

**THE RELATIONSHIP BETWEEN DEPENDENCY,
SPORT PARTICIPATION, AND GENDER
IN COLLEGE ATHLETICS**

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DEPENDENCY AND SPORT
PARTICIPATION, CATEGORY OF
SPORT, AND GENDER
IN COLLEGE ATHLETICS**

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Abstract

This study investigated the relationship between the personality trait of dependency, including the related construct of locus of control, and sport participation of male and female athletes. The student athletes consisted of 68 females and 95 males from both team and individual sports. Data were collected by means of the dependency scores on the Personality Factory Questionnaire (16PF) and Rotter's Locus of Control instrument. The total sample of athletes was not found to be different from non athletes in dependency, but male athletes were less dependent than male non athletes. Female basketball athletes were more dependent than female volleyball athletes. In addition, athletes were significantly more external on locus of control than non athletes. No meaningful relationship was found between dependency and locus of control.

Research focusing on personality differences between athletes and non athletes has resulted in discrepant and unclear results. Franke (1985) found that personality traits of high level sportsmen were no different from the general population. On the other hand, a number of studies have reported that athletes were significantly different in personality from non athletes (Yeater, 1977; Kirkcaldy, 1982). Morgan (1980) concluded that athletes did differ from non athletes on a variety of psychological traits and these differences were most salient when the elite performer was considered. Overall, the majority of literature does suggest the existence of personality differences between athletes and non athletes, although those differences appear to be related to differing methodologies and definitions.

One of the factors least controlled for in sport personality research has been whether the sample was composed of team or individual sport athletes (Kirkcaldy, 1982). The research reported in that area was once again mixed and inconclusive. While some researchers failed to find differences between the two groups, the majority suggest that personality differences do exist between group and individual sport athletes (Cratty, 1973; Mercenaro, 1979; Schurr, Ashley, and Joy, 1977).

The present study is concerned with the construct of dependency among college athletes. The research on dependency is rather extensive. The primary conceptual dilemma which seems to permeate the literature on dependency is the ambiguous nature of the term itself. Dependence has been called different things by different people.

Bowen referred to a dependent person as being fused or undifferentiated while Minuchin termed the same dependent condition as enmeshment (Nichols, 1984). The Diagnostic and Statistical Manual of Mental Disorder (DSM III-R) (1987) states:

the essential feature is a personality disorder in which the individual passively allows others to assume responsibility for major areas of his or her life because of a lack of self confidence and an inability to function independently; the individual subordinates his or her own needs to those of others to whom he or she is dependent in order to avoid any possibility of having to be self reliant (p. 325).

This clinical definition is typically deceptive in its simplicity and lack of preciseness. While all people are dependent in varying degrees in many things, the degree and duration of dependency determines its effect on our lives. Gould and Kolb (1964) stated that dependent behavior is considered abnormal when it is the dominant technique of adjustment throughout life.

Within athletics, dependence may be fostered more than within the non athletic world. What may be considered normal amounts of dependency within the context of sport may be considered abnormal anywhere else. Psychiatrist David Marcotte stated that sports encourage dependency from the time an athlete leaves home until he finishes his playing career (Ryan, Ogilvie, Morgan, Pierce, and Marcotte, 1981). The possibilities exist that the highly controlled environment of sport attracts dependent people and continues to foster dependent behavior (Franke, 1985). The problem of the present study was to explore the construct of dependence within college athletes. It was designed to investigate the relationship between dependence and an athlete's sex, category of sport (team versus individual), and specific type of sport.

The following null hypotheses were tested:

Ho1: There is no relationship between dependence and athlete/non-athlete status.

Ho2: There is no relationship between dependency and category of sport played.

Ho3: There is no relationship between dependency and specific sport participation.

Ho4: There are no relationships among sex of athlete, category of sport, and dependency.

Hypotheses 2 and 3 were tested separately for male and female athletes.

Instrumentation

The construct of dependence was measured in two separate ways. The first measure used was the second order factor for dependence/independence obtained from the Sixteen personality Factor Test (16PF) developed by (Cattell, Eber, and Tatsuoka, 1970). The 16PF has been researched extensively and is considered one of the best personality inventories available today (Karszon and O'Dell, 1976). Bolton (1978) reported that the norms, reliability, and established criterion relationships are generally good. Schurr et al., (1977) emphasized the importance of second order factors of the 16PF.

Cattell's second order factor for dependency is a multivariate construct consisting of the traits humility, trust, practicality, conservatism, and group dependence (Cattell et al., 1970). The 16PF is an inventory of 16 scales designed to assess a variety of primary source traits fundamental to normal personality functioning. In addition, five major second-order factors are derived from various combinations of primary source traits. The second-order factors provide a useful way to summarize relationships between

traits (Karson and O'Dell, 1976), and substantial support has been found for these factors (Bolton, 1978). Five forms of the 16PF are available with each providing the same basic 16 scores. Forms C and D are most used by adults. Form C was used in the present study.

