High school students' sports personalities: Variations across participation level, gender, type of sport, and success

Peter A. Newcombe  
*University of Queensland*

Gregory J. Boyle  
*Bond University, Gregory_Boyle@bond.edu.au*

Follow this and additional works at: [http://epublications.bond.edu.au/hss_pubs](http://epublications.bond.edu.au/hss_pubs)

Part of the [Health Psychology Commons](http://epublications.bond.edu.au/hss_pubs)

Recommended Citation


High School Students' Sports Personalities: Variations across Participation Level, Gender, Type of Sport, and Success

Peter A. Newcombe
University of Queensland

and

Gregory J. Boyle
University of Queensland and Bond University
Abstract

Personality has become an increasingly important area in sport psychology as attempts are made to understand, explain, and predict levels of sporting involvement and success. To further understand these relationships, 312 Grade 11 and 12 students completed a battery of personality and mood-state inventories consisting of the STAI, EPQ and POMS, and were then categorized by (i) participation in sport, (ii) type of sport played, and (iii) level of success experienced. A MANOVA indicated that sports participants exhibited significantly different personality profiles from non-participants- univariate tests showed that the participants were more extraverted and vigorous, and less anxious, neurotic, depressed and confused. Gender differences noted for sports participants continued across type of sport and success level. Elite athletes were found to have a mood profile significantly different from non-elite athletes, and almost congruent with Morgan's (1980) "iceberg" profile. Results support the view that sports participation is associated with positive mental health.

KEY WORDS: Personality, Success, Type of sport, Participation level, Gender
The study of personality traits and mood states has been extremely popular in sport psychology as researchers have attempted to isolate those psychological profiles that distinguish athletes from non-athletes, athletes in various types of sports, and the successful from the less successful competitors. The question of whether sport and personality is related has, however, been controversial. Eysenck, Nias, and Cox (1982) suggested that the wealth of inconclusive and contradictory evidence regarding the sporting personality was due to conceptual and definitional problems.

Conceptually, the arguments rest within the sceptical-credulous continuum of belief in sport personality traits. Ogilvie (1968), in supporting the credulous approach argued that participation and success in sports was related to the athlete's personality character. Conversely, Martens (1975) and Rushall (1975) rejected this argument because of scepticism surrounding the prediction of athletic participation from psychological data. Morgan (1978), in noting only modest significant correlations ($r = .5$) between personality and performance, has criticized these extreme perspectives. He concluded that initially selecting and subsequently realizing successful and satisfying experiences in sport is dependent, only in part, on selected psychological states and traits (Morgan, 1978). That persons choose to participate in sports and that some athletes who seem to have talent and physical capabilities do not always achieve success, suggests that a certain psychological profile may be an influencing factor.

Across types of sports and cross-culturally, there exists much evidence to suggest that athletes possess unique and definable personality attributes different
from non-athletes. Cooper (1969), as well as Warburton and Kane (1966) painted a picture of the sport participant as more extraverted, less anxious and neurotic that those who do not play sport. University athletes are less anxious and depressed, and more extraverted and stable than non-athletes (Williams 1985). Track and Held has been a source of extensive research into sports personology. Marathon runners were found to differ from college norms with less tension, depression, and confusion (Wilson, Morley & Bird, 1980), as well as being more vigorous (Gondola & Tuckman, 1982; Morgan & Pollock, 1977). Fewer negative affective states (such as tension, depression, confusion) have been related to participation in ultra-marathons (Tharion, Strowman, & Rauch, 1988) and track and field (Thomas, Zabas, Bahrke, Araujo, & Etheridge, 1983). Using a longitudinal research design, Johnson and Morgan (1981) showed that college athletes from 12 different sports scored at a significantly lower level than non-athletes on measures of depression, social introversion, cultural-aesthetic interests, and unusual feelings and behaviors. In one of the few experimentally manipulated studies, Chan and Grossman (1988) showed that control subjects 'prevented' from running displayed significantly greater symptoms of psychological distress (depression, confusion, anger) than those allowed to 'continue' running.

Research with particular sports has also shown distinct personality structures for participants. Tennis players were found by Daino (1985) to be more extraverted and less neurotic while competitors in body-building (Fuchs & Zaichkovsky, 1983), diving (De Mers, 1983), football (Le Unes & Nation, 1982), karate (McGowan & Jordon, 1988), rodeo (Meyers, Sterling, & Le Unes, 1988) and rowing (Morgan & Johnson, 1978) were less depressed and confused, and more vigorous when compared with college norms.
Cross-cultural findings appear to be similar with Kirkcaldy (1982) reporting that 399 German sportspersons were extraverted and stable, and Tenenbaum and Milgram (1978) showing that Israeli physical education students who competed in sports were less anxious than non-competitors.

