to present jobs, education, job satisfaction, job responsibilities, job values, factors influencing their decision to study

engineering, and attitudes toward women in engineering. Additionally, the survey contained the Masculine and Feminine Scales of the short form of the PAQ (Spence, et al., 1978).

Both men and women engineers high in instrumentality (androgynous and masculine) reported greater levels of supervisory and technical responsibility, salary, involvement in professional activities, and satisfaction than those low in instrumentality (feminine and undifferentiated). The individuals who were labeled high in instrumentality scored high on the Masculine Scale of the PAQ. Expressiveness (feminine) was not significantly related to any of the measures of performance or satisfaction. In this sample of men and women engineers, where various background factors have been matched, gender typed traits had greater predictive value than gender itself (Jagacinski, 1987). It is interesting to note the tendency in this sample for engineers who listed management as their primary function to be more likely to be androgynous than engineers in other primary functions.

This study is essentially descriptive and can only identify relationships. The men and women surveyed did not differ significantly on the Masculine and Feminine Scales of the PAQ. It is not possible to determine if the female engineers began their careers being highly instrumental or became more instrumental as a result of their experience in the engineering work force.

Androgyny and Occupational Choice

Although studies have investigated how sex role stereotypes and androgyny relate to adjustment, very little research has been conducted to determine if androgynous individuals choose certain occupations over others (Kantner & Ellerbusch, 1980). Panek, Rush, and Greenwalt (1977) investigated the sex stereotyping of various occupations. Results indicated that certain occupations are considered "masculine," "feminine," or "neutral" occupations. A study by Kantner and Ellerbusch (1980) attempted to explore this relationship. They proposed that androgynous individuals, if inherently better adjusted, would feel more mobility in turning to cross-sex type occupations as opposed to neutral or same-sex occupations (Kantner & Ellerbusch, 1980). Subjects were 27 male nurses, chosen as representatives of individuals in a cross-sex type of occupation, and 27 male high school teachers, chosen as representatives of individuals in a neutral occupation. Subjects were administered Jackson's Personality Research Form.

Results offered support for a postulate by Rebecca, Hefner, and Oleshansky (1976). They postulated that androgynous individuals are involved in a "process orientation allowing and fostering adaptation to varied occupations, life styles, and expressive roles." The results supported the idea that perhaps androgynous people are not drawn to specific types of occupations; rather, they are able to function effectively in varied occupations and occupational choice is made given their own specific interests and experiences (Kantner & Ellerbusch, 1980).

Summary

Although the concept of androgyny is an ancient one, only recently has it become the topic of psychological research. The emergence of androgyny in contemporary psychology can best be described as a response to the criticisms of the traditional Masculinity and Femininity Scales. Androgyny emerged as a descriptive typology for the great many individuals who did not "fit" into the traditional classifications of "masculine" and "feminine."

Over the last two decades, androgyny has become thought of as an ideal of human functioning. Common assumptions regarding androgynous individuals are that they possess superior adaptability, flexibility, and psychological health when compared to individuals of other sex role categories. Literature reveals that studies using global adjustment, locus of control, and anxiety measures show tendency for androgynous individuals to score as the most positive (Cook, 1985). Additionally, androgynous people tend to score the most favorably on measures of psychological development (Cook, 1985). They appear to be the most satisfied with life (Shichman & Cooper, 1984) and receive the most positive evaluations from their friends and from themselves (Baucom & Danker-Brown, 1983). Finally, androgynous individuals generally score highest on measures of self-esteem.

As more research was conducted in sex typing and sex role psychology, it became evident that the representation of masculinity and femininity as a single, bipolar, unidimensional trait was inadequate to convey the complexity of the sexes' self-descriptions. Through androgyny research, a more appropriate model was developed.

The research on androgyny is typified by some commonly held beliefs about the nature of masculinity and femininity. Androgyny measures are based upon these assumptions and elicit self-descriptions from respondents that are converted into separate Masculinity and Femininity Scale scores. These scale scores are used to classify individuals into a sex role typology. Over the years, many measures have been developed for androgyny. Most, however, are variations of the two original, and most popular instruments; the BSRI (Bem, 1974) and the PAQ (Spence & Helmreich, 1978).

The body of literature on androgyny in occupational settings is extremely small. In fact, only two primary areas have been addressed. Recently, research has been done to examine the relationship between androgyny and occupational choice. The other area of research focuses more on sex role orientation as it relates to behavior in a work setting. Androgyny is only touched upon in this research as opposed to being the primary focus.

