

ABSTRACT

Title of Thesis: A Comparison of the Personality Characteristics of Highly Successful, Moderately Successful, and Unsuccessful High School Basketball Coaches as Measured by the Cattell Sixteen Personality Factor Questionnaire

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This study compared the personality characteristics of successful, moderately successful, and unsuccessful high school basketball coaches. Winning percentage was the criterion chosen to measure success. The subjects were 52 varsity high school basketball coaches from Anne Arundel, Baltimore, Montgomery and Prince Georges Counties public schools. Each coach was administered individually the Cattell Sixteen Personality Factor Questionnaire Form A at their respective schools.

The coaches were grouped into highly successful, moderately successful, and unsuccessful categories according to their cumulative winning percentage in their last three years of varsity high school basketball coaching. To be highly successful, the coaches needed a winning percentage of .60 or greater, for moderately successful .41-.59, and for unsuccessful .40 or less.

A one-way analysis of variance was computed to determine if any significant differences existed between the three groups on any of the twenty personality factors measured.

The results indicated that there are no significant differences on any of the twenty personality factors measured for the three groups.

Within the limitations of this study, it would appear reasonable to conclude that there is no difference between the personalities of the highly successful, moderately successful, or the unsuccessful coaches.

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CHAPTER I

A. Introduction

Recently there has been an increase in the research regarding the personality characteristics of coaches and athletes. Previous studies have suggested that the coach has salient personality characteristics, that the coach's personality may shape the personality of the individual with whom he works, and that the coach's personality affects his philosophy of athletics which, in turn, reflects the type of team he produces. In view of the circumstances in which most coaches find themselves today, forced to win a high percentage of games or lose their job, it is believed that there is a need for research which would indicate the essential personality characteristics of the successful coach. The writer has been unable to find any study to date which has identified the personality characteristics of the successful coach where winning percentage is the criterion used to evaluate coaching success. To this end, the aim of this study is to examine the personality characteristics of highly successful, moderately successful, and unsuccessful coaches, using winning percentage as the criterion for success.

B. The Problem

1. Statement of the Problem

The purpose of this study was to identify and compare the personality characteristics of highly successful, moderately successful, and unsuccessful high school varsity basketball coaches, as measured by the Cattell Sixteen Personality Factor Questionnaire.

2. Definitions for this Study

a. Highly successful (HS) is defined as having a cumulative winning percentage of .60 or greater for the three most previous years of varsity high school basketball experience.

b. Moderately successful (MS) is defined as having a cumulative winning percentage of .41-.59 for the same time period.

c. Unsuccessful (US) is defined as having a cumulative winning percentage of .40 or less for the same time period.

3. Significance of the Project

This study identified the personality characteristics of highly successful, moderately successful, and unsuccessful coaches. An investigation of this nature will provide valuable information to those in any way associated with the coaching profession (e.g. coaches, athletic administrators, educators, sport psychologists, media). It is the aim of the author that this study would increase the knowledge in the area of coaches' personalities in re-

lation to success, and stimulate others into making further studies of this nature.

4. Scope of the Study

Fifty-two varsity high school basketball coaches were chosen to participate in this study. There were 22 highly successful, 18 moderately successful, and 12 unsuccessful coaches in this group of subjects. The coaches came from Baltimore, Prince Georges, Anne Arundel, and Montgomery County public schools.

5. Limitations of the Study

The limitations of this study were as follows:

a. The Cattell Sixteen Personality Factor Questionnaire Manual suggested that Forms A and B be given together to each subject. However, because each subject was tested individually and there was a time limitation due to school scheduling, only Form A was administered.

b. In choosing the sample, only public schools were used in four separate counties. These were chosen because there may have been a recruiting variable involved in private schools.

c. The cumulative records of the coaches included non-league play; therefore, the strength of schedule may have influenced the success of some of the coaches.

CHAPTER II

Review of the Literature

This chapter is concerned with a survey of the literature relevant to the study of coaches' personalities. This presentation is organized into three main categories: winning as a criterion for success, personality of coaches, and personality of athletes. Each major category is further divided into related sub-categories.

A. The Criterion for Success

For this study winning percentage was chosen as the criterion to measure coaching success. However, it should be mentioned that a great deal of conflict exists between educators on one side, and the coaches, public, and media on the other side, on the issue of using winning percentage as a criterion for measuring success. Before choosing the criterion for success in this study, both positions were reviewed as to their appropriateness. A review of the position taken by the educators and the coaches extracted from the literature is provided in this section.

1. Educators' Position on Using Winning Percentage as the Criterion for Success

John Caine, in writing on the value of athletics, points

out that athletics is a means of teaching a way of life. Athletics, according to Caine, teaches fair play, understanding, and appreciation of good teamwork. It teaches that quitting means failure, while hard work eventually brings success.¹

In agreement with Caine is Thomas Mikula who believes that "in education through physical activity, improvement of the whole individual must be placed above improvement of the score, and winning the person above winning the game."²

In writing on the coach whose philosophy is to "win at any cost," William G. Campbell notes that the school must rid itself of a coach with such a philosophy. He further denotes that the student body must be educated to understand the undesirability of such coaches and policies.³

Jesse Feiring Williams has postulated that winning from the standpoint of the educational institution is no more significant than losing. He further writes that the pressure of alumni to have a winning team and the financial lure that comes with championship competition are signs of professional aims and purposes. Finally, he claims that

¹John Caine, "Our High School Athletic Code," Journal of Health, Physical Education and Recreation, 27:23, December 1956, p. 23.

²Thomas Mikula, "Winning Isn't All," Journal of Health, Physical Education and Recreation, 25:5, October 1953, p. 47.

³William G. Campbell, Coaching High School Athletics. Los Angeles, Calif.: C. C. Crawford, 1932, p. 152.

athletics in education cannot be justified on a professional basis.⁴

A noted sport psychologist and educator, Thomas Tutko, reiterates what others have proposed, that guiding and developing youth during the most critical years of physical, mental, and emotional development is one of the most important duties of the coach. He believes that winning should be defined by those who consider the welfare of the individual athlete as every player working to his full potential.⁵

Griffiths,⁶ McClendon,⁷ Hughes,⁸ Baley,⁹ and Manns¹⁰ have expressed similar opinions concerning the relationship

⁴Jesse Feiring Williams and William Leonard Hughes, Athletics in Education. Philadelphia: W. B. Saunders Co., 1937, p. 77.

⁵Thomas A. Tutko and Jack W. Richards, Psychology of Coaching. Boston: Allyn and Bacon, Inc., 1971, p. 3.

⁶Coleman R. Griffiths, Psychology of Coaching: A Study of Coaching Methods from the Point of View of Psychology. New York: C. Scribners Sons, 1928, p. 4; Coleman R. Griffiths, Psychology of Coaching: A General Survey for Athletes and Coaches. New York: C. Scribners Sons, 1928, p. 259.

⁷John B. McClendon, "Coaching to Win," Journal of Health, Physical Education and Recreation, 29:10, October, 1958, p. 25.

⁸William L. Hughes, "The Place of Athletics in the School Physical Education Program," Journal of Health, Physical Education and Recreation, 21:23-27, December 1950, p. 23.

⁹James Baley, "Coaches: Educators of Entertainment Directors?" Physical Education, Vol. 10, No. 1, March 1953, p. 18.

¹⁰Willard Manns, Motivations in Play, Games and Sports. Edited by Ralph Slovenko and James Knight. Springfield, Ill.: Charles C. Thomas, 1967, p. 436.

between winning and being considered a successful coach.

Collectively, the previous positions can be summarized into four major points:

1. The role of athletics is to develop the individual athlete physically, morally, socially, psychologically, emotionally, and intellectually.
2. Winning is no more important than losing to the educational institution.
3. Winning has become the absolute credo of sports today, and this is due to the fact that athletes reflect the ideas, customs, and traditions of the society of which they are a part.
4. A public education program is needed to change the current emphasis on winning to more desirable outcomes.

Therefore, in final reflection, it can be said that educators, in general, recognize that winning is the yardstick currently used to measure coaching success; however, they denounce its use in favor of more desirable goals.

2. Coaches' Position in Regard to Winning Percentage as the Criterion Used to Measure Success

In reviewing the literature the author has found a similarity in the opinions of coaches, athletic administrators, and sport psychologists on the use of winning percentage as the criterion for measuring coaching success.

John Lawther, a physical educator, has written that regardless of one's philosophy concerning the relative edu-

cational value of wins and losses, socially cooperative play, or the advocated doctrine "the ideal outcome of all games is a tie," the coach must frequently win to stay in the coaching profession. The won-loss scale will be the measuring stick applied to the coach, no matter what his private opinion as to the validity or lack of validity as a measure of educational achievement of his boys. Lawther states that "the coach who takes his defeats complacently has missed his calling."¹¹

The sport psychologist, Thomas Tutko, vividly describes the meaning of success in athletics today when he writes that "success is not measured in terms of whether each athlete has done his best, but in terms of whether he has won. Winning has become all-important. If one does not win, the implication is that he has not done his best. Or that if he has, he should have, in some way, done more. Moreover, if he has done all that is humanly possible and still has lost, he is inferior--a lesser human being. In essence, doing your best and ending last not only fails to build character, but may, in fact, tend to destroy an individual personally. In most highly competitive schools the coach is faced with the extreme pressure of winning or being dismissed from his job. The all-important item is winning."¹²

¹¹John D. Lawther, Psychology of Coaching. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1951, p. 19.

¹²Thomas Tutko, "Conflict in Sports," Contemporary Psychology of Sport. Second International Congress of Sport Psychology, Washington, D. C., 1968, p. 46. Chicago: Athletic Institute, 1970, p. 46.

In describing the position of the athletic administrator, Ray L. Hafner has pointed out that our tradition of winning places the hiring official in an unenviable position. He further reasons that consistent losing is sometimes difficult to defend, regardless of circumstances.¹³

In a study conducted by Cecil Garrison, in which he administered questionnaires to administrators and coaches to determine the major factors for coaches' dismissal, a discrepancy between the two groups was cited. The administrators listed indolence and lack of cooperation with the school administration as being the major causes of coaches' dismissal. In contrast, the coaches overwhelmingly agreed that their failure to win games was the primary reason for their dismissal.¹⁴

Therefore, in contrast to the position taken by educators on the issue, the author has found that the coaches, athletic administrators, and sport psychologists are in general agreement on the following points:

1. The coach must frequently win games to stay in the coaching profession.
2. The coach who takes his losses complacently has missed his calling.

¹³Ray L. Hafner, "More than Victory," Journal of Health, Physical Education and Recreation, 33:29-30, March 1962, p. 29.

¹⁴Cecil Garrison, "A Study of Factors Contributing to Success or Failure of Physical Education Teachers and/or Coaches in Selected Schools in Arkansas," Physical Education, 15:18-19, March 1957, p. 18.

3. The philosophy "winning isn't everything, it's the only thing," is indicative of our national attitude and not restricted to the athletic world.

The coaches, in summary, recognize their role in athletics is to win games. Through experience they recognize that if they fail to produce winners, they are relieved of their jobs. Consequently, they are forced to adopt this attitude in order to stay in their chosen profession.

B. Personality Characteristics of Coaches

In examining the literature which has been published concerning the personality characteristics of coaches, the writer has found an enormous amount of subjective material which enumerates the coaches' characteristics. These assessments have been made by educators, sport psychologists, and coaches.

In contrast, the writer has found only a small amount of objective information regarding the coaches' personalities based on sound research. Furthermore, in these studies there have been none which identify and compare the personalities of the successful and unsuccessful coaches. In this section a review of some of the subjective literature will be presented first, followed by the literature based on research.

