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THE EFFECT OF PSYCHOLOGICAL SEX-ROLE AND SEX
OF PERFORMER ON PRE-PERFORMANCE ANXIETY
IN SELECTED MASCULINE, FEMININE, AND
NEUTRAL SPORTS

THESIS

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The study was designed to determine the effects of psychological sex-role on pre-performance anxiety in masculine (rugby), feminine (balance beam), and neutral (badminton) sex-typed motor activities. Instruments used to gather data included the Personal Attributes Questionnaire, the Sport Competition Anxiety Test, and the Competitive State Anxiety Inventory-2. Twenty-six masculine, 24 feminine, and 27 androgynous males and females were submitted to a three-phase training session for each sport skill. At the conclusion of each session, prior to performing the skill in front of a panel of judges (confederates of the experimenter), subjects were administered the self-report state anxiety (A-state) inventory. Data were analyzed by a 2 x 3 x 3 design. Conclusions were that individuals classified as feminine reported more feelings of A-state prior to performance than individuals classified as masculine or androgynous. Furthermore, the performer's biological sex affected anxiety levels, depending upon perceptions concerning the sex-appropriateness of the activity.

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CHAPTER I

INTRODUCTION

The effect of anxiety upon motor performance has received much attention in the literature (Martens, 1971, 1972, 1977; Spielberger, 1971; Weinberg, 1977, 1978). Researchers have looked at optimal levels of anxiety dependent on the nature of the motor task (Cratty, 1968; Husman, 1969; Oxendine, 1970); techniques designed to reduce disabling levels of anxiety such as progressive relaxation (Budzynski, 1974, 1975; Stroebe, 1978) and desensitization (Wolpe, 1969); and the variables which influence an individual's level of anxiety prior to participation (Kroll, 1979; Oxendine, 1970). Martens (1977) noted that anxiety interfered with performance during the phase of the competitive process in which the participant subjectively evaluates the situation. This evaluation, or perception, is greatly influenced by the individual's self-concept (Mattocks & Jew, 1974). At the base of that self-concept lies the individual's gender identity (Arkoff, 1980; Kando, 1977; Lips & Colwill, 1978). Therefore, the participant's gender identity should play an important role in determining his/her level of anxiety prior to participation in a motor activity.

Anxiety refers to a "state of arousal caused by a threat to well-being" (Arkoff, 1980, p. 231), and frequently has been divided into two types--trait anxiety and state anxiety. Martens (1977) defined trait anxiety as "a pre-disposition to perceive certain environmental stimuli as threatening or non-threatening and to respond to these stimuli with varying levels of state anxiety" (p. 9). State anxiety is "an existing or current emotional state characterized by feelings of apprehension and tension and associated with activation of the organism" (Martens, 1977, p. 9). It is the latter which usually interferes with efficient motor performance.

According to Oxendine (1970) some of the factors which influence an individual's state anxiety prior to performance in an athletic event include his/her trait anxiety level, prior experience, and introversion versus extroversion. Kroll (1979) also stated that the causes of this anxiety state lie within the stress stimulus itself or the perception of the stress stimulus. Frequently, the stress stimulus in sport is the activity itself.

Generally, sport and athletics have been viewed as male sex-typed activities (Cratty, 1967; Kagan & Moss, 1962), indicating prescribed behaviors appropriate for males in our society. Within the sporting context, these activities are usually aggressive, competitive, and physically demanding. According to Snyder, Kivlin, and Spreitzer (1976)

skills associated with masculine activities include hard running, jumping, throwing, body contact with the opponent, power, and strength. Many sporting events, however, do not contain or emphasize these characteristics, and consequently, they are classified as feminine sex-typed activities. Snyder et. al (1976) described the characteristics of feminine sport activities as those which include: (1) an aesthetically pleasing presentation of the body; (2) no body contact with the opponent; and (3) controlled action which prevents over-exertion. In addition to male and female sex-typed activities, there exists neutral sex-typed activities. Both instrumental and expressive behaviors are experienced in these activities. As Duquin (1978) stated, "perceiving sport in this way [expressive and instrumentall] is possible because sport is basically human movement and human movement has an infinite variety of qualities" (p. 101).

The perception of the stress stimulus involves not only how the individual perceives the sport but also how he/she perceives him/herself performing that sport. Bem and Lenney (1976) substantiated this concept in a study they conducted which concluded that sex-typed individuals avoided opposite-sex behavior. These individuals, when forced to participate in an activity which they felt was inappropriate for their sex-type, felt less attractive, more nervous, and did not enjoy the experience. Therefore, perception of appropriate

versus inappropriate activity is influenced by the performer's gender identity or sex-role image.

Arkoff (1980) defined sex-role image as "our view or concept of ourself as male or female" (p. 78). Gender identity, sex-role image, and psychological sex-role have all come to identify the same concept--the inner or psychological alliance with certain characteristics or traits that have been attributed, by society, to males or females. In American society "masculinity" is associated with aggressiveness, competitiveness, instrumentality, ambitiousness, toughness, objectivity, and dominance. In contrast, "femininity" is associated with obedience, friendliness, dependence, intuitiveness, expressiveness, and subordination (Oglesby, 1978). A classification that has recently received much attention is that of androgyny (Bem, 1974, 1975; Duquin, 1978; Kaplan, 1976; Myers & Lips, 1978; Oglesby, 1978; Rawlings & Carter, 1977). According to Bem (1975), the traditional sex-role differentiation has outlived its usefulness and is actually acting as an inhibitory agent for both sexes. She feels that individuals could possess a combination of both masculine and feminine traits, thus demonstrating psychological androgyny (Bem, 1974). The androgynous individual could call upon whichever trait seemed appropriate for the situation, whether it be masculine or feminine. This individual would be very adaptable and possess the capability of coping with a variety of situations.

By assuming a particular role, individuals are, in effect, assuming a particular set of actions. This role "constitutes one unified, predictable way in which a person's actions can be identified" (Lauer & Handel, 1977, p. 99). Because an individual's psychological sex-role has a drastic impact on his/her behavior prior to participation in an athletic event, the purpose of the present investigation was to examine the influence of a participant's psychological sex-role and his/her perceptions of anxiety in three types of motor tasks.

Statement of the Problem

The study was designed to determine the relationship of psychological sex-role classification to pre-performance anxiety. Furthermore, the study sought to determine the effects of sex-typed motor activities on state anxiety in masculine, feminine, and androgynous individuals.

Purposes of the Study

The following hypotheses were tested in the study:

1. There is no significant difference in state anxiety levels of individuals classified as feminine, masculine, and androgynous prior to performance in a masculine sex-typed motor activity;
2. There is no significant difference in state anxiety levels of individuals classified as feminine, masculine, and

androgynous prior to performance in a feminine sex-typed motor activity;

3. There is no significant difference in state anxiety levels of individuals classified as feminine, masculine, and androgynous prior to performance in a neutrally sex-typed motor activity.

Scope of the Study

The following limitations existed in the study:

1. Results were based upon the assumption that subjects responded truthfully to the test material;
2. Subjects were volunteers and could withdraw from the study at any time.

The following delimitations were included in the study:

1. Subjects were novices and therefore had limited prior experience in any of the chosen sport activities;
2. The three selected activities included skills which could be learned in one forty-five minute session.

Definition of Terms

The following terms were pertinent to the study:

1. Androgyny--(theoretical): the ability of an individual to develop a wide range of socially desirable traits disregarding sex-stereotyped appropriateness. It is the ability of the individual to be both instrumental and expressive, both assertive and yielding, both masculine and feminine (Bem, 1974);

2. Psychological sex-role--(theoretical): the socio-psychological concept of behaviors regarded as appropriate for males or females (Kando, 1977);

3. Sex-typed activities--(operational): activities which generally are perceived as male or female-oriented in American society;

A. Feminine activities--(theoretical): activities which involve a lack of activity, power, and aggression or those classified as such because of the nongenital connotations of the female body image (Kohlberg, 1966);

B. Masculine activities--(theoretical): activities which exhibit aggression, power, activity, and prestige or those classified as such because of the symbolic qualities associated with the male body image (Kohlberg, 1966);

C. Neutral activities--(operational): activities which are viewed as appropriate for both males and females because they either combine masculine and feminine characteristics or involve neither of these characteristics;

4. State anxiety--(theoretical): an existing or immediate emotional state characterized by apprehension and tension (Martens, 1977).