The literature review only produced one study of androgyny in a male-dominated field. The emphasis was on the relationship of sex typed traits to performance and satisfaction in engineering. Although the study provided insight into some aspects of androgyny, the research review yielded no literature on sex roles in the field of emergency medicine. More research is needed in occupational androgyny, especially in relation to women employed in male-dominated professions.

Chapter 3: Design of the Study

Samples

The subjects used for the study group were all female paramedics. Forty-two subjects from three separate paramedic projects (Emergency Medical Systems) operating in the Southern New Jersey area were administered this instrument. Twenty-eight percent (28%) were from Underwood Memorial Hospital Mobile Intensive Care Unit (UMH-MICU), forty-eight percent (48%) were from West Jersey Health System Mobile Intensive Care Unit (WJHS-MICU) and twenty-four percent (24%) were from the University of Medicine and Dentistry of New Jersey Emergency Medical Service (UMDNJ-EMS). These projects operate almost exclusively in the southern region of New Jersey. UMH-MICU provides service to all of the municipalities in Gloucester County, Cumberland County and Salem County. WJHS-MICU operates in all of the municipalities in Camden County. UMDNJ-EMS provides service exclusively to Camden City.

The subjects in the study group were ninety-eight percent (98%) Caucasian and two percent (2%) African-American. They ranged in age from 26 to 57 years. The length of time in the paramedic field for each subject ranged from two to twenty-three years. The subjects in the study group were selected solely on the basis of their gender

and occupation. The three possible sources for paramedics in the South Jersey region were employed in this study.

The control group used for this study was comprised of forty-two females from various professions. The subjects were selected from populations and occupations that are considered to be "feminine" according to research on gender occupations (Panek, Rush, & Greenwalt). For example, teachers, nurses, secretaries, and homemakers are considered feminine occupations. Females from each of these professions were administered the instrument, as well as some graduate students from an educational/psychological discipline. The percentages were as follows: twenty percent (20%) teachers, twenty-one percent (21%) nurses, nineteen percent (19%) secretaries, nineteen percent (19%) homemakers, and twenty-one percent (21%) graduate students.

The racial make-up of the control group matched that of the study group; 98% were Caucasian and 2% were African-American. Their ages ranged from 21 to 59 years. These individuals were selected on the basis of their gender and occupation. These occupations were chosen due to the societal perception of their feminine character.

Materials and Setting

The BSRI was the instrument used for this study. The BSRI consists of 60 adjectives or "personality characteristics." When taking the BSRI, an individual is asked to indicate on a 7-point Likert Scale how well each of the personality characteristics describes herself. The scale ranges from 1 ("never or almost never true") to 7 ("always or almost always true") and is labeled at each point. A Masculinity and a Femininity

Scale are inherent to this instrument. Each scale comprises 20 items of the overall 60 adjectives. Each of these adjectives were selected on the basis of sex typed social desirability (Bem, 1974). That is, a characteristic qualified as masculine if it was judged by two independent samples of undergraduates to be more desirable in American society for a man than for a woman (e.g., ambitious, dominant, self-reliant). It qualified as feminine if it was judged to be more desirable in American society for a woman than for a man (e.g., affectionate, gentle, understanding).

The study group of paramedics were administered the BSRI on an individual basis while at their places of employment. No specified times were used for the administration of the inventory. These individual administrations were conducted over a period of 14 weeks that were designated for data collection. The control group was administered the BSRI on an individual basis at unspecified times throughout the course of the 14 weeks that were assigned for data collection. The graduate students were given the BSRI while at school. The subjects from the other occupations were administered the BSRI while at their respective places of employment.

Variables

The independent variable in this study was whether the individual was in the study group or the control group. The dependent variables were the actual scores that were obtained on the BSRI.

Design

As previously mentioned, the BSRI contains separate Masculinity and Femininity Scales. On the basis of individualized responses, each person receives a masculinity score, a femininity score, and an androgyny score. The masculinity score is the average of the self-ratings on the masculine items and the femininity score is the average of the self-ratings on the feminine items. The androgyny score is defined as the subject's *t* ratio for the difference between a person's masculine and feminine self-endorsement; that is, the androgyny score is the difference between an individual's masculinity and femininity normalized with respect to the standard deviations of her masculinity and femininity scores (Bem, 1974). The use of a *t* ratio as the index of androgyny, rather than a simple difference score, has an important conceptual advantage: it allows us to ask whether a person's endorsement of masculine attributes differs significantly from her endorsement of feminine attributes and, if it does ($|t| \geq 2.025$, $df = 38$, $p < .05$), to classify that person as significantly sex typed (Bem, 1974).