1. Subjective Assessments of Coaches' Personalities

The subjective literature reveals a variety of general

characteristics about coaches and their personalities as cited by numerous sources. In writing about the coaches' personalities, Thomas Tutko has reported that (1) the coach has salient personality characteristics, (2) the coach's personality may shape the personality of the individual with whom he works, and (3) the coach's personality affects his philosophy of athletics and, in turn, reflects the type of team he produces.¹⁵

J. W. Moore has enumerated the traits socially desirable and technically necessary for success in athletic coaching to be leadership, sense of humor, friendliness, forcefulness, good appearance, honesty, industriousness, reliability, emotional stability, loyalty, persistence, responsibility, ambitiousness, creativeness, optimism, integration, understanding, cooperation, culture, self-discipline, and trust.¹⁶

In addition to those qualities Moore has mentioned, Lawther denotes the qualities of a good coach to be player evaluation, courage, dignity, sportsmanship, sociability, health, energy, knowledge, skill, and experience.¹⁷

Expounding upon the qualifications of coaches, Charles E. Hammett suggests that such traits as a sense of equality,

¹⁵Tutko, op. cit., p. 10.

¹⁶J. W. Moore, The Psychology of Athletic Coaching, Minneapolis, Minn.: Burgess Publishing Co., 1970, p. 190.

¹⁷Lawther, op. cit., p. 10.

sincerity, appreciation, tact, and the ability to elicit positive reactions from team members are essential to coaching success.¹⁸

In contrast to those traits mentioned by Moore, Lawther, and Hammett, as being essential to coaching success, the characteristics which might be expected to be a part of the poor coach are directly opposite those of the good coach. Moore cites such examples as sensitivity to criticism, disloyalty, emotional instability, over-criticalness, laziness, lack of self-discipline, intemperance, selfishness, worry, discourtesy, aloofness, and vulgarity are all characteristics of poor coaches.¹⁹

Numerous other authorities, such as Williams,²⁰ Maetozo,²¹ the AAHPER Handbook,²² McClendon,²³ Gaylord,²⁴

¹⁸Charles E. Hammett, Major Sport Fundamentals. New York: Charles Scribners Sons, 1927, p. 10.

¹⁹Moore, op. cit., p. 5.

²⁰Williams, op. cit., p. 77.

²¹Matthew Maetozo, Certification of High School Coaches, AAHPER, 1971, p. 10.

²²Coaches Handbook AAHPER, Florida State Department of Education, 1959, p. 3.

²³McClendon, op. cit.

²⁴Curtiss Gaylord, Modern Coaching Psychology. Dubuque, Iowa: William C. Brown Co., 1967, p. 12.

Cooper,²⁵ Druse,²⁶ Shirley,²⁷ Neal,²⁸ and Seidler,²⁹ have expressed opinions in agreement with those cited as to the qualities essential to the successful coach.

2. Coaches' Characteristics and Personalities

Recently there has been a great emphasis placed on the objective evaluation of coaches' personalities.

Bruce Ogilvie and Thomas Tutko have conducted research on the psychological traits of the successful coach. It should be mentioned that no definition as to what constitutes successful coaching is proposed by Ogilvie and Tutko. They have given 47 coaches the Athletic Motivational Inventory between 1962 and 1965. Their findings to date are as follows:

1. These men scored in the upper 5% of a college population on emotional stability.
2. A willingness to listen to authorities, use the counsel of others, was exhibited by the subjects.

²⁵John M. Cooper and Daryl Siedentop, The Theory and Science of Basketball. Philadelphia: Lea and Febiger, 1967, p. 16.

²⁶Ron Druse, "Some Tips for Successful Coaches," Coaches Clinic, November 1967, p. 21.

²⁷J. D. Shirley, "Profile of an Ideal Coach," Journal of Health, Physical Education and Recreation, 37:11, May 1966, p. 59.

²⁸Patsy Neal, Coaching Methods for Women. Reading, Mass.: Wesley Publishing Co., 1969, p. 6.

²⁹A. A. Seidler, "A Code for Athletic Coaches," Physical Education, 8:108-109, Dec. 1951, p. 108.

They scored in the upper 16% of the population on these characteristics.

3. Orderliness, organization, thoughtfulness, and concern for detail were characteristics displayed by the subjects. On these variables they scored in the upper 20% of the population.
4. Psychological endurance, the willingness to apply oneself over the long haul, and to stay with a task until its completion, were also characteristics of the sample.
5. They scored in the upper 20% of the population on achievement motive, desire to be on top, need for success, and desire to excel.
6. A well-developed conscience and sensitive awareness of the demands of society were characteristics of the subjects.
7. Their leadership potential was within the top 17% of the college population.
8. They exhibited such characteristics as trust, openness, and low incidence of defensiveness.
9. A very low level of anxiety and high threshold for tolerating success were also shown for the group.
10. These subjects were found to be prone to accept blame and willingness to pay the physical or emotional price for success.
11. They showed a greater tendency to express aggression and stand up for their beliefs.

12. The sample showed a desire to be in charge, to lead and be followed.³⁰

Ogilvie again administered the Athletic Motivational Inventory in another study to a number of coaches and found that coaches proved to be more aware of trait deficiencies in the drive area than in the emotional area of measurement, with such traits as drive, determination, and aggression being components of their own life style. Emotional traits were significantly more difficult for them to identify, particularly when the athlete possessed superior physical ability. Ogilvie reports the psychological make-up of a coach as being high in achievement, emotional stability, psychological endurance, dominance needs, need for order, need to be deferential, and conscientiousness. Coaches were moderately high in trust, acceptance of personal blame, tough-mindedness, self-control, aggressiveness, and measured low in anxiety, autonomy, succorance, nurturance, affiliation, change and intraceptiveness.³¹

In another study examining the concept coaches have of an ideal coach, Ogilvie reports that "coaches place a high value on affiliation, intraception, nurturance, and low aggression." They significantly underestimated their level of need for aggression. He also found that certain personality traits that contribute most to being sensitive to

³⁰B. C. Ogilvie and T. A. Tutko, "Some Psychological Traits of the Successful Coach," World Congress on Sports Sciences, Madrid, 1966.

³¹Ibid., p. 8.

others and supporting close intrapersonal relationships received less positive reinforcement during the formative years of a coach's life.³²

Writing in Problem Athletes and How to Handle Them, Ogilvie and Tutko report that "coaches are readily distinguishable in a number of important characteristics." Also, they report that their profile was "almost identical with that of outstanding athletes collected from various sports."³³ They found coaches, as a group, to be highly success-driven, orderly, organized, out-going, warm, conscientious, emotionally stable, trusting, open, dominant, aggressive, with a high level of psychological endurance and high leadership ability. They proposed that the most prominent feature of the personality of successful coaches was a "stick-to-it-iveness" characteristic.³⁴ Ogilvie and Tutko found the detrimental qualities in coaches' personalities as tending to be interested in dependent needs of others and inflexibility and rigidity in utilization of new learning methods.³⁵ It should be mentioned that the writer was unable to find any of the sampling techniques or tests used by Ogilvie and Tutko to reach these conclusions in their book.

³²Ogilvie and Tutko, op. cit., p. 18.

³³B. C. Ogilvie and T. A. Tutko, Problem Athletes and How to Handle Them. London: Pelham Books, 1966, p. 22.

³⁴Ibid., p. 13.

³⁵Ibid., p. 14.

In another study Ogilvie and Tutko pursued the "self image and measured personality of coaches." They administered the Edwards Personal Preference Schedule (EPPS), Cattell Sixteen Personality Factor, Jackson Personality Research Form B, and a Semantic Differential to 132 subjects enrolled in a course entitled "The Atypical Athlete." They found coaches perceive themselves as more autonomous, affiliative, intrceptive, dominant, nurturant, changeable, enduring, heterosexual, less succorant, and less aggressive than their actual test scores revealed. The coaches' self-perception was most elevated for achievement, endurance, and heterosexuality. Coaches had the most insight into deference, order, abasement, and exhibition, and they most underestimated succorance and aggression. The coaches' actual scores were high in achievement, deference, order, dominance, endurance, abasement, and aggression, and low in intrception, exhibition, nurturance, and change. They found that coaches scored high in traits which would determine getting ahead and succeeding that do not necessitate personal involvement. The coaches scored low in sensitive traits and personal involvement. Finally, the projected image of the coaches was a reliable representation of the qualities essential for success in the coaching profession.³⁶

Albaugh, using the Athletic Motivational Inventory, examined the coaches' ability to perceive the degree to

³⁶B. C. Ogilvie and T. A. Tutko, "Self Image and Measured Personality of Coaches," Contemporary Psychology of Sport (Second International Congress of Sports Sciences, Washington, D. C.), 1968.

which these traits were present or absent in their athletes. He found University coaches were only able to assess reliably the traits of leadership, drive, and determination. These were also those traits on which they displayed their own highest scores. They were less accurate in assessing those traits which they scored low in personally. The rank of accuracy of assessment was as follows: (1) Leadership, (2) Drive, (3) Determination, (4) Conscience-development, (5) Coachability, (6) Trust, (7) Aggression, (8) Emotionality, (9) Self-confidence, (10) Mental Toughness, (11) Guilt proneness.³⁷

In studying the desired qualifications and tenure of coaches, Clifford J. Olander administered a questionnaire to coaches and administrators in Kansas high schools. He found the most important factors to be high moral character, ability to teach other subjects, able to handle boys, professional training in health and physical education, Bachelors degree, good personal appearance, do not use profanity or alcohol, respect for superiors, coaching experience, played under fair coach, best man available for the money, reputation as a star in college, and previous experience developing champion teams. Administrators listed the following items in order of importance for coaches: well versed in sports--48%, good influence on boys--37%, character and moral training--37%, good teacher--34%, pleasing personality--25%, good sportsmanship--25%, set good examples--23%,

³⁷Ogilvie and Tutko, op. cit., p. 9.

cooperative--20%, participate in athletics--20%, leadership--17%, winning games--14.3%, good mixer in community--14.3%, enthusiastic about work--11.4%, and know how to coach--11.4%. About 80% of the administrators felt winning games should not be an important factor in determining the qualifications of a successful coach. In contrast, coaches listed these qualities as most important to success: get along with boys--42%, cooperation with supervisor--26%, cooperation with faculty--24%, winning games--22%, cooperation with town people--22%, building character and moral training--20%, enthusiastic--10.8%, stressing fundamentals--10.2%, and being a good teacher--10.2%. About 10% of the school board felt that the coach should win at least 50% of the games.³⁸

A study of the professional preparation of athletic coaches by J. G. Neal enumerates the essential competencies of athletic coaches as (1) instruction, (2) organization and management, and (3) school and community relationships.³⁹ Neal administered a questionnaire to superintendents, basketball coaches and football coaches to obtain these results.

In yet another study, Raymond F. Struck evaluated by questionnaire the administrative procedures, opinions, and preferences which affect the status of high school athletic

³⁸ Clifford J. Olander, "Deserved Qualifications and Tenure of Coaches in Kansas High Schools." Unpublished Master's thesis, Kansas State Teachers College, 1939), p. 3.