The second measure of dependence used was the score obtained on Rotter's Internal-External Locus of Control Scale (Rotter, 1966). The Rotter scales consists of a 29-item, forced choice test which includes six filler items intended to make the purpose of the test more ambiguous. The items deal exclusively with the subject's belief about the nature of the world. Specifically, the test measures expectance of reinforcement. Some methodological problems within the instrument do exist, but the scale is still recommended as a valid measure of Internal-External control expectancy (Robinson and Shaver, 1973).

Locus of control was used as a measure of dependency in this study because the theoretical definition of dependency previously stated dependent behavior as that in which a person allows others to take responsibility because of an inability to function independently. A person who perceives that he or she can function in an independent, autonomous manner is demonstrating an internal locus of control while a person who feels unable to be reinforced, or to function independently, demonstrates a more external locus of control (Rotter, 1966). Tripathi (1983) concluded that the externally controlled, highly approval-motivated subjects in his study were more dependent than low approval-oriented, internally controlled subjects. Krug (1981) stated that individuals who scored high (toward independence) on the second order dependence-independence factor of the 16PF tended to show an internal, rather than external, locus of control. Conversely, those scoring low on the second order factor should demonstrate a more external locus of control.

Subjects

The sample of the study consisted of 163 (n = 68 females and 95 males) student athletes in a Division I university athletic program in the Rocky Mountain region. They were selected from the following groups: male team sports of football, basketball, and baseball; male individual sports of track, skiing, golf, and swimming; female team sports of basketball and volleyball; and female individual sports of track, skiing, golf, and swimming. Using stratified sampling procedures outlined by Gay (1981), an equivalent number of student athletes was chosen from each of the sports that comprised the specific category (team vs. individual).

Procedures

Coaches of each sport were contacted to request permission to use members of their specific program for the study. All members of each program were then informed that the purpose of the study was to compare characteristics of team and individual sport athletes and everyone had the right to refuse participation.

Subjects were chosen by using a table of random numbers for sports consisting of more student athletes than needed (football, track, and baseball) while entire teams were tested in sports comprised of fewer participants in order to obtain the needed quota. Each participant was given the opportunity to be informed of his/her specific test results following the testing session. The sample sizes for each cell varied due to the fluctuating number of athletes available in each category.

The distribution was as follows:

1. Male team athlete: n=49; football 20; basketball 13; baseball 16.
2. Male individual sport athletes: n=46; track 15; skiing 10; golf 5; and swimming 16.
3. Female team athletes: n=25; basketball 15; volleyball 10.
4. Female individual sport athletes: n=43; track 14; skiing 10; swimming 14; golf 5.

The relationship between the dependents measures and athlete/non-athlete status were tested using t-tests for independent samples. Two-way factorial analysis of variance was used to test the relationships among the independent variables of gender and category of sport and the dependent measure of dependence. In addition, the relationship between the two measures of dependence was analyzed using the Pearson product-moment correlation coefficient. Relationships between the dependency measures and specific sport participation were tested using one-way analysis variance using the least significant difference (LSD) post hoc test where appropriate.

The non-athlete group consisted of the general population norm group for each of the measures used. For the 16PF, means were calculated for male and female college students by taking the primary factor scores found in the Tabular Supplement No. 2 to the 16PF Handbook (Cattell et al., 1972) and culating the second order factor score on the published worksheet. The mean scores and standard deviations for the locus of control general population were taken from Robinson and Shaver (1973). The test norms for both instruments were used for statistical comparison because they best represent the general population. Due to the large size of the normative samples, the test norms were considered a better indicator of general population scores than would have been obtained by developing local norms from a comparable number of non student athletes.

Results

The Pearson product-moment correlation coefficient obtained indicated no statistically meaningful relationship ($r = -.0064$; $p .468$) between the 16PF dependency measure and the locus of control measure. That suggests difference aspects of the general construct of dependence were being measured by the two instruments and will be discussed separately. Table 1 contains the means and standard deviations for each of the measures of male and female athletes and the means for the general population.

Table 1
Means, standard deviations, and t-test results for difference between male and female athletes and the general population.

Source	16PF					Source	Locus of Control				
	Mean	SD	DF	T	P=		Mean	SD	DF	T	P=
All Athletes	5.37	1.44	162	1.54	.137	All Athletes	10.61	3.62	162	8.25	.001
Male/Athlts	5.34	1.35	94	3.14	.002	Male/Athlts	10.18	3.89	94	4.95	.001
Fem/Athlts	5.41	1.57	67	-.46	.644	Fem/Athlts	11.20	3.13	67	7.30	.001
Gen Pop	5.20					Gen Pop	8.3	3.90			
Male Pop	4.90					Male Pop	8.2	4.00			
Fem Pop	5.50					Fem Pop	8.5	3.90			

Inspection of Table 1 reveals that both male and female athletes, as well as the total group, were significantly more external than the non athletes on the locus of control scores. On the 16PF measure only males differed from the normative group. These findings do not support previous research that found no locus of control differences between team sport and non participants (McKelvie and Duban, 1980), nor Lynn et al.'s (1969) findings that sport participants were more internal than non participants. The results of the present study indicate that athletes may exist in an environment that is controlled by what Rotter (1966) called a "powerful other," namely, the coach. Also, sport success or failure can readily be attributed to luck or fate as in the home field advantage or a team that "can't win" when they wear a certian color jersey. This is consistent with attribution theory literature which suggests that losing players casually attribute their loss to external factors such as luck (Brawley and Roberts, 1984) rather than internal factors such as lack of ability. An external locus of control may be functional for athletes to maintain their competitive motivation in the face of failure by attributing poor performance to luck—where there is luck there is still hope!