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 (Bem, 1974). A masculine sex role thus represents not only the endorsement of masculine attributes but the simultaneous rejection of feminine attributes (Bem, 1974). Similarly, a feminine sex role represents not only the endorsement of feminine attributes but the simultaneous rejection of masculine attributes (Bem, 1974). In contrast, the closer the androgyny score is to zero, the more the person

is androgynous. An androgynous sex role thus represents the equal endorsement of both masculine and feminine attributes.

A *t*-test for independent samples was performed on the masculine scores, feminine scores and difference scores for both groups of subjects.

Measures of central tendency were obtained for comparison purposes. The group median scores were very important in this study because the subjects were individually classified as "androgynous" based on whether their masculine and feminine scores were above the median scores on each scale. Specifically, subjects were labeled "androgynous" if both their masculine and feminine scores were above the median masculine and feminine scores for their respective group.

Procedure

All subjects were given an informed consent form which was signed before beginning the BSRI. All subjects were debriefed on their participation in this study. They were assured that their responses would remain strictly confidential. Additionally, they were informed that their participation was totally voluntary and that they were free to withdraw from the study at any point.

Subjects were given the BSRI and an instruction sheet. Each subject was also verbally instructed on the method of responding when using a Likert Scale. Administration was done on an individual basis at unspecified times and places during the period of data collection. Most inventories were administered by this researcher, a Caucasian female. Additional inventories were administered by an aide to this

researcher, also a Caucasian female paramedic, who was fully instructed on the method of administration of the BSRI.

On average, the instrument took approximately ten minutes to complete.

Chapter 4: Analysis of Results

Restatement of Hypothesis

The hypothesis was that there would be a difference in the scores obtained by female paramedics and those obtained by non-paramedic females on the androgyny measures of the BSRI. It was predicted that female paramedics would score higher on measures of psychological androgyny on the BSRI than non-paramedics. The null hypothesis was rejected in this study. There was, in fact, a significant difference in scores; but the direction of the difference was contrary to prediction. The data obtained in this particular study did not support the stated hypothesis.

Interpretation of Results

The mean scores and standard deviations for the Femininity Scale of the BSRI are shown in Table 4.1.

Table 4.1

Mean Scores and Standard Deviations for
the Femininity Scale of the BSRI

GROUP	NUMBER OF CASES	MEAN	STANDARD DEVIATION
Paramedics	42	97.62	11.95
Non- Paramedics	42	99.10	12.31

The mean scores and standard deviations for the Masculinity Scale of the BSRI are shown in Table 4.2.

Table 4.2

Mean Scores and Standard Deviations for
the Masculinity Scale of the BSRI

GROUP	NUMBER OF CASES	MEAN	STANDARD DEVIATION
Paramedics	42	105.48	11.45
Non- Paramedics	42	97.81	10.74

Note the difference in the mean scores for the two groups of subjects. The mean scores and standard deviations for the Difference measure of the BSRI are shown in Table 4.3.

Table 4.3

Mean Scores and Standard Deviations for
the Difference Measure of the BSRI

GROUP	NUMBER OF CASES	MEAN	STANDARD DEVIATION
Paramedics	42	-7.86	19.20
Non- Paramedics	42	1.29	17.05

The results of the *t*-tests for independent samples for all three scores are shown in Table 4.4.

Table 4.4

t-test for Independent Samples

Scores	<i>t</i> -value	<i>df</i>	Tail Sig.
Femininity	-.56	82	.579
Masculinity	3.16	82	.002
Difference	-2.31	82	.024

The results for the femininity scores were not significant. The results for the masculine scores were statistically significant ($t = 3.16, df = 82, p < .05$). The results for the difference scores were also significant ($t = 2.31, df = 82, p < .05$).

The correlation coefficient between the femininity scores and the masculinity scores was $-.2277$.

The measures of central tendency for the Femininity Scale of the BSRI are shown in Table 4.5.

Table 4.5

Measures of Central Tendency for the
Femininity Scale of the BSRI

GROUP	MEAN	MEDIAN	MODE
Paramedics	97.62	100.00	93.00
Non-Paramedics	99.10	99.50	84.00

The measures of central tendency for the Masculinity Scale of the BSRI are shown in Table 4.6.