³⁹ J. G. Neal, "Professional Preparation of Athletic Coaches in Public Schools of Minnesota," Research Quarterly, 28:176-179, May 1957, p. 177.

coaches in Indiana. Struck reports the personality traits superintendents felt a young man should have to be accepted as a physical education teacher or coach as:

| | |
|---------------------------------------|----------|
| 1. cooperativeness | 86.93% |
| 2. ability to handle people | 44.44% |
| 3. honesty | 42.48% |
| 4. disciplinarian | 36.60% |
| 5. reliability | 33.99% |
| 6. respect for authority | 30.07% |
| 7. diligence | 15.03% |
| 8. fair minded | 13.73% |
| 9. enthusiastic | 13.07% |
| 10. knowledge of game fundamentals | 13.73% |
| 11. neat appearance | 11.77% |
| 12. clean living habits | 9.81% |
| 13. high ethical standards | 9.15% |
| 14. good organizing ability | 8.50% |
| 15. emotional stability | 7.84% |
| 16. ability to demonstrate skills | 7.84% |
| 17. ability to win or lose gracefully | 7.84%.40 |

L. B. Hendry used the Cattell Sixteen Personality Factor Questionnaire in assessing the personality traits in the coach-swimmer relationship. He administered the test to 126 swimmers and 26 coaches and found the coaches' subjective assessment of swimmers' personality factors near perfect for intelligence, emotional stability, assertiveness, realism, and self-sufficiency. The swimmers' subjective assessment of the coaches was accurate for realism, self-sufficiency, and experimentation. The coaches' subjective self-assessment was accurate in sociability, emotional stability, realism, experimenting, and self-sufficiency. Finally, he found the older male coaches to be more anxious

⁴⁰Raymond F. Struck, "A Study of the Administration Procedures, Opinions and Preferences which Affect the Status of High School Coaches in Indiana." Doctoral Dissertation, Indiana University, 1956.

than the younger coaches.⁴¹

C. Personality of Athletes

It has been postulated that successful coaches will have the same personality profiles as champion athletes of various sports. This section will provide a review of the literature on personality traits of athletes, in general, followed by a review of the traits of specific athletic groups.

Gordon P. Jeppson administered the M.M.P.I. to various varsity athletes and received the following results: first team athletes scored higher in paranoia than other varsity athletes; senior athletes scored lower than freshmen in psychoasthenia, social response, hypochondrosis, and schizophrenia; senior athletes scored lower than normative in hypochondrosis and social response; senior athletes were higher than normal in hysteria; there was a significant high mean on social response for senior athletes; the first team and most valuable athletes were more sensitive, suspicious, held rigid opinions, and attitudes, and were more egotistical; the senior athletes were more mature, less worried, less depressed, exhibited greater self-confidence, increased conformity, and more adequate social adjustment than freshmen; and athletes possess good social relations, verbal

⁴¹L. B. Hendry, "Assessment of Personality Traits in the Coach-Swimmer Relationship, and a Primary Examination of the Father Figure Stereotype," Research Quarterly, 39: 543-51, November 1968.

skills, ability to reason, and a tendency toward aggression.⁴²

Carter and Shannon administered the Symonds Adjustment Questionnaire to athletes and non-athletes and found athletes to be significantly higher in leadership, sociability, cooperation, self-control, and reliability, and lower in agreeability, than selected non-athletes. They reported that athletes excel in social adjustment whereas non-athletes excel in academic adjustment.⁴³

In Studying the personality characteristics needed for success, Kroll and Crenshaw used the Cattell Sixteen Personality Factor Questionnaire and computed a multivariate personality profile analysis. Their subjects were 139 football players, 94 wrestlers, 28 varsity athletes, 33 average athletes, 71 Karate participants, and 141 gymnasts. They found that in athletics certain personality characteristics are prerequisites for success and that different athletic activities necessitate different sets of such characteristics.⁴⁴

A review of the literature by Johnson and Cofer seems

⁴²Gordon P. Jeppson, "A Comparative Study of Selected Personality Traits of Varsity Athletes." Unpublished Master's thesis, South Dakota State University, 1964.

⁴³G. C. Carter and J. R. Shannon, "Adjustment and Personality Traits of Athletes and Non-Athletes," School Review, 48:127-130, 1940.

⁴⁴Walter Kroll and William Crenshaw, "Multivariate Personality Profile Analysis of Four Athletic Groups," Contemporary Psychology of Sport (Second International Congress on Sport Psychology, Washington, D. C.), 1968.

to support the findings of the Kroll and Crenshaw study. Johnson and Cofer, writing on personality dynamics of championship performance, report that "the evidence to date suggests that exceptional performers in sports . . . have certain measurable and distinguishable characteristics. However, there is no evidence to indicate the extent to which these characteristics are native to the individual and/or are the result of participation in sports. It would appear likely that existing or new instruments may be used to discriminate different levels of performance insofar as personality traits coincide with necessary physical traits."⁴⁵

Dayries and Grimm used the Edwards Personal Preference Schedule to study women athletes and found them to be higher than normal in achievement, exhibition, autonomy, affiliation, intraception, dominance, nurturance, heterosexuality, and aggression. They found the women athletes scored lower in deference, order, succorance, abasement, change, and endurance than the norm.⁴⁶

Lowell Cooper completed a review of related literature and reported the outstanding characteristics of athletes to be a greater motivation to achieve, social adjustment, ascending, and emotional stability. He cites other traits

⁴⁵Warren R. Johnson and C. N. Cofer, "Personality Dynamics in Relation to Exercise and Sports," Science and Medicine of Exercise and Sports. New York: Harper and Row Publishers, 1960, p. 547.

⁴⁶John Dayries and Ronald Grimm, "Personality Traits of Women Athletes as Measured by the Edwards Personal Preference Schedule," Perceptual and Motor Skills, 30:229-30, February 1970.

of athletes as outgoing, aggressive, dominant, leadership, high social adjustment, high prestige and status, self-confidence, strong competitors, less anxious, less compulsive, greater pain tolerance, lower feminine interests, and higher masculine interests.⁴⁷

In a study using the Cattell Sixteen Personality Factor Questionnaire to investigate the personality traits of women in team sports versus individual sports, Peterson, Weber and Trousdale found women in individual sports to be higher in dominance, adventurousness, sensitivity, introversion, radicalism, and self-sufficiency. The team sport athletes were found to be self-sufficient, introverted, steady, practical, dependable, self-reliant, responsible, emotionally disciplined, and more sophisticated than those in individual sports.⁴⁸

Slusher used the M.M.P.I. to measure personality and intelligence of 400 athletes and 100 non-athletes and found athletes scored higher in hypochondrosis, lower in femininity, and lower in intelligence than non-athletes. The other factors measured did not discriminate.⁴⁹

⁴⁷Lowell Cooper, "Athletics, Activity and Personality, a Review of Literature," Research Quarterly, 40:1, February 1969, p. 17.

⁴⁸Sheri Peterson, Jerome Weber and William Trousdale, "Personality Traits of Women in Team Sports vs. Women in Individual Sports," Research Quarterly, 38:4, 1967, p. 686.

⁴⁹Howard Slusher, "Personality and Intelligence Characteristics of Selected High School Athletes and Non-Athletes," Research Quarterly, 35:4, 1964, p. 544.

Booth also used the M.M.P.I. to measure personality traits of athletes. He found athletes scored higher in dominance and depression, and lower in interest, anxiety, social response, and psychoasthenia.⁵⁰

Johnson, Hutton and Johnson used the Rorschach and House-Tree Projection tests to measure outstanding personality characteristics of champion athletes. Their sample included national champions and all-Americans in football (4), lacrosse (2), wrestling (2), boxing (2), track, and riflery. Those traits the champion athletes possessed were extreme aggression, high level of intellectual aspiration, and exceptional feelings of self-assurance.⁵¹

In another study based on data from over ten thousand athletes where the Athletic Motivation Inventory was used, Olgilvie reports that,

. . . although there are significant trait differences between these samples, they share a highly consistent psychological profile in being success-oriented, ambitious, and highly organized individuals. They tend to seek leadership roles, have great psychological endurance, and find it easy to express self-assertion. They tend to have a very low need to express interest in the problems of others, and they expect others to show no special interest in or concern for them. They show low inclination to study the motivation of others, and appear to be extremely self-contained individuals.⁵²

⁵⁰E. G. Booth, "Personality Traits of Athletes as Measured by the M.M.P.I.," Research Quarterly, 29:127, May 1958, p. 136.

⁵¹Warren Johnson, Daniel Hutton and Granville Johnson, "Personality Traits of Some Champion Athletes as Measured by Two Projective Tests: Rorschach and H-T-P," Research Quarterly, 25:484, December 1954, p. 485.

⁵²B. C. Olgilvie, "The Future of Psychology in Sport," Modern Medicine, 1972, p. 4.

In the same study Ogilvie found that the higher the criterion of excellence one established, the greater the probability that the athlete will be self-controlled, disciplined, self-assured, relaxed with low levels of resting tension, trusting, free of jealousy, and for females a tendency to become increasingly more outgoing in personality.⁵³ Ogilvie reports that successful athletes can be characterized as facing reality calmly, having high emotional control, being able to control feelings, and avoiding childish, less mature solutions when in conflict. To be a winner it is essential that failure to achieve goals be accepted as a personal responsibility; this demands emotional strength. Successful athletes are achievement-oriented people who derive personal satisfaction from striving.⁵⁴ After administering the Athletic Motivational Inventory, Ogilvie found personality traits to fall naturally into two categories: (1) Drive Traits, such as athletic drive, aggression, determination, guilt proneness, and leadership; and (2) Emotional Traits, such as conscientiousness and trust.⁵⁵

In addition to studies on athletes in general, a number of studies have identified the personalities of athletes in specific sports. Marvin Gold administered the Guilford-Martin Personality Inventory to varsity and professional tennis and golf groups at the University of Maryland in 1955. He found that golfers scored high in social interest and optimism, and low in depression. The professional golfer

⁵³Ibid., p. 5. ⁵⁴Ibid. ⁵⁵Ibid., p. 12.

had a more masculine emotional and temperament make-up than professional or varsity tennis players. Varsity golfers were found to be more socially extraverted than the professional tennis players. Professional golfers were reported to score high in sociability, leadership, and masculinity.⁵⁶

Husman studied aggression in boxers using the Rosenweig P-F study, T-A-T, and a Sentence Completion Test. He found boxers to be more intrapunative than cross country runners. Boxers also possess less over-all intensity of aggression than wrestlers, cross country runners, and non-athletes. Finally, boxers were found to possess more super-ego than the normal group of subjects.⁵⁷

Bosco administered the Cattell Sixteen Personality Factor Questionnaire to champion male gymnasts and found them to score greater than college men on the factors of intelligence, calmness, and maturity, conventionality and seriousness, confidence and unshakable demeanor, criticism and experimentation, control and exactness. They were also found to be practical and insecure.⁵⁸

⁵⁶Marvin Gold, "A Comparison of Personality Characteristics of Professional and College Varsity Tennis and Golf Players as Measured by the Guilford-Martin Personality Inventory." Unpublished Master's thesis, University of Maryland, 1955.

⁵⁷B. F. Husman, "Aggression in Boxers and Wrestlers as Measured by Projective Techniques," Research Quarterly, 26: 421-425, 1955.

⁵⁸James Bosco, "The Physical and Personality Characteristics of Champion Male Gymnasts." Doctoral dissertation, University of Illinois, 1962, p. 201.

Ogilvie, Tutko and Young analyzed the personality of Olympic medalists in swimming, using the Cattell Sixteen Personality Factor Questionnaire and Edwards Personal Preference Schedule. They found their traits to be ambition, need for order and organization, less exhibitionistic, accept blame for mistakes, avoid taking interest in problems of others, less group conscious, need for change, experimenting, emotionally stable, self-reliant, self-disciplined, socially precise, and free of physical fears.⁵⁹

Yensen studied factors contributing to the success of NCAA wrestling champions, using the Cattell Sixteen Personality Factor Questionnaire. He found wrestlers to score high in determination, desire, aggressiveness, confidence, sportsmanship, and coolness.⁶⁰

Summary

The review of literature was divided into three sections. The first section included a review of the positions taken by educators and coaches on the use of winning percentage as the criterion for success. The second section was devoted to a review of the subjective literature relating to character-

⁵⁹B. C. Ogilvie, T. A. Tutko and Irving Young, "The Psychological Profile of Olympic Champions." Rome: First International Congress on Sport Psychology, 1965.

⁶⁰W. A. Yensen, "An Investigation of Factors that Contributed to Success of NCAA Wrestling Champions." Unpublished Master's thesis, San Diego State College, 1963.

istics of coaches, and a presentation of the studies based on the personalities of coaches. The third section included a review of the literature concerning the personalities of athletes.

