

COMPARATIVE ANALYSIS OF SELECTED PERSONAL AND
SOCIAL BACKGROUND CHARACTERISTICS
OF HIGH SCHOOL GIRLS AT THREE LEVELS OF
PARTICIPATION IN BASKETBALL

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FRANCES BECKER KOENIG
1969



This is to certify that the

thesis entitled

COMPARATIVE ANALYSIS OF SELECTED PERSONAL
AND SOCIAL BACKGROUND CHARACTERISTICS
OF HIGH SCHOOL GIRLS AT THREE LEVELS
OF PARTICIPATION IN BASKETBALL

presented by

Frances Becker Koenig

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Physical Education

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ABSTRACT

COMPARATIVE ANALYSIS OF SELECTED PERSONAL AND SOCIAL BACKGROUND CHARACTERISTICS OF HIGH SCHOOL GIRLS AT THREE LEVELS OF PARTICIPATION IN BASKETBALL

By

Frances Becker Koenig

The primary purpose of this study was to describe and compare selected personal and social background characteristics of high school girls at various levels of participation in basketball.

Cattell's Jr.-Sr. High School Personality Questionnaire, Bill's Index of Adjustment and Values, Haskins and Hartman's Action-Choice Test, several semantic differential scales and a social background inventory were administered to 29 varsity team members, 34 intramural players, and 30 non-participants from two schools in the Flint, Michigan area.

The data were analyzed exclusively with nonparametric statistical procedures including the chi square test, median test, Kruskal-Wallis analysis of variance, and Mann-Whitney U test.

Findings indicated that personality differences exist between athletes and non-athletes on three personality dimensions: sociability, group orientation, and emotional control. Varsity team members and intramural

players were found to have higher self-concepts than non-participants. Differences in agreement with statements concerning athletics in the high school were noted. Occupational preferences differed between the varsity and non-participant groups.

No differences were found among the three groups in sportsmanship, degree of femininity, or family influence on participation.

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By

Frances Becker Koenig

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To my husband, Fred,
The most unselfish man
I have ever met

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CHAPTER I

INTRODUCTION

At the present time very little is known about the role of sports for women in our culture. We do know that greater numbers of women are participating today than they did twenty years ago. There has, however, been little research as to what motivates girls to compete, what kind of girl participates, or what effect participation has physiologically, psychologically or sociologically on the female player.

In the past five years there has been an increased interest in providing competitive sports experiences for girls and women in schools and colleges. Physical educators and other interested women and men have been working through the Division for Girls and Women's Sports, the Amateur Athletic Union, state high school athletics associations and various other groups and agencies in an effort to provide direction for programs designed for the girl or woman who is motivated to excel in sports.

The American Medical Association, in 1964, commended the American Association for Health, Physical Education and Recreation and the Division for Girls and Women's Sports for encouraging greater development of sports



opportunities for girls and women, and offered its support in implementing the expanding girls' programs (3).

The content of physical education convention programs, meetings of other professional organizations, and publications of sports groups all reflect the growing interest in competition for the female. Numerous organizations are promoting and sponsoring competition for girls and women of all ages. No group, however, is making a concerted effort to gather research data on the participants.

To answer questions relative to sports competition for women in our culture, it is essential that investigators study athletes of all skill levels in a variety of sports. Physiologically, small beginnings have been made in studying the effects of strenuous activity on women. Psychologically and sociologically, virtually nothing has been done in this area. Not only do educators know little about what athletics do to and do for the female participant, they have a paucity of information on the girl, herself--the participant.

Information is needed on all aspects of the female athlete. A body of descriptive data will be of value in understanding the female participant and in designing appropriate athletic experiences for women.

Purpose of the Study

The primary purpose of this study was to describe and compare selected personal and social characteristics of high school girls at various levels of participation in basketball.

It was hypothesized that differences would exist among varsity basketball players, intramural participants in the same sport, and non-participants in basketball in: (1) personality, (2) connotative meaning of concepts related to basketball, (3) self-concept, (4) degree of femininity, (5) sportsmanship, (6) family influence on participation, (7) career interests, and (8) outlook towards school.

Limitations of the Study

This investigation was limited to mid-Michigan schools whose girls' basketball coaches were members of the Genesee County Women's Coaches Association during 1966-67. Schools offering both a varsity and intramural program in girls' basketball were used.

The following independent variables were selected for investigation: personality, degree of femininity, self-concept, connotative meaning of concepts related to basketball, sportsmanship, family influence on participation, career interests, and outlook towards school.

Inventories were administered to those absent from school on the day of testing by one other than the researcher.

The mean age of the varsity team members exceeded that of the intramural players and non-participants by 18 months.

The fact that one was a non-participant in basketball during the 1966-1967 season did not preclude the possibility of varsity or intramural experience in another sport that year. Neither did it negate the possibility of varsity or intramural basketball participation in previous seasons.

The study was made for comparative purposes only. Causation cannot be assumed or implied.

Definition of Terms

Characteristics Studied

Career interests.--Occupations which appeal to students for the future.

Connotative meaning of sports.--The meaning, perceived by an individual or a group, that is suggested by and associated with a particular word but which is not explicit in the word itself (53).

Femininity.--Possession of the qualities of the female sex.

Personality.--The composite dimensions or facts which combine in different ways to produce unique human behavior.

Self-concept.--The totality of ideas, perceptions and beliefs that form the image that an individual has of himself (13).

Sportsmanship.--Conduct becoming to a sportsman or sportswomen in terms of actions towards teammates and opponents.

Student-life concepts.--Ideas related to the school or one's outlook on life.

Participation Levels

Intramural participant.--One who attended at least one-half of the regularly scheduled practices and/or intramural basketball games during the season.

Non-participant.--One who was not categorized as either a varsity or intramural basketball player.

Varsity player.--One who had been a member of her school varsity basketball team during the entire season.

Selected Terms Used in Personality Tests

Achievement (E)*.--Does one's best, successful.

Affiliation (E).--Loyal to group, likes friends.

Autonomy (E).--Independent, non-conformist.

Deference (E).--Does what is expected, follows instructions, praises others, avoids the unconventional.

Desurgency (C).--Sober, serious, introspective.

*(E) following a trait designates that the definition is attributed to Edwards (28); (C) indicates Cattell's (17) description.

Diffident.--Lacking confidence, reserved.

Ego strength (C).--Mature, calm, stable.

Ego weakness (C).--Emotional, immature, unstable.

Exhibition (E).--Clever, witty, need to be the center of attention.

High strength of self-sentiment (C).--Controlled, considerate of others, accepts group standards.

Nurturance (E).--Kind, sympathetic, helps others.

Order (E).--Organized, neat.

Parmia (C).--Adventurous, friendly, genial, care-free.

Phlegmatic temperament (C).--Deliberate, placid, constant.

Poor self-sentiment (C).--Emotionally uncontrolled, excitable, rejects cultural demands.

Premia (C).--Esthetically sensitive, imaginative, frivolous.

Succorance (E).--Seeks encouragement and help from others.

Super-ego strength (C).--Conscientious, persistent, responsible.

Surgency (C).--Enthusiastic, happy-go-lucky, talkative.

Tough-minded (C).--Realistic, self-reliant, self-sufficient.

CHAPTER II

REVIEW OF THE LITERATURE

Teachers and coaches for fifty years have stated that sports contribute to healthy personality development. Good sportsmanship has been said to accrue from participation in athletics. Everything from sociability, emotional stability and independence to masculinity has been attributed to participation in sports. Until very recently statements regarding psychological and sociological concomitants of participation were made with little or no substantiative evidence to back them up.

Presently, sociological studies of athletes are still almost non-existent. A review of the literature revealed that since 1960 there have been an increasing number of research studies dealing with psychological traits of participants in various sports. There is, however, a paucity of information on the female athlete.

The few studies that have been reported have used subjects widely differing in age and skill level. Until very recently the instrumentation used also varied greatly and little attempt has been made to pull together data on women athletes in general.

Related Research

Studies of Personal-Social Characteristics of High School Girls

In an early study Flemming (35) attempted to determine the personality characteristics of 84 high school girls. He used teachers' ratings of 46 traits and concluded that the athletic girl could not be distinguished from the non-athletic student on the basis of the traits used.

Bell (7) administered the California Psychological Inventory to 109 varsity basketball players and 135 non-participants in seven high schools in Iowa. Her 1955 findings showed the athletes were less feminine, had a higher degree of social presence, and were more impulsive than the non-participants.

A comparative study of specific physical characteristics and personality traits of girls who had previously been selected for district teams in North Carolina and those who had played but had not made district teams was done by Hisey (43). No difference in characteristics was found using the Guilford-Zimmerman Temperament Survey. The two groups were compared on four traits: general activity (pace of activities, energy, production and efficiency, enthusiasm and desirability for speed); ascendancy (self defense, leadership habits, conspicuousness, desire to speak to individuals and to speak in public and

persuasion abilities); emotional state (evenness of moods, optimism, cheerfulness, composure and feelings of good health), and personal relations (tolerance and understanding).

Ramsey (81) attempted to determine if there were measurable differences in personality traits and attitudes towards physical education. Subjects were high school varsity basketball players in Texas and Iowa and girls participating only in intramural programs in Illinois (where varsity competition for girls is prohibited by the state high school activities association). Using Edwards Personal Preference Schedule, she found the varsity players to be higher in deference, nurturance and affiliation, and the intramural participants to be higher in dominance and exhibition.

In summary, high school varsity athletes were found to be high in deference, nurturance, and affiliation by at least one investigator. Athletes also were described as more sociable, more impulsive, and less feminine than non-participants. High school intramural players were described by one researcher as being high in dominance and exhibition.

Studies of Personal-Social Characteristics of College Women

Several recent studies have been undertaken in which college athletes served as subjects.

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Malumphy (63), in a descriptive study of participants in intercollegiate sports at five Ohio universities, looked at four variables: personality (using Cattell's 16 Personality Factor Questionnaire*), early sports experience, family sports participation, and personal feelings about competition. She found differences between non-participants and groups of athletes who participated at least two years in team sports, individual sports or both team and individual sports. Specifically, team sports athletes were less extraverted, less venturesome, more reserved and more tough-minded than the non-participants. She also noted that, while team sports participants were rather shy, reserved and sober, their coaches characterized them as being out-going, happy-go-lucky, venturesome and controlled. The sports groups were also differentiated from the non-participants on the basis of the answer to the personal information questionnaire concerning mother's participation in sports. The non-participants reported the smallest percentage of mothers then currently participating in sports.

In a later study, Malumphy (62) investigated the personality and general background of women who participated in regional or national intercollegiate competition in golf, tennis and aquatic arts. She found differences among the groups on six dimensions of personality:

*Hereafter referred to as the 16 PF.

affected by feelings--emotionally stable; expedient--conscientious; shy--venturesome; placid--apprehensive; group dependent--self sufficient; and casual--controlled. The personal information questionnaire showed differences in socioeconomic factors and early sports experience and training.

Ibrahim (44), using the Guilford-Martin Inventory of Factors GAMIN, found that a small sample of college women athletes scored above average on the femininity scale, tending, therefore, toward the masculine end of the scale. (Masculinity, as defined in the Inventory, includes emotional toughness while femininity is characterized by emotional sensitivity.) He also noted that women athletes scored average in dominance-submission.

Marler (64) investigated the personalities of two groups of physical education majors. One of these samples participated in college extramural activities and one did not participate. The Edwards Personal Preference Schedule showed the participants to be lower in their need for achievement than the non-participants.

Summarizing, college varsity team members have been shown to be more introverted, more reserved, and less venturesome than non-participants. They also were described as being more tough-minded, more masculine, and having less need for achievement.



Studies of Personal-Social
Characteristics of Women Athletes
Competing in National or Inter-
national Competition

Peterson, Weber and Trousdale (79) investigated personality traits of women who participated in volleyball in the 1964 Olympic Games or who were members of the top ten women's Amateur Athletic Union basketball teams during the same year. Using Cattell's 16 PF, they found these women to be self-sufficient, steady, practical, dependable, interested in immediate issues, self-reliant, responsible, and emotionally disciplined. Compared to norms for women of comparable age and education, participants in volleyball and basketball were more serious, intelligent, conscientious, aggressive and persevering and less ready to express themselves freely. They tended to be somewhat cool and aloof.

Gifford (38) used Cattell's 16 PF and an information questionnaire to determine if there were any differences between those who qualified for the 1968 Olympic trials in gymnastics and those who did not qualify. She found no differences between the two groups on nine selected personality dimensions. In addition, the two groups could not be distinguished on the basis of father's income, father's occupation, size of family, or size of hometown.

Neal (69) administered the Edwards Personal Preference Schedule to women participants of the 1959

THE

Pan-American Games. Comparing the competitors with the norm group of the same age, she found the athletes higher in achievement, affiliation, aggression, autonomy, nurturance, and order.

Studying the ten best women world tennis players of 1964, Kane and Callaghan (50) characterized those athletes as self-sufficient but diffident individuals, prone to worry, emotionally sensitive, introverted and anxious. They found lesser skilled women tennis players to be less stable, less confident, much more tense, and possessive of less ego-strength than the world caliber players.

Kane (49) found Olympic swimmers and track and field women athletes highly sociable, happy-go-lucky, low in emotional stability, low in conscientiousness, anxious, and extraverted. Cattell's 16 PF was used to study the personalities of both groups. In these studies, Kane found that the personalities of women athletes vary less from sport to sport than do the personalities of men athletes. This would seem to point to the existence of an athletic personality for women.

The most extensive studies assessing the personalities of United States athletes have been undertaken by Ogilvie. He made use of Cattell's 16 PF and his High School Personality Questionnaire (HSPQ), making it possible to relate the findings of one study to another.

Based on limited data, Ogilvie (74) reported that women athletes tended to be extroverted, tough-minded,

self-assertive and self-confident with a high capacity to endure the stressful situations found in competitive sport. He found that men athletes can be characterized as emotionally stable, tough-minded, conscientious, self-controlled, relaxed, self-assured, adaptable, and outgoing.

As compared to men, Ogilvie (72, 73, 74) found women to be more reserved, tough-minded, emotionally stable, forthright, and venturesome. Men and women could not be distinguished in self-assertion, happy-go-lucky attitude, suspiciousness, imaginativeness, self-sufficiency, self-control, and resting level of tension.

With younger athletes, he found male and female swimmers to be very similar, with girls just slightly more reserved, deliberate, tough-minded, undisciplined, and tense (73).

A cross-sectional approach to studying female athletes was made possible by Ogilvie. His studies of female swimmers were done at three different age levels: mean age 9.9 years; mean age 14.0 years, and college age. Cattell's Children's Personality Questionnaire (CPQ), HSPQ and 16 PF, all of which measure a number of identical dimensions of personality, were employed. Ogilvie's findings (74) showed that:

1. The 10 year olds and the college women were reserved and cool while the high school girls were average for the normative population on this trait.



2. Both high school and college female athletes were more emotionally stable than the 10 year olds who were average for that dimension.
3. Both elementary and high school girls were more dominant and self-assertive than college women who rated high average on that trait.
4. There was no difference between groups in shyness and venturesomeness. All were high average toward venturesomeness and tended to be happy-go-lucky.
5. There was a positive trend, with age, toward acceptance of group moral standards, with the 10 and 14 year olds scoring low on this dimension.
6. A gradual shift toward greater tough-mindedness (self-reliance, realistic, no-nonsense behavior as opposed to dependence, sensitiveness and over-protectedness) was evidenced.
7. A trend, with age, from placidity and self-assurance toward apprehensiveness was noted.
8. High school swimmers tended toward group adherence; college women were more self-sufficient.
9. In self-discipline and self-control both 14 year olds and college women scored low average compared to national norms. Ten year olds were significantly below average on the trait.

10. College women swimmers were lower than the general population in tenseness. Ten and 14 year olds were significantly more tense and driven than were college women.

Ogilvie concluded that the cross-sectional study suggests there may be positive changes in personality with time. Whether competition contributed to the observed change or whether the less emotionally stable individuals dropped out of competition cannot be determined until the completion of the longitudinal study currently underway.

Ogilvie's research showed that, for all athletes, there was a relationship between tough-mindedness and athletic achievement. This personality dimension was found consistently in his studies of national level competitors (75).

As a result of his research, Kane (49,50) also concluded that tough-mindedness is characteristic of athletes. He has postulated that, from the happy-go-lucky, dominant, tough-minded youngsters that start out in sports, those who are less extraverted and more sensitive continue on and get to the top.



Summary of Research Findings
Pertinent to Personal-Social
Characteristics of Female
Athletes

Most researchers who noted differences between women athletes and the normative population found the athletes to be happy-go-lucky, self-reliant, self-sufficient, and realistic.

On other traits there seems to be no general agreement. Several studies showed that women athletes were sociable and extraverted, while others found athletes to be reserved and tending toward introversion. There was also a difference found in the emotional stability of women athletes. Some investigators noted that women were highly stable emotionally; others found emotional instability among athletes. If there is such a thing as a female athletic personality, research findings to date have shown that a happy-go-lucky outlook and tough-mindedness may be descriptive of that personality. Further description cannot be concluded from composite results thus far.

