



Trait motivational correlates of athleticism

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Abstract

Two approaches for studying sports motivation — personality theory and motivation theory — were combined in a novel way that permitted an assessment of individual differences in 15 motivational traits. The *Reiss Profile of Fundamental Goals and Motivational Sensitivities* was administered to college students ($n=415$) who had participated in zero, one, or two or more varsity sports at high school or college levels. How many sports a student participated in, called *athleticism*, was found to be associated with motivational traits for physical exercise ($P<0.001$), social contact ($P<0.01$), family life/raising children ($P<0.001$), vengeance/competition ($P<0.06$), power/achievement ($P<0.04$), and with low curiosity ($P<0.01$). The results supported the relevance of Reiss's motives for studying sports motivation. © 2001 Elsevier Science Ltd. All rights reserved.

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1. Introduction

Research on sports motivation has followed two distinct approaches: assessment of personality correlates, and the study of motivational theories. The former approach typically involves administering a standardized personality test to groups of athletes and non-athletes and determining subscales on which they differ. Eysenck, Nias and Cox (1982) concluded that many of the personality studies have shortcomings such as small sample sizes and uninterpretable results that rarely replicate. Vealey (1992) concluded that no sports personality has been identified and that no personality trait has been consistently shown to differentiate among athletic subgroups. Vealey (1992) also observed that much of the literature used small sample sizes and inappropriate measures.

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The other major approach to sports motivation is based on applications of the construct of intrinsic motivation (Deci & Ryan, 1985; Harter, 1981). These studies provided evidence that people tend to develop competencies in those sports in which they are intrinsically motivated (Weiss & Chaumeton, 1992). Generally, intrinsic motivation theorists have concentrated on studying differences in enjoyment of sports associated with a mastery (“intrinsic”) vs a competitive (“extrinsic”) orientation (Duda & Whitehead, 1998; Ryan, Vallerand & Deci, 1984; Vallerand & Fortier, 1998).

Reiss (2000a) has put forth a new, comprehensive theory of sports motivation. This approach, called *sensitivity theory*, holds that people go through life seeking to satisfy 15 empirically-derived, primary desires (Reiss & Havercamp, 1998). Just as all secondary colors are combinations of three primary colors, nearly all psychologically important motives are seen as combinations of 15 primary or elemental desires. The 15 primary motives are listed in Table 1 of the article and defined in detail by Reiss (2000a).

According to sensitivity theory, the satisfaction of a primary motive produces an intrinsically valued feeling. There are 15 intrinsically valued feelings, one for each primary motive. For example, people who satisfy the primary desire for independence experience the intrinsically valued feeling of freedom; people who satisfy the primary desire for honor experience the intrinsically valued feeling of loyalty.

Because primary desires often reassert themselves shortly after they are satisfied, people need opportunities to satisfy their desires repeatedly. People have the potential to satisfy primary desires by participating in sports. When a previously-satisfied desire recurs, the person can participate in another game.

Although nearly everybody is motivated one way or another by each of the 15 primary desires, individuals differ in how they prioritize them (Reiss, 2000a). The primary desires that are most important to one person are different from those most important to another. Whether or not we choose to satisfy our desires through participation in sports may depend on which desires are most important to us. Generally, the desires that are most important to an individual are those he/she experiences frequently and intensely.

Havercamp (1998) administered the *Reiss Profile* to a group of 71 varsity collegiate athletes. She found significantly high standardized scores for physical exercise (the joy of muscle movement), power (which includes the joys of leadership, competence, and influence), status (the joy of attention and prestige), vengeance (which includes the joy of competition), eating, and family (the joy of raising children). Havercamp’s results provided some evidence that the *Reiss Profile* can be used successfully to develop a motivational profile of athletes.

The study reported here provided a more extensive evaluation of the relevance of Reiss and Havercamp (1998) 15 motives for studying sports motivation. The study evaluated the motivational differences on the *Reiss Profile* between college students who participated in zero, one, or two or more high school or college varsity sports. The purpose was to find the motives that are generally most relevant to sports participation in adolescents and young adults. Since sports seem to be well-suited for satisfying strong desires for physical exertion, it was predicted that the primary motivational factor in athleticism is the intrinsic joy of muscle movement.