In reviewing the position taken by educators on the use of winning percentage as the criterion to measure coaching success, it was found that they tend to denounce its use in favor of a more desirable criterion. They reason that winning is no more important to the educational institution than losing and that a school must rid itself of a coach who adheres to such a philosophy where winning the game is the most important motivation for playing. In contrast to the educators, coaches recognize that they must frequently win games to stay in their chosen profession. The coach must adopt this win-at-all-cost philosophy, regardless of his concern for the athletes' physical, social, emotional, and psychological development. Administrators and coaches disagree on the reasons for coaches being dismissed from their jobs. Administrators felt indolence and lack of cooperation were the major reasons for dismissal, while the coaches overwhelmingly agreed that their failure to win games was the major reason for their being dismissed.⁶¹

A review of the literature based on subjective assessments by numerous authorities on the characteristics of a good coach reveals the following qualities: courage, dignity, sportsmanship, sociability, knowledge, imagination,

⁶¹Garrison, op. cit., p. 18.

experience, leadership, enthusiasm, optimism, persistence, industriousness, creativeness, emotional stability, and self-discipline. The writer was only able to find a few studies which identified the personalities of coaches, and there were none which reported the personalities of successful coaches using winning percentage as the criterion for success. Some studies have found coaches to score high in emotional stability, orderliness, organization, thoughtfulness, psychological endurance, aggression, achievement, sensitivity, trust, and openness. They were also found to have a low level of anxiety and defensiveness.⁶² Coaches perceive themselves as autonomous, affiliative, intrceptive, dominant, nurturant, changeable, endurant, less succorant and less aggressive than their actual scores.⁶³

A variety of studies have been reported on the personalities of athletes. First team athletes scored higher in paranoia than other varsity athletes, were more sensitive, suspicious and egotistical.⁶⁴ Athletes scored significantly higher in leadership, sociability, cooperation, self-control, and reliability than non-athletes.⁶⁵ One study reported women athletes scored higher than normal in achievement, autonomy, affiliation, intraception, dominance, nurturance,

⁶²Ogilvie, op. cit., p. 18.

⁶³Ogilvie, op. cit., p. 14.

⁶⁴Jeppson, op. cit.

⁶⁵Carter and Shannon, op. cit., p. 127.

heterosexuality, and aggression.⁶⁶ Several other studies support the findings presented here as characteristics of athletes.

⁶⁶Dayries and Grimm, op. cit., p. 229.

CHAPTER III

Procedures

This chapter describes the methods and procedures used in studying the differences between successful, moderately successful, and unsuccessful varsity basketball coaches. This chapter has been divided into six sections: (A) Selection of Subjects and their Categorization, (B) Test Administration, (C) Test Scoring, (D) Interpretation of Scores on Factors, (E) Cumulative Data Procurement, and (F) Statistical Methodology.

A. Selection of Subjects and their Categorization

1. Selection of Subjects

Fifty-two varsity high school basketball coaches from Baltimore, Anne Arundel, Prince Georges, and Montgomery Counties public schools were chosen to participate in this study. The writer secured the names and addresses of all senior high schools in the four counties from the Directory of Public School Officials. The names of the varsity coaches were secured from the physical education supervisors in the respective counties. A letter of introduction with explanation of the procedure involved for each

participant was then sent to each coach (Appendix E, p. 63). The writer then telephoned each individual coach to set up an appointment date for test administration. On the appropriate date, the writer went to each school and personally administered the test.

2. Categorization of Subjects

The subjects were divided into three groups for statistical treatment. From the cumulative data, each coach's record and winning percentage were tabulated for the last three years he coached varsity high school basketball. These percentages were ranked from highest to lowest. Those coaches with winning percentages of .60 or greater were classified as successful, those coaches with winning percentages between .41-.59 were classified as moderately successful, and those coaches with winning percentages of .40 or below were classified as unsuccessful.

B. Test Administration

The Cattell Sixteen Personality Factor Questionnaire Form A was administered to each coach in the study. Each coach was given the same verbal instructions, as suggested by the 16 PF Handbook, in addition to the instructions provided in the test booklet. There was no time limit placed upon the completion of the test.

C. Test Scoring

At the end of each testing day, the writer scored each coach's questionnaire with the scoring stencil provided, according to the procedures for hand scoring established in the 16 PF Handbook. The writer also derived four, second-order factors from the 16 primary factors, using the specification equation provided in the 16 PF Handbook.

D. Interpretation of the Scores on the Sixteen Primary Factors and Four Second-Order Factors

The following 16 primary factors and four second-order factors are interpreted as follows: a person who scores high on a specific factor tends to be characterized by the high score direction description as presented by Cattell. Similarly, a person who scores low on a factor is represented by the low score direction trait. Presented below are brief capsule descriptions of the high and low score direction traits for the 16 primary and four second-order factors. A more detailed explanation and description of the factors are provided in Appendix G.

| <u>Factor</u> | <u>Low Score Direction</u> | <u>High Score Direction</u> |
|---------------|---------------------------------|-----------------------------|
| A | Reserved | Outgoing |
| B | Less intelligent | More intelligent |
| C | Affected by feelings | Emotionally stable |
| E | Humble | Assertive |
| F | Sober | Happy-go-lucky |
| G | Expedient | Conscientious |
| H | Shy | Venturesome |
| I | Tough-minded | Tender-minded |
| L | Trusting | Suspicious |
| M | Practical | Imaginative |
| N | Forthright | Shrewd |
| O | Self-assured | Apprehensive |
| Q1 | Conservative | Experimenting |
| Q2 | Group dependent | Controlled |
| Q3 | Undisciplined self- conflict | Self-sufficient |
| Q4 | Relaxed | Tense |
| I | Low Anxiety | High Anxiety |
| II | Introversion | Extraversion |
| III | Tender-minded emo- tionality | Alert, Poised |
| IV | Subduedness | Independence |

E. Cumulative Data Procurement

Upon completion of the test, each coach was asked to complete the Cumulative Data Form. In securing the won-loss records, championships, and all-status players, the coaches in their investigation used such sources as yearbooks, score-books, personal records, and county publications.

F. Statistical Methodology

In this study the descriptive data includes the means, standard deviations, and standard errors of the mean for each factor. A one-way analysis of variance was used to determine if there were any significant differences between

the three groups in personality traits.¹

Descriptive statistics were computed for the three groups of coaches on the following items: age, undergraduate major, undergraduate minor, graduate major, graduate minor, graduate degrees, coaching experience, championships, and all-status players. These descriptive statistics are presented in Tables 5-13 (Appendix, pages 53-56).

¹The program BMDUOM*Library. BMD01V was used to compute the data.

CHAPTER IV

Analysis of Data and Findings

This study attempted to identify and compare the personality characteristics of highly successful, moderately successful, and unsuccessful high school basketball coaches. This chapter presents the results of the statistical analysis of the data obtained in the study. Each of the 20 factors measured is individually discussed in the presentation to follow. The statistical data for the results presented in this chapter for each factor are contained cumulatively in Table 1. The raw data for the entire project can be found in Tables 2 to 14 in the Appendix.

A. Results of the Analysis of Variance on the Twenty Factors

On Factor A, defined as being reserved vs. outgoing, the highly successful, moderately successful, and unsuccessful coaches had mean scores of 12.22, 10.61, and 10.15, respectively. They also had standard deviations of 2.58, 3.64, and 4.00 for Factor A. An F-ratio of 1.82 was computed to be insignificant at the .05 level.

In analyzing the results for Factor B, which measures

Table 1

Cumulative Results of Statistical Analysis

| Factor | Highly Successful | | | Moderately Successful | | | Unsuccessful | | | F-ratio |
|--------|-------------------|-------|-------|-----------------------|-------|-------|--------------|-------|-------|---------|
| | \bar{x} | s | s_x | \bar{x} | s | s_x | \bar{x} | s | s_x | |
| A | 12.22 | 2.58 | .55 | 10.61 | 3.64 | .86 | 10.25 | 4.00 | 1.16 | 1.82 |
| B | 7.72 | 2.29 | .48 | 8.16 | 1.24 | .29 | 8.75 | 2.34 | .68 | 1.02 |
| C | 15.95 | 4.32 | .92 | 15.61 | 4.40 | 1.04 | 17.00 | 3.24 | .94 | .42 |
| E | 14.00 | 4.12 | .88 | 12.78 | 3.81 | .90 | 13.75 | 4.99 | 1.44 | .44 |
| F | 14.72 | 4.61 | .98 | 15.61 | 4.06 | .96 | 12.58 | 4.34 | 1.25 | 1.76 |
| G | 14.27 | 3.13 | .66 | 14.72 | 3.02 | .71 | 14.75 | 2.83 | .82 | .14 |
| H | 16.59 | 6.24 | 1.33 | 15.38 | 4.60 | 1.08 | 13.42 | 5.70 | 1.64 | 1.24 |
| I | 9.59 | 3.58 | .76 | 9.56 | 3.66 | .86 | 8.92 | 2.35 | .68 | .18 |
| L | 7.00 | 2.94 | .62 | 6.66 | 2.78 | .66 | 6.92 | 3.20 | .92 | .06 |
| M | 12.18 | 3.02 | .64 | 13.38 | 2.97 | .70 | 11.66 | 2.77 | .80 | 1.42 |
| N | 10.72 | 3.34 | .78 | 8.78 | 3.02 | .71 | 8.83 | 1.70 | .48 | 2.74 |
| O | 7.77 | 3.28 | .70 | 8.72 | 3.51 | .82 | 9.58 | 2.50 | .72 | 1.29 |
| Q1 | 7.36 | 3.34 | .71 | 7.72 | 3.08 | .72 | 7.75 | 3.08 | .88 | .08 |
| Q2 | 8.22 | 2.70 | .58 | 9.83 | 3.12 | .74 | 9.25 | 4.16 | 1.20 | 1.26 |
| Q3 | 15.22 | 2.72 | .58 | 14.72 | 2.72 | .64 | 14.92 | 4.06 | 1.17 | .14 |
| Q4 | 10.72 | 6.16 | 1.32 | 10.50 | 3.50 | .82 | 10.92 | 6.10 | 1.76 | .02 |
| I | 49.59 | 21.07 | 4.49 | 50.38 | 19.10 | 4.50 | 50.00 | 18.48 | 5.34 | .00 |
| II | 65.82 | 22.28 | 4.75 | 59.61 | 22.20 | 5.23 | 52.75 | 28.72 | 8.29 | 1.19 |
| III | 52.09 | 19.52 | 4.16 | 50.56 | 14.43 | 3.40 | 54.33 | 10.59 | 3.06 | .20 |
| IV | 44.64 | 15.04 | 3.20 | 51.22 | 18.03 | 4.25 | 51.25 | 25.22 | 7.28 | .78 |

F of 3.20 required for significance at .05 level.

intelligence, the highly successful coaches had a mean score of 7.72 with a standard deviation of 2.29. The moderately successful group had a mean score of 8.16 and a standard deviation of 1.24, and the unsuccessful group had a mean score of 8.75 with a standard deviation of 2.34 on Factor B. An F-ratio of 1.02 was found to be insignificant at the .05 level.

Factor C measures the subject's emotional stability. The mean scores for the HS, MS, and US groups on Factor C were 15.95, 15.61, and 17.00, respectively. These groups were found to have the following standard deviations: HS 4.32, MS 4.40, and US 3.24. An F-ratio of 3.20 was required for significance at the .05 level; however, a value of .42 was computed. Therefore, Factor C was found to be insignificant in this study.

On Factor E, which evaluates a subject as being humble vs. assertive, the analysis of variance yielded an F-ratio of .44, insignificant at the .05 level. The HS group had a mean score of 14.00 with a standard deviation of 4.12. In comparison, the MS group showed a mean of 12.78 and a standard deviation of 3.81, while the US group had a mean score of 13.75 and a standard deviation of 4.99.