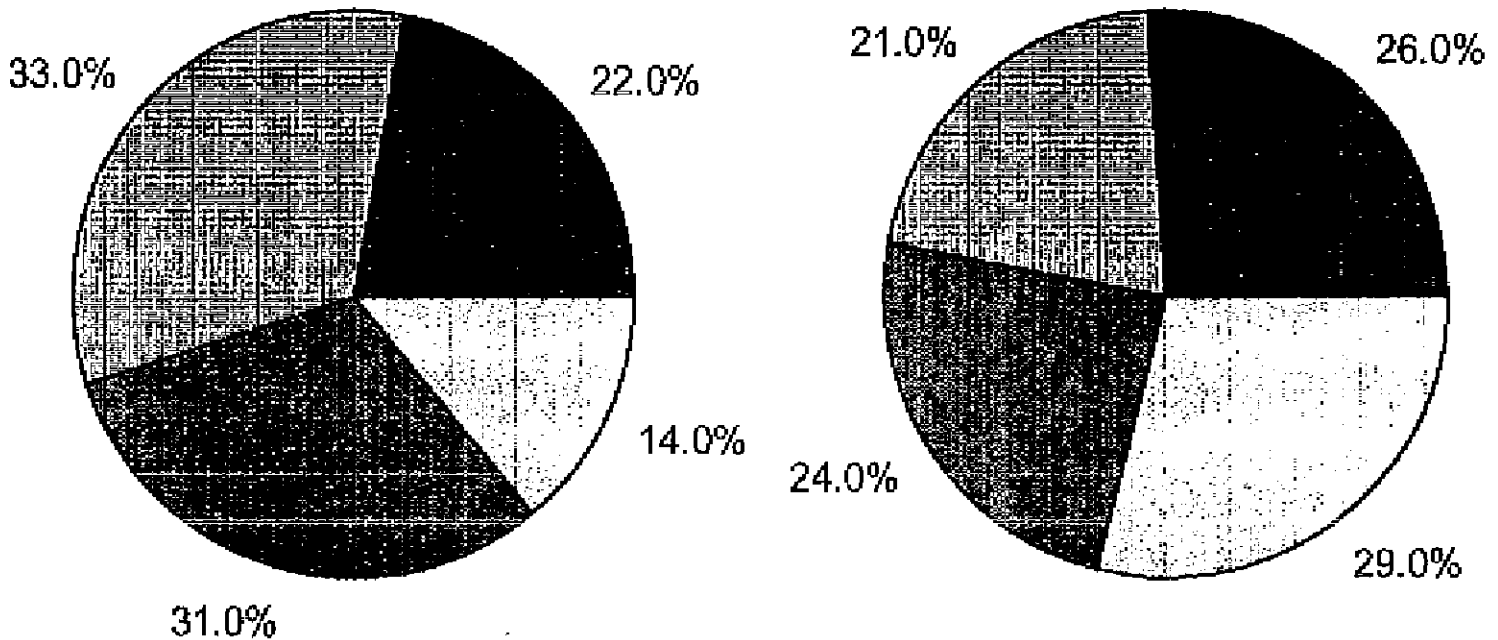
Table 4.6

Measures of Central Tendency for the
Masculinity Scale of the BSRI

GROUP	MEAN	MEDIAN	MODE
Paramedics	105.48	106.50	104.00
Non-Paramedics	97.81	95.00	92.00

Figure 4.1 represents the percentages of subjects classified as androgynous, masculine, feminine, or undifferentiated. Classifications were based on the median scores for the two groups. Subjects were labeled androgynous if both their masculinity