Surprisingly few studies have compared athletes and non-athletes on motivational traits. Of 132 sources cited in Weiss and Chaumeton (1992) review of the motivational sports literature, only six directly assessed motivational traits in athletes and non-athletes, and five of these were

Table 1
Mean primary motive score for athletic groups

No. varsity sports	Independence	Power	Honor	Family	Vengeance	Order	Romance	Idealism	Status	Acceptance	Social contact	Tranquility	Eating	Curiosity	Phys. exercise
Zero ($n=96$)	23.9	28.3	33.0	31.9	19.3	29.0	24.2	29.0	24.8	29.9	32.3	19.7	30.2	38.6	29.3
One ($n=108$)	23.0	28.8	32.5	34.6	21.4	28.2	23.8	30.0	25.5	30.0	35.0	19.3	30.7	35.8	35.5
Two ($n=211$)	23.8	30.3	34.1	36.1	22.4	30.0	25.7	30.1	27.1	29.3	34.8	19.7	31.6	36.6	37.0
SD	7.3	7.2	6.4	8.8	10.4	9.0	11.5	7.8	9.2	7.7	6.9	8.1	7.8	6.2	8.4
$F(2,412)=$	0.5	3.2	2.5	7.7	2.9	1.5	1.2	0.8	2.4	0.4	5.2	0.1	1.2	5.8	33.1
$P <$	ns	0.04	ns	0.001	0.06	ns	ns	ns	ns	ns	0.006	ns	ns	0.003	0.001
$F(1,220)=$	–	5.4	–	14.3	5.7	–	–	–	–	–	8.8	–	–	7.0	60.1
$P <$	–	0.03	–	0.001	0.02	–	–	–	–	–	0.003	–	–	0.008	0.001

not peer-reviewed sources. Reviews of personality studies reveal more research (Vealey, 1992), especially on achievement, but overall the general conclusion is that sports motivation researchers have not studied in a comprehensive fashion the motivational traits of athletes.

2. Methods

2.1. Participants

The participants were 415 undergraduate students, 260 males and 155 females, who were taking one of 13 sports participation courses taught during the winter semester at the Ohio State University. Approximately 25% of the student population of 42,000 enrol in these courses at some point in their undergraduate careers; only 1.25% are college varsity athletes although many more participated in high school sports. The course instructors asked for student volunteers to participate in this study — virtually all students in each class volunteered. The age range was 16–41 ($M = 21.3$); the racial composition of the sample was 6% African-American, 3% Hispanic, 80% Caucasian, 10% Asian, and 1% other.

2.2. Measures

Reiss and Havercamp (1998) reported the development of a standardized measure of a comprehensive range of motivational traits. This measure, called the *Reiss Profile*, consists of 120 items and is scored into the 15 basic motives.

Every item on the *Reiss Profile* refers to end (“intrinsic”) motivation rather than to instrumentality. For example, the items, “I love to exercise”, and “Exercise is important to me” both express the idea that exercise itself is motivational. In contrast, items such as “Sports is a great way to build character” and “Sports are a great way to make money” imply instrumentality in which sports are only a means to the end goals of honor and power.

The *Reiss Profile* is intended to measure stable individual differences in the strength of each of 15 primary motives. These are thought of as elemental components of complex forces that drive people toward athletics, specific careers, religion (Reiss, 2000b), and other meaningful life choices. The aim of Reiss’s (2000a) system, therefore, is to analyze complex human decisions, such as decisions to participate in varsity sports, into its elemental motivational components.

Each of three independent, confirmatory factor studies demonstrated the reliability of the 15-factor structure of the instrument (Havercamp, 1998; Reiss & Havercamp, 1998). A 4-week, test-retest reliability, average $r = 0.80$, was demonstrated (Havercamp, 1998; Reiss & Havercamp, 1998). The measure is minimally affected (less than 3% of total variance) by social desirability (Havercamp, 1998). Some individual scales have been correlated in the 0.55 to 0.60 range with similar scales from other instruments (Havercamp, 1998). Havercamp (1998) obtained evidence of criterion validity for six scales, showing that they predict significantly certain freely-chosen interest groups, such as college majors or extracurricular clubs.

Havercamp (1998) also reported evidence of convergent validity for three additional scales. Reiss (2000b) found that religiosity, or how religious a person is, is associated with high motivational scores for honor and family and with low motivational scores for vengeance and independence.