Instrumentation

The choice of what variables to assess was based on a review of the literature and the researcher's own experience with women in athletics. It was decided to investigate the following personal characteristics in an attempt to find out what the girl who participates in athletics is like:

1. personality
2. self-concept
3. degree of femininity
4. ideas relative to basketball, the coach, and
the team
5. sportsmanship

After examining the instrumentation used by others to assess the personal characteristics of female athletes, the final choice of inventories and questionnaires was made. The following sections describe the rationale for the selection of a specific test or for the modification of an existing instrument.

Personality Inventory

Cattell's 16 Personality Factor Questionnaire (16 PF) and his High School Personality Questionnaire (HSPQ) have been widely used in recent years to study the personalities of athletes at varying ages and skill levels in a large number of sports (38, 46, 49, 50, 56, 58, 62, 63, 74, 75, 79, 83, 102, 109).

The 16 PF and the HSPQ are designed for use with different age groups and measure 12 personality dimensions in common. This fact gives added value to Cattell's scales for it is possible to carry out longitudinal studies beginning in the adolescent years and continuing into adulthood.

Kane, (50) who has done extensive research on the personalities of athletes in Britain, stated that Cattell's scales are probably the best available although they are not without limitations. According to Kane, Cattell used a rigorous factor analytic approach to clearly define independent personality dimensions of each scale (49). Of importance, Kane stated, is the fact that considerable data have been collected in Britain and the United States using these scales. That fact enabled researchers to make valid comparisons between a wide variety of athletes (49).

Rushall (84) asserted that Cattell's scales are not aligned toward clinical patients as are many other personality tests. Other advantages of the scales include the fact that they are simple to interpret and are free from ultra-sophisticated meanings.

Each of the 14 factors measured by the HSPQ was been a technical bi-polar title and a more popular title for lay use. Each is also identified by a letter of the alphabet, identical to the designations used in the 16 PF and the CPQ.

Some of the dimensions refer to temperament traits; others to disposition traits (conditioned by environment), levels of dynamic integration or to measures of ethical character. A factor measuring general mental capacity is also included. A list of dimensions is shown in Figure 1.

Figure 1.--Titles and symbols for designating the fourteen dimensions.*

Trait Designation by Letter	Low Score on Trait- <u>versus</u> High Score on Trait Technical Title (Popular Title in Parentheses)
A	Schizothymia- <u>versus</u> -Cyclothymia (Stiff, Critical, Aloof- <u>versus</u> -Warm, Sociable)
B	Low General Mental Capacity- <u>versus</u> -General Intelligence (Dull- <u>versus</u> -Bright)
C	Neurotic, Emotional Instability, or Ego Weakness- <u>versus</u> -Ego Strength (Emotional, Immature, Unstable- <u>versus</u> -Mature, Calm)
D	Phlegmatic Temperament- <u>versus</u> -Excitabil- ity (Stodgy- <u>versus</u> -Unrestrained)
E	Submissiveness- <u>versus</u> -Dominance (Mild- <u>versus</u> -Aggressive)
F	Desurgency- <u>versus</u> -Surgency (Sober, Serious- <u>versus</u> -Enthusiastic, Happy-go- lucky)
G	Lack of Acceptance of Group Moral Standards- <u>versus</u> -Super Ego Strength (Casual, Undependable- <u>versus</u> -Conscien- tious, Presistent)
H	Threctia- <u>versus</u> -Parmia (Shy, Threat- Sensitive- <u>versus</u> -Adventurous, "Thick- skinned")
I	Harria- <u>versus</u> -Premsia (Tough, Realistic- <u>versus</u> -Esthetically Sensitive)
J	Dynamic Simplicity- <u>versus</u> -Neurasthenic Self-Critical Tendency (Liking Group Action- <u>versus</u> -Fastidiously Individual- istic)
O	Confident Adequacy- <u>versus</u> -Guilt Prone- ness (Confident- <u>versus</u> -Insecure)
Q ₂	Group Dependency- <u>versus</u> -Self-Sufficiency (Group Dependent- <u>versus</u> -Individually Resourceful)
Q ₃	Poor Self Sentiment Formation- <u>versus</u> - High Strength of Self Sentiment (Uncontrolled, Lax- <u>versus</u> -Controlled, Showing Will Power)
Q ₄	Low Ergic Tension- <u>versus</u> -High Ergic Tension (Relaxed, Composed- <u>versus</u> - Tense, Excitable)

*(17, p. 5)

Cattell's Jr.-Sr. High School Personality Questionnaire (HSPQ):

1. Covers 14 major independent dimensions descriptive of individual differences in personality and does not deal with one single factor.
2. Can be administered in a group classroom situation.
3. Is specifically intended for use with 12-17 year olds, although it demands only a reading vocabulary of an average child of 11 (17, 4).
4. Has a reasonable high test-retest and split-half reliability for each of the 14 factors.
5. Has satisfactory construct or concept validity for scales of the length used.

Measurement of Connotative
Meaning of Concepts Related
to Basketball

Everyone sees things just a little differently. However, there is a common core of meaning in all concepts, according to Kerlinger (53). While a concept has a common cultural connotation, he states it also has special meanings for particular groups.

The semantic differential, as a method of measuring the psychological meaning of concepts, was originated by Osgood (75). Each semantic differential consists of a number of scales (or bipolar adjectives) together with a concept to be rated by the scales. The bipolar adjectives

are usually on seven point rating scales. Osgood lists 50 adjective pairs (75, p. 37) which were empirically shown to be of value in determining the meaning of various concepts. Any number of adjective pairs may be used in rating a concept as long as each is relevant to the concept used.

Selltiz and his collaborators (89) reported that differential scales are an attempt to approximate an interval scale where the distances between two points are known.

Kerlinger (53) stated that psychologists have used the semantic differential rather extensively to study attitude conditioning, human values, and emotions. While educators have made limited use of the method, he believes the method is sufficiently reliable and valid for many research studies.

A semantic differential, designed to measure the connotative meanings of various sports concepts, was specifically made for use with athletes by Bruce C. Ogilvie.* The concepts of coach, team, sport and fans are measured.

Measure of Self-Concept

Combs (20) defined self-concept as the way in which an individual sees himself. The adequate, self-actualizing

*A copy of the instrument, entitled Semantic Differential, may be found in Appendix I.

person seems to have an essentially positive view of the self. He sees himself as being liked, wanted, acceptable, and of importance. Negative aspects of the self are taken in stride.

It was Maslow's contention that each person has an inner core or self which is intrinsic, natural, and usually resistant to change. There is a dynamic force within this nature that presses for open, uninhibited expression. This force is the pressure of self-actualization, the quest for one's identity. Psychological health is only possible, said Maslow, when this inner nature of a person is accepted and respected by others and himself.

According to Borg (13) self-concept is the totality of the ideas, perceptions, and beliefs that form the image of himself that the individual creates. A person tends to behave in a manner which he considers to be in keeping with his self-concept.

Kelley (51) stated that "self" starts when life begins. It is unique to the individual and depends on the accumulated background of the person. He further postulated that the self is a composite achieved through social contact. What a person thinks he is, rather than what he is, is crucial. According to Kelley, the fully functioning personality thinks well of himself and others. He is not static, but always moving and becoming.

Robert E. Bill's Index of Adjustment and Values (10) is a standardized measure of self-concept. The Index is designed to measure self-description (self-concept), self acceptance, ideal self, and discrepancy between concept of self and ideal self. Each subject rates himself with respect to 49 word traits. He also tells how he feels about being that sort of person (acceptance of self), and how he would like to be with respect to each trait (ideal self).

An additional measure of self-concept was included in Ogilvie's Semantic Differential.

Masculinity-Femininity Scales

Masculinity and femininity scales have been included in several personality tests, including the Edwards Personal Preference Schedule, the California Personality Inventory, and the Guilford-Martin Inventory of Factors GAMIN. In all of these cases, culturally-based definitions of the traits of masculinity and femininity were used to study the validity of the scales.

Ogilvie (73) stated that there has been resistance in our society to modifying the culturally defined terms of masculinity and femininity. According to him, it has been the male who determines what range of behavior is classified as being feminine.

Rubin (83) asserted that feelings, emotions and interests are human, and as such, have no sexual

connotation unless so defined by a particular group or person. If this is true, a scale which permitted a group to define masculinity and femininity as they viewed them would be most meaningful. Having found no instrument satisfactory for use in this study, the investigator modified a semantic differential, formulated by Ogilvie, for use in this research.* By using three identical semantic differentials, it was possible to arrive at a group definition of masculinity, a group definition of femininity, and a self-rating on degree of femininity.

Sportsmanship Test

Physical educators have long asserted that participation in sports contributes to sportsmanship, but have seldom evaluated sportsmanship objectively. Undoubtedly, attaining sportsmanship is a learning process. One must know what the proper behavior is before he can exhibit the behavior. Sportsmanship, therefore, must be taught. Opportunities must also be given to practice the behavior so that it becomes habit.

Haskins and Hartman's Action-Choice Tests, standardized on college women, are designed to measure sportsmanship attitudes and knowledge. The tests are suitable for use with high school students. The student's response is determined by his experience in similar situations and

*A copy of the instrument may be found in Appendix I.



by his ability to relate test items to his experience (40, p. 65).

Family Influence on Participation,
Career Interests, and Outlook
Towards School

Stiles (97) studied factors involved in initiating sports participation in skiing. He found that most of the persons interviewed had a background of family sports participation. The writer, in a preliminary pilot study, found that parental interest and encouragement to participate differentiated between college varsity players and non-participants.

Participation, therefore, may be influenced by something other than an individual's own interest and skill in a sport.

Educators have postulated that the amount of involvement in school activities affects the student's attitudes and outlooks toward the institution. This has been one of the reasons for offering a broad extracurricular activity program at the junior and senior high school level.

Since no instrument was found to assess these social characteristics, the writer constructed an inventory for use in this study.*

*A copy of the instrument may be found in Appendix I.

CHAPTER III

METHODS AND PROCEDURES

The study was designed to test the hypothesis that differences in personality, connotative meanings of concepts related to basketball, self-concept, degree of femininity, sportsmanship, family influence on participation, career interests, and outlook towards school exist among high school girls at various levels of participation in basketball.

The experimental design required three groups of subjects: a varsity group, an intramural group, and a non-participant group.

Subjects

Subjects were selected from two schools in the Flint, Michigan area. All were white females enrolled in grades 9-12. A total of 93 subjects were used in the study. Subjects ranged in age from 14 to 19 years, with the mean age 16.0 years.

Sample Selection

In obtaining the sample from the total population of 715 females in the two schools, the following criteria were used:

1. To be categorized as a varsity player, a girl had to have been a member of her school varsity basketball team during the entire 1966-67 season.
2. To be classified as an intramural participant, a girl had to have attended at least one-half of the regularly scheduled practices and/or intramural basketball games during the 1966-67 season.
3. Non-participants were those girls who were categorized as neither varsity nor intramural basketball players during the 1966-67 season.

Names of the varsity players and the intramural participants who satisfied the criteria were supplied by the coaches of the girls' basketball teams at the two schools. Lists of girls enrolled in grades 9-12, as of January, 1967 were supplied by the principals of the schools. Names of the varsity and intramural players were stricken from the enrollment lists.

A total of 29 varsity players were listed by the coaches (16 from Lakeville and 13 from Fenton). Thirty-four intramural participants (24 from Lakeville and 13 from Fenton) had attended the required number of practices and/or games. The entire populations of varsity players and intramural participants were selected for the sample.

By use of a table of random numbers, 32 non-participants were selected from among the 652 girls who were listed on school rolls and who were not categorized as either varsity or intramural players. Of the non-participants, 15 were enrolled at Fenton and 17 at Lakeville.

The sample, as selected, included a total of 95 subjects with 29 girls in the varsity group, 34 in the intramural group, and 32 in the non-participant group. (At a later date two of the non-participants' scores were excluded due to the fact that their mental ability prohibited their understanding the instructions sufficiently well to adequately answer the various scales. The final sample, therefore, included 93 subjects with 30, rather than 32, in the non-participant group.) The mean ages of the varsity, intramural, and non-participant groups were 17.3, 15.8, and 15.7 years. The groups could be considered reasonably comparable in socioeconomic background since subjects from both schools were included in each group.

Source of Data

The instruments selected for use were as follows:

1. Personality Questionnaire--Cattell's Jr.-Sr.

High School Personality Questionnaire, Form A.

2. Measure of the Connotative Meaning of Concepts Related to Basketball--a semantic differential scale constructed by Ogilvie.*
3. Self-Concept Measures--Bill's Index of Adjustment and Values, Adult Form and a semantic differential constructed by Ogilvie.*
4. Degree of Femininity Measure--semantic differential Masculinity-Femininity Scales constructed by Ogilvie and modified by the writer.*
5. Sportsmanship Test--Haskins and Hartman's Action-Choice Test, Form B.
6. Social Background Information--an inventory prepared by the investigator.*

Procedural Steps in Collecting Data

At the onset of the study, the cooperation of the Genesee County Women's Coaches Association was sought and obtained. Members of the Association were physical education teachers and coaches of varsity basketball teams in 14 high schools in the Flint, Michigan vicinity. The specific area was chosen because a well-organized interscholastic girls' basketball program had been in effect for a number of years.

The investigator met with the Association members to outline the purpose of the study. At that time it was

*A copy of the instrument may be found in Appendix I.

found that only two of the 14 schools offered both varsity and intramural basketball programs. Since the design of the study required three groups of subjects, it was decided to draw the sample from the two institutions which had an intramural program in addition to a varsity team. Fenton High School, Fenton, Michigan and Lakeville High School, Otisville, Michigan were used.

Permission to test the subjects was obtained from the principals of the two schools. All tests and inventories were administered during school hours.

All students selected for the sample were sent letters inviting them to take part in the study. Assurance was given that replies would be anonymous and confidential. All 95 subjects indicated willingness to answer the various questionnaires and inventories.

The testing was done by the investigator at each school in two, one and one-half hour sessions on two successive Fridays, May 5 and May 12, 1967. A room suitable for testing purposes was provided at each location. Subjects were excused from their regularly scheduled classes on both testing occasions. Assistance in administering the tests was given, in each case, by the girls' physical education teacher.

Identical instructions were given to subjects at each school. On the first testing occasion subjects completed the FKHW Inventory, the Semantic Differential, the

Action-Choice Test, and Cattell's HSPQ. The Index of Adjustment and Values and the Masculinity-Femininity Scales were administered the second day.

Students absent from school on the day of testing completed the inventories when they returned to classes. Administration of tests in those cases was done by the girls' physical education teachers. Written instructions for the subjects were provided by the investigator.

The scales and inventories were hand scored and tallied. Data were set up for analysis on a Control Data CDC 3600 computer.

Treatment of Data

With all of the data at the ordinal level of measurement, nonparametric statistical procedures were employed throughout:*

*Kerlinger (53) and Siegel (91) caution against using parametric statistical procedures if the rigorous assumptions required for parametrics are not met. If the assumptions are violated, the conclusions drawn from the data may possibly be in error. Siegel points out that, "many personality inventories . . . result in scores which have the strength of ranks. Although the scores may appear to be more precise than ranks, generally these scales do not meet the requirements of any higher level of measurement and may properly be viewed as ordinal" (91, p. 24). He further points out that parametric statistics which utilize means and standard deviations to derive F or t values should be used only with interval scales where successive intervals or distances between scores are equal. For analyzing data where scores are only on an ordinal scale, nonparametric statistical procedures, which have fewer and less exact assumptions, should be used. The writer asserts that the scores derived from Cattell's scales, the Semantic Differential,

1. The median test, extension of the median test, Kruskal-Wallis one-way analysis of variance and Mann-Whitney U test (90) were used to analyze the data from the Masculinity-Femininity Scales.
2. Kruskal-Wallis one-way analysis of variance techniques and the Mann-Whitney U test served in analyzing the Index of Adjustment and Values, Cattell's HSPQ, the Semantic Differential, and the Action-Choice Test.
3. Tables were constructed to depict the percentages of responses to the following Inventory items: parental activity habits, parental encouragement to participate, career interests, and school-life concepts. The X^2 test for independent samples was used to see if differences existed between groups.

In general, the probability of making a Type I error was held at the .10 level. In analyzing the Masculinity-Femininity Scales and the social background information, the .05 level of significance was chosen.

Bill's IAV, and the Action-Choice Test are at an ordinal level of measurement, and that the use of parametric statistics for analyzing data is not proper.

CHAPTER IV

RESULTS AND DISCUSSION

The results and discussion are presented in two parts. First, the descriptive social background information on subjects will be given. The following variables will be looked at: parental influence to participate, career interests, and agreement with stated student-life concepts. Second, the personal characteristics of the experimental groups will be discussed in the following order: personality characteristics, connotative meanings of concepts related to basketball, self-concept, degree of femininity, and sportsmanship.

Social Background Information

Tables 1, 2, 3, and 4 depict the percentages of responses to items on the social background instrument. The X^2 test for independent samples was used to determine if differences between groups were due to chance alone.

Parental Influence to Participate

As shown in Table 1, no differences among varsity, intramural and non-participant groups were found on the following variables: parental encouragement to participate

in extracurricular activities, parental interest in sports, and frequency of family participation in recreational activities.

TABLE 1.--Responses of varsity, intramural and non-participant groups to social background inventory items concerned with family influence on participation.