On Factor F there were no significant differences between any of the three groups tested. An F-ratio of 3.20 was required for significance and the actual F-ratio computed was 1.76. The mean scores and standard deviations for the respective coaches HS, MS, and US were 14.72, 4.61; 15.61, 4.06; and 12.58, 4.34, respectively. Factor F

measures a person's soberness vs. his happy-go-luckiness.

Factor G is defined as being expedient vs. conscientious. The results of the statistical analysis of Factor G were as follows: mean scores of HS, MS and US were 14.27, 14.72, 14.75; standard deviations for HS, MS, and US were 3.13, 3.02, 2.83; F-ratio for the groups was .14. The F-ratio was not statistically significant at the .05 level chosen for this study.

On Factor H, which measures a subject's shyness vs. venturesomeness, a comparison of the mean scores for HS, MS and US showed 16.59, 15.38, and 13.42, respectively. These same groups were found to have standard deviations of 6.24, 4.60, and 5.70. The analysis of variance showed an F-ratio of 1.24 to be insignificant at the .05 level.

Factor I evaluates a subject as being tough-minded vs. tender-minded. On Factor I the HS group had a mean score of 9.59 and a standard deviation of 3.58. The MS group had a mean score of 9.56 with a standard deviation of 3.66. The US group had a mean score of 8.92 and standard deviation of 2.35. An F-ratio of .18 was computed to be insignificant at the .05 level of significance.

On Factor L the subjects were evaluated as being trusting vs. suspicious. The HS, MS, and US groups had mean scores of 7.00, 6.66, and 6.92, respectively. They also had standard deviations of 2.94, 2.78, and 3.20 for Factor L. An F-ratio of .06 was computed for Factor L and this is not significant at the .05 level.

The analysis of variance for Factor M yielded an F-

ratio of 1.42. This was insignificant at the .05 level. The mean scores for the HS, MS, and US groups were 12.18, 13.38, and 11.66, respectively. The standard deviations for the same groups were 3.02, 2.97, and 2.77. Factor M is defined as being practical vs. imaginative.

Factor N is a measure of the subject being forthright vs. shrewd. Factor N also showed no significant difference between the groups. An F-ratio of 3.20 was required but only an F-ratio of 2.74 was computed for Factor N. The mean scores and standard deviations for the HS, MS, and US groups were 10.72, 3.34; 8.78, 3.02; and 8.83, 1.70, respectively.

The results for Factor O, which measures a subject's placidness vs. apprehensiveness, showed mean scores for the HS, MS, and US groups to be 7.77, 8.72, and 9.58, respectively. In comparison, the same groups had standard deviations of 3.28, 3.51, and 2.50. The analysis of variance for Factor O revealed an F-ratio of 1.29 to be insignificant at the .05 level of significance.

For Factor Q1 a subject is evaluated as being conservative vs. experimenting. The results on Factor Q1 for the HS, MS, and US groups showed means of 7.36, 7.72, and 7.75; and standard deviations of 3.34, 3.08, and 3.08. An F-ratio of .08 was insignificant at the .05 level.

Factor Q2 is defined as a subject being group dependent vs. self-sufficient. Factor Q2 revealed an insignificant F-ratio of 1.26 for the groups HS, MS, and US. Mean scores of 8.22, 9.83, and 9.25 were computed for the HS, MS, and US groups, with the corresponding standard deviations being

2.70, 3.12, and 4.16.

In analyzing the results for Factor Q3, which measures self-control, the mean scores and standard deviations for the HS, MS, and US groups are as follows: HS 15.22, 2.72; MS 14.72, 2.72; and US 14.92, 4.06. An F-ratio of .14 did not reach the 3.20 level of F required to be significant for the study.

On Factor Q4 the subject is measured as being relaxed vs. tense. The HS, MS, and US groups were computed to have mean scores of 10.72, 10.50, and 10.92, respectively. These same groups had standard deviations of 6.16, 3.50, and 6.10. The analysis of variance revealed an insignificant F-ratio of .02 at the .05 level of significance.

B. Second Order Factors

Factor I is the measure used to evaluate a subject's being low in anxiety vs. high in anxiety. The results for Second Order Factor I showed the HS, MS, and US groups to have mean scores of 49.59, 50.38, and 50.00. In addition, the HS, MS, and US groups had standard deviations of 21.06, 19.10, and 18.48, respectively. The F-ratio was computed as .00, insignificant at the .05 level of significance.

Factor II evaluates a subject's introversion vs. extroversion. Second Order Factor II was found to reveal no significant differences between HS, MS, and US groups. The mean scores and standard deviations for the respective groups were HS 65.82, 22.28; MS 59.61, 22.20; and US 52.75, 28.72.

The analysis of variance for Second Order Factor III, measuring tenderminded emotionality vs. alert poise, revealed an F-ratio of .20, far below the 3.20 required for significance at the .05 level. The mean scores for the HS, MS, and US groups were 52.09, 50.56, and 54.33, respectively. In addition, the standard deviations for the same groups were 19.52, 14.43, and 10.59, respectively.

The results for Second Order Factor IV for the HS, MS, and US groups were as follows: mean scores of 44.64, 51.22, and 51.25; standard deviations of 15.04, 18.03, and 25.22. The results of the analysis of variance yielded an insignificant F-ratio of .78. Factor IV measures a subject as being subdued vs. independent.

C. Summary of Findings and Discussion of Results

A one-way analysis of variance was computed for each factor to determine if there were any significant differences between the groups on any factor. There were no significant differences found on any of the 20 factors.

A number of studies presented indicated that coaches have salient personality characteristics and that the coaches' personalities affect philosophy of athletes which, in turn, reflects the type of team he produces. If this hypothesis were true, then it would seem possible that there would exist a significant difference between the personalities of successful and unsuccessful coaches. The results of this study do not support that hypothesis; instead, the find-

ings give evidence to the theory that the personality of the coach has no relation to his being successful. In comparing the personality factors of the highly successful coaches to the norm, the coaches scored close to the norm (within ± 1 S.D.) on intelligence, emotional stability, assertiveness, happy-go-lucky, conscientious, venturesome, toughmindedness, trust, practical, shrewd, self-assured, conservative, group dependence, and control. The highly successful coaches scored above the norm ($+ 1$ S.D.) on the factors outgoing and self-sufficient (Table 15, Appendix, p. 58).

Ogilvie and Tutko reported successful coaches to be emotionally stable and toughminded. However, the results of this study showed highly successful coaches scored close to the norm on toughmindedness and emotional stability. Ogilvie and Tutko did not provide a definition of success for their coaches, and they also tested coaches of different levels in different sports.

A number of other variables which the writer has become aware of during the course of the study might affect a coach's success. The physical ability of the players, the feeder system through which the coach secures his material, the teaching ability of the coach, the tradition of winning or losing at the school, are all examples of variables which may influence a coach's success.

CHAPTER V

Summary and Conclusions

A. Summary

The purpose of this study was to compare the personality traits of highly successful, moderately successful, and unsuccessful high school varsity basketball coaches.

The study was conducted during the spring semester of 1972. Fifty-two coaches from Baltimore, Anne Arundel, Prince Georges, and Montgomery Counties public schools were chosen to participate in the study. The Cattell Sixteen Personality Factor Questionnaire Form A was individually administered to each coach at his respective high school. In addition to the test, each coach was asked to complete a cumulative data questionnaire which included their cumulative coaching records.

The coaches were categorized into groups according to their winning percentage for the last three years of varsity coaching. To be highly successful, the winning percentage had to be .60 or greater, moderately successful was between .41 and .59, and unsuccessful was .40 or less. The number of subjects in each group was 22, 18, and 12, respectively.

The tests were hand-scored by the writer according to established procedures in the Cattell Sixteen Personality Factor Handbook.

The mean, standard deviation, and standard error of mean were computed for each factor. A one-way analysis of variance was also computed for each factor. There were no significant differences found on any of the 20 factors tested.

B. Conclusions

Within the limitations of this study, it would appear reasonable to conclude that there is no difference between the personalities of the highly successful, moderately successful, or the unsuccessful coach.

C. Recommendations for Further Study

In reviewing the literature on coaching success, speaking to coaches on the topic, and reflecting on my own experience, there appear to be a number of variables which can contribute to a winning record in coaching. This study has analyzed the personality differences between successful and unsuccessful coaches to determine the personality variables. A number of other variables, in addition to personality variables, need to be studied in order to gain a better understanding of the qualities necessary to be a winning coach. It is suggested by the writer that the following topics be used for further research into the reasons of coaching success:

1. A study is needed to analyze the physical attributes of the players in relation to winning percentage.
2. Research should examine the players' personalities as a group in relation to winning.
3. An analysis of the players' personalities, in relation to the coaches' personalities and winning, would be another area in need of study.
4. A study should be conducted to analyze such coaching techniques as practice distribution, scouting, research, experience, education, clinics attended, etc., and their relation to winning.

APPENDIX A

RAW FACTOR DATA FOR SUBJECTS

Table 2

RAW DATA FOR SUCCESSFUL COACHES

| Subject | Raw Score on Factors | | | | | | | | | | | | | | | | | | | Winning Percentage | |
|---------|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|--------------------|-------|
| | A | B | C | E | F | G | H | I | L | M | N | O | Q1 | Q2 | Q3 | Q4 | I | II | III | | IV |
| 1 | 8 | 11 | 10 | 15 | 15 | 14 | 3 | 10 | 10 | 11 | 9 | 5 | 12 | 8 | 15 | 23 | 86 | 39 | 81 | 63 | .8870 |
| 2 | 17 | 9 | 22 | 9 | 18 | 18 | 18 | 11 | 3 | 13 | 12 | 7 | 13 | 11 | 18 | 3 | 21 | 63 | 33 | 53 | .8710 |
| 3 | 14 | 7 | 17 | 9 | 7 | 17 | 19 | 14 | 6 | 17 | 11 | 7 | 5 | 11 | 16 | 0 | 24 | 48 | 19 | 36 | .8428 |
| 4 | 13 | 5 | 17 | 11 | 21 | 11 | 17 | 12 | 8 | 13 | 14 | 4 | 4 | 9 | 15 | 5 | 35 | 74 | 53 | 37 | .8387 |
| 5 | 10 | 7 | 21 | 17 | 17 | 13 | 23 | 10 | 9 | 15 | 9 | 6 | 14 | 8 | 18 | 6 | 30 | 88 | 65 | 80 | .8095 |
| 6 | 11 | 11 | 15 | 18 | 18 | 16 | 24 | 4 | 12 | 10 | 5 | 5 | 4 | 6 | 18 | 13 | 50 | 94 | 73 | 32 | .7812 |
| 7 | 12 | 8 | 15 | 14 | 19 | 20 | 16 | 7 | 9 | 12 | 10 | 8 | 5 | 10 | 19 | 14 | 55 | 71 | 59 | 34 | .7778 |
| 8 | 12 | 7 | 15 | 11 | 13 | 13 | 16 | 11 | 5 | 15 | 8 | 13 | 9 | 7 | 15 | 8 | 49 | 60 | 33 | 50 | .7759 |
| 9 | 14 | 12 | 11 | 20 | 11 | 15 | 19 | 9 | 7 | 10 | 7 | 7 | 7 | 9 | 15 | 6 | 44 | 73 | 65 | 48 | .7704 |
| 10 | 12 | 6 | 14 | 7 | 16 | 12 | 15 | 11 | 4 | 10 | 17 | 7 | 5 | 6 | 15 | 8 | 41 | 59 | 39 | 21 | .7500 |
| 11 | 15 | 11 | 22 | 13 | 16 | 8 | 19 | 9 | 4 | 10 | 9 | 2 | 7 | 5 | 15 | 5 | 22 | 78 | 49 | 31 | .7288 |
| 12 | 9 | 2 | 11 | 11 | 6 | 12 | 7 | 7 | 5 | 8 | 15 | 6 | 10 | 11 | 18 | 8 | 46 | 25 | 49 | 48 | .6857 |
| 13 | 12 | 9 | 13 | 16 | 18 | 14 | 23 | 7 | 6 | 11 | 11 | 7 | 2 | 5 | 8 | 14 | 58 | 81 | 59 | 26 | .6825 |
| 14 | 13 | 6 | 15 | 18 | 18 | 9 | 20 | 12 | 6 | 15 | 7 | 14 | 7 | 4 | 9 | 16 | 74 | 86 | 41 | 50 | .6667 |
| 15 | 17 | 6 | 22 | 14 | 19 | 11 | 22 | 17 | 8 | 18 | 10 | 5 | 4 | 5 | 13 | 8 | 36 | 93 | 17 | 30 | .6600 |
| 16 | 11 | 6 | 11 | 18 | 9 | 14 | 14 | 7 | 5 | 14 | 11 | 14 | 13 | 11 | 15 | 16 | 76 | 50 | 57 | 76 | .6571 |
| 17 | 11 | 8 | 22 | 22 | 16 | 18 | 25 | 1 | 8 | 9 | 7 | 11 | 6 | 7 | 16 | 15 | 46 | 97 | 97 | 47 | .6557 |
| 18 | 7 | 8 | 12 | 12 | 8 | 16 | 3 | 15 | 12 | 8 | 12 | 9 | 6 | 11 | 16 | 18 | 83 | 17 | 39 | 43 | .6500 |
| 19 | 15 | 7 | 13 | 14 | 16 | 18 | 15 | 12 | 8 | 9 | 11 | 10 | 7 | 9 | 13 | 12 | 60 | 69 | 41 | 38 | .6379 |
| 20 | 13 | 7 | 15 | 7 | 14 | 13 | 9 | 10 | 1 | 13 | 12 | 10 | 7 | 13 | 15 | 14 | 60 | 37 | 45 | 43 | .6333 |
| 21 | 13 | 8 | 14 | 18 | 21 | 14 | 17 | 8 | 12 | 17 | 10 | 10 | 5 | 11 | 15 | 21 | 80 | 81 | 57 | 59 | .6250 |
| 22 | 10 | 9 | 24 | 14 | 8 | 18 | 21 | 7 | 6 | 10 | 19 | 4 | 10 | 4 | 18 | 3 | 15 | 65 | 75 | 37 | .6102 |