In total, criterion or predictive validity evidence has been reported for all of the Reiss scales except romance and acceptance. However, reliability has been established for all scales.

2.3. Procedure

All participants were asked to identify all high school and college varsity sports in which they participated. Based on these responses, the participants were divided into three groups, representing those who participated in zero ($n=96$), one ($n=108$), and two or more varsity sports ($n=211$).

3. Results

In order to determine which of the motives were associated with athleticism, the data were submitted to a MANOVA ($F=6.731$, $df=15/398$, $P<0.001$). As shown in Table 1, univariate F tests were conducted to assess each motivational scale. If the univariate test was significant, an F test was conducted between the “no varsity sports” group and the “two or more varsity sports” group. Sensitivity theory predicts the greatest differences in intensity between these groups — the higher the desire score, the more frequent and intense is the desire, and the greater should be the individual’s effort to satisfy that desire (e.g., through participation in sports.) None of the findings of this study interacted with gender.

Athleticism (the number of varsity sports participated in) was negatively associated with curiosity and positively associated with the motives of power, family, social contact, and physical exercise. The results suggested that athleticism is associated with vengeance, but the finding was not quite significant at the 0.06 level. In this study, athleticism was not associated with high motivational scores for status (prestige), as was reported in some previous studies (Eder & Kinney, 1995; Holland & Andre, 1994).

4. Discussion

The most important correlate of sports participation is the intrinsic enjoyment of physical exercise. The more strongly people endorsed statements such as, “Physical exercise is an essential part of my life” and “I love physical exercise”, the greater was the number of varsity sports in which they participated. The difference between students who had played zero vs two or more varsity sports was about one full standard deviation (1 SD), which is a large difference for a methodology of this type. The “athletic personality” may be defined by something as simple as a person who loves to exercise his/her muscles.

Since competence motivation falls under Reiss’s desire for power (because it involves a form of influence and is correlated with the joy of leadership), the results of this study are consistent with previous reports that athletes are more achievement motivated than non-athletes (Martindale, Devlin & Vyse, 1990; Nichols, 1992; Singer, 1969; Thakur & Thakur, 1980). However, the differences were not large enough to support intrinsic motivation theory, which holds that competence motivation is the major intrinsic joy that drives people to participate in sports. If you want

to predict who will freely choose to participate in varsity sports, it may be much more important to know how much the person enjoys physical exercise than it is to know how strongly the individual enjoys feeling influential or competent. This is probably because there are few ways other than sports to satisfy the desire for physical exercise but many other ways to satisfy the desire for competence.

The finding that athletes tend to be family-oriented means that they look forward to raising their own children. The association was fairly strong — as far as we know, it has not been previously reported. It is probably not related to religiosity, which is associated with a significantly different desire profile from athleticism (Reiss, 2000b). Since the parenting of young children can be physically demanding, people who enjoy physical exertion also may enjoy the physical activity associated with parenting. Athletes also may look forward to teaching sports to their children. Future researchers need to study the role of sports in family bonding.

The finding of an association between vengeance (which includes the joy of competition) and athleticism is consistent with previous reports that athletes are competitive people (Hoffman, 1986; Finkenberg & Moode, 1996; Mathes & Battista, 1985; White, 1995). The finding that athleticism is associated with an intrinsic enjoyment of socializing is not surprising since team sports may attract a disproportionate number of people who have a strong need to socialize. We found a statistically significant tendency for athleticism to be negatively associated with curiosity. Although the magnitude of the association was small, the finding suggests that students who participate in varsity sports may be less interested in school compared with those who do not.

One limitation of this study, which is common in the literature on sports motivation, is the global and vague concept of “sports”. Although nearly all activities commonly listed in books of sports require physical exertion to be performed, sports vary significantly in the relevance of the remaining 14 primary desires. For example, social contact is much more relevant to a team sport such as soccer or rugby than it is to an individual sport such as bicycling. What was learned from this study are the common motivational correlates of a diverse number of sports, but not necessarily all sports. Although Reiss’s theory of sports motivation provides a theoretical analysis concerning the motivational correlates for both participants and fans, this study only looked at participants in sports (Reiss, 2000a).

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