Question	Percentage of Total Group Checking Responses					
	Group (N)	a	b	c	d	e
Parental encourage- ment given	Varsity (N=29)	31.0	27.5	20.6	17.2	3.7
	Intramural (N=34)	38.2	32.3	20.5	5.8	3.3
	Non-partic. (N=30)	23.3	40.0	30.0	6.7	0.0
Father's interest in sports	Varsity (N=29)	55.1	27.5	13.7	3.7	0.0
	Intramural (N=34)	58.8	20.5	11.7	5.8	3.2
	Non-partic. (N=30)	60.0	26.6	13.4	0.0	0.0
Mother's interest in sports	Varsity (N=29)	27.5	44.8	17.2	6.8	3.7
	Intramural (N=34)	35.2	38.2	17.6	2.9	6.1
	Non-partic. (N=30)	16.6	40.0	26.6	8.8	7.0
Frequency of family recreation	Varsity (N=29)	20.6	34.4	34.4	10.6	--
	Intramural (N=34)	20.5	41.1	26.4	12.0	--
	Non-partic. (N=30)	20.0	40.0	30.0	10.0	--

Career Interests

Table 2 shows that when varsity team members and non-participants were compared on their rankings of occupational preferences, a number of differences were found.

As might be expected, the varsity players as compared to the non-participants, showed a distinct preference for becoming women athletes. Because varsity team members have found satisfaction in sports participation

in the past, it is natural that these subjects believe it would be found again in an athletic occupation. In rating the future occupation of beautician, there was a difference between the rankings of the varsity and non-participant groups. Over two-thirds of the non-participants ranked it first or second. Only 28 per cent of the varsity athletes gave similar rankings. No differences were found in rankings by the two groups of the occupations of singer, teacher, scientist, or bank executive.

TABLE 2.--Differences between rankings of occupational preferences by varsity and non-participant groups.

Occupation	Group	N	Preference Ranking (in percentages)			X ²	P
			1&2	3&4	5&6		
Teacher	Varsity	28	49.9	35.6	14.5	2.840	N.S.
	Non-part.	28	28.5	46.3	25.2		
Singer	Varsity	28	10.7	32.0	57.3	1.620	N.S.
	Non-part.	28	21.3	35.7	43.0		
Athlete	Varsity	28	67.8	21.4	10.8	8.752	<.05
	Non-part.	28	28.4	42.7	28.9		
Beautician	Varsity	28	28.5	39.2	32.3	8.948	<.05
	Non-part.	28	67.8	21.3	10.9		
Scientist	Varsity	28	17.8	35.7	46.5	3.648	N.S.
	Non-part.	28	10.6	17.8	61.6		
Bank Executive	Varsity	28	21.4	39.2	39.4	3.512	N.S.
	Non-part.	28	42.8	35.6	21.6		

School-Life Concepts

Table 3 shows the per cent of the varsity, intramural and non-participant groups who agreed with stated school-life concepts. Table 4 depicts differences in responses of the three groups to those concepts where the percentage of agreement varied. It is interesting to note the responses of the groups to statements regarding athletics. Fewer varsity team members than non-participants believe that try-outs always select the best athletes. Fewer varsity members than intramural players agree that boys should play sports instead of reading a lot. Perhaps the varsity squad members are more realistic about the fact that athletics is but one part of a vital school extracurricular program. The intramural group differed from the non-participants in their opinion on the statement that the most popular girls are not good athletes. Over 80 per cent of the intramural players disagreed with the statement while almost half of the non-participants agreed with it.

Summary of Results of Social Background Information

In summary, no differences among groups were found in regard to parental encouragement to participate, parental interest in sports, or frequency of family participation in recreational activities. In ranking

TABLE 3.--Percentages of agree responses given by the three groups to statements concerned with school-life concepts.

Item	Group		
	Varsity (N=29)	IM (N=34)	N-P (N=30)
a. A person works best when he works by himself.	37.9	41.1	33.3
b. School tryouts always select the best athletes.	13.7	32.3	43.3
c. Any person with desire and ability has to take a stand against the majority.	27.5	52.9	50.0
d. It's best to live for today; tomorrow will take care of itself.	41.3	50.0	60.0
e. The knowledge girls have about sports is low.	31.0	20.5	26.6
f. All the students have a chance to run things around here.	24.1	24.2 ^a	20.0
g. Overall, school courses are dull and uninteresting.	13.7	17.6	26.6
h. Boys should play sports instead of reading a lot.	13.7	41.1	33.3
i. The most popular girls are not good athletes.	32.1 ^b	17.6	46.6
j. Boys and girls should compete in sports.	68.9	88.2	86.6

^a_n = 33

^b_N = 28

TABLE 4.--Differences between responses of groups to statements concerned with school-life concepts.

Item	Group		Agree In Percentages	Disagree In Percentages	X ²	p
b. School try-outs always select the best athlete.	Varsity	29	13.7	86.3	5.16	.05
	Non-Part.	30	43.3	56.7		
	Varsity	29	13.7	86.3	2.04	N.S.
	IM	34	32.3	67.7		
c. Any person with desire and ability has to take a stand against the majority.	Varsity	29	27.5	72.5	2.24	N.S.
	Non-Part.	30	50.0	50.0		
	Varsity	29	27.5	72.5	3.17	N.S.
	IM	34	52.9	47.1		
g. Overall, school courses are dull and uninteresting.	Varsity	29	13.7	86.3	<1.00	N.S.
	Non-Part.	30	26.6	73.4		
	Varsity	29	13.7	86.3	<1.00	N.S.
	IM	34	17.6	82.4		
h. Boys should play sports instead of reading a lot.	Varsity	29	13.7	86.3	2.12	N.S.
	Non-Part.	30	33.3	66.7		
	Varsity	29	13.7	86.3	4.49	.05
	IM	34	41.1	58.9		
i. The most popular girls are not good athletes	IM	34	17.6	82.4	4.97	.05
	Non-Part.	30	46.6	53.4		
	IM	34	17.6	82.4	1.06	N.S.
	Varsity	28	32.1	67.9		

career interests, varsity players and non-participants differed in their preferences. More varsity players preferred to be women athletes. Non-participants had a preference for the occupation of beautician. Differences were also noted between groups on statements dealing with athletics in the high school.

Personal Characteristics

Personality Questionnaire

The Kruskal-Wallis one-way analysis of variance was used to analyze the Cattell HSPQ. The results are shown in Table 5. Differences were found to exist among groups on the following dimensions:

reserved versus outgoing (Factor A)

group oriented versus individualistic (Factor J)

casual versus controlled (Factor Q_3).

These results support the research hypothesis that there are personality differences among varsity squad members, intramural players, and non-participants in basketball. Differences in sociability, liking for group action, and self-control were found. With respect to the other personality dimensions measured by Cattell's HSPQ, it cannot be assumed that the three samples were drawn from different populations.

The Kruskal-Wallis analysis of variance merely permitted conclusions to be drawn relative to differences

TABLE 5.--Kruskal-Wallis analysis of variance among varsity, intramural and non-participant groups to determine differences on the 14 Personality dimensions measured by Cattell's HSPQ:

Factor	Rank Sums of Groups ^a (Based on Questionnaire Raw Scores)			Value of H	p
	Varsity (N=29)	IM (N=33)	N-P (N=30)		
A Reserved vs. Outgoing	1089.0	1777.5	1411.5	5.83	.05 ^b
B Low mental capacity vs. Intelligent	1539.0	1476.0	1263.0	2.85	.24
C Emotional instability vs. Ego strength	1240.5	1663.5	1374.0	1.31	.52
D Placid vs. Excitable	1112.0	1675.5	1490.5	4.02	.13
E Submissive vs. Dominant	1323.0	1485.0	1470.0	0.40	.82
F Sober vs. Happy-go-lucky	1387.0	1596.0	1295.0	0.71	.70
G Expedient vs. Conscientious	1448.0	1671.0	1159.0	3.92	.14
H Shy vs. Adventurous	1368.0	1661.0	1249.0	1.71	.43
I Tough-minded vs. Tender-minded	1318.5	1519.0	1440.5	0.15	.93
J Group oriented vs. Individualistic	1077.0	1681.5	1519.5	5.30	.07 ^c
O Confident vs. Insecure	1264.5	1616.0	1397.5	0.63	.73
Q ₂ Group dependent vs. Self-sufficient	1456.5	1428.5	1393.0	1.06	.59
Q ₃ Casual vs. Controlled	1539.0	1621.5	1117.5	5.73	.06 ^d
Q ₄ Relaxed vs. Tense	1358.5	1512.5	1407.0	0.03	.98

^aLow rank sums indicate a tendency toward the trait listed first under a particular factor.

^bThe Mann-Whitney U test showed the varsity group to be more reserved than the intramural group ($U = 307$; $p = .0076$), and more reserved than the non-participant group ($U = 347$; $p = .0896$).

^cThe Mann-Whitney U test showed the varsity group to be more group oriented than the intramural group ($U = 308.5$; $p = .0077$), and more group oriented than the non-participant group ($U = 329.5$; $p = .0532$).

^dThe Mann-Whitney U test showed the varsity group to be more controlled than the non-participant group ($U = 279$; $p = .0087$), and the intramural group to be more controlled than the non-participant group ($U = 373.5$; $p = .0465$).

among the groups. Where differences were found, the Mann-Whitney U test was used to further differentiate between varsity, intramural and non-participant groups.

The Mann-Whitney U test indicated that the varsity group was more reserved than both the non-participants and the intramural players. This is consistent with the findings of Kane and Callaghan (50), Malumphy (63), Ogilvie (74, 75), and Peterson (79). It might be expected that the more outgoing individuals would be found in intramural sports. By their very nature, women's intramurals have a high social component, and they appeal to the casual sportswoman. The interest on the part of sororities, clubs, and other social groups in intramurals testifies to this fact.

The highly competitive individual, on the other hand, is more likely to retreat into himself in an effort to concentrate on arriving at success patterns necessary for his particular sport.

With respect to the trait group oriented versus individualistic, it was found that the varsity athlete is more group oriented than either the intramural player or the non-participant. No difference was found between the intramural and non-participant groups. One of the necessities of successful participation in team sports is the ability to subordinate one's own desires to the needs of the group. It would seem likely that varsity team

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members would either be group oriented initially or would soon acquire the trait after playing with a team.

When one looks at the factor casual versus controlled, it is noted that both the varsity and intramural groups were more controlled than the non-participants. Cattell describes a person who is controlled as one who has will power, is ambitious, considerate of others, foresighted, conscientious, and attempts to control expressions of emotions (17, p. 17). Coaches and physical educators attempt to teach these traits, and a coach looks for these attributes in his athletes. It is possible that girls who are casual, rather than controlled, have no interest in sports participation or have found that they are not successful in sports performance.

Other researchers found women athletes to be different from non-athletes in the dimensions happy-go-lucky vs. sober, and tough-minded vs. tenderminded. The results of this study do not lend support to previous findings with regard to these personality dimensions. It is possible that the discrepancy in findings is due to the difference in age or skill levels of subjects for various studies. Ogilvie's data include test results for school age girls, but his subjects were a highly select group competing for the nationally renowned Santa Clara Swim Club. It is probable that such a group cannot be equated with a high school varsity team. All other investigators who have

used Cattell's scales have utilized subjects of post-high school age. Most of the women athletes were regionally or nationally ranked or members of a national or international team. It would not be unusual for older women at a very high level of skill to differ in personality from high school varsity or intramural players.

It is also possible that some of the variation in results of this study and previous studies may be due to the use of different statistical procedures. All other investigators with the exception of Gifford (38) utilized parametric statistics to analyze data.

Since the results found by other researchers were treated statistically in a different manner, it is not possible to make direct comparisons between these findings of this study and those of other investigators. In general, however, the results of this research support prior evidence that personality differences exist between athletes and non-athletes.

Connotative Meanings of Concepts Related to Basketball

Kruskal-Wallis analysis of variance techniques were utilized to analyze the semantic differential designed to measure connotative meanings of particular concepts. The concepts rated included: me as the coach sees me, coach as she is, team as it is, basketball as it is, and fans as they are. Table 6 lists the H values and significance

levels of ratings of the five concepts. The only concept that was viewed differently by the varsity, intramural and non-participant groups was "me as the coach sees me." No differences were found in the connotative meanings given by the three groups to the coach as she is, the team, the sport, or the fans.

TABLE 6.--Kruskal-Wallis analysis of variance among varsity, intramural and non-participant groups to determine differences in the connotative meaning of concepts related to basketball.

Concept	Rank Sums of Groups [*] (Based on Median Scores for Concept)			Value of H	p
	Varsity (N=28)	IM (N=31)	N-P (N=27)		
Me as coach sees me	1020.5	1403.5 ^a	1404.0	5.22	.07 ^c
Coach as she is	1143.5	1447.5	1150.0	0.87	.65
Team as it is	1259.5	1314.0	1167.5	0.17	.92
Basketball as it is	1034.5	1371.5	1335.0	3.53	.17
Fans as they are	1339.0 ^b	1215.5	1100.5	2.89	.24

^aN = 32

^bN = 27

^cThe Mann-Whitney U test showed that the varsity group felt that the coach held her in higher regard than did the non-participant group (U = 243; p = .0114).

^{*}A low mean rank sum indicates a more favorable rating.

Whether a girl plays basketball or not seems to have no bearing on how she views the team, the coach, or the sport. The extent of her participation in competitive basketball is, however, related to her ideas about what the coach thinks of her as an individual. The varsity player felt that the coach held her in higher regard than did the non-participant. It is understandable that a girl who works closely with the coach in varsity practice and games feels that the coach regards her highly. It is equally understandable that a girl whose contact with the coach is more limited believes the coach may not think as much of her as she does of some of her fellow students.

It is interesting to note that while the varsity player and the non-participant believe the coach sees them differently, they view the coach essentially the same way. Apparently, no group who feels favored or slighted holds this against the coach.

Self-Concept

Bill's Index of Adjustment and Values was analyzed by use of the Kruskal-Wallis one-way analysis of variance. The results are shown in Table 7.

On the basis of the findings it cannot be concluded that varsity athletes, intramural players, and non-participants differ with regard to self-concept. No differences were found, using Bill's Index, on:

self-description, self-acceptance, ideal self, or discrepancy between self-description and ideal self.

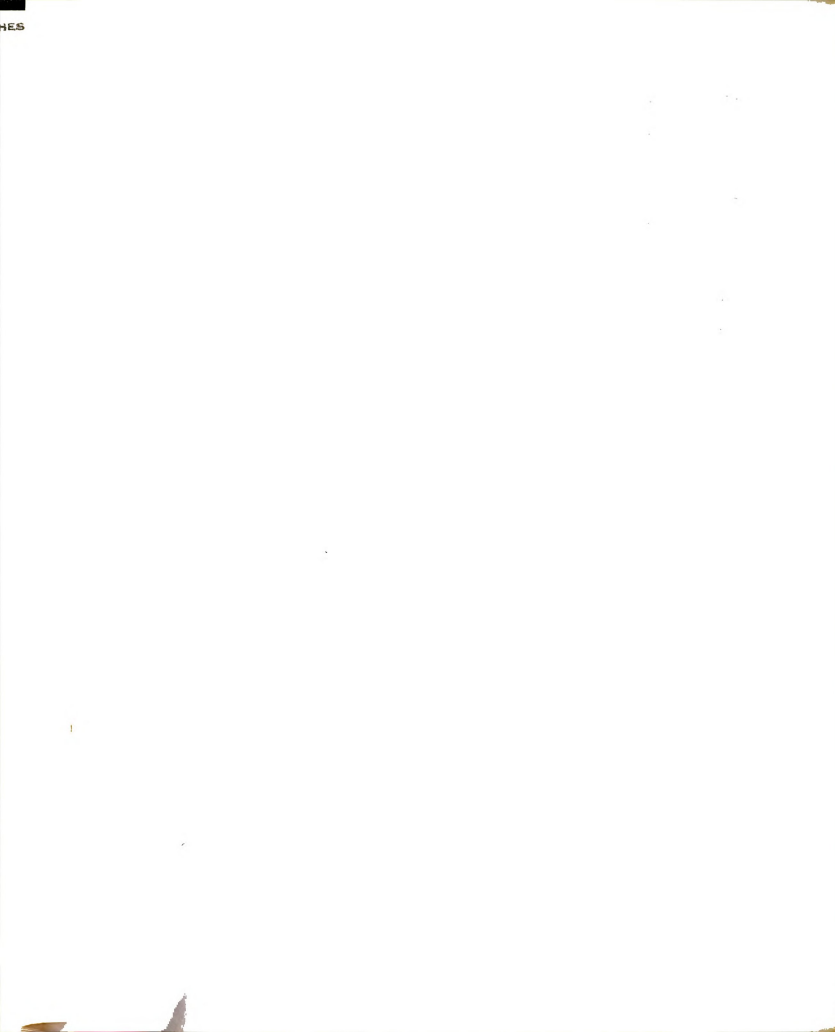
TABLE 7.--Kruskal-Wallis analysis of variance among varsity, intramural and non-participant groups to determine differences in self-concept as measured by Bill's Index of Adjustment and Values.