However, contradictory results have interfered with the adoption of a definitive athletic personality profile. Eysenck et al. (1982) have argued strongly that the negative findings are an artifact of methodological inconsistencies (sample size, testing instruments, statistical analyses). Aamodt, Alexander and Kinbrough (1982) in comparing 51 non-athletes to 29 basketballers, 36 footballers, and 23 track and field athletes found no difference in personality profiles. Aerobic exercisers (Williams & Getty, 1986), sailors (Franke, 1985), swimmers (Riddick, 1984), and wrestlers (Morgan, 1968) have all shown similar mood profiles (affective states) to non-competitors.

The primary purpose of this present research was to extend the findings of earlier descriptive studies to further clarify the personality profile of the athlete. It was hypothesized that athletes would differ from non-athletes on a range of personality traits and mood states. A mental health model, first proposed by Morgan in 1980 and modified later (Morgan, 1985), offers a testable model for evaluating the profiles of divergent groups of sportspersons. This model, formulated from elite athletes' responses in a wide variety of sports, suggests that positive mental health is characterized by low scores on negative affective states (tension, depression, anger, fatigue, confusion) and a high score on the positive mood, vigor. It was further proposed that sportspersons would be characterized by positive mental health.
When results are averaged over heterogeneous groups, important conceptual and meaningful information may be lost. It is therefore necessary to define distinct dimensions within the sporting group to more fully understand the personalities of those who do participate in sport. This research, then, further examined the differences in personality across gender, type of sport, and sporting success level to more clearly describe the personality profiles for sportsmen and sportswomen (e.g., Ogilvie, 1968). Colley, Roberts and Chipps (1985) and Kirkcaldy (1982) found female athletes to be more neurotic and tough-minded than their male counterparts. Gender differences have been reported for normative population samples on a number of personality dispositions. Typically, females more readily assent to negative affective states (Boyle, 1985), scoring at a significantly higher level on state and trait anxiety (Spielberger, Gorsuch, & Lushene, 1971), neuroticism (Eysenck & Eysenck, 1975), tension, depression, and confusion (McNair, Lorr, & Droppleman, 1971), and at a lower level on psychotic/tough-minded traits (Eysenck & Eysenck, 1975). In line with this normative data, it was hypothesized that sex differences would continue to exist in the personality profiles of athletes.

The study of athletes from various sports, combined in heterogeneous groups, does not permit the discovery of personality characteristics which may be different for the various sports. The need for a theoretical framework from which the multitude of sports types can be described and ordered has been stressed by Harris (1973). Dichotomising sports into individual and team sports has been one of the most frequently used classification systems (Schurr, Ashley, & Joy, 1977). Stereotyping of individual athletes as more introverted than team participants is intuitively appealing because of the social nature of each type of sport. However, research results in this area are inconsistent. The introverted individual sports per-
son findings of Cratty (1986), Frazier (1987), Morgan and Costill (1972), and Schurr et al. (1977) have not been supported by Hendry (1968), Kirkcaldy (1982), nor Morgan and associates (Morgan, O'Connor, Elickson, & Bradley, 1985; Morgan & Pollack, 1977). Indeed, Heusner (1952) found track and field athletes (individual sports) to be the more extraverted and stable. Negative affective states (anxiety, tension and neuroticism) were found by Geron, Furst and Rotstein (1986) in a study of 27.3 athletes in nine-sports to differentiate individual and team participants -- a result not confirmed by Colley et al. (1985). Dowd and Innes (1981), in an Australian study, concluded that personality factors did not play a large role in discriminating between squash (individual) and volleyball (team) players.

A further dichotomy classifies sports as direct or parallel. Direct sports (e.g., football) allow participants to show personal aggression towards an opponent. Participants in these sports have been found to be extraverted (Cratty, 1986) and dominant (Schurr et al., 1977). Iso, Ahola and Hatfield (1986) concluded that persons involved in non-contact sports (parallel) were more introverted than contact sportspersons. Seemingly, the personalities of athletes vary according to the type of sport -- albeit in a somewhat inconsistent pattern. It was therefore hypothesized that participants in the different sports types (individual; team; direct, parallel) would exhibit significantly different personality profiles.

An important consideration in analyzing the personality characteristics of athletes is the ability or success level achieved in a chosen sport. Eysenck et al. (1982) suggested that special personality features mediate levels of achievement and hence distinguish the outstanding from the average performer. Morgan and his colleagues (Morgan, 1968, 1974; Morgan & Costill, 1972; Morgan & Johnson,
1977, 1978; Morgan & Pollock, 1977) have studied national distance runners, marathoners, oarsmen, and wrestlers and found that successful athletes possess more desirable psychological mood states than do unsuccessful athletes-success in sport was inversely correlated with psychopathology. From these studies, a psychological "iceberg profile" (Morgan, 1980; 1985) was proposed to be directly proportional to success in sport. This profile shows an absence of negative affective states with scores below the 50th percentile on tension, depression, anger, fatigue, and confusion, and a score greater than the 50th percentile "on the positive affective state, vigor.