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CHAPTER II

REVIEW OF LITERATURE

For years coaches and athletes have believed that anxiety affects motor performance. This subjective feeling substantiated by Naruse (1965, cited in Kroll, 1979) after interviewing 125 Japanese athletes who participated in the 1960 Olympics in Rome, Italy. Nearly all of these athletes reported that anxiety affected their performance during competition. Although this belief was based solely on an emotional response, conclusive evidence was found by Weinberg and Hunt (1976) that anxiety affects "the quality of neuromuscular patterning of the movement" (p. 220). Using the electromyographic parameters of anticipation, duration, and perseveration during the performance of a gross motor skill (throwing a tennis ball at a target), the findings were that high-anxious subjects used more energy than necessary and expended it over a greater period of time than low-anxious subjects. On the other hand, the low-anxious subjects "used less energy over a shorter period of time before, during, and after the throw. They also exhibited sequential action of agonists and antagonists which constituted a high level of freedom of muscle action" (p. 223).

Thus, the low-anxious subjects were more efficient in their performance of this motor activity.

Before a complete understanding of the effect of anxiety on performance may be attained, one must first grasp the concept of anxiety. Spielberger (1966) divided anxiety into two categories: trait and state anxiety. Trait anxiety (A-trait) was defined by Spielberger as a "personality motive or acquired behavior disposition that predisposes an individual to perceive a wide range of objectively nondangerous circumstances as threatening and to respond to these with state anxiety reactions disproportionate in intensity to the magnitude of the objective danger" (p. 17). State anxiety (A-state) is characterized "by subjective, consciously perceived feelings of apprehension and tension, accompanied by or associated with activation or arousal of the autonomic nervous system" (Spielberger, 1966, p. 17). Evidence was offered by Davidson and Schwartz (1976) and Borkovec (1976) that A-state was further divided into the two constructs of somatic and cognitive anxiety. Somatic A-state was representative of the physical cues indicative of arousal of the nervous system, e.g., sweaty palms, increased heart rate, or butterflies in the stomach. Cognitive anxiety included those apprehensions associated with thought processes such as worry or concentration level (Martens, Burton, Veeley, Smith, & Bump, 1981). It is believed that these components are elicited by different cues and also that they influence

behavior in different ways (Davidson & Schwartz, 1976; Liebert & Morris, 1967).

Because of the emergence of these differences, Martens et al. (1981) developed a sport-specific A-state inventory to assess each of these components plus self-confidence--the Competitive State Anxiety Inventory (CSAI). The entire A-state reaction, however, is often the result of stress. According to McGrath (1970) stress is a process. This process occurs when there is a perceived imbalance between demand and the response capability of the organism. This process is illustrated in Figure 1.

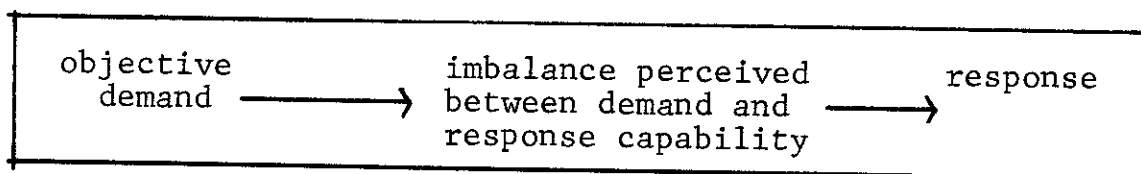


Figure 1. McGrath's (1970) Stress Process.

Spielberger (1972) conceptualized anxiety in much the same manner as McGrath's stress process. In his model, the A-state reaction is preceded by a subjective evaluation of a situation as physically or psychologically dangerous. This "threat" is preceded by stress. Figure 2 represents Spielberger's anxiety process.

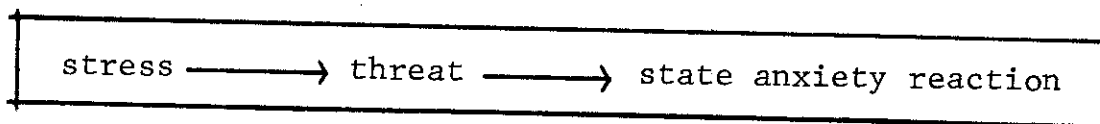


Figure 2. Spielberger's (1972) Anxiety Process.

Martens (1977) developed a third model which combined the McGrath and Spielberger models, as illustrated in Figure 3.

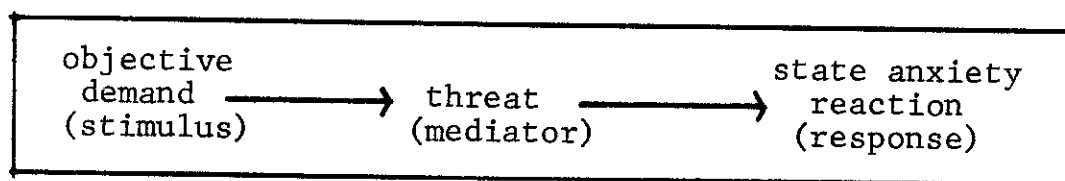


Figure 3. Martens' (1977) Stress Process

Thus, in Martens' conceptualization, stress refers "to the entire process that is associated with the occurrence of state anxiety" (p. 8). The objective demand of the environmental conditions may or may not be perceived as threatening or dangerous. The perceived imbalance between this demand and the response capability will, however, be regarded as such, resulting in an elevation in A-state.

The fact that anxiety affects motor performance was established by Fenz and Epstein (1967) and Fenz and Jones (1972) in two experiments concerning sport parachutists. The parachutists experienced a reduction in anxiety, measured by heart rate and respiratory rate, prior to a jump that was later rated a technically "good" jump. They did not, however, achieve this same reduction for jumps rated as being "poor." These data support the contention that high levels of anxiety are not conducive to superior performance in the sport of parachuting. Thus, high levels of anxiety act in an inhibitory manner where motor performance is concerned.

In addition to anxiety states, the application of Martens' (1977) model would seem to suggest that the objective demands of an activity elicit various perceptions of the activity. Snyder, Kivlin, and Spreitzer (1967) noted certain sports required strenuous running, jumping, throwing heavy objects, frequent body contact with the opposition, and exhibition of power and strength. The authors suggested that these are masculine behaviors, and thus sports which require these types of skills indicate masculine activities. In contrast, Metheny (1965) suggested that some sports require the demonstration of characteristics which are noted as feminine in nature. She states that these "feminine" sports involve the presentation of the body in aesthetically pleasing patterns, use of a manufactured device to facilitate movement, utilization of a light implement, and maintenance of a spatial barrier with the opponent. Landers (1969) supported the concept of masculine and feminine sports. In his study, female physical education and education majors were asked to rate 94 recreational sports as either masculine or feminine. The results indicated that sports are indeed classified by sex-type and are viewed as being either appropriate for males or females. Consequently, this view influences the perception of the objective demands of the task.

Recently, Duquin (1978) refuted the concept that sports are either masculine or feminine, because sport is "human movement," and therefore it is neither inherently masculine

nor feminine. Sport, in this context, is actually a neutral activity which is acceptable for both male and female participation. During pretesting on the sex-typing of tasks, Stein, Pohly, and Mueller (1971) found that children (96 sixth-grade boys and girls) conceptualized a neutral task as one being equally appropriate for both sexes.

Kagan (1964) and Kohlberg (1966) suggested that an individual's concept that an activity is masculine or feminine influences that individual's participation in the activity. For this reason, the categorization of sport activities as masculine, feminine, or neutral influences one's perception of the demands of the task.

The second factor involved in the creation of an elevated A-state is the perception of the imbalance between the demands of the task and the participant's response capabilities. The individual feels as if he or she is not capable of meeting these demands or is not comfortable in meeting them. McGrath (1970) stated, "stress has to do with a (perceived) substantial imbalance between demand and response capability, under conditions where failure to meet demand has important (perceived) consequences" (p. 20). Martens (1977) and Spielberger (1972) have both labeled this perceived imbalance as "threat." The perceptions of threat may be dependent on a number of factors. Kroll (1979) devised a scale, the Competitive Athletic Stress Scale, to determine exactly what factors produce anxiety. The five

clusters, made up of common factors, include somatic complaint items, fear of failure items, loss of control items, feelings of inadequacy items, and guilt items. The majority of these factors lie within the participant's response capabilities or the consequences of that response. For example, "making a critical mistake," "choking up," "falling for a sucker play," "being afraid," "inability to psych up," "hurting an opponent," and "being outcoached" are all statements which reflect the perception of an inability to respond in an appropriate manner (Kroll, 1979, p. 217). Rosenkrantz, Vogel, Bee, Broverman, and Broverman (1968) suggested that this perceived inability to meet the demands of the task is influenced by sex-role stereotypes along with their associated social values. Males are supposed "to hurt the opposition," "not fall for sucker plays," and especially, "not be afraid." Females, on the other hand, are not supposed to "be aggressive," "be active," or "get dirty." Thus, not only does the sex-typing of the task influence an individual's participation, but also the sex-typing of the individual.