Variable	Rank Sums of Groups (Based on median Scores on IAV)			Value of H	p
	Varsity (N=29)	IM (N=34)	N-P (N=30)		
Self-description	1535.5 ^a	1652.0	1183.5	3.88	.14
Self-acceptance	1348.0 ^a	1729.5	1293.5	1.33	.51
Ideal self	1430.5 ^a	1575.0	1365.5	0.33	.85
Discrepancy between self-description and ideal self	1306.0 ^b	1453.0	1612.0	2.87	.24

^aHigher rank sums indicate more favorable self ratings

^bLow rank sums indicate less discrepancy.

Kruskal-Wallis techniques also were used to analyze the responses to the self-concept portions of the Semantic Differential. The results, shown in Table 8, indicate that there is a difference among the groups in the ratings of the concept, "me as I am." The varsity group and the intramural group have higher self-concepts than the non-participant group. Players get continual reinforcement from being members of teams and being praised for playing well, scoring, or putting forth maximum



effort. It is not surprising that they have positive views of themselves, and feel wanted and important.

TABLE 8.--Kruskal-Wallis analysis of variance among varsity, intramural and non-participant groups to determine differences in self-concept as measured by a Semantic Differential scale.

Rank Sums of Groups* (Based on Median Scores for Concept)					
Concept	Varsity (N=28)	IM (N=31)	N-P (N=27)	Value of H	p
Me as I am	1039.0	1370.5 ^a	1418.5	5.26	.07 ^c
Me as I would like to be	1099.0 ^b	1361.5	1194.5	0.35	.84

^aN = 32

^bN = 27

^cThe Mann-Whitney U test showed the varsity group had a higher self-concept than the non-participant group (U = 246; p = .0129), and the intramural group had a higher self-concept than the non-participant group (U = 333.5; p = .0664).

*A low rank sum indicates a more favorable rating.

Masculinity-Femininity Ratings

In order to determine which traits were considered by the total group as differentiating between masculinity and femininity, the rating scales for these concepts were analyzed with the median test. Table 9 shows that the total group considered eight trait-pairs to differentiate between what is typically masculine and what is typically

TABLE 9.--Median test to determine traits considered by the total group as being typical of masculinity and femininity.

Traits	Median Ratings on Masculinity [†]	Median Ratings on Femininity [†]	X ²
Ambitious-Content	1.52	4.18	19.72*
Submissive-Dominant	9.34	5.70	116.80*
Independent-Dependent	2.13	5.05	21.95*
Insensitive-Sensitive	5.92	8.53	31.06*
Shows feelings-Conceals feelings	7.11	4.69	23.86*
Patient-Demanding	4.55	2.66	9.49*
Impulsive-Deliberate	5.76	5.72	2.23
Blunt-Tactful	6.28	8.75	12.28*
Idealistic-Realistic	7.09	6.13	1.74
Rational-Intuitive	3.69	3.44	.02
Passionate-Passive	4.11	2.80	4.84
Cautious-Reckless	4.32	2.94	5.39
Tough-Tender	2.91	9.11	78.68*
Steady-Changeable	3.35	5.35	3.53

* Significant at .01 level.

[†] Medians of less than 6 indicate a belief that the trait stated first is typical; medians of over 6 indicate that the trait stated second is typical. Numbers 1, 2, and 3 are extremes at one end; 8, 9, and 10 are extremes at the other end.

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feminine. They indicated that the typical woman should be very sensitive, patient, tactful, and tender. She should be ambitious and conceal feelings. She should be slightly submissive and independent.

Based on total group ratings, the typical man should be very ambitious, dominant, independent, and tough. He should tend toward concealing feelings and being patient. He should be slightly insensitive and tactful.

The subjects felt that an additional six trait-pairs did not differentiate between masculinity and femininity. For further analysis, only the eight traits which formed the total group definition of masculinity and femininity were considered.

The extension of the median test was used to ascertain whether there was a difference in which traits the varsity, intramural and non-participant groups felt were characteristic of masculinity and femininity. Table 10 shows that differences were found on the traits of insensitive-sensitive and shows feelings-conceals feelings on the masculinity scale.

When compared to the total group belief with regard to the amount of sensitivity men should exhibit, the majority of the varsity and intramural players stated that men should be towards the sensitive end of the scale. The majority of non-participants felt that men should be

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TABLE 10.--Extension of the median test to determine which traits varsity, intramural and non-participant groups consider to be typical of masculinity and femininity.

Traits	Femininity			χ^2	Masculinity			χ^2
	Ratings above Total Group Median†				Ratings above Total Group Median†			
	Varsity (N=29)	IM (N=34)	N-P (N=30)		Varsity (N=29)	IM (N=34)	N-P (N=30)	
Ambitious-Content	15	15	13	1.04	16	18	14	.54
Submissive-Dominant	14	18	21	5.20	16	13	15	2.18
Independent-Dependent	12	16	14	1.10	19	14	14	4.00
Insensitive-Sensitive	15	20	12	2.30	19	24	14	8.46*
Shows feelings-Conceals feelings	19	16	15	2.90	18	10	15	7.20*
Patient-Demanding	14	17	18	1.24	15	14	18	2.30
Blunt-Tactful	15	19	17	1.04	14	20	9	5.90
Tough-Tender	12	14	14	2.06	20	18	15	4.68

† See Table 4 for Total Group Medians for Masculinity and Femininity

* Significant at .05 level



toward the insensitive end. The majority of the varsity players felt that men should tend toward concealing feelings. The intramural participants believed men should show feelings. Half of the non-participants indicated men should conceal feelings; half, that they should show feelings. With respect to the other six traits which the total group believed to differentiate between the typical man and woman, there were no differences in opinions on the qualities of a typical male. The three groups agreed on each of the traits they felt to be characteristic of the typical female.

When the subjects rated themselves on each of the traits, the total group median scores for each trait on the self-rating differed somewhat from the median scores on the femininity scale. Table 11 shows the median values. The Mann-Whitney U test showed that, in considering the total concept of femininity (as defined by all eight traits), there was no difference between the ratings of self and femininity. It can be concluded, therefore, that the total group does not see itself as deviating from what it defines as being feminine.

The extension of the median test was used to then see if there were any differences in how the three groups rated themselves on each of the eight traits. Table 12 indicates that differences in self-ratings among the

TABLE 11.--Median ratings of total group for each trait on the femininity scale and self-rating scale.

Traits	Median Rating on Femininity	Median Self-Rating
Ambitious-Content	4.18	4.09
Submissive-Dominant	5.70	6.21
Independent-Dependent	5.05	3.91
Insensitive-Sensitive	8.53	8.25
Shows feelings-Conceals feelings	4.69	5.59
Patient-Demanding	2.66	5.05
Blunt-Tactful	8.75	6.25
Tough-Tender	9.11	6.00

TABLE 12.--Extension of the median test to determine differences among self-ratings of varsity, intramural and non-participant groups on each of 8 traits considered to differentiate between masculinity and femininity.

Traits	Total Group Median	Ratings Above Total Groups Median			X ²
		Varsity (N=29)	IM (N=34)	N-P (N=30)	
Ambitious-Content	4.09	12	18	10	4.30
Submissive-Dominant	6.21	13	16	10	3.76
Independent-Dependent	3.91	16	16	21	5.24
Insensitive-Sensitive	8.25	17	14	13	2.34
Shows feelings-Conceals feelings	5.59	13	19	17	1.34
Patient-Demanding	5.05	8	17	13	6.36*
Blunt-Tactful	6.25	11	18	9	6.60*
Tough-Tender	6.00	7	11	14	12.14*

* Significant at .05 level

groups were found in three traits: patient-demanding, blunt-tactful, and tough-tender.

On the trait patient-demanding, 21 out of 29 varsity members rated themselves as more patient than the total group median for that trait. Approximately one-half of the intramural and non-participant groups rated themselves on either side of the median. The majority of varsity players and non-participants rated themselves as more blunt than the total group median. Most of the intramural players rated themselves as more tactful than the total group median. With respect to the trait tough-tender, approximately three times as many varsity team members rated themselves at or below the total group median than above. (Below the median is toward the tough end of the scale.) Approximately two times as many intramural players rated themselves at or below the median than above. About one-half of the non-participants rated themselves at or below the total group median.

In general, varsity players, in comparison to the total group, rated themselves as being patient, blunt, and tough. Intramural participants rated themselves as being tactful and tough. Non-participants' self-ratings showed that they tended to be blunt and tender.

While varsity, intramural and non-participant groups rated themselves somewhat differently on three traits they believed to be associated with masculinity and femininity,

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it is of interest to note how they compare in self-ratings on the total concept of masculinity-femininity. Table 13 lists the self-ratings for the three groups on each of the eight traits. A Kruskal-Wallis analysis of variance showed that there were no differences among the three groups on self-ratings for the total concept when all eight traits were considered.

TABLE 13.--Median self-ratings of varsity, intramural and non-participant groups on each of 8 traits considered to differentiate between masculinity and femininity.

Traits	Group Medians on Self Rating		
	Varsity (N=29)	IM (N=34)	N-P (N=30)
Ambitious-Content	3.88	4.66	3.93
Dominant-Submissive ^a	5.69	6.13	6.00
Independent-Dependent	3.74	3.41	4.50
Insensitive-Sensitive	8.86	8.50	8.00
Conceals feelings-Shows feelings ^a	6.80	6.32	6.30
Demanding-Patient ^a	7.04	6.50	7.50
Blunt-Tactful	6.18	6.67	6.00
Tough-Tender	5.75	5.90	6.39

^aBipolar adjectives inverted so that all traits considered by the total group to be more masculine are named first. Self ratings for these traits were also inverted (e.g. if a subject rated herself 7 on submissive-dominant, a score of 5 was recorded on the trait dominant-submissive).

It is possible that the specific traits characteristic of varsity players may be associated with success in athletics. Yet, these same trait differences apparently are minor when one views the entire concept of femininity.

In summary, while other investigators (7, 44) found female athletes less feminine than non-athletes, this research does not support those findings. When femininity is self-defined by the total group of athletes and non-athletes, there are no apparent differences in degree of femininity among varsity, intramural and non-participant groups.

Sportsmanship

The Kruskal-Wallis analysis of variance was used to analyze data obtained from the Haskins and Hartman's Action-Choice Test. The results, shown in Table 14, indicate that degree of sportsmanship does not differentiate among varsity, intramural or non-participant groups.

TABLE 14.--Kruskal-Wallis analysis of variance among varsity, intramural and non-participant groups to determine differences in sportsmanship.

Variable	Rank Sums of Groups (Based on Action-Choice Scores)			Value of H	p
	Varsity (N=29)	IM (N=33)	N-P (N=30)		
Sportsmanship	1255.0 ^a	1590.5	1432.5	0.63	.73

^aA high rank sum indicates a high degree of sportsmanship.

It might be theorized that varsity athletes have more opportunities to learn good sportsmanship and to practice appropriate behaviors. This study does not

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support that hypothesis. Nor does it support the idea that non-participants can afford to be more idealistic in their sportsmanship beliefs because they do not have to practice sportsmanlike behaviors during active competition.

Summary of Results of Personal Characteristics

Summarizing, differences between experimental groups were found on three personality traits: sociability, liking for group action, and self-control. A difference was found in how the varsity and non-participant groups believe the coach perceives them as individuals. Both varsity and intramural players have higher self-concepts than do non-participants. No differences among the three experimental groups were found in degree of femininity or sportsmanship.



CHAPTER V

SUMMARY AND CONCLUSIONS

The primary purpose of this study was to describe and compare selected personal and social background characteristics of high school girls at various levels of participation in basketball.

Cattell's HSPQ, Bill's Index of Adjustment and Values, Haskins and Hartman's Action-Choice Test, several semantic differential scales, and a social background inventory were administered to a total of 93 girls selected from two high schools in the Flint, Michigan area. Three groups were chosen for the sample: a varsity group (N=29), an intramural group (N=34), and a non-participant group (N=30).

It was hypothesized that differences would exist among varsity players, intramural participants, and non-participants in: personality, connotative meaning of concepts related to basketball, self-concept, degree of femininity, sportsmanship, family influence on participation, career interests, and outlook towards school.

Based on the findings of this study, the following conclusions were justified:



1. Personality differences existed between athletes and non-athletes.
 - a. Varsity team members were more reserved than either intramural players or non-participants.
 - b. Varsity team members were more group oriented than either intramural players or non-participants.
 - c. Varsity players and intramural participants were more controlled (i.e., possessed more emotional control, will power, ambition, and conscientiousness) than the non-participants.
2. Varsity players believed that the coach viewed them in higher regard than did the non-participants.
3. Varsity members and intramural players had higher self-concepts than did non-participants.
4. The total group of subjects felt that possession of varying amounts of the following traits differentiate between what is typically masculine and what is typically feminine: ambitious-content, submissive-dominant, independent-dependent, insensitive-sensitive, shows feelings-conceals feelings, patient-demanding, blunt-tactful, and tough-tender.

5. The total group, in considering the entire concept of femininity, did not see itself as deviating from what it defined as being typically feminine.
6. When femininity was self-defined by the total group of athletes and non-athletes, there were no apparent differences in degree of femininity among varsity, intramural, and non-participant groups.
7. There was no support for the hypothesis that sportsmanship varies among the varsity, intramural, and non-participant groups.
8. No differences were found among the three groups in regard to the amount of parental encouragement to participate in extracurricular activities, parental interest in sports, or frequency of family participation in recreational activities.
9. Varsity players showed a greater preference than non-participants for the future career of woman athlete. Compared to the varsity members, non-participants had a preference for the occupation of beautician.
10. Differences in agreement with selected student-life concepts were found between groups.

- a. Fewer varsity players than non-participants believe tryouts always select the best athletes.
- b. More intramural players than varsity players think boys should play sports instead of reading a lot.
- c. More non-participants than intramural players agree with the statement that the most popular girls are not good athletes.

Suggestions for Future Research

In view of the fact that a number of researchers have gathered data that suggest the possible existence of a female athletic personality, it would seem that further investigation of the personalities of women in sports would be warranted.

Currently there are increasing numbers of competitive opportunities available to women in all sports. This is especially true at the college and university level. Closed intercollegiate competition in a variety of sports for women at the national and international level is a very recent development. College women now have the opportunity to compete in national intercollegiate tournaments, sponsored by the Division for Girls and Women's Sports, and in the World University Games, under the auspices of the United States Collegiate Sports Council. It appears to the writer that an analysis of the personalities of the

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participants in these intercollegiate events would be advisable as an initial step in gathering information on the female athlete.

Specific suggestions relative to accumulating a body of data on women competitors are as follows:

1. The effort should be a cooperative one on the part of researchers in various sections of the country so that efforts will not be duplicated unnecessarily.
2. Data should be gathered on participants in a wide variety of sports.
3. All investigators should use identical instrumentation so that direct comparisons can be made between athletes in different sports.
4. The differential effect of using parametric and nonparametric statistical procedures for analysis of data should be studied.
5. Normative data on comparable non-athlete groups should be gathered.
6. The body of descriptive raw data should be housed in a central location, such as with the DGWS Research Committee, and should be made available to any researcher on request.

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APPENDIX I

INSTRUMENTS

FKHW Inventory
Semantic Differential
Masculinity-Femininity-Self Scales



Name _____

FKHW INVENTORY

1. How much encouragement to participate in extracurricular activities (chorus, clubs, drama, sports, etc.) do you get from your parents?
 - a. considerable encouragement
 - b. some encouragement
 - c. no opinion usually voiced
 - d. some discouragement
 - e. much discouragement
2. What would you say most closely approximates your father's general interest in sports?
 - a. very interested
 - b. slightly interested
 - c. neutral
 - d. slightly disinterested
 - e. most disinterested
3. What would you say most closely approximates your mother's general interest in sports?
 - a. very interested
 - b. slightly interested
 - c. neutral
 - d. slightly disinterested
 - e. most disinterested
4. How often does your family participate in sports or recreational activities?
 - a. regularly
 - b. occasionally
 - c. seldom
 - d. never
5. What do you think is most important in playing a game? Number the items from MOST important (1) to LEAST important (3).
 - a. _____ to play it as well as you are able to
 - b. _____ to beat your opponent
 - c. _____ to play it fairly



6. Listed below are some jobs. Please place a 1 beside the job you would like to have MOST, a 2 beside the one you would like to have NEXT MOST, and so on to 6 which indicates the one you would like to have LEAST OF ALL.

_____ teacher

_____ singer in a night club

_____ female athlete

_____ scientist

_____ owner-operator of a beauty shop

_____ executive in a bank

7. Do you agree or disagree that: (please check the appropriate statement)

Agree Disagree

- | | | | |
|----|-------|-------|--|
| a. | _____ | _____ | A person works best when he works by himself. |
| b. | _____ | _____ | School tryouts always select the best athletes. |
| c. | _____ | _____ | Any person with desire and ability has to take a stand against the majority. |
| d. | _____ | _____ | It's best to live for today; tomorrow will take care of itself. |
| e. | _____ | _____ | The knowledge girls have about sports is low. |
| f. | _____ | _____ | All the students have a chance to run things around here. |
| g. | _____ | _____ | Overall, school courses are dull and uninteresting. |
| h. | _____ | _____ | Boys should play sports instead of reading a lot. |

- | | Agree | Disagree | |
|----|-------|----------|---|
| i. | — | — | The most popular girls are not good athletes. |
| j. | — | — | Boys and girls should compete in sports. |

SEMANTIC DIFFERENTIAL

INSTRUCTIONS

We would like to enlist your cooperation as a participant in a study designed to measure the meaning of certain concepts. The task involves judging a number of concepts (such as ME, FATHER, etc.) against a series of descriptive scales. The entire test should not take longer than 10 or 15 minutes. In taking this test please make your judgments on the basis of what these concepts mean to you. On each page of this booklet you will find a different concept to be judged and beneath it is a set of scales. Please rate the concept on each of these scales in order.