Table 3

RAW DATA FOR MODERATELY SUCCESSFUL COACHES

| Subject | Raw Score on Factors | | | | | | | | | | | | | | | | Winning Percentage | | | | |
|---------|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------------------|-----|----|-----|-------|
| | A | B | C | E | F | G | H | I | L | M | N | O | Q1 | Q2 | Q3 | Q4 | | I | II | III | IV |
| 23 | 17 | 5 | 21 | 18 | 21 | 15 | 19 | 3 | 5 | 15 | 3 | 7 | 14 | 10 | 15 | 7 | 20 | 88 | 65 | 65 | .5926 |
| 24 | 12 | 6 | 13 | 11 | 17 | 18 | 19 | 12 | 10 | 9 | 10 | 13 | 6 | 7 | 14 | 9 | 59 | 73 | 35 | 24 | .5806 |
| 25 | 8 | 8 | 16 | 14 | 18 | 17 | 21 | 8 | 6 | 16 | 5 | 13 | 6 | 9 | 17 | 7 | 23 | 65 | 59 | 69 | .5666 |
| 26 | 10 | 8 | 14 | 12 | 13 | 15 | 17 | 9 | 6 | 19 | 10 | 6 | 8 | 14 | 16 | 11 | 50 | 49 | 45 | 72 | .5500 |
| 27 | 10 | 10 | 12 | 9 | 12 | 18 | 13 | 7 | 13 | 8 | 11 | 13 | 2 | 13 | 16 | 13 | 75 | 42 | 59 | 26 | .5472 |
| 28 | 9 | 10 | 16 | 8 | 17 | 11 | 17 | 13 | 6 | 15 | 9 | 6 | 7 | 6 | 10 | 15 | 58 | 60 | 37 | 38 | .5271 |
| 29 | 16 | 8 | 18 | 18 | 19 | 8 | 20 | 14 | 8 | 11 | 9 | 12 | 11 | 6 | 10 | 9 | 57 | 92 | 39 | 54 | .5263 |
| 30 | 9 | 8 | 14 | 14 | 16 | 14 | 14 | 12 | 4 | 12 | 4 | 12 | 7 | 11 | 17 | 13 | 61 | 54 | 41 | 62 | .5250 |
| 31 | 6 | 8 | 7 | 4 | 13 | 18 | 3 | 11 | 8 | 9 | 11 | 9 | 8 | 16 | 16 | 14 | 75 | 5 | 37 | 44 | .5166 |
| 32 | 12 | 8 | 15 | 16 | 11 | 14 | 12 | 8 | 3 | 10 | 10 | 9 | 4 | 8 | 13 | 10 | 63 | 52 | 55 | 32 | .4915 |
| 33 | 13 | 8 | 18 | 14 | 9 | 20 | 13 | 16 | 5 | 16 | 12 | 6 | 3 | 10 | 20 | 13 | 44 | 46 | 31 | 32 | .4666 |
| 34 | 16 | 8 | 17 | 17 | 23 | 13 | 23 | 6 | 5 | 14 | 4 | 3 | 9 | 14 | 16 | 13 | 26 | 112 | 57 | 45 | .4655 |
| 35 | 11 | 9 | 23 | 15 | 10 | 13 | 16 | 6 | 3 | 14 | 11 | 3 | 13 | 7 | 18 | 2 | 12 | 60 | 67 | 66 | .4482 |
| 36 | 13 | 9 | 19 | 11 | 22 | 13 | 14 | 13 | 9 | 13 | 9 | 9 | 7 | 6 | 15 | 9 | 41 | 73 | 43 | 35 | .4360 |
| 37 | 5 | 9 | 7 | 16 | 16 | 16 | 11 | 4 | 11 | 14 | 6 | 10 | 9 | 13 | 15 | 13 | 78 | 44 | 75 | 78 | .4333 |
| 38 | 11 | 9 | 12 | 9 | 17 | 17 | 12 | 13 | 4 | 16 | 10 | 13 | 9 | 7 | 12 | 10 | 63 | 53 | 31 | 43 | .4237 |
| 39 | 4 | 9 | 21 | 14 | 14 | 11 | 15 | 10 | 8 | 15 | 13 | 9 | 7 | 10 | 14 | 15 | 53 | 51 | 71 | 79 | .4166 |
| 40 | 9 | 7 | 18 | 10 | 13 | 14 | 18 | 7 | 6 | 15 | 11 | 4 | 9 | 10 | 11 | 6 | 39 | 54 | 63 | 58 | .4101 |

Table 4

RAW DATA FOR UNSUCCESSFUL COACHES

| Subject | Raw Score on Factors | | | | | | | | | | | | | | | | | | | Winning Percentage | |
|---------|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----------------------|-------|
| | A | B | C | E | F | G | H | I | L | M | N | O | Q1 | Q2 | Q3 | Q4 | I | II | III | | IV |
| 41 | 5 | 7 | 14 | 15 | 8 | 13 | 13 | 12 | 10 | 10 | 12 | 13 | 9 | 13 | 12 | 19 | 81 | 37 | 63 | 76 | .3888 |
| 42 | 8 | 8 | 19 | 23 | 17 | 15 | 21 | 10 | 2 | 8 | 6 | 10 | 6 | 9 | 19 | 15 | 42 | 85 | 75 | 61 | .3870 |
| 43 | 7 | 11 | 18 | 12 | 13 | 11 | 15 | 12 | 4 | 14 | 9 | 9 | 11 | 14 | 19 | 12 | 43 | 46 | 51 | 78 | .3728 |
| 44 | 7 | 8 | 16 | 13 | 8 | 14 | 12 | 8 | 8 | 15 | 8 | 11 | 6 | 10 | 15 | 10 | 44 | 33 | 55 | 59 | .3266 |
| 45 | 16 | 15 | 18 | 20 | 17 | 12 | 21 | 8 | 8 | 14 | 8 | 4 | 11 | 3 | 12 | 7 | 37 | 100 | 53 | 49 | .3050 |
| 46 | 12 | 9 | 23 | 9 | 13 | 15 | 13 | 6 | 4 | 12 | 10 | 6 | 12 | 5 | 7 | 3 | 28 | 54 | 63 | 48 | .2923 |
| 47 | 14 | 7 | 12 | 20 | 14 | 17 | 16 | 5 | 11 | 14 | 11 | 10 | 7 | 8 | 13 | 21 | 84 | 80 | 65 | 46 | .2857 |
| 48 | 12 | 8 | 16 | 9 | 9 | 20 | 11 | 10 | 4 | 6 | 8 | 11 | 3 | 10 | 19 | 3 | 36 | 30 | 39 | 13 | .2542 |
| 49 | 15 | 7 | 20 | 8 | 19 | 11 | 17 | 8 | 12 | 11 | 7 | 8 | 3 | 4 | 13 | 7 | 49 | 74 | 45 | 4 | .2106 |
| 50 | 5 | 10 | 19 | 15 | 12 | 14 | 6 | 12 | 9 | 14 | 8 | 11 | 7 | 14 | 18 | 8 | 38 | 29 | 53 | 84 | .2500 |
| 51 | 8 | 8 | 17 | 9 | 5 | 17 | 1 | 7 | 6 | 12 | 9 | 11 | 11 | 15 | 20 | 8 | 46 | 3 | 49 | 67 | .2000 |
| 52 | 14 | 7 | 12 | 12 | 16 | 18 | 15 | 9 | 5 | 10 | 10 | 11 | 7 | 6 | 12 | 18 | 72 | 68 | 41 | 30 | .1750 |

APPENDIX B

DESCRIPTIVE STATISTICS

Table 5
Age (years)

| | Highly Successful | Moderately Successful | Unsuccessful |
|-----------|----------------------|--------------------------|--------------|
| \bar{x} | 37.0 | 35.5 | 33.3 |

Table 6
Undergraduate Major*

| Major Subject | Highly Successful | | Moderately Successful | | Unsuccessful | |
|------------------|----------------------|-----|--------------------------|----|--------------|----|
| | No. | % | No. | % | No. | % |
| P.E. | 19 | 86 | 16 | 72 | 7 | 5 |
| Math | 1 | 4.5 | | | 1 | 9 |
| Health | 1 | 4.5 | 1 | 7 | | |
| Bus. Admin. | 1 | 4.5 | | | | |
| Psychology | 1 | 4.5 | | | | |
| Education | 1 | 4.5 | | | | |
| English | | | | | | |
| Social Studies | | | 2 | 14 | 1 | 9 |
| History | | | | | | |
| Speech | | | 1 | 7 | 3 | 27 |

*A number of subjects had undergraduate majors in more than one area.