Individuals in American society are basically classified and categorized into three sex-roles: masculine, feminine, and androgynous. Bem (1974) asked 100 undergraduates (50 males and 50 females) to classify 400 personality characteristics as either desirable for a man or desirable for a woman. A characteristic "qualified as masculine if it was

judged to be more desirable in American society for a man than for a woman, and it qualified as feminine if it was judged to be more desirable for a woman than for a man in American society" (Bem, 1974, p. 156). Many of these characteristics are listed in Table 1. The Bem Sex Role Inventory (BSRI) classified individuals as masculine, feminine, or androgynous depending upon his or her difference between the self-ratings of masculine or feminine traits. Thus, an individual rating him/herself high on the feminine scale and low on the masculine scale would be classified as feminine. An individual rating him/herself high on the masculine scale and low on the feminine scale would be classified as masculine. Rating oneself similarly on both scales indicates an androgynous personality. Thus the androgynous individual is both "masculine and feminine, both assertive and yielding, both instrumental and expressive--depending on the situational appropriateness of these various behaviors" (Bem, 1974, p. 155).

Bem (1975) noted that androgynous individuals are more likely to display behavioral adaptability across situations, because they have the personality characteristics which allow them to adapt to a wider variety of situations. Nine masculine, nine feminine, and nine androgynous subjects were asked to rate cartoons for funniness in order to test the subject's willingness to conform. The results indicated that masculine and androgynous subjects were more independent

TABLE 1
 MASCULINE AND FEMININE ITEMS INCLUDED ON THE
 BEM SEX ROLE INVENTORY (Bem, 1974)

Masculine Characteristics	Feminine Characteristics
Acts as a leader	Affectionate
Aggressive	Cheerful
Ambitious	Childlike
Analytical	Compassionate
Assertive	Does not use harsh language
Athletic	Eager to soothe hurt feelings
Competitive	Flatterable
Defends own beliefs	Gentle
Dominant	Gullible
Forceful	Loves children
Has leadership abilities	Loyal
Independent	Sensitive to needs of others
Individualistic	Shy
Makes decisions easily	Soft-spoken
Self-reliant	Sympathetic
Self-sufficient	Tender
Strong personality	Understanding
Willing to take a stand	Warm
Willing to take risks	Yielding

than feminine subjects. Independence was viewed as a masculine trait according to Bem's earlier work (1974). In the second stage of this study, 22 masculine, 22 feminine, and 22 androgynous subjects were rated according to their interaction with a kitten. The feminine and androgynous males played with the kitten more than did the masculine males. However, the feminine and androgynous females did not exhibit a significantly greater amount of playfulness (a feminine trait) than did masculine females. Bem attributes this

ambiguity of results to the belief that "femininity in females is generally associated with high anxiety" (p. 642).

Bem and Lenney (1976) found that sex-typed subjects experienced the most discomfort when participating in a cross-sex activity. Twenty-four sex-typed, 24 androgynous, and 24 sex-reversed subjects were asked to select the one activity out of 30 pairs of activities that they would prefer to perform during a photographic session. Subjects were then asked to perform 3 masculine, 3 feminine, and 3 neutral activities while the experimenter pretended to photograph each task. Subjects were asked to rate their reactions immediately after they had completed each activity. Results indicated that sex-typed subjects (those whose sex matched their psychological sex-role) felt significantly worse after performing cross-sex activities than did either androgynous or sex-reversed subjects (those whose sex was opposite their psychological sex-role). The sex-typed individuals reported experiencing the most negative feelings when they were performing cross-sex behaviors. These negative feelings included nervousness, less likability, and less enjoyment. Bem and Lenney concluded that sex-typing restricts one's behavior in "unnecessary and perhaps even dysfunctional ways" (p. 53).

Myers and Lips (1978) extended Bem's research to the nonlaboratory setting when they measured 25 male and 23 female competitors in a Canadian national racquetball

tournament and 24 male and 27 female competitors in local handball, racquetball, and squash tournaments for degree of sex-typing. Results indicated that a large percent (44 percent) of the women who participated in this "masculine" activity were classified as androgynous according to their scores on the BSRI. The authors concluded that these athletes exhibited both feminine and masculine characteristics, and thus showed behavioral adaptability in this setting.

Spence, Helmreich, and Stapp (1975) contributed to the research on sex-roles by developing the Personal Attributes Questionnaire (PAQ). The instrument was administered to 248 male and 282 female subjects who rated themselves on 55 bipolar attributes drawn from the Sex Role Stereotype Questionnaire by Rosenkrantz et al., (1968). These self-ratings were divided into male-valued (stereotypically masculine attributes judged more desirable for both sexes), female-valued, and sex-specific items. For both men and women, "femininity" on the female-valued items and "masculinity" on the male-valued items were positively correlated. The authors concluded that the masculinity-femininity dichotomy contributes to personal and social effectiveness. The definition of androgyny was also extended to include the "possession of a high degree of both characteristics" (p. 38) rather than merely a balance between the two.

Thus, in summarizing the previously discussed research, it was found that performance was affected by varying levels

of anxiety. Anxiety itself was divided into the two categories of trait and state anxiety. Trait anxiety was defined as a behavioral predisposition to respond to stimuli with A-state reactions in accordance with the perceived threat involved. State anxiety was the individual's immediate reaction to stress and was comprised of a somatic A-state and a cognitive A-state. Stress was viewed as a process which involves objective demands and subjective perceptions of situations. If the individual perceives an imbalance between demands of a situation and his/her response capabilities, that individual will experience an elevation in A-state.

Often, sports are classified by society as being "masculine," "feminine," or "neutral" based on the perceived demands required of the participant. This categorization influences the individual's perception of response demands and involves the first half of the stress balance. Balance is further maintained through equality in perceived response capabilities. These response capabilities are influenced by the individual's sex-role identification. Research indicates that individuals exhibiting masculine and feminine sex-roles were somewhat limited in their behavioral repertoires, whereas individuals expressing androgynous sex-roles were more flexible in behavioral adaptability. This suggests that androgynously classified individuals possess a wider range of response capabilities and therefore less chance for imbalance in the stress process.

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CHAPTER III

METHODS

The study was designed to determine the relationship of an individual's psychological sex-role classification to his/her level of anxiety prior to participation in physical activities. The study further sought to determine the effects of sex-typed motor activities on A-state levels in masculine, feminine, and androgynous individuals.

Subjects

The subjects for the study were 40 male and 37 female volunteer students enrolled at North Texas State University during the fall semester of 1983. Each subject was required to sign an informed consent form before participation in the experiment (Appendix A-I). Furthermore, all subjects were administered a general information questionnaire (Appendix A-II) concerning previous athletic experience, background in the selected sports, and demographic information such as age, college classification, and sex.

Activities

The three selected activities were representative of the classifications of sex-typed tasks, i.e., masculine,

feminine, and neutral. Rugby tackling (masculine) involved contact with the opponent, the demonstration of strength and power, and a certain amount of aggression. Work on the balance beam (feminine) presented the body in an aesthetically pleasing manner and involved no body contact with the opposition. The neutral task, badminton, was viewed as being equally appropriate for both sexes (Landers, 1969).

The activities were chosen not only on the basis of sex-typing, but also on the assumption that most individuals had not been exposed to formal training in these sports. Therefore, it was anticipated that subjects would be novices in these activities.