Table 2 contains the means and standard deviations for each sport type on both measure of dependency.

Table 2
Means and standard deviations for each sport type on the two dependent measures.

Source	16PF Scores		Locus of Control	
	Mean	SD	Mean	SD
<u>Male Team Sports</u>				
Football	5.26	1.35	10.45	4.32
Basketball	5.24	1.24	10.61	2.93
Baseball	5.52	1.58	10.37	3.46
<u>Individual Sports</u>				
Skiing	5.08	1.31	9.60	3.69
Track	5.37	1.65	9.73	5.12
Golf	6.18	1.38	8.40	4.04
Swimming	5.33	.96	10.63	3.65
<u>Female Team Sports</u>				
Basketball	5.05	1.09	11.07	3.26
Volleyball	6.11	1.17	11.00	2.26
<u>Individual Sports</u>				
Skiing	5.69	2.00	12.00	2.94
Track	4.67	1.45	10.86	4.09
Golf	5.38	1.42	12.20	1.48
Swimming	5.86	1.88	10.93	3.34

The results of the analysis of variance revealed few statistically meaningful relationships between any of the combinations of variables. Comparisons were made between males and females in all sports as well as between group and individual sports and also between specific types of sports totally as well as by sex. The only analysis that reached a meaningful level of significance was between female team participants on the 16PF measure. Results indicated that female basketball players were more dependent than female volleyball players.

This difference is difficult to explain but may be due to the style of play required for each sport. Basketball has traditionally required more adherence to set patterns of movement with each player relying on the other for help. While the same is true for volleyball, the pattern is more random

and unrehearsable, depending on ball placement, and more conducive to independent response and reaction. Young female basketball players may have grown up with the awareness that independent functioning was not acceptable in the sport.

In general, the present study found some interesting results. The finding that male athletes were more independent than the general population does not support the notion that college athletes function well in a controlled environment but once outside that environment they need and seek out support from others to manage their lives for them. Perhaps we can find our explanation for this best by considering dependency as related to situational factors within a subject's psycho-social milieu at a given time (Goldin, Perry, Margolin, and Strotzky, 1972). Male athletes may be dependent upon others (coaches, trainers, players) to help their performance, but this dependence is more cooperative than problematic. With the help of others perhaps the male athlete takes control of his own situation and functions in an independent fashion. This interpretation supports the position of Bowers (1973), who believed that people's behavior is highly related to the situations within which they find themselves. The lack of meaningful relationship between gender and category of sport failed to support Cratty's (1973) findings that individual sport athletes were less dependent than team sport athletes. The idea that team sport fosters dependency due to reliance on others was not supported by this study.

In contrast, the locus of control results indicated significant differences between athlete and non athletes, with athletes being more external. Gender differences on locus of control revealed that male athletes were more internal than female athletes while both of them were more external than the general population. These data supported Feather's (1967, 1968) research that found women significantly higher than men on external locus of control. Male individual sport athletes were mostly internal, and female individual sport athletes were mostly external. This discrepancy may well be due to the influence of social sex role stereotypes that expect more internal autonomous functioning by males but place females in a context where they are expected to need someone, including coaches, to exercise control over them.

It is necessary to note, however, that both male and female athletes were found to be more external than non athletes. The entire spectrum of sport may be conducive to the fostering of an external locus of control. Both sexes may find themselves in an outer controlled environment, but the data suggest that the situation may be intensified for females more than for males.

Discussion

The study provides cogent information for those working with athletes. The results tended to dispel notions that athletics contributes to the development of dependency in athletes. This is an important finding because it can help prevent people from working with athletes with a frame of reference based on stereotype and conjecture rather than on research-based evidence. The data revealed from this study suggested that the athletic population is essentially no different from the non athletic population on dependency. In fact, male athletes were less dependent than male non athletes. Also, no difference exists between team and individual sport athletes or between any specific sports and dependency, except for women's volleyball and basketball.

Locus of control information derived from this study is also relevant for those who work with athletes. Rotter (1966), asserted that internals would show more overt striving for achievement than externals who feel they have little or no control over their rewards and punishments. If this is so, those working with athletes may find themselves involved with large populations of people who believe they are not in control of what happens to them academically, socially, or athletically. While external locus of control is neither good or bad, it may become problematic for the athletes who finish their careers and leave with the attitude that others or luck will guide their lives. External locus of control can be changed to a more internal frame of reference (Rotter, 1966), through the counseling process. Inherent in a quality counseling intervention with student-athletes would be an emphasis on personal responsibility for behavioral choices and a logical consequences of such choices especially in the area of academic performance.

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