If you feel that the concept at the top of the page if very closely related to one end of the scale, you should place your check mark as follows:

Patient X : ____ : ____ : ____ : ____ : ____ : ____ : Impatient

If you feel that the concept is quite closely related to one or the other end of the scale (but not extremely) you should place your check mark as follows:

Patient ____ : X : ____ : ____ : ____ : ____ : ____ : Impatient

If the concept seems only slightly related to one side as opposed to the other side (but is not really neutral) then you should check as follows:

Patient ____ : ____ : X : ____ : ____ : ____ : ____ : Impatient

The direction toward which you check, of course, depends upon which of the two ends of the scale seems most characteristic of the thing you are judging.

If you consider the concept to be neutral on the scale, both sides of the scale equally associated with the concept, or if the scale is completely irrelevant or unrelated to the concept, then you should place your check mark in the middle space.

Patient ____ : ____ : ____ : X : ____ : ____ : ____ : Impatient

Please place your check marks in the middle of the spaces (this is: : X : ____ :) not in the boundaries (not this: : ____ X : ____ :). Please be sure you check every scale

for every concept; do not omit any. Never put more than one check mark on a single scale.

Do not try to remember how you checked items earlier in the test. Make each item a separate and independent judgment. Work at a fairly high speed through the test. Do not spend too much time on any of the items. It is your first impressions, the immediate "feelings" about the items that we want. On the other hand, of course, do not be careless.

There will undoubtedly be wide differences in the degree of familiarity you feel for each of the concepts. Perhaps you won't feel as though you're "Qualified" to make ratings for one or another reason. However, please go ahead and complete all the ratings even though it may be difficult or seem to you that you "just don't have the information."

Your name and test results will be held strictly confidential as is customary and is our ethical responsibility in investigations of this nature.

Please rate: ME AS I REALLY AM

[illegible]

Please rate: ME AS MY COACH SEES ME

valuable ____:____:____:____:____:____:____: worthless
 clean ____:____:____:____:____:____:____: dirty
 tasty ____:____:____:____:____:____:____: distasteful
 fast ____:____:____:____:____:____:____: slow
 active ____:____:____:____:____:____:____: passive
 hot ____:____:____:____:____:____:____: cold
 large ____:____:____:____:____:____:____: small
 strong ____:____:____:____:____:____:____: weak
 deep ____:____:____:____:____:____:____: shallow

Please rate: COACH AS SHE REALLY IS

valuable ____:____:____:____:____:____:____: worthless
 clean ____:____:____:____:____:____:____: dirty
 tasty ____:____:____:____:____:____:____: distasteful
 fast ____:____:____:____:____:____:____: slow
 active ____:____:____:____:____:____:____: passive
 hot ____:____:____:____:____:____:____: cold
 large ____:____:____:____:____:____:____: small
 strong ____:____:____:____:____:____:____: weak
 deep ____:____:____:____:____:____:____: shallow

Please rate: TEAM AS IT IS

valuable ____:____:____:____:____:____:____: worthless
 clean ____:____:____:____:____:____:____: dirty
 tasty ____:____:____:____:____:____:____: distasteful
 fast ____:____:____:____:____:____:____: slow
 active ____:____:____:____:____:____:____: passive
 hot ____:____:____:____:____:____:____: cold
 large ____:____:____:____:____:____:____: small
 strong ____:____:____:____:____:____:____: weak
 deep ____:____:____:____:____:____:____: shallow

Please rate: BASKETBALL AS IT IS

valuable ____:____:____:____:____:____:____: worthless
 clean ____:____:____:____:____:____:____: dirty
 tasty ____:____:____:____:____:____:____: distasteful
 fast ____:____:____:____:____:____:____: slow
 active ____:____:____:____:____:____:____: passive
 hot ____:____:____:____:____:____:____: cold
 large ____:____:____:____:____:____:____: small
 strong ____:____:____:____:____:____:____: weak
 deep ____:____:____:____:____:____:____: shallow

Please rate: ME AS I WOULD LIKE TO BE

valuable ____:____:____:____:____:____:____: worthless
 clean ____:____:____:____:____:____:____: dirty
 tasty ____:____:____:____:____:____:____: distasteful
 fast ____:____:____:____:____:____:____: slow
 active ____:____:____:____:____:____:____: passive
 hot ____:____:____:____:____:____:____: cold
 large ____:____:____:____:____:____:____: small
 strong ____:____:____:____:____:____:____: weak
 deep ____:____:____:____:____:____:____: shallow

Please rate: FANS AS THEY REALLY ARE

valuable ____:____:____:____:____:____:____: worthless
 clean ____:____:____:____:____:____:____: dirty
 tasty ____:____:____:____:____:____:____: distasteful
 fast ____:____:____:____:____:____:____: slow
 active ____:____:____:____:____:____:____: passive
 hot ____:____:____:____:____:____:____: cold
 large ____:____:____:____:____:____:____: small
 strong ____:____:____:____:____:____:____: weak
 deep ____:____:____:____:____:____:____: shallow

Name _____

Below are 14 pairs of descriptive traits at the ends of an 11 point scale. Circle the number which best provides a picture of what you consider to be a feminine girl or woman. Numbers 1 and 11 indicate extremes and number 6 indicates that you feel she should be half way inbetween.

ambitious	1	2	3	4	5	6	7	8	9	10	11	content
submissive	1	2	3	4	5	6	7	8	9	10	11	dominant
independent	1	2	3	4	5	6	7	8	9	10	11	dependent
insensitive	1	2	3	4	5	6	7	8	9	10	11	sensitive
shows feelings	1	2	3	4	5	6	7	8	9	10	11	conceals feelings
patient	1	2	3	4	5	6	7	8	9	10	11	demanding
impulsive	1	2	3	4	5	6	7	8	9	10	11	deliberate
blunt	1	2	3	4	5	6	7	8	9	10	11	tactful
idealistic	1	2	3	4	5	6	7	8	9	10	11	realistic
rational*	1	2	3	4	5	6	7	8	9	10	11	intuitive #
passionate	1	2	3	4	5	6	7	8	9	10	11	passive
cautious	1	2	3	4	5	6	7	8	9	10	11	reckless
tough	1	2	3	4	5	6	7	8	9	10	11	tender
steady	1	2	3	4	5	6	7	8	9	10	11	changeable

* - acting with reason or understanding

- acting by insight rather than reason

Name _____

Below are 14 pairs of descriptive traits at the ends of an 11 point scale. Circle the number which best provides a picture of what you consider to be a masculine boy or man. Numbers 1 and 11 indicate extremes and number 6 indicates that you feel he should be half way inbetween.

ambitious	1	2	3	4	5	6	7	8	9	10	11	content
submissive	1	2	3	4	5	6	7	8	9	10	11	dominant
independent	1	2	3	4	5	6	7	8	9	10	11	dependent
insensitive	1	2	3	4	5	6	7	8	9	10	11	sensitive
shows feelings	1	2	3	4	5	6	7	8	9	10	11	conceals feelings
patient	1	2	3	4	5	6	7	8	9	10	11	demanding
impulsive	1	2	3	4	5	6	7	8	9	10	11	deliberate
blunt	1	2	3	4	5	6	7	8	9	10	11	tactful
idealistic	1	2	3	4	5	6	7	8	9	10	11	realistic
rational*	1	2	3	4	5	6	7	8	9	10	11	intuitive #
passionate	1	2	3	4	5	6	7	8	9	10	11	passive
cautious	1	2	3	4	5	6	7	8	9	10	11	reckless
tough	1	2	3	4	5	6	7	8	9	10	11	tender
steady	1	2	3	4	5	6	7	8	9	10	11	changeable

* - acting with reason or understanding

- acting by insight rather than reason

the first of these is the fact that the
 the second is the fact that the
 the third is the fact that the

the fourth is the fact that the
 the fifth is the fact that the
 the sixth is the fact that the
 the seventh is the fact that the
 the eighth is the fact that the
 the ninth is the fact that the
 the tenth is the fact that the
 the eleventh is the fact that the
 the twelfth is the fact that the
 the thirteenth is the fact that the
 the fourteenth is the fact that the
 the fifteenth is the fact that the
 the sixteenth is the fact that the
 the seventeenth is the fact that the
 the eighteenth is the fact that the
 the nineteenth is the fact that the
 the twentieth is the fact that the
 the twenty-first is the fact that the
 the twenty-second is the fact that the
 the twenty-third is the fact that the
 the twenty-fourth is the fact that the
 the twenty-fifth is the fact that the
 the twenty-sixth is the fact that the
 the twenty-seventh is the fact that the
 the twenty-eighth is the fact that the
 the twenty-ninth is the fact that the
 the thirtieth is the fact that the

the thirty-first is the fact that the
 the thirty-second is the fact that the
 the thirty-third is the fact that the
 the thirty-fourth is the fact that the
 the thirty-fifth is the fact that the
 the thirty-sixth is the fact that the
 the thirty-seventh is the fact that the
 the thirty-eighth is the fact that the
 the thirty-ninth is the fact that the
 the fortieth is the fact that the

Name _____

Below are 14 pairs of descriptive traits arranged at the ends of an 11 point scale. Circle the number on each scale which best indicates how you feel you are. Numbers 1 and 11 represent extremes and 6 represents neutrality.

ambitious	1	2	3	4	5	6	7	8	9	10	11	content
submissive	1	2	3	4	5	6	7	8	9	10	11	dominant
independent	1	2	3	4	5	6	7	8	9	10	11	dependent
insensitive	1	2	3	4	5	6	7	8	9	10	11	sensitive
shows feelings	1	2	3	4	5	6	7	8	9	10	11	conceals feelings
patient	1	2	3	4	5	6	7	8	9	10	11	demanding
impulsive	1	2	3	4	5	6	7	8	9	10	11	deliberate
blunt	1	2	3	4	5	6	7	8	9	10	11	tactful
idealistic	1	2	3	4	5	6	7	8	9	10	11	realistic
rational*	1	2	3	4	5	6	7	8	9	10	11	intuitive#
passionate	1	2	3	4	5	6	7	8	9	10	11	passive
cautious	1	2	3	4	5	6	7	8	9	10	11	reckless
tough	1	2	3	4	5	6	7	8	9	10	11	tender
steady	1	2	3	4	5	6	7	8	9	10	11	changeable

* - acting with reason or understanding

- acting by insight rather than reason

1. The first of the above mentioned points is that the Commission has not yet received any information from the Government of the Republic of China (Taiwan) regarding the situation in the Republic of China (Taiwan) and the Republic of China (Taiwan) has not yet received any information from the Government of the Republic of China (Taiwan) regarding the situation in the Republic of China (Taiwan).

1. 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

APPENDIX II

RAW DATA

FKHW Inventory
Cattell's HSPQ
Bill's Index and Action-Choice Test
Semantic Differential
Masculinity-Femininity-Self Scales

Subject No.	1	2	3	4	5a	5b	5c	Teacher 6	Singer 6	Athlete 6	Scientist 6	Beautician 6	Bank Executive 6	7a	7b	7c	7d	7e	7f	7g	7h	7i	7j
1	a	a	b	b	1	3	2	3	5	4	6	2	1	A	D	D	D	D	A	D	A	A	D
2	c	b	b	d	1	3	2	2	4	1	3	5	6	D	A	D	A	A	D	D	D	D	D
3	b	a	c	a	1	3	2	3	4	1	3	6	5	A	D	A	D	D	D	D	D	D	D
4	d	c	b	b	1	3	2	4	5	1	3	6	3	D	A	D	D	D	D	D	D	D	D
5	c	b	b	a	2	3	2	5	4	1	3	6	3	A	D	D	D	D	D	D	D	D	D
6	d	c	b	a	2	3	2	2	5	1	3	6	3	D	A	D	D	D	D	D	D	D	D
7	d	a	a	c	1	3	2	2	4	1	3	6	3	A	D	D	D	D	D	D	D	D	D
8	a	c	a	b	1	3	2	2	5	4	6	6	5	D	D	D	D	A	A	D	D	D	D
9	c	c	b	b	1	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
10	c	a	a	c	1	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
11	b	b	a	c	1	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
12	b	a	b	b	2	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
13	b	a	a	b	2	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
14	b	a	a	c	2	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
15	d	a	c	c	2	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
16	d	b	d	c	2	3	2	3	6	6	6	6	5	D	D	D	D	A	A	D	D	D	D
17	d	b	d	c	2	3	2	4	6	6	6	6	5	D	D	D	D	A	A	D	D	D	D
18	a	a	d	b	1	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
19	e	a	b	b	1	3	2	2	6	6	6	6	5	D	D	D	D	A	A	D	D	D	D
20	a	a	a	a	1	3	2	3	6	6	6	6	5	D	D	D	D	A	A	D	D	D	D
21	a	a	a	a	2	3	2	3	6	6	6	6	5	D	D	D	D	A	A	D	D	D	D
22	c	c	c	a	2	3	2	3	6	6	6	6	5	D	D	D	D	A	A	D	D	D	D
23	c	c	c	a	2	3	2	6	6	6	6	6	5	D	D	D	D	A	A	D	D	D	D
24	b	a	a	a	3	3	6	5	6	1	3	4	2	D	A	A	D	D	D	D	D	D	D
25	a	a	a	a	3	3	6	5	6	1	3	4	2	D	A	A	D	D	D	D	D	D	D
26	a	a	a	b	1	3	2	3	6	6	6	6	5	D	D	D	D	A	A	D	D	D	D
27	c	b	b	b	1	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
28	a	a	a	a	1	3	2	1	6	4	6	6	5	D	D	D	D	A	A	D	D	D	D
29	d	a	c	b	1	3	2	3	6	6	6	6	5	D	D	D	D	A	A	D	D	D	D

FKHW Inventory--Intramural Group

Subject No.	1	2	3	4	5a	5b	5c	Teacher 6	Singer 6	Athlete 6	Scientist 6	Beautician 6	Bank 6	Executive	7a	7b	7c	7d	73	7f	7g	7h	7i	7j
30	c	a	d	c	1	3	2	3	4	5	1	6	2		D	D	A	D	A	D	D	D	D	D
31	e	a	a	a	2	3	1	6	4	1	2	3	5		D	D	A	D	A	D	D	D	D	A
32	b	a	b	a	1	3	2	5	2	4	1	6	3		D	D	A	D	D	D	D	D	A	A
33	b	a	b	a	2	3	1	3	6	6	4	2	1		D	D	A	D	D	D	D	D	A	A
34	c	b	b	c	1	3	2	1	4	4	3	5	2		D	D	A	D	D	D	D	D	A	A
35	c	e	e	d	2	3	1	1	3	4	3	4	5		D	D	A	D	D	D	D	D	A	A
36	b	b	c	a	2	3	1	2	6	1	3	5	4		D	D	A	D	D	D	D	D	A	A
37	b	b	c	a	2	3	1	4	6	1	6	2	3		D	D	A	D	D	D	D	D	A	A
38	a	a	c	b	2	3	1	1	5	2	6	3	5		D	D	A	D	D	D	D	D	A	D
39	a	a	c	b	2	3	1	3	4	4	6	5	6		D	D	A	D	D	D	D	D	A	A
40	a	a	b	b	2	3	1	5	1	2	6	5	6		D	D	A	D	D	D	D	D	A	A
41	b	a	a	b	2	3	1	5	3	4	6	5	6		D	D	A	D	D	D	D	D	A	A
42	b	a	a	b	2	3	1	5	3	4	6	5	6		D	D	A	D	D	D	D	D	A	A
43	b	a	a	b	2	3	1	5	3	4	6	5	6		D	D	A	D	D	D	D	D	A	A
44	b	a	b	a	1	3	2	1	6	2	4	3	5		D	D	A	D	D	D	D	D	A	A
45	b	a	b	b	2	3	1	6	3	2	5	4	4		D	D	A	D	D	D	D	D	A	A
46	b	a	b	b	2	3	1	6	3	2	5	4	4		D	D	A	D	D	D	D	D	A	A
47	a	a	b	a	1	3	2	3	4	1	9	2	5		D	D	A	D	D	D	D	D	A	A
48	c	a	a	b	2	3	1	5	6	4	1	2	3		D	D	A	D	D	D	D	D	A	A
49	a	a	b	b	2	3	1	3	6	1	2	5	4		D	D	A	D	D	D	D	D	A	A
50	a	a	a	b	2	3	1	3	6	1	2	5	4		D	D	A	D	D	D	D	D	A	A
51	b	a	a	b	1	3	2	1	6	3	4	2	5		D	D	A	D	D	D	D	D	A	A
52	a	a	a	b	1	3	2	1	6	3	4	2	5		D	D	A	D	D	D	D	D	A	A
53	d	a	b	d	2	3	1	3	6	4	1	5	4		D	D	A	D	D	D	D	D	A	A
54	d	a	a	b	1	3	2	3	6	2	1	4	5		D	D	A	D	D	D	D	D	A	A
55	a	a	a	b	1	3	2	1	6	2	1	4	5		D	D	A	D	D	D	D	D	A	A
56	a	c	a	b	1	3	2	1	6	2	1	4	5		D	D	A	D	D	D	D	D	A	A
57	b	a	a	b	2	3	1	1	6	2	1	4	5		D	D	A	D	D	D	D	D	A	A
58	a	a	a	b	2	3	1	1	6	2	1	4	5		D	D	A	D	D	D	D	D	A	A
59	c	a	a	c	1	3	2	4	6	2	1	3	5		D	D	A	D	D	D	D	D	A	A
60	c	a	a	c	1	3	2	2	6	2	1	3	5		D	D	A	D	D	D	D	D	A	A
61	c	a	a	c	1	3	2	2	6	2	1	3	5		D	D	A	D	D	D	D	D	A	A
62	a	a	a	b	2	3	1	1	6	2	1	4	5		D	D	A	D	D	D	D	D	A	A
63	b	a	b	c	2	3	1	1	6	2	1	4	5		D	D	A	D	D	D	D	D	A	A