National level performers in cycling (Hagberg, Mullin, Bahrke, & Limburg, 1979), soccer (Robinson & Howe, 1987) and weightlifting (Mahoney, 1989), and further studies with wrestlers (Silva, Schultz, Haslam, & Murray, 1981) and male distance runners (Morgan et al., 1988) have shown the iceberg profile to be a consistent predictor of success in these sports. Elite athletes also appear to be less anxious (Ogilvie, 1968; Smith, 1983; Williams, 1985), less neurotic (Warburton & Kane, 1968) and more extraverted (Dowd & Innes, 1981; Hendry, 1975) than their non-successful competitors.

Nonetheless, the iceberg profile has not been replicated for all elite athletes. Miller and Miller (1985) in a study of 20 international female net-bailers found that this profile did not differentiate between those women who made the Australian team and those who did not. Top-level West German sailors were found to have similar profiles to the general population (Franke, 1985). Successful performers in karate (Kroll & Carlson, 1967), basketball (Craighead, Privette, Vallianos; & Byrkit, 1986) and college football (Daiss, Le Unes, & Nation, 1986), and outstanding high school athletes (Foster, 1977) have also failed to display this
iceberg profile. Unfortunately, these studies can be critiqued on at least two methodological criteria. In the first instance, they did not employ safeguards against response distortion (non-elite athletes may have responded to a perceived ideal profile showing less psychopathology). Furthermore, personally profiles for elite athletes have been shown to flatten or even inverted mood during periods of heavy training and/or overtraining (Morgan, Brown, Raglin, O'Connor, & Elickson, 1987). Hence, the elite athlete may not have shown the classic iceberg profile due to time of assessment. The final hypothesis, then, attended to the psychological profile of outstanding athletes. It was proposed that sports performers at the elite level would demonstrate greater positive mental health (the iceberg profile) than would non-elite athletes.

**Method**

Three hundred and twelve students (mean age = 16.98 years, S.D. = 1.02 years) attending a large secondary school in Brisbane, Australia were the subjects for this research. This school is located in a well-established middle-class suburb and draws students from a vast geographical area involving a wide range of socioeconomic levels. The 184 males (mean age=16.95 years, S.D = 0.87 years) and 128 females (mean age 17.03 years, S.D = 1.20 years) were all students competing either Grade 11 or 12.

An athlete was defined as a student who played sport competitively either at school or club level. The sports played by the students were categorized using the Schurr et al. (1977) model-individual or team, direct or parallel. Athletes were then classified by type of sport played in the following manner-(a) subjects who participated in one sport only were classified by that type; (b) subjects who
participated in more than one sport were classified by (i) the sport in which they received the highest representative honor (viz., national, state, city, dub) or (ii) the sport which they had most recently or were currently playing, if representative honors were similar. Level of achievement was coded using the elite/non-elite dichotomy—an elite athlete being described as a person who had played sport at either state or national level. Table 1 shows the breakdown of subject numbers by gender through level of sport participation, type of sport played, and level of success.

**Instruments**

A demographic questionnaire and three self-report pencil-and-paper tests were used to gather the sporting and personality information for this study. Demographic information included age, gender, nationality, and father's occupation, together with questions relating to sports participation, names of sports played, and level to which these sports were played.

The personality and mood-state instruments used included the State-Trait Anxiety Inventory (STAI: Spielberger et al., 1971), the Eysenck Personality Questionnaire (EPQ: Eysenck & Eysenck, 1975), and the Profile of Mood States (POMS: McNair et al., 1971). These instruments were selected because of their reliability and validity in the Australian context (cf. Boyle, 1987, 1988), ease of administration to large groups, and -- despite their lack of sporting specificity -- frequent use in the sports personology area.