Classification Percentages



Paramedics

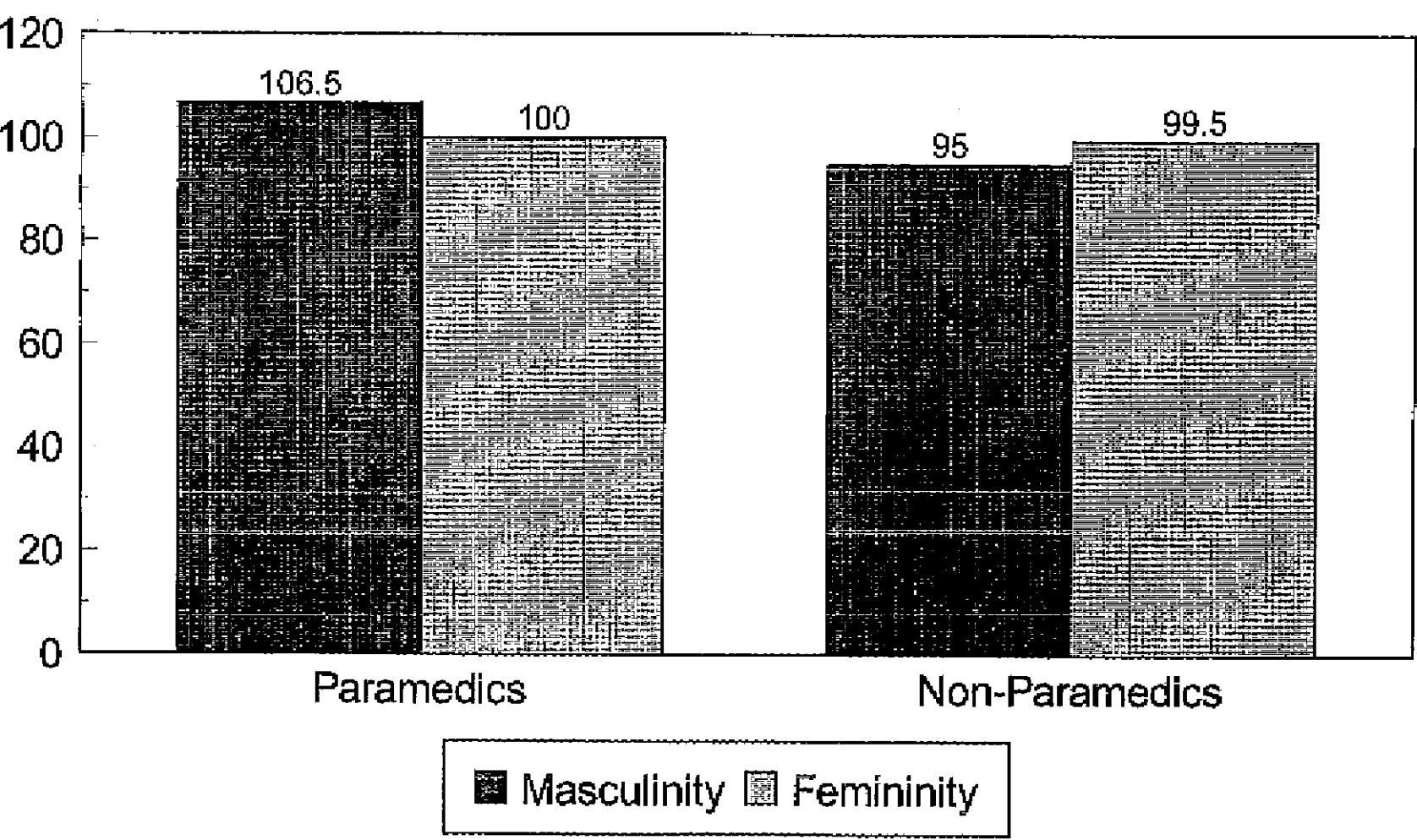
Non-Paramedics



and femininity scores were above the median score for their group. Subjects were labeled as undifferentiated if both their masculinity and femininity scores were below the median score for their group. The median scores for both groups for both scales are shown in Figure 4.2.