Instruments

The Competitive State Anxiety Inventory - 2 (CSAI-2), developed by Martens et al. (1981), was used to measure A-state levels prior to participation (Appendix B-II). This form was chosen because it measures the cognitive and somatic components of A-state as well as self-confidence. The instrument has high reliability established by the use of Cronbach's alpha coefficient in three samples of data collected in Martens' concurrent validation process. Separate alpha coefficients were computed for the three subscales for each sample. The coefficients ranged from 0.79 to 0.90, demonstrating a sufficiently high degree of internal consistency. Concurrent validity for the instrument was established

through comparison between each CSAI-2 subscale to selected trait and state inventories. When compared to the Sport Competition Anxiety Test (SCAT), the results indicated a moderate relationship. For the cognitive anxiety subscale, a .57 degree of correlation existed; .68 for the somatic subscale; and -.63 for the self-confidence subscale. When compared to Spielberger's Trait Anxiety Inventory (STAI-T), the relationships were .48, .37, and -.46 for the cognitive, somatic, and self-confidence subscales respectively. These results indicate a moderate relationship between these A-state subscales and their A-trait predecessors. When the CSAI-2 was compared to Spielberger's State Anxiety Inventory (STAI-S), the results yielded a correlation coefficient of .65 for the cognitive subscale, a coefficient of .78 for the somatic subscale, and a high negative correlation of -.66 for the self-confidence subscale (Martens et al., 1981).

The CSAI-2 is a self-report measurement. It is a 27-item questionnaire consisting of three 9-item subscales (somatic, cognitive, and self-confidence). Each subject is asked to describe how he or she feels at the time of the assessment on a 4-point scale. The 4 points are labeled "Not at All," "Somewhat," "Moderately So," and "Very Much So." Each subscale of the inventory is scored separately from the others. A high score on an inventory subscale represents a high A-state level in the corresponding A-state

component, while a low score represents a low A-state level. Completion of the instrument takes approximately five minutes.

To classify subjects into psychological sex-roles, Spence, Helmreich, and Stapp's (1974) Personal Attributes Questionnaire (PAQ) was administered. The short form of the PAQ, which consists of 24 items instead of the original 55, was used (Appendix A-III). The 24-item inventory is a self-report measure composed of three 8-item subscales identified as "masculinity," "femininity," and "masculinity-femininity." Correlation coefficients between the short form and the original form calculated for college students were .93 for masculinity, .93 for femininity, and .91 for masculinity-femininity. Cronbach's alpha measurements for college students were .85, .82, and .78 for masculinity, femininity, and masculinity-femininity, respectively (Spence et al., 1974). The measures of internal consistency and test-retest reliability were satisfactorily high for the original test (Spence et al., 1974). Part-whole correlations were calculated for men and women separately between each item and its corresponding scale. These correlation coefficients ranged from .19 to .70. Alpha coefficients were also computed for each scale. For males and females the results indicated a correlation of .85 and .94 for the male-valued scale, .79 and .84 for the female-valued scale, and .53 and .85 for the sex-specific scale, respectively (Spence et al., 1975).

Competitive A-trait classification was determined for each subject by use of SCAT (Martens, 1977). This instrument is a 15-statement sport-specific, self-report inventory (Appendix B-I). Subjects were asked to respond to each statement with an "often," "sometimes," or "hardly-ever" answer and to describe how they usually feel when competing in sports and games. Internal consistency was computed by the mean interitem correlation coefficient on a sample of undergraduate college males and females. The results indicated a coefficient of .30 and .35, respectively. The Kuder-Richardson formula 20 was applied to the data which resulted in coefficients of .95 and .97, respectively, for males and females. To examine concurrent validity, SCAT was compared to the STAI-T (Spielberger et al., 1970) using a sample of undergraduate college males and females. A correlation coefficient of .44 was obtained.

Procedures

The 37 female and 40 male subjects were selected from a subject pool of approximately 300 individuals on the basis of their sex-role classification and experience in the selected motor activities. Of these 77 subjects, 26 were classified as masculine, 24 as feminine, and 27 as androgynous based on the results from the PAQ. Subjects were then assigned to one of three counterbalanced groups. The groups were counterbalanced to prevent a sequence effect from

occurring. The skills were taught to each group in the following order: Group 1 learned the masculine task, the feminine task, and the neutral task; Group 2 learned the feminine task, the neutral task, and the masculine task; Group 3 was taught the neutral task, the masculine task, and the feminine task.

At the first meeting, subjects were given the SCAT to measure competitive A-trait. Subjects were placed into a low, medium, or high A-trait status based on normative standards obtained from college age adults. This measurement was taken to insure that the cells were not imbalanced with individuals of a particular A-trait level.

Subjects were taught the sport skills in training groups of four to ten subjects. Each training group met for three one-hour sessions with at least 24 hours and not more than 48 hours between sessions. Each session consisted of a 45-minute instructional/practice phase, a 5-minute self-evaluation (CSAI-2) phase, and a 10-minute judging phase. At the end of the instructional/practice phase, subjects were told that they would be evaluated on their performance of the current skill by a panel of three judges knowledgeable in the sport area. However, before the evaluation would occur, they were to complete a self-evaluation questionnaire. This questionnaire, called the Illinois Self-Evaluation Questionnaire, was actually the CSAI-2.

To eliminate sex of experimenter bias (Ryan & Prior, 1976), one female and one male instructor were present at

each session. To insure consistency in teaching methodology, uniform lesson plans were provided for each sport skill (Appendix C). Both instructors were pretrained and instructed on proper techniques used in all three sports. Also, an assistant attended each session to note feedback and questions asked by subjects so that all groups were provided similar information.

The panel of judges consisted of the two instructors and the assistant. The judges were, in reality, confederates in the experiment and performed no actual judging. This deception was provided as a means of elevating the anxiety levels of the subjects prior to participation in the activity. To conceal the judges' collaboration, subjects were told that the scores of the evaluations would be made known at the conclusion of the last training session.

Upon the completion of the last training session, subjects were administered a manipulation check (Appendix D) to verify the classification of the selected activities as masculine, feminine, and neutral; to discern ego involvement; and to assess actual teaching techniques. Subjects also were debriefed concerning purposes of the experiment and status of the judges.

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CHAPTER IV

RESULTS AND DISCUSSION

The data were analyzed by a 2 (sex) x 3 (sex-role) x 3 (type of task) factorial design. A three-way analysis of variance (ANOVA) with repeated measures was utilized to determine significance of the main effect. Post hoc analyses of the simple effects were employed to determine the nature of the significant interactions for sex x sex-role and sex x task. The Newman-Keuls procedure was utilized to determine the nature of the sex-role x task interaction. The dependent variables in the experiment were competitive A-trait classification, cognitive A-state, somatic A-state, and self-confidence. The independent variables included sex of subject, sex-role classification, and type of task involved.

The chi-square analysis of the differences between competitive A-trait levels and sex-roles was not significantly different for either males, $\chi^2(4) = 2.39, p > .05$ or females, $\chi^2(4) = 2.12, p > .05$. Therefore, each subject group contained males and females balanced for A-trait levels and sex-role.

A one-way ANOVA was performed on each of the six variables involved in the manipulation check to test the differences between the answers supplied by individuals in

the three sex-role classifications. The variables included the perceived influence of the judges' presence, the effectiveness of the instructions, the importance of performing well, and the sex-typing of the three sport skills. The data revealed no significant differences between groups. Subjects reported being measurably influenced by the presence of the judges with a mean score of 2.76 for this factor. The effectiveness of the lessons for the sport skills was supported by a sample mean of 1.67. A mean of 2.41 was obtained for performance significance. Thus, it was moderately important for the subjects to perform well. Subjects did, in fact, perceive each of the sport skills as they were originally typed. Mean scores of 4.84, 1.28, and 2.68 were obtained for the rugby, balance beam, and badminton sex-typing questions. Figure 4 illustrates the subjects' ratings of each skill's sex appropriateness.

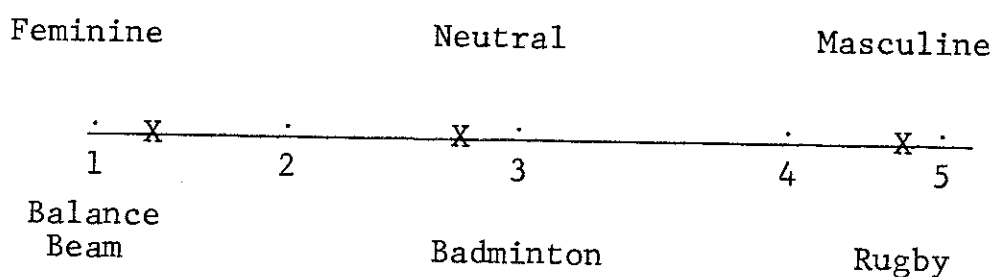


Figure 4. Subjects' Sex-Typing of Skills

The mean subject age for the sample was 19.8 years. The mean ages of subjects according to sex and sex-role are presented in Table 2.