Table 7
Undergraduate Minor

| Minor Subject | Highly Successful | | Moderately Successful | | Unsuccessful | |
|----------------|-------------------|------|-----------------------|----|--------------|----|
| | No. | % | No. | % | No. | % |
| Literature | | | | | 1 | 9 |
| Physics | | | | | 1 | 9 |
| Sociology | | | 1 | 6 | | |
| Psychology | 1 | 4.5 | | | | |
| Social Studies | 5 | 22.5 | 2 | 12 | 1 | 9 |
| Health | 1 | 4.5 | 2 | 12 | 1 | 9 |
| History | 2 | 9 | 1 | 6 | | |
| English | 1 | 4.5 | 2 | 12 | | |
| Drivers Ed. | 3 | 13.5 | 2 | 12 | | |
| Biology | 2 | 9 | 1 | 6 | 3 | 27 |
| Science | 3 | 13.5 | 1 | 6 | | |
| Earth Science | 1 | 4.5 | | | | |
| Education | 1 | 4.5 | | | 1 | 9 |
| P. E. | 1 | 4.5 | | | | |
| Math | 1 | 4.5 | 1 | 6 | | |

Table 8
Graduate Major

| Major Subject | Highly Successful | | Moderately Successful | | Unsuccessful | |
|----------------|-------------------|------|-----------------------|----|--------------|----|
| | No. | % | No. | % | No. | % |
| P.E. | 6 | 27 | 5 | 30 | 3 | 27 |
| Education | 7 | 31.5 | 5 | 30 | 4 | 36 |
| Science | 1 | 4.5 | | | | |
| Administration | 2 | 9.0 | 2 | 12 | | |
| History | | | 1 | 6 | 1 | 9 |
| Secondary Ed. | | | 1 | 6 | 1 | 9 |
| Guidance | | | | | | |

Table 9
Graduate Minors

| Minor Subject | Highly Successful | | Moderately Successful | | Unsuccessful | |
|----------------|-------------------|------|-----------------------|----|--------------|---|
| | No. | % | No. | % | No. | % |
| Education | 3 | 13.5 | 1 | 6 | | |
| P. E. | 2 | 9 | 2 | 12 | 1 | 9 |
| Biology | 1 | 4.5 | | | | |
| Geography | 1 | 4.5 | | | | |
| Health | | | 1 | 6 | | |
| Economics | | | 1 | 6 | | |
| Administration | | | 1 | 6 | | |
| Secondary Ed. | | | 1 | 6 | | |
| Math | | | | | 1 | 9 |

Table 10
Graduate Degrees

| Degree Title | Highly Successful | | Moderately Successful | | Unsuccessful | |
|--------------------------------|-------------------|------|-----------------------|----|--------------|----|
| | No. | % | No. | % | No. | % |
| E.Q. (Equivalency) | 3 | 9 | 3 | 18 | 3 | 27 |
| M.S. (Master of Science) | 2 | 13.5 | 1 | 6 | | |
| M.Ed. (Master of Education) | 7 | 31.5 | 7 | 42 | 4 | 36 |
| M.A. (Master of Arts) | 4 | 18 | 4 | 24 | 1 | 9 |
| M.A.T. | | | | | 1 | 9 |

Table 11
Coaching Experience (mean years)

| Level | Highly Successful | Moderately Successful | Unsuccessful |
|----------------|-------------------|-----------------------|--------------|
| | \bar{X} | \bar{X} | \bar{X} |
| Junior High | 1.04 | 1.4 | .83 |
| Junior Varsity | 1.9 | .94 | 1.3 |
| Varsity | 8.2 | 7.1 | 6.8 |
| Total | 10.6 | 9.4 | 8.0 |

Table 12
Championships

| Type | Highly Successful | | Moderately Successful | | Unsuccessful | |
|----------|-------------------|-----------|-----------------------|-----------|--------------|-----------|
| | No. | \bar{X} | No. | \bar{X} | No. | \bar{X} |
| Division | 32 | 1.45 | 11 | .61 | 3 | .25 |
| County | 63 | 2.86 | 17 | .94 | 5 | .43 |
| District | 59 | 2.68 | 7 | .38 | 3 | .25 |
| State | 26 | 1.17 | | | | |

Table 13
All Status Players

| | Highly Successful | Moderately Successful | Unsuccessful |
|-----------|-------------------|-----------------------|--------------|
| Total | 125 | 56 | 17 |
| \bar{X} | 5.6 | 2.8 | 1.4 |

APPENDIX C

RELIABILITIES AND VALIDITIES FOR CATTELL
SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE
FORM A

Table 14

Reliabilities and Validities for Cattell Sixteen Personality Factor Questionnaire Form A
Primary Source Traits

| Factor | A | B | C | E | F | G | H | I | L | M | N | O | Q1 | Q2 | Q3 | Q4 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Reliability | .81 | .58 | .78 | .80 | .79 | .81 | .83 | .77 | .75 | .70 | .61 | .79 | .73 | .73 | .62 | .81 |
| Validity | .79 | .35 | .70 | .63 | .83 | .67 | .92 | .70 | .49 | .44 | .41 | .71 | .62 | .70 | .68 | .57 |

Source: Raymond Cattell, Handbook for the Sixteen Personality Factor Questionnaire,
IPAT, 1970, p. 36.

Table 15

Comparative Statistics of Highly Successful Coaches to Norm

| Factors | A | B | C | E | F | G | H | I | L | M | N | O | Q1 | Q2 | Q3 | Q4 |
|--|------|-----|------|------|------|------|------|-----|-----|------|------|-----|-----|-----|------|------|
| Norm (\bar{X}) | 8.9 | 6.9 | 16.8 | 13.0 | 13.6 | 13.2 | 14.8 | 9.4 | 8.0 | 12.0 | 10.8 | 9.6 | 8.7 | 8.2 | 11.8 | 10.8 |
| Norm (s.d.) | 2.8 | 2.0 | 5.0 | 3.6 | 4.2 | 3.2 | 5.6 | 3.2 | 3.0 | 3.9 | 2.8 | 5.2 | 2.9 | 3.3 | 3.4 | 5.4 |
| Highly Successful Coaches (\bar{X}) | 12.2 | 7.7 | 15.6 | 14.0 | 14.7 | 14.2 | 16.6 | 9.6 | 7.0 | 12.2 | 10.7 | 7.7 | 7.4 | 8.2 | 15.2 | 10.7 |
| Highly Successful Coaches (s.d.) | 2.6 | 2.2 | 4.3 | 4.1 | 4.6 | 3.1 | 6.2 | 3.6 | 2.9 | 3.0 | 3.3 | 3.2 | 3.3 | 2.7 | 2.7 | 6.2 |

Source: Tabular Supplement No. 1 to the 16 PF Handbook, IPAT, p. 18.

APPENDIX D

CONVERSION FORMULA FOR SECOND-ORDER FACTORS

SECOND ORDER FACTORSFactor I: Anxiety

| | |
|------------------------------------|-----|
| Take constant | =38 |
| Add 2 times sten on Factor L | = |
| Add 3 times sten on Factor O | = |
| Add 4 times sten on Factor Q4 | = |
| Sub total | = |
| Subtract 2 times sten on Factor C | = |
| Subtract 2 times sten on Factor H | = |
| Subtract 2 times sten on Factor Q3 | = |
| Total | = |

Divide total by 10 to give approximate sten score for anxiety = _____

Factor II: Extroversion

| | |
|------------------------------------|-------|
| Take 2 times sten on Factor A | = |
| Add 3 times sten on Factor E | = |
| Add 4 times sten on Factor F | = |
| Add 5 times sten on Factor H | = |
| Sub total | = |
| Subtract 2 times sten on Factor Q2 | = |
| Subtract constant, always 11 | = -11 |
| Total | = |

Divide total by 10 to give approximate sten score for extroversion = _____

Factor III: Alert Poise

| | |
|-----------------------------------|-----|
| Take constant | =77 |
| Add 2 times sten on Factor C | = |
| Add 2 times sten on Factor E | = |
| Add 2 times sten on Factor F | = |
| Add 2 times sten on Factor N | = |
| Sub total | = |
| Subtract 4 times sten on Factor A | = |
| Subtract 6 times sten on Factor I | = |
| Subtract 2 times sten on Factor M | = |
| Total | = |

Divide total by 10 to give approximate sten score for alert poise = _____

Factor IV: Independence

| | |
|-----------------------------------|---------|
| Take 4 times sten on Factor E | = _____ |
| Add 3 times sten on Factor M | = _____ |
| Add 4 times sten on Factor Q1 | = _____ |
| Add 4 times sten on Factor Q2 | = _____ |
| Sub total | = _____ |
| Subtract 3 times sten on Factor A | = _____ |
| Subtract 2 times sten on Factor G | = _____ |
| Total | = _____ |

Divide total by 10 to give approximate
sten score for independence = _____

APPENDIX E

LETTERS TO COACHES

Mickey McCarthy
207 G Rock Glen Road
Baltimore, Md. 21229
Phone: 644-7024

March 6, 1972

Dear Coach _____

My name is Mickey McCarthy and I am a graduate assistant pursuing the Master of Arts degree in Physical Education at the University of Maryland. In completing the requirements for the degree I am writing a thesis dealing with the characteristics of varsity high school basketball coaches. I am writing this letter to ask you to participate in my study.

In general, I will administer each coach a 30 minute questionnaire, at the high school, during a break in your schedule, and this will be the extent of your personal involvement. All coaches participating will remain anonymous in the study. When all data is tabulated I will inform each coach of the results of the study.

In the next several days I will call you to set up a date and time for us to get together, if you should choose to participate.

Thank you for the consideration of this very important project in my professional career.

Sincerely,

Mickey McCarthy

MM/nm

Eugene F. McCarthy, Jr.
207 G Rock Glen Road
Baltimore, Maryland 21229

Dear Coach _____

Thank you for participating in my study. Without the unselfish devotion of time and energy by each coach, this project would not have been possible, and I will be always grateful for the help you have given me.

Sincerely,

Eugene F. McCarthy, Jr.

EFM/nzm

APPENDIX F

CUMULATIVE DATA QUESTIONNAIRE

CUMULATIVE DATA QUESTIONNAIRE

DATE:

1. Name of Coach: _____
2. Present High School: _____
3. Undergraduate Major: _____ Minor: _____
4. College Graduated From: _____
5. Graduate Degree(s): _____ Major: _____
Minor: _____
6. Number of years' experience as a varsity high school
basketball coach _____

APPENDIX G

Interpretation of the Scores on the Sixteen
Primary Factors and Four Second-Order
Factors

Interpretation of the Scores on the Sixteen
Primary Factors and Four Second-Order
Factors

FACTOR A

Low Score Direction

Reserved, Detached, Critical, Cool (Sizothymia,
previously Schizothymia)

The person who scores low (sten of 1 to 3) on Factor A tends to be stiff, cool, skeptical, and aloof. He likes things rather than people, working alone, and avoiding compromises of viewpoints. He is likely to be precise and "rigid" in his way of doing things and in personal standards, and in many occupations these are desirable traits. He may tend, at times, to be critical, obstructive, or hard.

High Score Direction

Outgoing, Warmhearted, Easy-going, Participating
(Affectothymia, previously Cyclothymia)

The person who scores high (sten of 8 to 10) on Factor

A tends to be goodnatured, easy-going, emotionally expressive (hence naturally Affectothymia), ready to cooperate, attentive to people, softhearted, kindly, adaptable. He likes occupations dealing with people and socially-impressive situations. He readily forms active groups. He is generous in personal relations, less afraid of criticism, better able to remember names of people.

FACTOR B

Low Score Direction

Less Intelligent, Concrete-thinking (Lower scholastic mental capacity)

The person scoring low in Factor B tends to be slow to learn and grasp, dull, given to concrete and literal interpretation. His dullness may be simply a reflection of low intelligence, or it may represent poor functioning due to psychopathology.

High Score Direction

More Intelligent, Abstract-thinking, Bright (Higher scholastic mental capacity)

The person who scores high on Factor B tends to be quick to grasp ideas, a fast learner, intelligent. There is some correlation with level of culture, and some with alertness. High scores contradict deterioration of mental functions in pathological conditions.

FACTOR C

Low Score Direction

Affected by Feelings, Emotionally Less Stable, Easily Upset (Lower ego strength)

The person who scores low on Factor C tends to be low in frustration tolerance for unsatisfactory conditions, changeable and plastic, evading necessary reality demands, neurotically fatigued, fretful, easily emotional and

annoyed, active in dissatisfaction, having neurotic symptoms (phobias, sleep disturbances, psychosomatic complaints, etc.). Low Factor C score is common to almost all forms of neurotic and psychotic disorders.