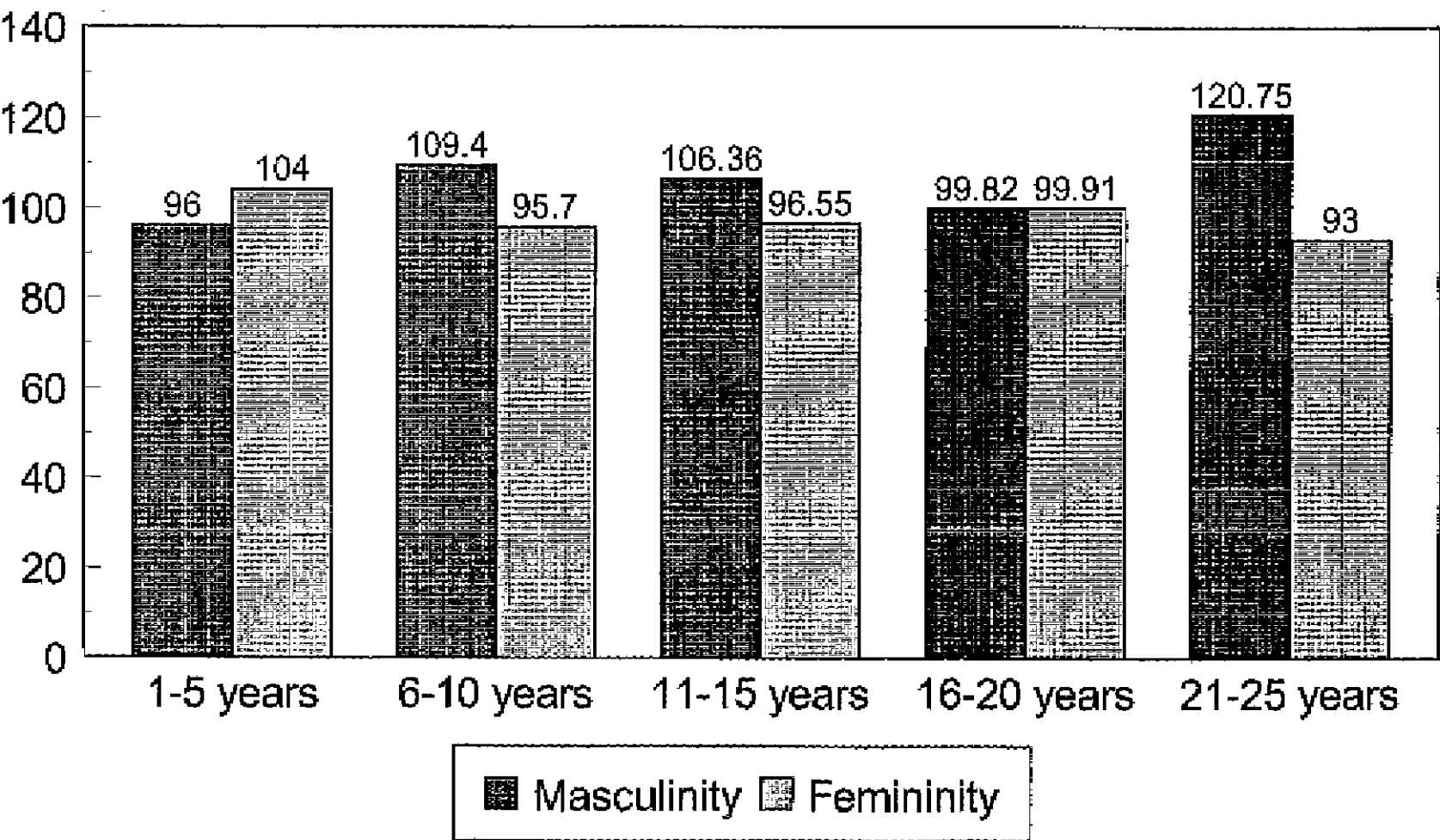
The data obtained was further broken down for illustrative purposes. The mean scores for the paramedic group for both the Masculinity Scale and the Femininity Scale were broken down by years of experience, as shown in Figure 4.3. The mean scores for the non-paramedic group for both the Masculinity Scale and the Femininity Scale were broken down by occupation, as shown in Figure 4.4.