TABLE 2
 MEAN AGES OF SUBJECTS ACCORDING TO SEX X SEX-ROLE

Sex-Role	Sex	
	Males	Females
Masculine	21.23	18.61
Feminine	20.17	19.08
Androgynous	19.27	20.67

The means and standard deviations for the dependent A-state variables (somatic, cognitive, and self-confidence) were computed for each cell (sex x sex-role x task). These data are presented in Table 3.

Somatic A-State

The three-way ANOVA revealed no significant findings for somatic A-state on the sex x sex-role x task main effect. Interactions, however, were noted between sex and sex-role, $F(2,71) = 5.66$, $p < .01$; sex and task, $F(2,142) = 14.14$, $p < .01$; and sex-role and task, $F(4,142) = 5.96$, $p < .01$.

Post hoc analysis indicated that the interaction between sex and sex-role existed in the feminine sex-role, $F(1,71) = 12.62$, $p < .01$. Feminine males had a mean score of 21.36 while feminine females had a mean score of 15.94. Thus, significantly different scores were obtained on the somatic subscale by feminine males and feminine females across tasks.

TABLE 3
 MEANS AND STANDARD DEVIATIONS OF DEPENDENT
 STATE ANXIETY VARIABLES

Group	Somatic		Cognitive		Confidence	
	X	SD	X	SD	X	SD
Rugby Tackle						
Masculine	14.08	4.91	13.62	4.21	28.35	6.73
Male	12.38	3.01	11.69	2.36	32.08	4.39
Female	15.77	5.90	15.54	4.82	24.62	6.70
Feminine	21.00	7.62	18.08	4.91	21.88	5.67
Male	23.75	8.38	18.42	4.99	19.67	5.40
Female	18.25	5.89	17.75	5.01	24.08	4.25
Androgynous	15.78	4.69	14.81	4.13	26.67	5.75
Male	13.67	3.48	13.20	2.76	29.87	3.64
Female	18.42	4.80	16.83	4.76	22.67	5.47
Balance Beam						
Masculine	19.12	5.72	18.23	5.87	21.96	6.31
Male	21.77	5.59	21.23	6.35	20.00	6.68
Female	16.46	4.65	15.23	3.67	23.92	5.48
Feminine	20.67	7.74	18.04	5.69	23.04	7.63
Male	25.25	7.96	20.17	6.70	19.50	7.06
Female	16.08	4.03	15.92	3.60	26.58	6.67
Androgynous	16.41	5.30	15.59	4.70	25.41	5.77
Male	17.27	5.39	16.67	5.41	23.60	5.51
Female	15.33	5.21	14.25	3.39	27.67	5.48
Badminton						
Masculine	13.19	2.65	13.58	3.24	29.15	5.12
Male	13.54	2.15	13.15	2.12	30.00	3.70
Female	12.85	3.13	14.00	4.12	28.31	6.28
Feminine	14.29	3.82	14.38	3.39	29.38	5.20
Male	15.08	3.78	13.58	4.12	30.17	5.70
Female	13.50	3.85	15.17	2.37	28.58	4.76
Androgynous	13.93	4.13	14.41	4.33	27.70	5.86
Male	13.07	4.10	13.33	4.24	30.07	5.52
Female	15.00	4.09	15.75	4.25	24.75	5.03

A significant sex x task interaction on this variable was noted only for the feminine task, $F(1,75) = 14.41$, $p < .01$. Prior to performance on the balance beam, a mean score of 21.43 was obtained for males and a mean score of 15.96 was obtained for females on the somatic subscale.

The Newman-Keuls procedure performed on the sex-role x task interaction resulted in significant findings on the masculine and feminine tasks. The mean scores on the masculine task for the masculine sex-role, the feminine sex-role, and the androgynous sex-role were 14.08, 21.00, and 15.78, respectively. Prior to performance on the rugby tackle, the subjects in the feminine sex-role classification had significantly higher somatic manifestations of anxiety, $F(2,74) = 9.50$, $p < .01$, than subjects in the other sex-roles. On the feminine task, mean scores reported for the masculine sex-role, the feminine sex-role, and the androgynous sex-role were 19.12, 20.67, and 16.41, respectively. These data indicate that the feminine sex-role was significantly different from the androgynous sex-role, $F(2,74) = 3.02$, $p < .05$. Therefore, feminine individuals reported manifestations of anxiety more than androgynous individuals on the balance beam. Table 4 summarizes these somatic subscale interactions and the implications of each.

Cognitive A-State

The three-way ANOVA indicated no significant main effect for sex x sex-role x task, however, significant interactions

TABLE 4
SOMATIC A-STATE INTERACTIONS

Type of Interaction	Descriptive Statement
Sex x Sex-Role	Feminine males were more anxious than feminine females.
Sex x Task	Males were more anxious than females prior to performing on the balance beam.
Sex-Role x Task	<p>Prior to performing the rugby tackle, subjects in the feminine sex-role reported more anxiety than masculine and androgynous subjects.</p> <p>Prior to performing on the balance beam, subjects in the feminine sex-role reported more anxiety than androgynous subjects.</p>

were obtained for sex x task, $F(2,142) = 18.63$, $p < .01$, and sex-role x task, $F(4,142) = 4.30$, $p < .01$, dimensions.

The sex x task interaction, revealed by post hoc analysis, occurred in the masculine task, $F(1,75) = 5.21$, $p < .05$ and in the feminine task, $F(1,75) = 12.04$, $p < .01$. On the rugby tackle, the reported mean score for males was 14.44 whereas females on this task had a mean score of 16.71. A mean score of 19.36 for males and a mean score of 15.13 for females was obtained on the cognitive subscale prior to performance on the balance beam. Thus, males and females had significantly different scores on the cognitive subscale before performance on the rugby tackle and balance beam.

Newman-Keuls post hoc analysis yielded significant sex-role x task interaction for the masculine task only, $F(2,74) = 6.90$, $p < .01$. The mean scores on this variable for the rugby tackle were 13.62, 18.08, and 14.81 for the masculine sex-role, the feminine sex-role, and the androgynous sex-role, respectively. Therefore, individuals in the feminine sex-role reported significantly more mental anxiety than individuals in both the masculine and androgynous sex-roles prior to performance of the rugby tackle. The interactions for the entire cognitive subscale are detailed in Table 5.

Self-Confidence

The three-way ANOVA revealed a significant main effect on the self-confidence subscale, $F(4,67) = 2.61$, $p < .05$.

TABLE 5
COGNITIVE A-STATE INTERACTIONS

Type of Interaction	Descriptive Statement
Sex x Sex-Role	None
Sex x Task	<p>Females were more concerned than males prior to performing the rugby tackle.</p> <p>Males were more concerned than females prior to performing on the balance beam.</p>
Sex-Role x Task	<p>Prior to performing the rugby tackle, subjects in the feminine sex-role reported more anxiety than masculine and androgynous subjects.</p>

Furthermore, significant interactions were noted between sex and sex-role, $F(2,71) = 5.33, p < .01$, sex and task, $F(2,142) = 18.05, p < .01$, and sex-role and task, $F(4,142) = 6.06, p < .01$.

The sex x sex-role interaction existed in both the feminine, $F(1,71) = 4.83, p < .05$ and androgynous sex-roles, $F(1,71) = 4.24, p < .05$. In the feminine sex-role, males had a mean score of 23.11 while females had a mean score of 26.41. Mean scores for androgynous males and females were 27.85 and 25.03, respectively. This sex x sex-role interaction occurred across the three types of physical tasks.

Post hoc analysis yielded significant sex x task interactions in each of the three tasks. There was a sex difference on this variable on the masculine task ($F(1,75) = 6.57, p < .01$), the feminine task ($F(1,75) = 11.36, p < .01$), and the neutral task ($F(1,75) = 5.61, p < .05$). The mean scores on the self-confidence subscale for males and females prior to performing the rugby tackle were 27.21 and 23.79, respectively. Prior to performance on the balance beam task, males and females had mean scores of 21.03 and 26.06, respectively. Mean scores of 30.08 and 27.21 were obtained prior to the performance of the badminton task by males and females, respectively.

Post hoc analysis using the Newman-Keuls procedure indicated a sex-role x task interaction only for the

masculine task, $F(2,74) = 7.56$, $p < .01$. Scores of 28.35, 21.88, and 26.67 were the respective means for subjects in the masculine, feminine, and androgynous sex-roles on the self-confidence subscale. These data suggest that before performing the rugby tackle, individuals in the feminine sex-role were significantly less self-confident than individuals in both the masculine and androgynous sex-roles. Table 6 examines the nature of the interactions which were noted on the self-confidence subscale.