FKHW Inventory--Non-Participant Group

Subject No.	1	2	3	4	5a	5b	5c	Teacher 6	Singer 6	Athlete 6	Scientist 6	Beautician 6	Bank Executive 6	7a	7b	7c	7d	7e	7f	7g	7h	7i	7j
64	a	a	a	a	2	3	1	5	1	3	6	4	2	D	A	A	A	A	A	D	A	A	A
65	c	a	e	c	2	3	1	4	1	1	6	6	2	D	D	A	D	D	A	D	D	A	A
66	b	a	c	b	1	3	2	5	3	2	3	3	4	A	A	A	D	D	D	D	A	D	A
67	c	a	e	c	1	3	2	1	1	5	6	2	6	D	D	A	D	D	D	D	D	D	D
68	b	a	d	d	1	3	2	2	3	5	4	1	2	D	D	A	D	D	A	D	D	D	A
69	b	a	c	c	1	3	2	4	1	5	6	3	2	A	D	D	D	D	A	A	A	A	A
70	b	a	c	b	2	3	1	6	3	2	4	5	1	D	D	A	D	D	A	A	D	A	A
71	b	a	b	b	2	3	1	1	5	4	4	2	3	A	A	D	A	D	D	D	D	A	A
72	c	a	b	c	2	3	1	3	5	3	6	1	2	A	A	D	A	D	D	D	D	A	A
73	c	a	b	c	2	3	1	4	2	3	6	6	4	A	D	D	A	A	D	D	D	A	A
74	a	a	b	a	1	3	2	5	1	5	2	1	6	A	D	D	A	D	D	A	D	D	A
75	c	a	b	b	2	3	1	2	3	3	6	2	4	D	D	A	D	A	D	D	D	D	A
76	c	a	c	c	2	3	1	5	1	3	1	4	2	A	D	D	D	A	D	D	D	D	A
77	a	a	c	d	2	3	1	2	6	1	1	2	2	D	D	D	D	D	D	D	D	D	A
78	d	a	b	c	2	3	1	3	6	4	5	1	4	D	D	D	A	D	D	D	D	D	A
79	b	b	c	a	1	3	2	2	6	5	2	1	2	D	D	A	A	A	D	A	A	A	A
80	b	b	c	b	1	3	2	3	6	2	4	1	2	D	D	A	A	D	D	D	D	D	A
81	b	b	c	d	1	3	2	5	3	4	5	1	4	D	D	A	A	D	D	D	D	D	A
82	b	b	c	c	2	3	1	3	6	4	6	2	3	A	D	A	A	D	D	D	D	D	A
83	b	a	b	a	1	3	2	4	6	5	5	3	1	D	D	D	D	D	D	D	D	D	A
84	b	b	c	a	1	3	2	4	6	5	6	1	1	D	D	A	A	D	D	D	D	D	A
85	b	b	c	b	1	3	2	3	4	5	6	1	1	D	D	A	A	D	D	D	D	D	A
86	c	a	b	b	2	3	1	4	5	2	6	3	2	D	D	A	A	D	D	D	D	D	A
87	a	a	b	b	1	3	2	4	6	3	5	1	4	D	D	A	A	D	D	D	D	D	A
88	a	a	b	b	1	3	2	5	4	5	6	1	1	D	D	A	A	D	D	D	D	D	A
89	d	a	b	d	1	3	2	4	6	3	5	3	1	A	D	A	A	D	D	D	D	D	A
90	c	c	b	c	1	3	2	4	1	5	6	5	2	D	D	A	A	D	D	D	D	D	A
91	c	a	a	a	2	3	1	5	6	3	4	4	6	D	D	A	A	D	D	D	D	D	A
92	a	a	a	a	1	3	2	4	5	3	6	1	2	A	D	A	A	D	D	D	D	D	A
93	a	a	a	b	1	3	2	3	4	1	6	2	4	D	A	D	D	D	D	D	D	D	A

Cattell's HSPQ--Varsity Group

Subject No.	Factors													
	A	B	C	D	E	F	G	H	I	J	O	Q ₂	Q ₃	Q ₄
1	12	6	3	7	9	12	12	11	11	2	13	10	10	10
2	8	8	9	5	10	14	13	11	14	6	5	7	12	10
3	6	7	10	4	9	9	13	10	13	5	6	9	14	9
4	15	9	7	7	11	13	11	9	16	5	12	8	4	6
5	14	9	6	16	10	11	10	8	16	6	9	10	11	11
6	11	10	2	16	4	12	9	6	10	5	14	12	10	9
7	13	8	5	12	10	16	9	8	14	9	12	11	11	11
8	6	8	6	3	8	6	4	9	4	12	5	16	17	10
9	13	7	12	4	10	12	13	12	13	5	6	11	12	3
10	4	8	7	9	5	10	13	5	17	10	12	6	9	11
11	7	8	7	9	7	14	16	4	16	5	15	10	13	12
12	8	7	8	13	13	11	9	8	10	12	13	8	6	14
13	14	7	7	4	5	14	9	10	12	3	16	13	15	8
14	10	9	3	14	5	11	14	5	16	14	14	12	10	13
15	6	9	8	7	3	7	11	8	16	3	10	11	14	10
16	4	8	5	8	7	8	10	8	12	4	10	8	11	9
17	6	7	2	12	5	5	15	4	11	9	6	10	13	13
18	12	8	13	9	8	6	14	12	14	7	6	8	20	7
19	6	9	10	6	11	13	13	6	12	2	11	5	11	13
20	7	7	7	7	9	10	17	10	13	5	9	8	12	9
21	9	9	14	10	10	8	16	16	15	5	10	12	13	9
22	12	7	4	13	10	14	4	2	16	5	10	8	12	12
23	9	9	7	7	8	12	9	8	15	10	12	14	13	13
24	10	8	12	3	10	13	14	11	12	3	6	5	12	11
25	11	7	11	7	9	17	16	18	10	2	9	1	12	6
26	8	5	9	10	6	8	16	6	10	1	13	6	9	9
27	5	6	1	15	9	9	10	7	14	8	12	12	9	11
28	16	8	11	6	9	17	11	13	8	8	15	7	14	10
29	7	7	12	6	11	11	17	8	14	8	12	10	15	8

Cattell's HSPQ--Intramural Group

Subject No.	Factors													
	A	B	C	D	E	F	G	H	I	J	O	Q ₂	Q ₃	Q ₄
30	14	7	9	10	9	13	11	13	17	7	4	10	6	8
31	17	8	8	11	10	20	10	6	14	7	8	8	7	6
32	10	9	4	12	8	13	6	7	16	4	14	8	8	14
33	17	8	14	7	8	13	16	12	10	4	7	8	13	8
34	1	7	6	17	9	15	11	7	12	13	12	8	12	14
35	8	4	6	9	7	7	7	5	12	5	14	12	14	10
36														
37	6	10	10	6	11	12	9	6	13	8	13	9	10	7
38	11	7	10	11	6	9	13	5	14	8	13	12	9	8
39	6	10	3	14	5	13	12	1	15	11	14	10	9	10
40	15	7	4	15	8	11	9	5	12	10	18	9	4	14
41	9	6	8	13	11	13	8	9	17	9	13	5	10	10
42	10	8	10	4	12	8	13	8	10	5	13	7	14	10
43	11	7	11	4	6	13	12	8	14	9	8	12	4	9
44	16	9	7	8	5	8	15	14	12	7	11	6	8	12
45	15	9	6	12	4	13	16	10	12	15	10	6	6	16
46	7	7	8	9	10	11	11	8	15	7	14	10	14	9
47	15	5	7	10	12	10	15	11	9	6	11	13	9	9
48	13	6	10	8	6	12	13	7	9	8	10	11	9	11
49	16	8	13	10	9	10	16	15	10	9	6	6	20	6
50	12	6	11	11	9	14	9	12	10	4	9	10	11	10
51	9	6	14	10	13	11	14	13	18	8	13	5	19	11
52	10	8	7	8	10	6	12	11	12	7	14	10	11	14
53	8	8	7	10	3	9	14	2	14	8	15	14	12	11
54	16	6	11	12	11	12	13	9	11	8	13	6	14	12
55	11	8	4	14	12	14	5	10	15	8	14	2	5	10
56	16	8	12	5	9	12	15	18	14	5	4	5	14	6
57	11	9	10	8	9	11	15	12	11	5	6	7	14	6
58	15	8	7	9	4	11	16	6	12	15	15	9	11	14
59	7	6	9	13	12	12	11	11	14	7	11	7	13	11
60	10	7	11	10	5	8	14	13	18	8	5	12	13	5
61	9	9	11	12	4	8	2	5	17	10	9	10	12	12
62	14	8	8	3	6	8	18	10	16	7	6	9	16	8
63	9	6	9	10	8	11	15	10	11	6	14	5	14	7

Cattell's HSPQ--Non-Participant Group

Subject No.	Factors													
	A	B	C	D	E	F	G	H	I	J	O	Q ₂	Q ₃	Q ₄
64	12	9	11	7	14	15	7	15	10	6	7	8	5	6
65	14	5	8	10	6	15	10	14	16	9	12	6	13	14
66	9	7	9	12	6	8	11	7	13	9	11	12	10	11
67	7	8	6	11	10	7	12	8	12	10	12	9	6	12
68	6	8	7	10	6	8	11	1	16	12	13	5	10	12
69	12	8	11	13	7	10	11	12	17	7	11	9	8	12
70	12	9	7	6	7	11	8	6	14	4	9	4	7	10
71	6	7	13	11	6	5	13	7	15	11	12	12	13	8
72	10	7	10	12	5	9	15	6	8	11	11	11	12	12
73	10	5	10	10	14	16	13	5	12	3	12	7	5	10
74	12	9	14	8	12	14	11	6	12	14	7	8	12	12
75	12	8	4	11	10	16	13	9	14	5	12	10	8	8
76	12	10	7	11	11	13	9	14	9	10	11	8	9	9
77	14	6	4	10	11	11	10	5	15	8	15	9	8	11
78	12	9	9	5	4	7	15	7	16	8	10	9	14	5
79	6	5	7	13	9	8	7	2	13	8	11	12	10	13
80	17	5	6	7	8	15	8	9	14	5	12	13	12	8
81	11	8	11	6	5	7	15	11	15	5	11	8	11	6
82	10	6	3	7	9	11	10	2	16	5	15	10	8	11
83	2	7	4	10	6	10	14	4	10	8	18	8	8	14
84	15	5	14	7	3	8	16	12	14	7	9	14	7	8
85	13	5	7	11	10	12	11	8	9	5	11	10	9	8
86	16	8	8	9	11	15	13	7	14	4	3	5	15	13
87	8	8	6	18	12	14	4	4	10	8	12	4	4	12
88	11	6	5	8	11	12	12	7	15	9	11	10	11	9
89	8	9	8	11	12	12	8	9	15	7	8	8	6	10
90	6	5	11	11	10	10	9	11	13	9	9	10	15	8
91	8	9	6	11	7	5	12	8	14	8	11	9	13	5
92	12	7	6	15	11	7	12	10	15	9	13	8	15	12
93	10	4	10	7	5	3	11	10	12	4	5	10	10	9

Bill's Index of Adjustment and Values and
Action-Choice Test--Varsity Group

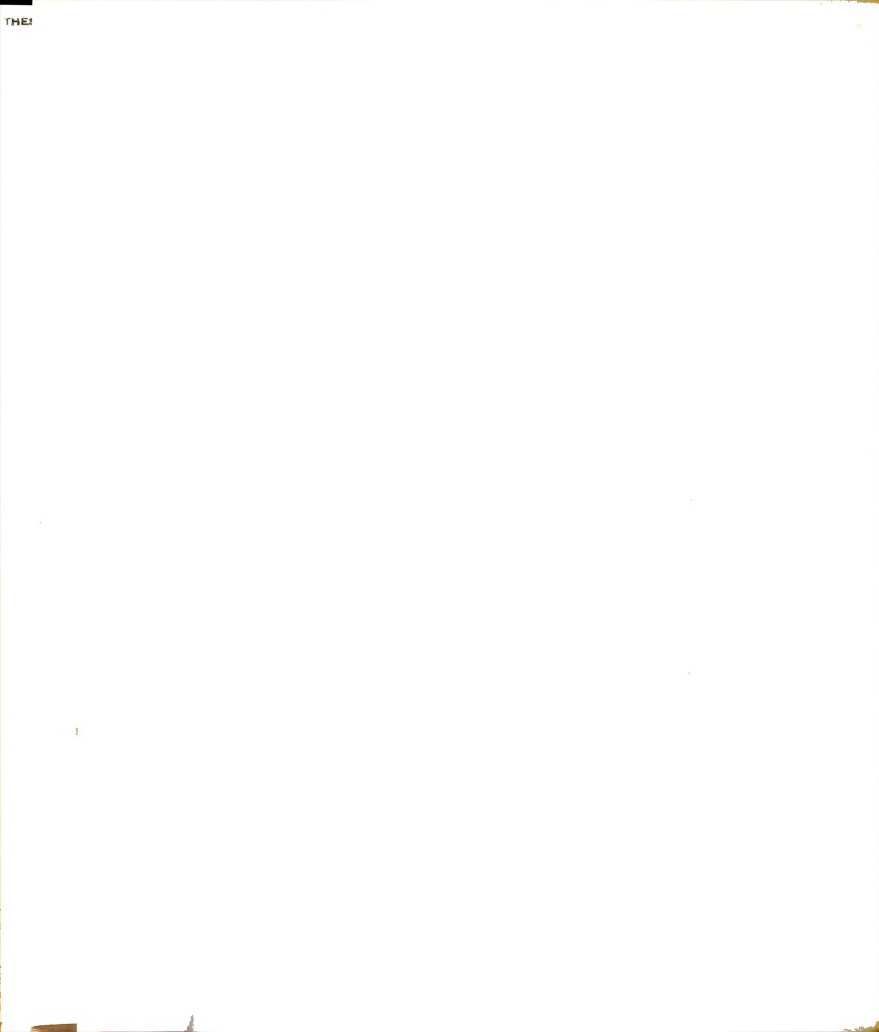
Subject No.	Bill's Index				Action-Choice Test
	Self	Acceptance of Self	Ideal	Discrepancy	
1	207	199	197	43	9
2	174	154	220	52	6
3	182	162	217	48	11
4	176	153	226	50	7
5	166	142	213	57	9
6	171	156	194	44	9
7	196	184	222	30	10
8	166	143	202	37	7
9	208	214	222	22	10
10	182	145	210	38	7
11	164	136	201	39	13
12	156	172	186	36	5
13	127	98	228	93	13
14	188	161	225	43	7
15	181	165	197	38	11
16	189	154	233	48	12
17	204	169	215	21	13
18	206	173	226	30	8
19	186	150	132	50	3
20	186	188	239	51	6
21	222	207	239	21	10
22	196	171	202	34	8
23	194	179	229	39	10
24	198	179	215	25	8
25	191	168	211	30	7
26	195	210	238	49	8
27	191	186	223	33	12
28	194	173	220	33	9
29	229	213	240	21	11

Bill's Index of Adjustment and Values and
Action-Choice Test--Intramural Group

Subject No.	Bill's Index				Action-Choice Test
	Self	Acceptance of Self	Ideal	Discrepancy	
30	188	200	223	37	13
31	205	193	207	40	9
32	173	107	216	63	7
33	217	184	240	27	11
34	189	161	228	44	8
35	155	155	215	74	10
36	181	167	224	49	
37	155	172	199	44	7
38	171	169	208	42	10
39	152	109	200	47	17
40	165	162	206	53	9
41	165	160	171	26	9
42	225	195	236	15	11
43	212	203	228	26	11
44	182	168	235	53	3
45	180	174	219	39	11
46	183	146	210	37	12
47	166	154	212	60	4
48	157	170	179	14	9
49	227	207	242	15	18
50	163	146	191	40	12
51	216	202	189	43	6
52	165	173	192	27	12
53	139	136	175	42	8
54	204	193	235	35	9
55	197	186	221	28	7
56	223	222	241	16	17
57	198	193	201	39	8
58	184	167	224	40	14
59	188	181	219	31	4
60	208	186	231	31	7
61	166	156	199	49	14
62	193	163	224	37	7
63	198	180	220	26	7