Median Scores for Each Scale



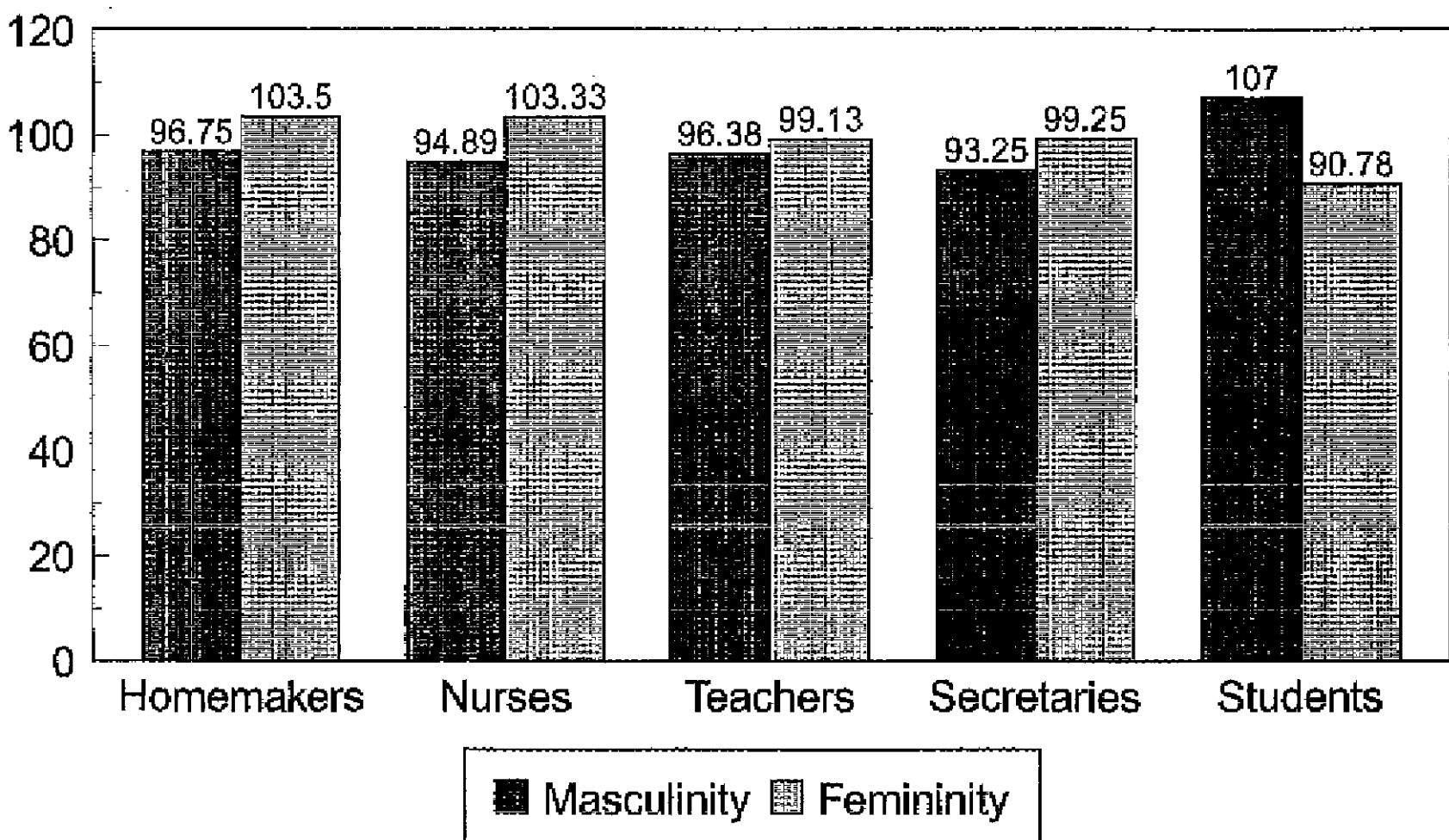
Paramedics

Mean Scores for Each Scale by Years of Experience



Non-Paramedics

Mean Scores for Each Scale by Occupation



Chapter 5: Summary and Conclusions

Summary

The emergency medical profession has been a male-dominated field since its inception in the early 1800s. Women are commonly viewed as not possessing the qualities necessary to perform effectively as paramedics. Many female paramedics, however, possess both masculine and feminine personality characteristics that enable them to perform well in a wide variety of situations. In fact, an androgynous personality may enable female paramedics to perform even better than strongly gender-typed male paramedics. Being androgynous is very beneficial to individuals who are required to adapt to and deal with a broad range of professional situations. This study examined psychological androgyny in female paramedics.

Traditional views of M-F were guilty of oversimplification. The concepts of M-F were conservative in their assumptions and ignored both the variability between individuals and the potentially great similarities between the genders. Perhaps the greatest criticism of M-F is the unidimensional, bipolar continuum model. Additionally, operationalizing "masculinity" and "femininity" and defining various terms in sex role psychology (e.g., gender role preference) invariably led to confusion and ambiguity in

interpretation of assessment results. The multitude of problems and criticisms of the M-F models led researchers to develop the concept of androgyny.

Androgyny became a way for psychologists to discuss masculinity and femininity without automatically accepting the absolute assumptions of traditional theories.

Androgyny emerged as a descriptive typology for the infinite number of individuals who did not fit into the traditional classifications of "masculine" and "feminine." Subsequent androgyny research has indicated that androgyny is preferred over both masculine and feminine typology. In fact, androgyny has become thought of as an ideal of human functioning.

Over the years, many measures have been developed to assess androgyny. Most, however, are variations of the two original and most popular instruments, the BSRI and the PAQ.

The BSRI contains sixty personality characteristics that were chosen on the basis of their social desirability as being more appropriate for one gender than for the other. A Masculinity Scale and a Femininity Scale are inherent to the inventory. Subjects are asked to rate themselves on each of the items using a 7-point Likert Scale. Subjects are consequently given a masculine score, a feminine score, and an androgyny score.

To test the hypothesis that female paramedics would score higher on psychological androgyny measures of the BSRI than female non-paramedics, the BSRI was administered to forty-two female paramedics and forty-two female non-paramedics. The results were contrary to prediction and found the control group to be higher on measures of psychological androgyny than the study group.

Conclusions

The purpose of this study was to examine whether female paramedics were found to be psychologically androgynous when asked to rate themselves on measures of personality traits. Specifically, the hypothesis was that female paramedics would score higher on measures of psychological androgyny on the BSRI than female non-paramedics.

The results indicated that there was a significant difference in scores of androgyny between the two groups of subjects. The direction of the difference, however, was contrary to prediction.