Figure 5 displays a summary of the interactions between variables. Each anxiety subscale includes the type of significant interaction which occurred.

Discussion

It was not surprising that the results indicated more somatic and cognitive anxiety and less self-confidence for subjects in the feminine sex-role. According to Maccoby and Jacklin (1974), feminine individuals and females in general admit to having more anxiety than do males or masculine individuals. This hypothesis, however, was not substantiated for all variables investigated in the present study. Thus, it seems more plausible to explain the present findings in light of sex-role socialization, where individuals learn and internalize attitudes and behaviors appropriate to their sex-role from information gathered from significant others (Greendorfer, 1978). For example,

TABLE 6
SELF-CONFIDENCE INTERACTIONS

Type of Interaction	Descriptive Statement
Sex x Sex-Role	<p>Feminine males were less confident than feminine females.</p> <p>Androgynous females were less confident than androgynous males.</p>
Sex x Task	<p>Females were less confident than males prior to performing the rugby tackle and badminton serve.</p> <p>Males were less confident than females prior to performing on the balance beam.</p>
Sex-Role x Task	<p>Prior to performing the rugby tackle, subjects in the feminine sex-role reported less confidence than masculine and androgynous subjects.</p>

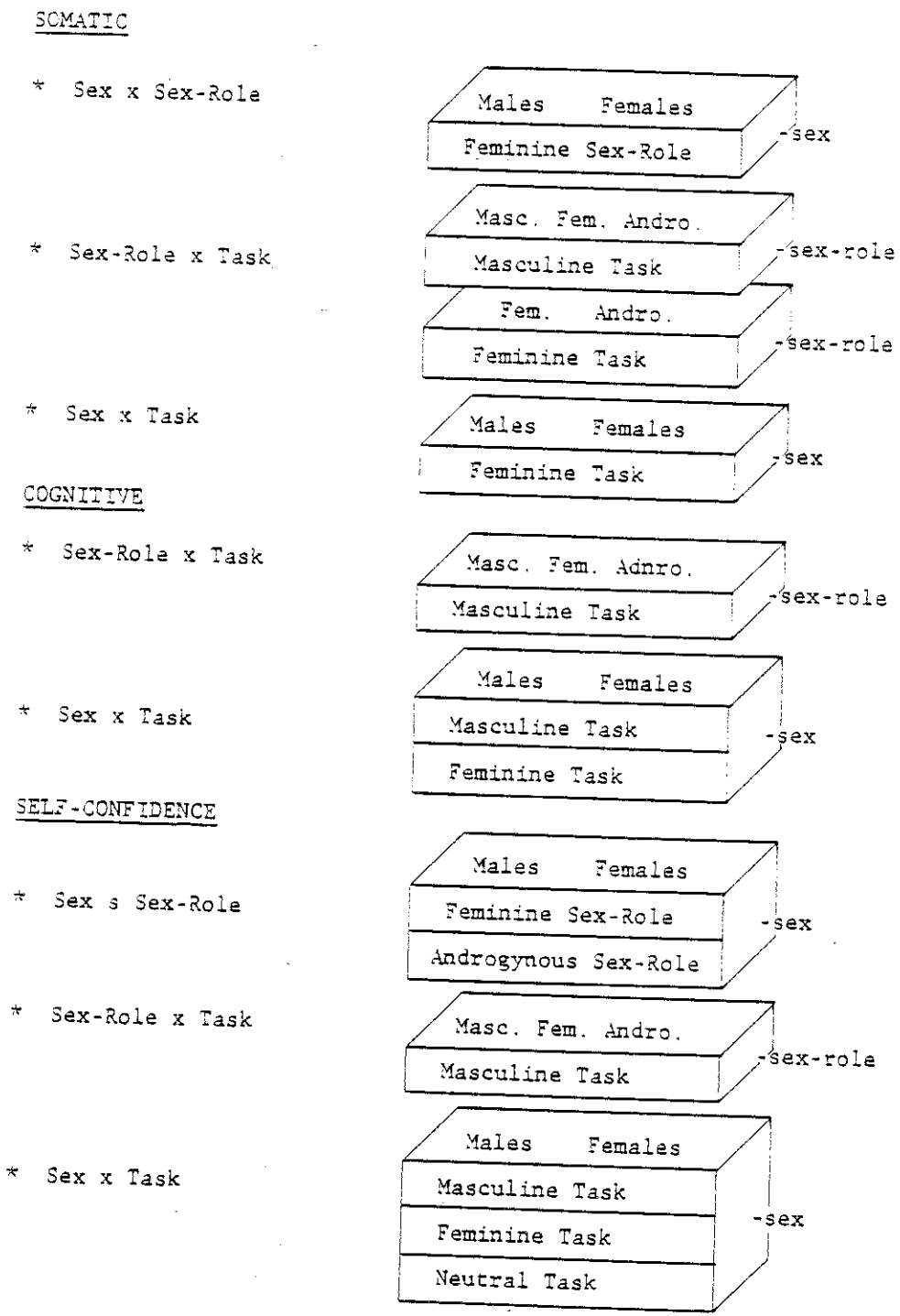


Figure 5. Summary of Interactions.

feminine individuals view feminine behaviors as appropriate, while participation in masculine behaviors is viewed as appropriate for masculine individuals.

In the present investigation, both feminine males and females were most uncomfortable and less confident prior to participation in the masculine activity. These subjects also reported somatic manifestations of anxiety prior to participating in the feminine activity. The low levels of anxiety reported by masculine and androgynous subjects across sport skills supports Wark and Wittig's (1979) conclusion that sport competition is perceived as appropriate for the masculine role. Since androgynous subjects also exhibited low levels of anxiety, it is probable that these individuals view masculine and feminine behaviors as equally appropriate to their internalized sex-role, an interpretation which would substantiate the findings of Bem (1974).

It is interesting to note that the subjects classified as feminine reported more somatic manifestations of anxiety than did subjects in the androgynous classification prior to the feminine activity. Perhaps, as Rohrbaugh (1979) suggested, the pressure involved in trying to measure up to a set sex-role standard elicited this type of response, especially since this activity is considered to approximate femininity (Metheny, 1965). This high level of anxiety could also have been attributed to a perceived degree of

risk by the males in this classification since Bem (1974) contended that the willingness to take risks is considered a masculine trait. Thus, the feminine males may have been apprehensive about not meeting male standards of performance and about the degree of risk involved in performing on the beam. In contrast, the feminine females may have expressed anxiety symptoms because of the pressure to perform well in "their" activity, although the scores reported from this group were comparable to scores from other sex-role classifications of females.

Although the main purpose of the present study was to determine differences in anxiety levels between the three sex-roles, the results indicated more differences between the biological sexes than sex-roles. Prior to participation in the masculine activity, females reported less self-confidence than did males. This lower confidence level was noted again prior to the neutral activity. The fact that females reported more self-confidence on the feminine activity supported Lenney's (1977) contention that self-confidence levels of women in achievement situations varies according to the situation. For example, women, when asked to rate their performance on specified areas of a written test, rated their expected performance lower in the areas of spatial ability and creativity than did men. These same women, however, expected to perform better than the men in the areas of verbal ability and interpersonal perceptiveness

(Lenney, Note 1). Thus, Lenney concluded self-confidence ratings were dependent on the specified area of ability. The results of the present investigation indicate that an individual's level of self-confidence may have a relationship to the perceived sex-typing of the task, since males also reported low self-confidence prior to the feminine task.

Females expressed worry and concern over the activity when it was classified as masculine, while males reported cognitive and somatic manifestations of anxiety prior to the feminine activity. Thus, subjects reported higher levels of anxiety prior to participation in a cross-sex typed activity than in a same-sex typed activity. Perhaps the fact that the balance beam is solely a female event in competitive gymnastics heightened the males' perceived inappropriateness of that task. And, even though women do play rugby, it is still perceived as a masculine activity. The opportunity for the occurrence of social evaluation could have influenced the subjects' responses as well. The presence of opposite-sex subjects during the performance of a task perceived as sexually inappropriate may have had an additive effect on the subjects' anxiety response (Scanlon, 1978; Zajonc, 1965). Overall, the sex differences were in line with the perceived sex-appropriateness or inappropriateness of the task. Hence, males were more anxious before

the feminine event while females were more anxious prior to the masculine event. These results seem to add credence to the findings of Rees and Andres (1980) who also reported that social learning and perceived appropriateness of the task are significant mediators on behavior.