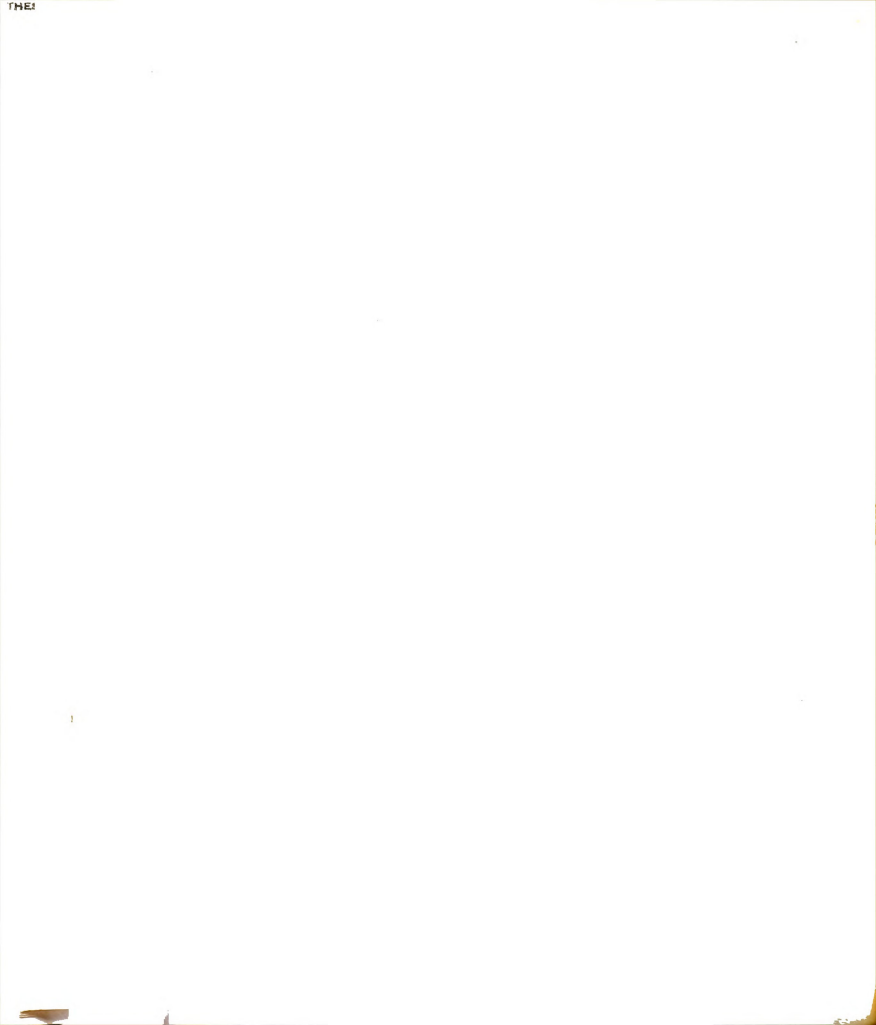
Bill's Index of Adjustment and Values and
Action-Choice Test--Non-Participant Group

Subject No.	Bill's Index				Action-Choice Test
	Self	Acceptance of Self	Ideal	Discrepancy	
64	187	183	213	31	11
65	209	171	241	38	13
66	172	156	213	43	10
67	175	163	215	48	10
68	204	191	223	31	8
69	178	138	219	41	17
70	147	136	206	62	9
71	190	162	238	57	11
72	180	180	207	29	11
73	179	176	192	31	7
74	220	189	233	29	16
75	166	156	224	70	9
76	160	123	224	64	4
77	163	147	216	58	13
78	195	171	220	43	10
79	139	127	197	81	8
80	183	171	220	49	10
81	198	177	233	37	8
82	147	153	199	64	9
83	183	142	221	50	9
84	190	176	194	30	7
85	169	162	189	24	9
86	212	210	244	32	11
87	135	119	214	87	8
88	193	182	216	25	11
89	131	125	134	99	4
90	158	178	181	31	6
91	160	196	238	58	10
92	189	189	225	48	9
93	166	174	168	18	7



Semantic Differential--Varsity Group

Subject No.	Median Scores on Each Concept						
	Me	Coach Sees Me	Coach Is	Team Is	Basketball Is	Like To Be	Fans Are
1	3.75	3.0	3.63	2.0	1.63	1.75	3.25
2	3.53	3.6	3.0	3.4	3.0	2.33	3.6
3	2.0	2.0	2.63	1.4	1.14	1.14	3.13
4	2.0	3.0	2.0	1.4	1.0	1.4	2.25
5	1.8	1.6	1.14	1.8	1.25	1.25	1.25
6	2.75	2.75	1.25	2.63	1.25	1.25	2.75
7	1.06	1.4	1.25	1.06	1.14	1.06	3.25
8	2.14	2.25	1.06	1.14	1.0	1.88	3.33
9	1.88	2.75	2.25	2.6	1.75	1.4	3.66
10	3.13	3.0	1.4	2.2	1.14	1.92	4.0
11	2.0	2.67	2.0	4.33	1.25	2.38	5.33
12	2.08	1.4	1.4	1.75	1.25	1.14	3.0
13	3.6	3.6	3.0	2.63	1.4	1.4	2.63
14	2.25	2.25	2.25	1.4	1.25	1.4	4.13
15	2.0	2.8	2.4	1.88	2.14	2.13	5.0
16	2.88	3.0	2.67	2.25	1.67	1.75	3.33
17	2.13	2.63	1.4	1.4	1.0	1.06	1.25
18	3.0	2.75	1.75	1.75	1.63	2.0	2.4
19							
20	2.25	3.67	2.75	1.4	1.25		
21	1.8	2.08	1.06	1.0	1.0	1.0	1.25
22	1.75	2.25	2.25	1.25	1.06	1.25	2.25
23	2.63	2.38	2.33	1.14	1.06	1.25	3.6
24	2.6	3.75	1.4	1.06	1.14	1.6	1.86
25	1.92	1.8	1.8	1.67	1.75	1.4	3.0
26	2.67	3.0	2.0	1.4	1.76	3.63	3.63
27	3.0	3.25	1.4	1.14	1.14	1.25	1.25
28	2.0	2.4	2.0	2.25	1.14	1.14	2.13
29	1.6	1.24	1.4	1.4	1.06	1.25	1.75



Semantic Differential--Intramural Group

Subject No.	Median Scores on Each Concept						
	Me	Coach Sees Me	Coach Is	Team Is	Basketball Is	Like To Be	Fans Are
30	2.08	2.4	2.63	2.63	1.92	2.0	3.63
31	1.67	1.75	1.88	2.0	1.75	2.0	3.6
32	2.38	2.67	1.4	1.4	1.67	1.4	2.0
33	1.4	1.25	2.13	1.0	1.0	1.0	1.63
34	2.8	3.13	3.13	1.25	1.4	1.86	3.75
35	3.8	4.33	2.0	3.75	3.75	1.06	3.75
36							
37	3.8	3.63	1.4	1.4	1.25	1.75	3.6
38	2.75	2.75	2.8	2.36	2.67	2.0	2.33
39	2.33	2.2	2.33	2.63	1.4	1.25	3.93
40	3.25	3.13	1.25	1.25	1.14	1.4	2.0
41	1.94	1.92	1.75	1.6	1.4	1.75	1.92
42	2.38	1.92	1.67	1.6	1.06	1.25	1.63
43	2.0	2.33	2.25	1.25	1.06	1.06	1.6
44	2.63	2.25	3.38	1.6	1.14	1.4	2.38
45	3.0	3.75	1.25	1.4	1.25	2.0	2.0
46	2.38	3.0	2.38	1.88	1.67	2.0	3.14
47	2.63	2.33	1.4	1.14	1.14	2.33	1.75
48	2.75	3.67	2.33	2.08	1.67	2.25	3.75
49	1.4	1.6	1.06	1.0	1.0	1.06	1.06
50							
51	1.25	2.0		1.0	1.0	1.25	1.4
52	2.0	4.25	4.38	2.0	1.67	2.38	2.8
53	3.0	3.38	2.0	3.0	1.6	1.8	2.67
54	2.0	2.33	2.0	1.67	1.14	1.75	2.25
55	2.38	4.0	3.0	1.25	1.63	1.73	3.0
56	1.63	1.63	1.4	1.4	1.25	1.4	2.13
57	3.88	3.6	1.4	1.14	1.6	1.4	2.38
58	3.13	3.0	2.25	1.88	1.75	1.75	1.4
59	3.33	3.25	3.67	1.0	2.25	1.0	1.4
60	2.0	2.88	1.4	1.0	1.0	1.14	1.4
61	3.0	3.63	3.0				
62	2.2	3.87	1.4	1.14	1.25	1.25	1.4
63	2.25	2.75	1.25	1.25	1.4	1.25	1.25



Semantic Differential--Non-Participant Group

Subject No.	Median Scores on Each Concept						
	Me	Coach Sees Me	Coach Is	Team Is	Basketball Is	Like To Be	Fans Are
64	3.6	2.75	1.25	1.4	1.25	2.25	2.67
65	3.0	3.75	1.4	2.25	1.25	2.0	1.4
66	3.75	3.6	1.4	1.6	1.25	1.8	1.94
67	3.0	3.13	2.67	1.4	1.06	1.14	2.6
68	1.4	1.8	1.4	1.4	1.67	1.14	1.4
69	2.14	3.88	2.25	1.63	1.14	1.8	3.67
70	3.0	3.0	3.25	4.13	1.4	1.4	5.75
71	1.63	1.88	1.67	1.4	1.4	1.25	1.4
72	1.75	1.25	1.25	1.25	1.0	1.25	2.6
73	2.33	3.88	3.6	1.14	2.33	2.25	3.13
74	1.6	1.63	1.4	1.25	1.14	1.14	1.4
75	2.25	3.6	2.0	2.25	1.8	1.25	4.0
76	2.88	3.2	3.13	3.88	1.06	1.14	1.4
77	3.0	6.75	1.25	1.14	1.14	1.06	1.06
78	2.13	3.0	1.25	1.25	1.6	1.0	1.14
79	3.87	4.63	3.0	1.14	1.25	1.4	2.8
80							
81	3.94	5.67	3.6	1.14	4.0	1.4	3.75
82	4.08	3.92	4.0	3.33	3.0	2.25	3.4
83	2.33	2.33	1.14	1.25	1.75	3.0	3.63
84	2.27	2.25	1.25	1.25	3.6	1.4	2.0
85	4.06	4.06	3.75	3.6	3.6	3.94	3.6
86	1.75	1.75	1.06	1.06	1.0	1.14	1.14
87							
88							
89	3.67	3.33	1.4	1.25	1.25	1.14	1.4
90	3.38	4.0	1.14	1.25	1.25	2.0	1.14
91	3.0	3.38	3.75	1.18	3.13	2.67	2.63
92	3.0	2.63	1.4	1.25	2.67	1.25	3.67
93	3.0	2.6	1.75	2.67	3.25	2.88	3.13

Subject No.	Femininity																				
	Amibitious Content	Submissive Dominant	Independent Dependent	Insensitive Sensitive	Shows Feelings Conceals Feelings	Patient Demanding	Impulsive Deliberate	Blunt Tactful	Idealistic Realistic	Rational Intuitive	Fashionate Fasive	Cautious Reckless	Tough Tender	Steady Changeable	Amibitious Content	Submissive Dominant	Independent Dependent	Insensitive Sensitive	Shows Feelings Conceals Feelings	Patient Demanding	Impulsive Deliberate
1	1	1	11	10	6	1	2	10	10	1	1	2	11	3	1	11	1	1	2	2	2
2	5	4	4	9	4	5	6	7	5	6	5	6	7	6	6	9	2	5	5	4	6
3	5	4	6	6	7	6	7	9	7	8	6	6	8	7	4	11	5	7	7	5	8
4	7	6	6	8	6	3	7	8	7	2	3	2	3	2	1	11	3	8	6	2	5
5	3	2	5	10	3	1	7	10	3	9	2	3	11	2	3	10	2	9	9	2	9
6	4	6	1	8	3	1	3	6	2	1	2	6	11	6	4	6	3	9	2	6	2
7	1	5	1	10	5	3	6	9	5	8	2	5	8	10	1	10	1	6	6	5	7
8	3	3	3	5	4	1	6	8	6	3	1	3	6	5	1	11	1	1	11	1	11
9	11	5	3	11	5	2	9	10	10	2	3	6	10	5	3	10	1	9	9	6	10
10	5	6	5	7	6	6	5	7	7	8	4	4	4	7	2	11	1	6	9	8	5
11	2	2	9	8	7	2	5	11	10	3	1	3	11	4	2	11	10	8	8	2	8
12	5	7	3	8	6	3	4	6	8	3	2	3	9	6	4	8	1	6	8	3	4
13	11	4	3	10	9	1	6	11	11	1	1	2	11	3	1	11	11	9	9	1	6
14	4	3	6	10	5	3	8	10	9	7	3	4	9	2	2	10	1	9	6	5	8
15	3	5	1	5	6	2	3	7	6	5	2	1	10	3	1	9	1	2	10	3	10
16	4	10	3	4	7	3	5	5	4	5	5	2	4	3	1	11	2	2	10	3	4
17	1	6	1	9	6	1	3	6	6	2	3	4	6	6	1	9	1	1	6	6	6
18	2	6	6	8	6	2	8	10	9	2	5	2	9	5	2	9	2	7	6	2	8
19	2	9	4	9	5	2	3	8	6	2	9	2	8	7	4	11	2	10	10	4	4
20	6	9	7	11	3	1	6	10	11	2	1	1	11	1	1	6	1	2	10	3	6
21	1	6	10	9	2	1	6	11	11	1	1	1	8	4	1	6	2	6	8	6	6
22	6	6	3	1	1	3	3	3	1	1	1	1	11	1	1	1	11	1	11	11	11
23	5	5	11	11	4	3	3	6	6	9	2	3	9	10	5	11	1	9	10	10	3
24	10	7	10	3	10	1	9	10	11	1	8	1	10	2	2	8	8	3	8	5	7
25	4	6	8	8	6	4	4	9	3	9	6	6	8	8	4	7	3	9	9	8	8
26	6	3	8	8	2	8	3	7	6	4	1	3	11	7	1	6	4	5	11	6	6
27	5	6	4	9	5	4	6	6	5	6	6	5	7	6	4	7	4	6	7	6	6
28	8	5	3	10	2	1	9	10	2	11	2	2	11	6	2	11	2	9	3	1	4
29	3	5	8	10	5	4	6	9	10	2	6	2	9	2	1	10	2	10	8	7	10

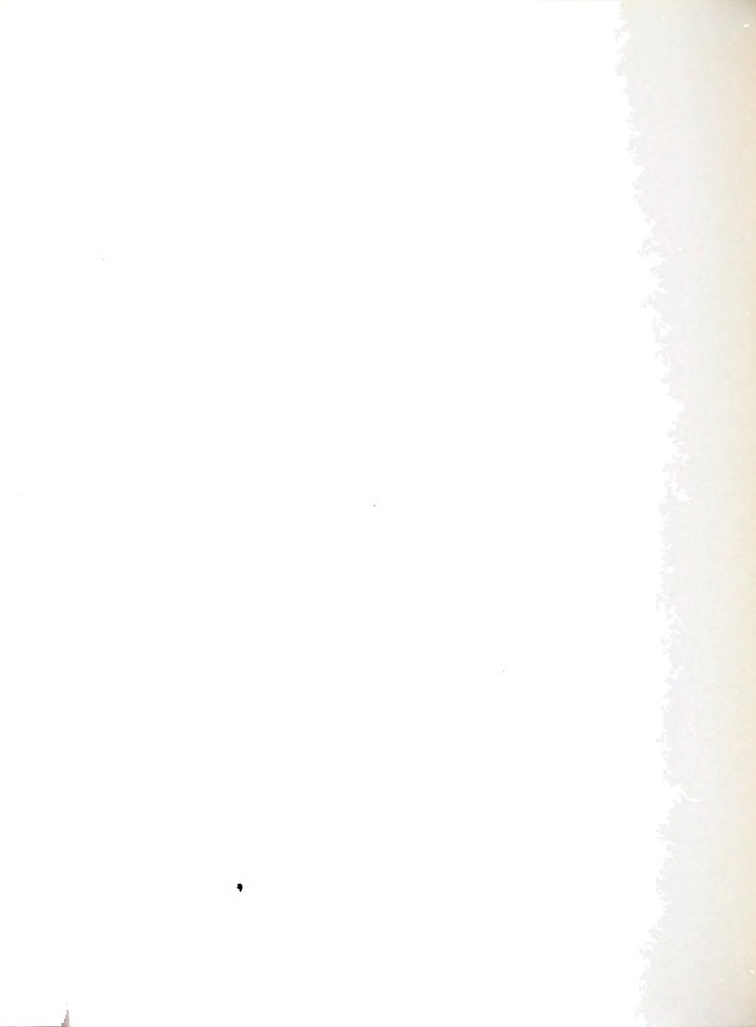
Masculinity														Self																											
Blunt	Tactful	Idealistic	Realistic	Rational	Intuitive	Passionate	Passive	Cautious	Reckless	Tough	Tender	Steady	Changeable	Ambitious	Content	Submissive	Dominant	Independent	Dependent	Insensitive	Sensitive	Shows Feelings	Conceals Feelings	Patient	Demanding	Impulsive	Deliberate	Blunt	Tactful	Idealistic	Realistic	Rational	Intuitive	Passionate	Passive	Cautious	Reckless	Tough	Tender	Steady	Changeable
4	10	1	2	6	2	2	3	3	4	9	6	2	4	3	9	2	2	2	10	1																					
4	6	4	5	7	4	6	1	5	2	6	6	5	5	6	6	4	3	5	3	3																					
9	7	6	8	6	7	7	5	6	7	8	5	7	6	7	7	5	6	7	8	1																					
4	8	1	3	2	1	1	4	6	4	7	8	4	3	5	6	7	3	7	3	8																					
3	6	2	2	4	5	3	3	6	3	7	4	7	4	8	8	3	4	4	6	4																					
7	3	2	6	4	2	4	5	3	5	3	5	6	3	8	9	4	8	7	2																						
6	6	7	2	7	3	6	1	10	1	11	2	8	5	5	4	5	3	7	4	8																					
11	3	1	2	1	1	1	3	5	4	10	5	5	6	7	4	7	3	5	8	8																					
7	10	1	2	6	7	2	6	10	2	11	9	7	10	10	10	2	3	7	10	1																					
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11	9	3	1	4	3	4	3	10	6	11	2	3	4	6	8	2	2	3	5	4																					
9	8	3	2	1	4	6	6	6	4	7	5	5	5	6	6	5	5	5	6	8																					
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5	9	1	5	1	3	1	2	8	1	7	8	6	6	8	10	2	3	5	2																						