On measures of psychological characteristics, the significant results of this study were as follows:

1. Female non-paramedics were more psychologically androgynous than female paramedics; and
2. Female paramedics were more psychologically masculine than female non-paramedics.

Discussion

The major aspect of this study that raises questions and concerns regarding the results is the BSRI itself. It is important to note that the inventory was developed in 1974. Times have changed greatly in the past two decades. Societal attitudes, perceptions, and expectations generally change in accordance with changing times. The items that appear on the BSRI were selected on the basis of their social desirability as

being more appropriate for one gender than for the other. What was viewed as desirable for men and women in the seventies is very different from what is viewed as desirable today. Occupational roles have changed drastically with the influx of women into the work force. Gender roles have changed with societal evolution. Since social desirability was the basis for item selection on the BSRI, the items that comprise the Masculinity and Femininity Scales need to be examined in realistic terms of their desirability in American society today.

It appears that nearly all of the items contained on the Masculinity Scale would be desirable for any individual, regardless of gender (e.g., self-reliant, ambitious). Several items on the Femininity Scale, however, seem undesirable for any individual, regardless of gender (e.g., shy, gullible, childlike). The depiction of more socially attractive items on the Masculinity Scale could cause subjects to rate themselves higher on such items and thereby raise their masculine score. Whether women have incorporated more of the Masculinity Scale items into their personalities due to societal change is not one of the issues being examined in this study. The implication, however, is that if the inventory items are not accurately reflective of "masculinity" and "femininity" in modern society, then the subsequent results would also appear to be inaccurate.

Another question raised by the results of this study is whether the females in the paramedic group who scored high in masculinity were psychologically masculine before they entered into their occupation or whether they became more psychologically masculine through their exposure to and experiences in the profession. It is impossible to ascertain this information because no baseline personality inventories are available for

these subjects prior to their entrance into the emergency medical field. Similarly, it is unknown whether the subjects in the control group who scored high in androgyny were psychologically androgynous prior to entering their respective professions or whether they became psychologically androgynous as a function of their occupation.

A problem inherent to self-report techniques deserves mention in this section. Some of the subjects that were administered the BSRI might not have had the insight into their own personalities that was required in order to accurately complete self-rating inventories. This is not to imply that subjects were deliberately dishonest or that subjects attempted to impart a particular impression on the researcher (a primary reason for anonymous reporting). Rather, the suggestion is that subjects might not have the perspective on their own traits and qualities to rate the items in a manner that is accurately self-descriptive. In other words, subjects may not be able to distinguish between how they view themselves and how they actually are.

A somewhat less common problem that is related to both impression management and the problem of self-perception is the issue of distinguishing between the real self and the ideal self. Though subjects may be fully aware that they are endorsing items as self-descriptive when they really are not, subjects may wish that the items truthfully described them or may even be attempting to become more like the items in question. For instance, a subject is asked to rate themselves on their level of independence. The subject is aware that she is not very independent but is making conscious efforts to become more independent. She may respond to the item by using her perception of her "ideal" self rather than her actual self.

Implications for Future Research

As mentioned in Chapter 2, the majority of androgyny research focused on only two aspects of the newly redefined concept; either androgyny measurements or the behavioral consequences of androgyny. As discussed in the section above, there is an obvious need for updated instruments of measurement. Changes in characteristics considered socially desirable are certainly a great concern when evaluating the validity of the test and the accuracy of the results obtained. Most of the inventories were developed over two decades ago. It is necessary to either revise these inventories or develop new instruments of measurement that accurately reflect the personality characteristics that are considered socially desirable for both males and females in modern American society.

Unfortunately, there is very little research on androgyny in an occupational environment. The body of literature in this area only addresses two primary areas; androgyny and occupational choice and sex role orientation in relation to occupational behavior. Moreover, the only study found regarding androgyny in a male-dominated field (Jagacinski, 1987) is essentially descriptive and can only identify relationships. More research is needed concerning androgyny in predominantly male professions.

Finally, it appears that it may be necessary to have a baseline measurement of androgyny to appropriately examine the question of whether individuals who score high in androgyny became androgynous as a result of their experiences in a particular profession. It is impossible to determine whether androgynous people were androgynous prior to entering into an occupational environment without an initial assessment instrument to refer to.

An additional implication for research is to examine whether androgynous individuals select certain occupations over others. For instance, do androgynous people choose occupations that require them to exercise their behavioral flexibility rather than occupations that are strongly gender typed? Once again, it would appear that a baseline inventory would be necessary in order to effectively examine androgyny and occupational choice.

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