Thus, it appears that pre-performance anxiety across different tasks is affected more by the sex of the participant than by the individual's internalized sex-role. This finding is consistent with that of Bem and Lenney (1976) who reported the saliency of sex-appropriate activities in a study on the avoidance of cross-sex behaviors. In their investigation, masculine males and feminine females reported greater discomfort and negative feelings while engaging in cross-sex behaviors. This uncomfortableness may be due, in part, to the performers' expectations of whether they will perform well or not. Stein, Pohly, and Mueller (1971) also found that the sex-typed labeling of a task influenced both boys' and girls' expectancy of success at a particular task. Similarly, Montemayer (1974) reported that boys' and girls' performances were lowest when a game was labeled as sexually inappropriate, intermediate when no label was given, and highest when it was sexually appropriate. Thus, the typing of the task is an important variable when discussing pre-performance anxiety, although the interactions between sex and sex-role must be considered also.

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CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of the investigation was to determine the effects of psychological sex-role classification on pre-performance anxiety in selected motor tasks. The 77 subjects were enrolled in North Texas State University during the fall semester of 1983. Forty males and 37 females were chosen from a subject pool of 300 based on results gained from the PAQ. Of the 40 male subjects, 12 were classified as masculine, 13 as feminine, and 15 as androgynous. Twelve of the 37 females were classified as masculine, 13 as feminine, and 12 as androgynous.

Subjects were assigned to one of three training groups based on sex-role classification. The order of the activity presentations (rugby, badminton, and balance beam) was rotated among groups to control for any influence that performance order might have on the subjects' anxiety levels. Subjects were taught the three sport skills and administered a self-report A-state inventory prior to performing the skill at the conclusion of each lesson. The dependent variables in the experiment were the scores on the somatic, cognitive, and self-confidence subscales of the CSAI-II, as well as competitive A-trait classification. The independent

variables included the sex of the subject, sex-role classification, and the type of task involved. Data were analyzed by use of a three-way analysis of variance with repeated measures to determine if significant differences existed between the three sex-roles. Post hoc analyses of the simple effects were utilized to determine the nature of the sex x task and sex x sex-role interactions. The Newman-Keuls procedure was employed to determine the nature of the interaction between sex-role and task. In addition, a one-way analysis of variance was performed on each question of the manipulation check to test for significant differences between sex-role groups.

There were no significant main effects on the somatic and cognitive subscales. However, a significant main effect was obtained on the self-confidence subscale of the CSAI-2.

Post hoc analysis on the somatic subscale revealed that feminine males were more anxious than feminine females and furthermore, that males exhibited more anxiety than did females prior to performing on the balance beam. Subjects in the feminine sex-role reported higher levels of somatic anxiety than subjects in the other sex-roles before the masculine task. Feminine individuals also reported manifestations of anxiety more than androgynous individuals prior to the feminine task.

Analyses performed on the cognitive subscale revealed that prior to the masculine task, females reported more worry and concern than males. On the feminine task, males indicated higher levels of anxiety than did females. Individuals in the feminine sex-role reported more mental anxiety than individuals in both the masculine and androgynous sex-roles prior to performance of the masculine task.

The self-confidence subscale analyses indicated that feminine females reported higher levels of self-confidence than feminine males. Androgynous males also reported more self-confidence than did androgynous females. Males overall indicated more self-confidence prior to the masculine and neutral tasks than did females. However, prior to the feminine task females were more self-confident than were the males. Individuals in the feminine sex-role were less self-confident prior to the masculine activity than were individuals in both the masculine and androgynous sex-roles.

Conclusions

Based upon the results of the study, the following conclusions may be made.

1. In physical activity, individuals classified as feminine report more feelings of anxiety prior to performance than individuals classified as masculine or androgynous.

2. The biological sex of the performer, based upon perceptions concerning sex-appropriateness of the activity, has a measured influence on pre-performance anxiety.

Although subjects in the feminine sex-role exhibited more pre-performance anxiety than subjects in the masculine and androgynous sex-roles, the biological sex of the participant seemed to be a more salient agent than sex-role classification. Before these conclusions are generalized beyond the present investigation, subsequent study of these variables needs to be undertaken.

Recommendations

The following recommendations are offered for further studies:

1. The training period should be lengthened to determine what effect preparation time has on a subject's anxiety level prior to performance. This may also influence the perceived appropriateness of the task;
2. Further investigations of a similar nature should be conducted in which other sport skills are examined;
3. Various skill levels should be examined to determine what effect this has on pre-performance anxiety;
4. Investigations concerned with alternative methods designed to alleviate anxiety prior to participation in a perceived sex-inappropriate motor activity are needed.

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APPENDIX A-I

INFORMED CONSENT

You will be learning three sport skills--badminton, balance beam, and rugby. At the end of the specified learning period you will be evaluated by a panel of judges to assess the effectiveness of the progressive instructional methodologies employed. Prior to this evaluation, you will be given a questionnaire which will ask you to state your feelings concerning the task. There will be no harmful effects emotionally or psychologically through your participation in this experiment. There are limited physical risks involved in these sports activities similar to those encountered in any physical education class (e.g., sprains, bruises, muscle soreness). However, you will receive full instructions on how to minimize the possibility of injury during each activity. To maximize safety during the experiment, the rugby tackle will be performed at low speed (as a walk-through) rather than at full speed.

Scores will be reported as group data; therefore, individual scores will remain confidential. This study is investigative in nature and you may withdraw at any time with no penalty or prejudice. I will be happy to answer any questions you may have concerning any aspect of this study.

Form 2: Use of Human Subjects

Informed Consent

NAME OF SUBJECT: _____

1. I hereby give consent to _____ to perform or supervise the following investigational procedure or treatment:

2. I have (seen, heard) a clear explanation and understand the nature and purpose of the procedure or treatment; possible appropriate alternative procedures that would be advantageous to me (him, her); and the attendant discomforts or risks involved and the possibility of complications which might arise. I have (seen, heard) a clear explanation and understand the benefits to be expected. I understand that the procedure or treatment to be performed is investigational and that I may withdraw my consent for my (his, her) status. With my understanding of this, having received this information and satisfactory answers to the questions I have asked, I voluntarily consent to the procedure or treatment designated in Paragraph 1 above.

SIGNED: _____ SIGNED: _____
DATE

SUBJECT

or

SIGNED: _____ SIGNED: _____
PERSON RESPONSIBLE

Relationship

Instructions to persons authorized to sign:

If the subject is not competent, the person responsible shall be the legal appointed guardian or legally authorized representative.

If the subject is a minor under 18 years, the person responsible is the mother or father or legally appointed guardian.

If the subject is unable to write his name, the following is legally acceptable: John H. (His X Mark) Doe and two (2) witnesses.

APPENDIX A-II

GENERAL INFORMATION

Name: _____

Sex: Male Female

Age: _____

College Classification: Fresh. Soph. Jr. Sr. Grad.

Describe your general athletic background:

Describe your background in the following specific sport areas:

A. Badminton:

B. Balance Beam:

C. Rugby:

APPENDIX A-III

PERSONAL ATTRIBUTES QUESTIONNAIRE

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

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

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

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

Now, go ahead and answer the questions on the test itself. Be sure to answer every question, even if you are not sure. Also, remember to answer quickly: your first impression is the best.

1. Not at all aggressive A...B...C...D...E Very aggressive
2. Not at all independent A...B...C...D...E Very independent
3. Not at all emotional A...B...C...D...E Very emotional
4. Very submissive A...B...C...D...E Very dominant
5. Not at all excitable in
a major crisis A...B...C...D...E Very excitable in
a major crisis
6. Very passive A...B...C...D...E Very active
7. Not at all able to devote
self completely to others A...B...C...D...E Able to devote self
completely to others

8. Very rough Very gentle
A...B...C...D...E
9. Not at all helpful to others Very helpful to others
A...B...C...D...E
10. Not at all competitive Very competitive
A...B...C...D...E
11. Very home oriented Very worldly
A...B...C...D...E
12. Not at all kind Very kind
A...B...C...D...E
13. Indifferent to other's approval Highly needful of other's approval
A...B...C...D...E
14. Feelings not easily hurt Feelings easily hurt
A...B...C...D...E
15. Not at all aware of feelings of others Very aware of feelings of others
A...B...C...D...E
16. Can make decisions easily Has difficulty making decisions
A...B...C...D...E
17. Gives up very easily Never gives up easily
A...B...C...D...E
18. Never cries Cries very easily
A...B...C...D...E
19. Not at all self-confident Very self-confident
A...B...C...D...E
20. Feels very inferior Feels very superior
A...B...C...D...E
21. Not at all understanding Very understanding of others
A...B...C...D...E
22. Very cold in relations with others Very warm in relations with others
A...B...C...D...E

23. Very little need
for security
- Very strong need
for security
- A...B...C...D...E
24. Goes to pieces
under pressure
- Stands up well
under pressure
- A...B...C...D...E

APPENDIX B-I

ILLINOIS COMPETITION QUESTIONNAIRE

Directions: Below are some statements about how persons feel when they compete in sports and games. Read each statement and decide if you HARDLY-EVER, or SOMETIMES, or OFTEN feel this way when you compete in sports and games. If your choice is HARDLY-EVER, circle the letter C after the statement; if your choice is SOMETIMES, circle the letter B after the statement; if your choice is OFTEN, circle the letter A after the statement. There are no right or wrong answers. Do not spend too much time on any one statement. Remember to choose the word that describes how you usually feel when competing in sports and games.