Subject No.	Femininity																				
	Ambitious Content	Submissive Dominant	Independent Dependent	Insensitive Sensitive	Shows Feelings Conceals Feelings	Patient Demanding	Impulsive Deliberate	Blunt Tactful	Idealistic Realistic	Rational Intuitive	Passionate Passive	Cautious Reckless	Tough Tender	Steady Changeable	Ambitious Content	Submissive Dominant	Independent Dependent	Insensitive Sensitive	Shows Feelings Conceals Feelings	Patient Demanding	Impulsive Deliberate
30	2	6	5	6	5	2	3	11	9	4	3	5	7	10	1	8	3	6	6	1	7
31	1	6	6	10	1	6	6	10	10	1	6	1	6	6	1	6	1	10	1	1	6
32	2	5	4	10	1	2	6	10	6	10	1	4	11	2	1	9	1	7	7	2	7
33	1	3	4	6	3	1	2	6	5	2	2	1	2	1	1	7	1	4	3	1	2
34	7	5	6	9	4	5	6	8	6	3	3	5	9	6	2	10	1	4	7	7	4
35	3	7	6	11	1	6	6	6	3	1	1	6	10	10	1	11	11	6	6	6	6
36	5	6	10	8	8	2	8	7	2	2	3	1	9	3	2	9	9	3	10	6	6
37	1	6	1	11	1	6	6	6	3	4	1	3	5	2	1	6	4	6	8	9	6
38	2	6	4	8	2	1	4	3	4	1	2	1	5	5	1	2	1	9	2	2	3
39	3	6	5	11	4	2	5	11	7	6	3	2	10	5	2	9	2	10	6	3	4
40	8	2	9	11	2	1	4	11	2	2	2	2	11	10	1	11	11	10	2	2	2
41	6	4	4	9	4	5	7	9	8	6	6	3	5	5	3	8	9	8	5	5	4
42	1	7	1	9	1	1	11	10	11	1	1	1	5	1	1	8	1	7	2	1	11
43	3	6	5	10	6	1	6	9	6	1	1	2	11	6	1	8	1	10	6	4	10
44	3	4	4	6	6	3	7	8	3	6	1	6	8	6	2	9	2	6	6	3	9
45	4	6	3	10	3	3	4	10	3	2	2	1	10	2	1	10	1	3	9	9	4
46	1	6	6	7	8	4	6	10	11	10	5	4	7	7	1	10	8	6	6	5	6
47	8	7	6	6	6	6	5	5	9	8	6	5	7	7	2	8	2	4	8	9	6
48	5	6	6	7	5	5	6	6	5	4	6	5	7	6	3	9	7	8	6	8	6
49	6	6	6	7	6	1	6	11	6	1	4	1	11	6	6	11	11	5	8	1	6
50	8	5	6	7	5	3	8	7	8	6	5	4	9	6	6	8	8	6	7	6	7
51	7	7	9	9	9	4	5	7	8	9	3	5	10	9	3	10	2	3	4	4	8
52	6	3	8	7	5	3	4	9	6	3	3	2	10	4	2	10	2	7	7	8	4
53	7	4	3	9	4	2	4	9	5	7	3	6	9	3	2	9	2	5	3	4	6
54	1	5	2	10	6	1	6	8	6	1	2	3	7	4	1	5	1	5	8	1	6
55	4	4	7	10	4	2	10	10	10	1	2	2	11	9	2	10	2	10	10	2	10
56	3	5	3	8	4	6	5	8	6	5	3	3	9	5	2	10	2	3	9	10	8
57	3	4	5	9	9	3	6	9	10	3	1	1	10	9	2	10	2	6	2	4	4
58	7	8	3	11	4	1	6	9	8	1	1	1	11	3	1	8	2	11	5	1	6
59	10	9	9	11	5	5	4	11	10	11	4	6	10	8	3	5	11	6	11	10	5
60	1	5	6	11	1	2	6	10	4	1	1	1	11	2	1	10	3	8	8	3	6
61	6	5	3	11	2	1	9	9	9	1	2	6	9	2	6	9	3	10	1	2	3
62	9	7	10	6	7	8	5	8	9	9	8	6	6	10	1	10	8	6	7	5	6
63	1	4	3	8	5	1	6	8	4	3	6	3	6	3	1	4	1	6	3	1	6

Masculinity											Self									
Blunt Tactful	Idealistic Realistic	Rational Intuitive	Passionate Passive	Cautious Reckless	Tough Tender	Steady Changeable	Ambitious Content	Submissive Dominant	Independent Dependent	Insensitive Sensitive	Shows Feelings Conceals Feelings	Patient Demanding	Impulsive Deliberate	Blunt Tactful	Idealistic Realistic	Rational Intuitive	Passionate Passive	Cautious Reckless	Tough Tender	Steady Changeable
11	10	2	4	3	7	10	2	7	3	6	8	7	4	6	10	6	6	6	5	10
1	10	1	1	1	1	10	1	6	6	10	6	6	6	10	6	1	6	1	6	6
9	7	2	2	4	7	2	3	10	2	9	6	8	5	7	6	8	2	5	6	4
6	1	3	3	1	1	1	2	2	2	4	6	4	1	9	6	3	5	2	2	3
3	9	8	7	7	10	6	5	7	4	10	6	6	7	6	7	4	4	6	5	8
10	6	1	6	6	6	6	1	6	3	6	4	6	6	6	6	11	8	6	6	4
8	4	4	4	2	1	1	4	6	9	9	3	5	7	6	5	6	6	3	8	3
6	4	6	6	9	1	7	1	6	6	11	1	3	5	6	6	3	4	4	6	4
3	2	1	2	1	2	1	2	3	3	8	2	2	3	6	3	2	3	4	4	5
8	6	6	4	6	6	6	5	8	3	10	3	6	2	9	2	4	4	4	6	6
10	3	3	2	2	1	1	4	10	9	11	3	4	2	9	3	4	2	9	9	11
8	6	8	5	5	1	5	6	5	7	6	5	5	6	6	6	4	5	6	5	6
10	11	1	1	1	1	1	5	5	3	7	3	2	11	9	11	1	4	4	6	1
6	7	1	1	3	6	6	2	7	1	10	6	8	5	6	6	1	2	4	11	8
9	10	2	1	2	1	2	3	6	3	5	8	4	6	8	9	4	4	3	5	6
9	3	9	3	4	1	1	7	9	4	6	9	8	6	5	5	6	4	7	4	5
7	8	6	5	7	6	6	7	7	5	9	10	10	4	8	11	7	6	6	7	10
7	6	7	7	6	3	6	5	5	4	6	6	3	5	5	6	6	5	3	6	4
5	7	6	6	6	3	7	4	6	7	7	3	6	6	5	6	6	6	5	5	7
11	6	1	5	1	6	6	6	8	1	7	7	1	7	9	8	6	6	1	7	4
8	7	6	7	4	2	3	5	7	3	6	6	7	5	7	8	6	5	8	5	8
8	7	10	9	8	3	5	10	8	8	8	4	7	6	6	9	10	7	9	9	7
9	9	6	3	4	5	4	7	4	3	6	9	7	4	9	8	4	6	5	6	8
4	6	3	6	7	4	2	6	4	7	9	8	4	6	7	4	5	8	5	8	4
9	5	1	3	4	1	4	2	7	2	6	4	3	5	6	8	5	4	2	4	4
6	10	2	2	3	7	3	2	4	6	10	3	9	9	8	9	3	3	4	10	10
3	8	6	6	1	1	1	2	6	2	4	6	5	7	7	7	4	3	2	5	6
6	10	6	5	6	5	5	3	5	4	6	5	6	6	6	7	4	5	3	5	8
10	8	6	3	4	6	6	5	6	3	11	1	5	7	9	6	5	4	4	10	8
3	1	1	10	9	1	1	8	7	8	8	6	7	7	7	9	7	5	7	6	7
3	6	4	1	3	1	5	5	9	1	11	6	6	8	8	6	3	3	1	10	4
9	11	10	10	3	9	2	9	7	10	10	7	4	6	3	10	2	4	2	6	9
7	7	6	9	8	6	4	6	9	3	6	6	5	4	5	6	2	6	2	8	4
6	1	1	4	4	2	1	1	5	3	6	3	3	5	6	4	4	3	3	4	5

Subject No.	Femininity																				
	Ambitious Content	Submissive Dominant	Independent Dependent	Insensitive Sensitive	Shows Feelings Conceals Feelings	Patient Demanding	Impulsive Deliberate	Blunt Tactful	Idealistic Realistic	Rational Intuitive	Passionate Passive	Cautious Reckless	Tough Tender	Steady Changeable	Ambitious Content	Submissive Dominant	Independent Dependent	Insensitive Sensitive	Shows Feelings Conceals Feelings	Patient Demanding	Impulsive Deliberate
64	3	3	3	3	3	3	6	6	6	3	3	6	6	3	1	10	1	6	6	3	6
65	1	1	11	11	5	1	9	11	11	11	11	4	11	3	1	11	1	6	10	4	8
66	6	6	4	8	2	6	4	2	2	2	5	6	11	6	4	6	10	1	11	10	9
67	2	5	2	9	5	1	6	11	9	2	6	3	10	3	2	10	2	4	10	8	6
68	6	6	5	7	2	2	5	7	3	6	2	5	9	3	1	9	1	6	4	6	2
69	2	4	2	8	9	1	8	11	1	2	1	2	6	2	2	10	1	6	9	2	9
70	6	6	7	7	7	5	6	9	8	8	3	4	6	3	2	9	2	4	10	3	6
71	5	6	5	7	5	5	6	6	7	5	5	5	7	4	5	7	5	6	5	5	6
72	9	11	6	10	3	3	1	1	1	1	1	3	10	3	1	10	10	1	11	1	2
73	3	6	3	9	3	7	6	6	7	6	5	4	9	5	3	6	4	6	10	6	4
74	4	7	4	11	3	1	1	11	5	2	1	2	11	10	1	10	1	11	3	1	2
75	6	6	3	8	6	3	9	9	10	2	1	2	11	10	1	11	1	1	11	9	8
76	4	6	8	6	4	6	10	9	5	5	4	7	7	7	3	10	2	4	5	6	6
77	6	3	7	9	4	4	3	11	5	6	1	3	11	9	1	11	1	6	6	6	6
78	3	6	7	6	4	1	10	9	6	7	6	1	9	6	2	6	10	3	5	2	9
79	4	7	8	8	3	6	4	9	6	6	2	4	9	7	2	10	1	3	9	9	9
80	4	6	3	7	9	6	3	6	6	6	6	5	6	6	6	6	5	7	9	4	8
81	6	6	1	8	6	1	6	6	11	6	6	2	10	3	1	9	1	6	4	9	4
82	1	8	1	1	1	1	4	6	5	1	3	1	11	6	1	11	11	10	7	6	6
83	6	3	8	11	1	1	6	11	11	1	1	1	11	1	1	11	11	2	10	10	8
84	1	6	11	6	1	6	6	9	6	6	8	1	6	1	1	6	11	1	1	1	6
85	8	5	6	6	5	5	6	6	8	6	4	3	10	6	2	9	2	7	6	4	6
86	8	6	4	9	6	3	3	10	11	3	2	4	8	2	1	6	1	4	8	6	3
87	4	8	7	11	7	1	3	10	1	8	5	2	11	9	1	2	10	5	3	11	10
88	4	4	3	10	3	1	9	10	6	10	2	3	10	9	1	10	1	5	6	2	3
89	3	7	5	8	3	8	2	9	11	1	10	6	1	11	10	3	7	4	11	1	6
90	4	6	4	6	8	5	8	5	8	5	6	4	5	5	3	8	7	6	7	5	6
91	6	3	9	10	3	2	6	9	9	2	1	1	11	10	1	10	3	4	8	10	8
92	4	8	9	10	5	6	5	3	3	7	4	3	7	3	2	9	2	3	8	10	6
93	10	6	8	5	5	9	6	4	6	4	6	8	6	5	1	10	6	6	11	2	8

Masculinity											Self									
Blunt Tactful	Idealistic Realistic	Rational Intuitive	Passionate Passive	Cautious Reckless	Tough Tender	Steady Changeable	Ambitious Content	Submissive Dominant	Independent Dependent	Insensitive Sensitive	Shows Feelings Conceals Feelings	Patient Demanding	Impulsive Deliberate	Blunt Tactful	Idealistic Realistic	Rational Intuitive	Passionate Passive	Cautious Reckless	Tough Tender	Steady Changeable
6	6	6	3	6	3	3	2	4	2	7	9	8	2	6	6	7	2	8	7	6
11	11	1	6	4	6	1	1	4	9	10	11	6	3	10	11	1	8	5	11	11
2	9	6	5	9	1	6	4	4	2	1	6	4	5	8	6	6	5	3	4	6
7	6	4	3	5	2	2	3	5	4	9	3	6	6	6	7	6	5	7	6	7
3	8	2	7	5	4	2	8	3	6	10	2	6	2	6	4	6	3	2	10	7
10	10	1	2	3	3	2	4	8	4	6	6	6	3	3	9	6	6	7	7	8
5	6	4	3	5	3	1	6	3	7	7	8	5	6	9	8	6	5	7	7	10
6	5	5	5	5	6	5	6	7	6	7	5	6	7	5	6	5	6	5	7	5
2	10	6	1	1	1	2	3	7	11	9	3	2	2	9	10	1	2	2	6	8
6	6	6	2	7	2	4	6	5	5	9	9	4	5	8	8	6	8	4	9	6
11	5	1	1	3	11	6	3	9	2	11	3	2	4	9	5	3	2	5	9	7
1	4	4	4	2	1	6	6	8	6	11	3	6	6	7	10	3	1	4	3	6
9	9	2	5	5	2	3	4	6	4	5	8	1	6	6	6	2	6	4	4	8
7	9	3	1	6	5	3	1	6	3	11	2	6	3	6	3	7	2	3	11	7
11	8	6	6	3	5	6	4	6	9	7	6	2	7	9	10	3	6	1	11	8
3	5	9	9	9	1	1	4	6	4	8	3	8	1	4	4	6	2	2	8	7
2	6	5	6	9	4	11	1	8	1	5	11	5	4	6	11	4	3	6	6	6
6	10	3	6	2	3	6	2	6	2	6	6	2	6	6	10	2	6	2	6	3
4	6	4	6	2	1	1	1	11	9	6	4	1	1		3	7	5	6	6	7
4	10	5	6	9	1	10	4	5	5	9	4	8	6	8	9	5	4	5	5	2
6	7	6	6	1	1	1	2	6	10	9	5	1	6	3	6	6	6	3	6	10
6	8	6	4	3	5	5	6	6	3	8	6	4	6	6	7	6	6	4	5	6
5	3	6	4	7	1	1	4	8	5	8	6	6	5	6	10	9	6	9	3	4
2	10	2	3	1	1	3	5	10	4	11	8	7	8	3	7	8	3	10	9	9
9	2	6	3	4	1	6	4	6	4	9	6	6	5	6	9	6	5	5	6	7
4	5	8	2	7	1	2	4	5	10	1	6	3	5	3	10	9	5	4	11	9
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3	10	2	3	6	2	2	5	5	3	8	6	4	7	4	7	6		5	6	8
7	3	6	8	6	3	6	1	11	11	5	4	2	4	1	7	7	8	5	5	7
6	7	6	7	2	6	9	7	6	8	9	5	9	8	5	7	5	6	9	8	5



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