High Score Direction
Emotionally Stable, Faces Reality, Calm, Mature
(Higher ego strength)

The person who scores high on Factor C tends to be emotionally mature, stable, realistic about life, unruffled, possessing ego strength, better able to maintain solid group morale. Sometimes he may be a person making a resigned adjustment to unsolved emotional problems.

FACTOR E
Low Score Direction
Humble, mild, Accommodating, Conforming (Submissiveness)

The person who scores low on Factor E tends to give way to others, to be docile, and to conform. He is often dependent, confessing, anxious for obsessional correctness. This passivity is part of many neurotic syndromes.

High Score Direction
Assertive, Independent, Aggressive, Stubborn
(Dominance)

The person who scores high on Factor E is assertive, self-assured, and independent-minded. He tends to be austere, a law to himself, hostile or extrapunitive, authoritarian (managing others), and disregards authority.

FACTOR F
Low Score Direction
Sober, Prudent, Serious, Taciturn (Desurgency)

The person who scores low on Factor F tends to be restrained, reticent, introspective. He is sometimes dour,

pessimistic, unduly deliberate, and considered smug and primly correct by observers. He tends to be a sober, dependable person.

High Score Direction
Happy-go-lucky, Impulsively Lively, Gay, Enthusiastic (Surgency)

The person who scores high on this trait tends to be cheerful, active, talkative, frank, expressive, effervescent, carefree. He is frequently chosen as an elected leader. He may be impulsive and mercurial.

FACTOR G
Low Score Direction
Expedient, Evades Rules, Feels Few Obligations
(Weaker super-ego strength)

The person who scores low on Factor G tends to be unsteady in purpose. He is often casual and lacking in effort for group undertakings and cultural demands. His freedom from group influence may lead to anti-social acts, but at times makes him more effective, while his refusal to be bound by rules causes him to have less somatic upset from stress.

High Score Direction
Conscientious, Persevering, Staid, Rulebound
(Stronger super-ego strength)

The person who scores high on Factor G tends to be exacting in character, dominated by sense of duty, persevering, responsible, planful, "fills the unforgiving minute." He is usually conscientious and moralistic, and he prefers hard-working people to witty companions. The inner "categorical imperative" of this essential super-ego (in the psychoanalytic sense) should be distinguished from

the superficially similar "social ideal self" of Q₃+

FACTOR H

Low Score Direction

Shy, Restrained, Diffident, Timid (Threctia)

The person who scores low on this trait tends to be shy, withdrawing, cautious, retiring, a "wallflower." He usually has inferiority feelings. He tends to be slow and impeded in speech and in expressing himself, dislikes occupations with personal contacts, prefers one or two close friends to large groups, and is not given to keeping in contact with all that is going on around him.

High Score Direction

Venturesome, Socially-bold, Unhibited, Spontaneous (Parmia)

The person who scores high on Factor H is sociable, bold, ready to try new things, spontaneous, and abundant in emotional response. His "thick-skinnedness" enables him to fact wear and tear in dealing with people and grueling emotional situations, without fatigue. However, he can be careless of detail, ignore danger signals, and consume much time talking. He tends to be "pushy" and actively interested in the opposite sex.

FACTOR I

Low Score Direction

Tough-minded, Self-reliant, Realistic, No-nonsense (Harria)

The person who scores low on Factor I tends to be practical, realistic, masculine, independent, responsible, but skeptical of subjective, cultural elaborations. He is sometimes unmoved, hard, cynical, smug. He tends to keep a group operating on a practical and realistic "no-nonsense" basis.

High Score Direction
Tender-minded, Dependent, Overprotected, Sensitive
(Premsia)

The person who scores high on Factor I tends to be tender-minded, day-dreaming, artistic, fastidious, feminine. He is sometimes demanding of attention and help, impatient, dependent, impractical. He dislikes crude people and rough occupations. He tends to slow up group performance, and to upset group morale by unrealistic fussiness.

FACTOR L
Low Score Direction
Trusting, Adaptable, Free of Jealousy, Easy to get
on with (Alaxia)

The person who scores low on Factor L tends to be free of jealous tendencies, adaptable, cheerful, uncompetitive, concerned about other people, a good team worker.

High Score Direction
Suspicious, Self-opinionated, Hard to Fool
(Protension)

The person who scores high on Factor L tends to be mistrusting and doubtful. He is often involved in his own ego, is self-opinionated, and interested in internal, mental life. He is usually deliberate in his actions, unconcerned about other people, a poor team member. (This factor is not necessarily paranoia. In fact, the data on paranoid schizophrenics are not clear as to typical Factor L value to be expected.)

FACTOR M
Low Score Direction
Practical, Careful, Conventional, Regulated by
External Realities, Proper (Praxernia)

The person who scores low on Factor M tends to be anxious to do the right things, attentive to practical mat-

ters and subject to the dictation of what is obviously possible. He is concerned over detail, able to keep his head in emergencies, but sometimes unimaginative.

High Score Direction
Imaginative, Wrapped up in Inner Urgencies, Careless of Practical Matters, Bohemian (Autia)

The person who scores high on Factor M tends to be unconventional, unconcerned over everyday matters, Bohemian, self-motivated, imaginatively-creative, concerned with "essentials," and oblivious of particular people and physical realities. His inner-directed interests sometimes lead to unrealistic situations accompanied by expressive outbursts. His individuality tends to cause him to be rejected in group activities.

FACTOR N
Low Score Direction
Forthright, Natural, Artless, Sentimental
(Artlessness)

The person who scores low on Factor N tends to be unsophisticated, sentimental, and simple. He is sometimes crude and awkward, but easily pleased and content with what comes, and is natural and spontaneous.

High Score Direction
Shrewd, Calculating, Worldly, Penetrating (Shrewdness)

The person who scores high on Factor N tends to be polished, experienced worldly, shrewd. He is often hard-headed and analytical. He has an intellectual, unsentimental approach to situations, an approach akin to cynicism.

FACTOR 0

Low Score Direction

Placid, Self-assured, Confident, Serene (Untroubled adequacy)

The person who scores low on Factor 0 tends to be placid, with unshakable nerve. He has a mature, unanxious confidence in himself and his capacity to deal with things. He is resilient and secure, but to the point of being insensitive when a group is not going along with him, so that he may evoke antipathies and distrust.

High Score Direction

Apprehensive, Worrying, Depressive, Troubled (Guilt proneness)

The person who scores high on Factor 0 tends to be depressed, moody, a worrier, full of foreboding, and brooding. He has a childlike tendency to anxiety in difficulties. He does not feel accepted in groups or free to participate. High Factor 0 score is very common in clinical groups of all types.

FACTOR Q1

Low Score Direction

Conservative, Respecting Established Ideas, Tolerant of Traditional Difficulties (Conservatism)

The person who scores low on Factor Q1 is confident in what he has been taught to believe, and accepts the "tried and true," despite inconsistencies, when something else might be better. He is cautious and compromising in regard to new ideas. Thus, he tends to oppose and postpone change, is inclined to go along with tradition, is more conservative in religion and politics, and tends not to be interested in analytical "intellectual" thought.

High Score Direction
 Experimenting, Critical, Liberal, Analytical,
 Free-thinking (Radicalism)

The person who scores high on Factor Q1 tends to be interested in intellectual matters and has doubts on fundamental issues. He is skeptical and inquiring regarding ideas, either old or new. He tends to be more well informed, less inclined to moralize, more inclined to experiment in life generally, and more tolerant of inconvenience and change.

FACTOR Q2
 Low Score Direction
 Group-dependent, A "Joiner" and Sound Follower
 (Group adherence)

The person who scores low on Factor Q2 prefers to work and make decisions with other people, likes and depends on social approval and admiration. He tends to go along with the group and may be lacking in individual resolution. He is not necessarily gregarious by choice; rather he needs group support.

High Score Direction
 Self-sufficient, Prefers Own Decisions, Resourceful
 (Self-sufficiency)

The person who scores high on Factor Q2 is temperamentally independent, accustomed to going his own way, making decisions and taking action on his own. He discounts public opinion, but is not necessarily dominant in his relations with others (see Factor E). He does not dislike people, but simply does not need their agreement or support.

FACTOR Q3
Low Score Direction

Undisciplined Self-conflict, Careless of Protocol,
Follows Own Urges (Low integration)

The person who scores low on Factor Q3 will not be bothered with will control and regard for social demands. He is not overly considerate, careful, or painstaking. He may feel maladjusted, and many maladjustments (especially the affective but not the paranoid) show Q3.

High Score Direction
Controlled, Socially-precise, Following Self-image
(High self-concept control)

The person who scores high on Factor Q3 tends to have strong control of his emotions and general behavior, is inclined to be socially aware and careful, and evidences what is commonly termed "self-respect" and regard for social reputation. He sometimes tends, however, to be obstinate. Effective leaders and some paranoids are high on Q3.

FACTOR Q4
Low Score Direction
Relaxed, Tranquil, Torpid, Unfrustrated (Low
ergic tension)

The person who scores low on Factor Q4 tends to be sedate, relaxed, composed, and satisfied (not frustrated). In some situations, his oversatisfaction can lead to laziness and low performance, in the sense that low motivation produces little trial and error. Conversely, high tension level may disrupt school and work performance.

High Score Direction
Tense, Frustrated, Driven, Overwrought (High ergic
tension)

The person who scores high on Factor Q4 tends to be tense, excitable, restless, fretful, impatient. He is

often fatigued, but unable to remain inactive. In groups he takes a poor view of the degree of unity, orderliness, and leadership. His frustration represents an excess of stimulated, but undischarged, drive.

FACTOR I

Low Score Direction

Low Anxiety (Adjustment)

The person who scores low on this factor tends to be one whose life is generally satisfying and one who is able to achieve those things that seem to him to be important. However, an extremely low score can mean lack of motivation for difficult tasks, as is generally known in studies relating anxiety to achievement.

High Score Direction

High Anxiety

The person who scores high on this factor is high on anxiety as it is commonly understood. He need not be neurotic, since anxiety could be situational, but it is probable that he has some maladjustment, i.e., he is dissatisfied with the degree to which he is able to meet the demands of life and to achieve what he desires. Very high anxiety is generally disruptive of performance and productive of physical disturbances.

FACTOR II

Low Score Direction

Introversian

The person who scores low on Factor II tends to be shy, self-sufficient, and inhibited in interpersonal contacts. This can be either a favorable or unfavorable finding, depending upon the particular situation in which the

person is expected to function; e.g., introversion is a favorable predictor of precision workmanship.

High Score Direction

Extroversion

The person who scores high on this factor is a socially outgoing, uninhibited person, good at making and maintaining interpersonal contacts. This can be very favorable in situations that call for this type of temperament, e.g., salesmanship, but should not be considered necessarily favorable as a general predictor, e.g., of scholastic achievement.

FACTOR III

Low Score Direction

Tenderminded Emotionality

The person who scores low on Factor III is likely to be troubled by pervasive emotionality, and may be of a discouraged, frustrated type. He is, however, sensitive to the subtleties of life, likely to be artistic and rather gentle. If he has problems they often involve too much thought and consideration before action is taken.

High Score Direction

Alert, Poised

The person who scores high on this factor is likely to be an enterprising, decisive, and resilient personality. However, he is likely to miss the subtle relationships of life, and to orient his behavior too much toward the obvious. If he has difficulties, they are likely to involve rapid action with insufficient consideration and thought.

FACTOR IV

Low Score Direction

Subduedness

The person who scores low on Factor IV is a group-

dependent, chastened, passive personality. He is likely to desire and need support from other persons, and likely to orient his behavior toward persons who give such support.

High Score Direction
Independence

The person who scores high on this factor tends to be an aggressive, independent, daring, incisive person. He will seek those situations where such behavior is at least tolerated and possibly rewarded, and is likely to exhibit considerable initiative.

Source: Raymond B. Cattell, Manual for the Sixteen Personality Factor Questionnaire, IPAT, 1957.

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