	OFTEN	SOMETIMES	HARDLY-EVER
1. Competing against others is socially enjoyable.	A	B	C
2. Before I compete I feel uneasy.	A	B	C
3. Before I compete I worry about not performing well.	A	B	C
4. I am a good sportsman when I compete.	A	B	C
5. When I compete I worry about making mistakes.	A	B	C
6. Before I compete I am calm.	A	B	C
7. Setting a goal is important when competing.	A	B	C
8. Before I compete I get a queasy feeling in my stomach.	A	B	C
9. Just before competing I notice my heart beats faster than usual	A	B	C
10. I like to compete in games that demand considerable physical energy	A	B	C
11. Before I compete I feel relaxed.	A	B	C

	OFTEN	SOMETIMES	HARDLY-EVER
12. Before I compete I am nervous.	A	B	C
13. Team sports are more exciting than individual sports	A	B	C
14. I get nervous wanting to start the game.	A	B	C
15. Before I compete I usually get uptight.	A	B	C

APPENDIX B-II

ILLINOIS SELF-EVALUATION QUESTIONNAIRE

Directions: A number of statements which athletes have used to describe their feelings before competition are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate *how you feel right now--at this moment*. There are no right or wrong answers. Do *not* spend too much time on any one statement, but choose the answer which describes your feelings *right now*.

	Not at All	Some- what	Moder- ately So	Very Much So
1. I am concerned about this competition	1	2	3	4
2. I feel nervous.	1	2	3	4
3. I feel at ease.	1	2	3	4
4. I have self-doubts.	1	2	3	4
5. I feel jittery.	1	2	3	4
6. I feel comfortable.	1	2	3	4
7. I am concerned that I may not do as well in this competition as I could	1	2	3	4
8. My body feels tense	1	2	3	4
9. I feel self-confident	1	2	3	4
10. I am concerned about losing.	1	2	3	4
11. I feel tense in my stomach	1	2	3	4
12. I feel secure	1	2	3	4
13. I am concerned about choking under pressure.	1	2	3	4

	Not at All	Some- what	Moder- ately So	Very Much So
14. My body feels relaxed . . .	1 . . .	2 . . .	3 . . .	4
15. I'm confident I can meet the challenge. . . .	1 . . .	2 . . .	3 . . .	4
16. I'm concerned about performing poorly	1 . . .	2 . . .	3 . . .	4
17. My heart is racing. . . .	1 . . .	2 . . .	3 . . .	4
18. I'm confident about performing well	1 . . .	2 . . .	3 . . .	4
19. I'm worried about reaching my goal. . . .	1 . . .	2 . . .	3 . . .	4
20. I feel my stomach sinking	1 . . .	2 . . .	3 . . .	4
21. I feel mentally relaxed .	1 . . .	2 . . .	3 . . .	4
22. I'm concerned that others will be disappointed with my performance.	1 . . .	2 . . .	3 . . .	4
23. My hands are clammy . . .	1 . . .	2 . . .	3 . . .	4
24. I'm confident because I mentally picture myself reaching my goal.	1 . . .	2 . . .	3 . . .	4
25. I'm concerned I won't be able to concentrate . . .	1 . . .	2 . . .	3 . . .	4
26. My body feels tight . . .	1 . . .	2 . . .	3 . . .	4
27. I'm confident of coming through under pressure. .	1 . . .	2 . . .	3 . . .	4

APPENDIX C-I

BADMINTON SHORT SERVE (Bloss, 1980)
(NEUTRAL)

I. Grip

- * The "v" between the forefinger and thumb of the racquet hand should be on the top left bevel of the racquet grip.
- * The ball of the thumb should be placed flat against the back bevel to add support.
- * This grip is commonly used for all shots to the non-racquet side of the body.
- * For this serve, it may prove beneficial to "choke up" on the racquet for more control.

II. Procedure

- * Place the racquet-side foot forward.
- * Hold the racquet level, approximately chest high.
- * The shuttle should be held between the forefinger and thumb of the free hand with the base of the shuttle facing the racquet head.
- * The shuttle should be chest high approximately six inches in front of the racquet.
- * Stroke the shuttle gently over the net towards the short service line.
- * A slight flick of the wrist will facilitate a low trajectory on the service, making it more difficult to return.

III. Practice

- * Ten practice serves are allotted to each subject before the administration of the A-state inventory.

IV. Evaluation

- * The subject is evaluated on service technique in a ten trial performance of the short service by a panel of "judges."
- * The number of legal serves is recorded to lend credence to the evaluation.

APPENDIX C-II

BALANCE BEAM MOUNT AND DIPPING STEPS
(Schmid and Drury, 1977)
(FEMININE)

I. Front Support Mount

- * Stand facing the beam.
- * Place both hands across the beam and jump to a front support.
- * Keep the arms straight, legs together, and toes pointed.
- * Immediately lift one straight leg over the beam and sit on the beam, one leg on either side and both legs straight.
- * The weight is taken on the hands during the turn so that the body is clear of the beam.

II. Dipping Steps

- * Bend the supporting leg as the opposite leg swings forward from the rear.
- * Keep the knee straight so that the foot swings below the side of the beam, ending in a forward point.

III. Practice

- * The subjects were given fifteen minutes to practice mounting and moving from one end of the beam to the other using the dipping steps.

IV. Evaluation

- * Each subject was required to mount the beam and move from one end to the other while a panel of judges evaluated their performance.
- * The score of the evaluation was recorded so that the subject would feel as if the evaluation was real.

APPENDIX C-III

RUGBY TACKLING (Lewis, 1980)
(MASCULINE)

I. Instruction

- * The instructors first demonstrate the proper techniques in a correct rugby tackle from a stationary position.
- * The instructor then breaks down the tackle into its components for the subjects.

II. Procedures

- * Keep the eyes open so that the shoulder and head can be put where it will not be hurt--generally behind the ball carrier's thigh.
- * Aim just above the carrier's knee. This is where the shoulder should be placed.
- * As the shoulder goes into the opponent's thighs, the hitting shoulder arm pulls the knees together in a sweeping action.
- * The other arm wraps around the back of the carrier's knees to bind the tackle.
- * The tackler then pulls the carrier's knees to the tackler's chest.
- * As the carrier's forward momentum creates the fall, the tackler should "roll" with the carrier to prevent injury.

III. Practice

- * Subjects assemble in pairs--one kneeling and the other walk-up to the point of the tackle and stopping.
- * Subject pairs progress at their own rate until the kneeling partner is able to tackle the other partner walking across in front of the tackler.

- * Practice sessions were fifteen minutes in length so that both partners could master the techniques involved.

IV. Evaluation

- * Each subject was evaluated by a panel of judges according to the points stressed in the procedures.
- * The results were recorded so that the subject would feel as if the evaluation was legitimate.

APPENDIX D-I

POST-EXPERIMENTAL QUESTIONNAIRE

1. Did the presence of the judges influence your performance?

1	2	3	4	5
very much so		somewhat		not at all
2. Was it important to you to perform well?

1	2	3	4	5
very much so		somewhat		not at all
3. In your opinion, were the lessons sufficient to learn the task?

1	2	3	4	5
very much so		somewhat		not at all
4. In your opinion, badminton is considered to be what type of sport?

1	2	3	4	5
feminine		neutral		masculine
5. In your opinion, a balance beam routine is considered to be what type of sport?

1	2	3	4	5
feminine		neutral		masculine
6. In your opinion, rugby is considered to be what type of sport?

feminine		neutral		masculine
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