The 40 statements of the STAI are designed to evaluate two separate anxiety concepts—state anxiety (intensity of one's present feelings) and trait anxiety (frequency of feelings), on a four-point Likert-type self-rating scale. The EPQ
requires subjects to answer yes or no to 90 questions about general feelings and behaviors. It provides measures of extraversion–introversion, neuroticism-stability, psychoticism, and conformity (a safeguard against lying or faking good responses). The POMS, a 65-adjective self-rating scale, measures six transitory affective states which may be constructed as a mood profile. The list of adjectives (e.g., tense, alert, restless) describes feelings rates on a 5-point Likert-type intensity scale from “not at all” (0) to “extremely” (4). The mood states measured are tension, depression, anger, vigor, fatigue, and confusion. A single global measure-total mood disturbance (TMD) also was obtained (weighting vigor negatively). Use of the POMS has been criticized for its application in the sporting situation as being a transparent instrument. Miller and Edgington (1984) found that subjects in a hypothetical sporting situation responded to a perceived ideal profile -- they gave “faked good” responses. To control for this possible difficulty, the EPQ lie scale was used to estimate response distortion. Since data collection was anonymous, and as this variable did not significantly correlate with other personality variables, and as the mean lie scores were not elevated, it was predicted that the analyses would not be influenced significantly by response distortion.

Table 1
Subject number breakdown, by sex, through total group, participation level, type of sport played, and level of success

<table>
<thead>
<tr>
<th>Group</th>
<th>Males</th>
<th>Females</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Group</td>
<td>184</td>
<td>128</td>
<td>312</td>
</tr>
<tr>
<td>Sports Participants</td>
<td>132</td>
<td>80</td>
<td>212</td>
</tr>
<tr>
<td>Non-Participants</td>
<td>52</td>
<td>48</td>
<td>100</td>
</tr>
<tr>
<td>Individual Sports</td>
<td>34</td>
<td>18</td>
<td>52</td>
</tr>
<tr>
<td>Team Sports</td>
<td>98</td>
<td>62</td>
<td>160</td>
</tr>
<tr>
<td>Direct Sports</td>
<td>48</td>
<td>10</td>
<td>58</td>
</tr>
<tr>
<td>Parallel Sports</td>
<td>84</td>
<td>70</td>
<td>154</td>
</tr>
<tr>
<td>Non-elite Athletes</td>
<td>103</td>
<td>69</td>
<td>172</td>
</tr>
<tr>
<td>Elite Athletes</td>
<td>29</td>
<td>11</td>
<td>40</td>
</tr>
</tbody>
</table>
Although, Johnson and Morgan (1981) employed a multivariate analysis in reporting more signs of maladjustment for unsuccessful athletes, Cox (1985) and Eysenck et al. 1982) have been critical of much of the sport personology research for its failure to adopt such an approach. A multivariate approach, which considers most of the personality variables simultaneously (cf. Boyle, 1991), was used in the present study to increase the sensitivity of the analysis and to decide if the entire psychological profile was different.

**Procedure**

Students completed the demographic and personality inventories during a regularly scheduled 40-minute class. Instructions were read aloud to the group emphasizing the time sets and response scales for each inventory. It was also pointed out that responses were neither right nor wrong and that, with the anonymity of results, only honest and candid responses were expected.

**Table 2**

Multivariate results/or sex differences in personality profiles of sports participants, of different types of sports, and of athletes at each level of success.

<table>
<thead>
<tr>
<th>Sex difference in</th>
<th>Wilks' Lamda</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports Participants</td>
<td>.73</td>
<td>6.07</td>
<td>12,199</td>
<td>.000</td>
</tr>
<tr>
<td>Individual Sports</td>
<td>.47</td>
<td>3.61</td>
<td>12,39</td>
<td>.001</td>
</tr>
<tr>
<td>Team Sports</td>
<td>.74</td>
<td>4.23</td>
<td>12,147</td>
<td>.000</td>
</tr>
<tr>
<td>Direct Sports</td>
<td>.56</td>
<td>2.89</td>
<td>12,45</td>
<td>.005</td>
</tr>
<tr>
<td>Parallel Sports</td>
<td>.73</td>
<td>4.33</td>
<td>12,141</td>
<td>.000</td>
</tr>
<tr>
<td>Non-elite Athletes</td>
<td>.74</td>
<td>4.66</td>
<td>12,159</td>
<td>.000</td>
</tr>
<tr>
<td>Elite Athletes</td>
<td>.42</td>
<td>3.06</td>
<td>12,27</td>
<td>.008</td>
</tr>
</tbody>
</table>
Results

The mean raw scores for the 12 personality states and traits of athletes and non-athletes appear in Figure 1. Athletes obtained lower scores on all variables except the positive trait (extraversion) and the only positive affective state (vigor). As all outcome variables purport to measure an aspect of personality, a MANOVA was performed on the effect of sports participation on the entire personality profile. Athletes were found to have a significantly different personality profile from non-athletes (Wilks’ $\lambda$ = .85, $F(12,299)=4.43$, $p<.001$). Univariate analyses (ANOVA’) assessed the relative importance of the underlying personality constructs.

Significant differences were observed for state anxiety ($F(1,310) = 9.23$, $p<.01$), trait anxiety ($F(1,310) = 12.78$, $p < .001$), extraversion ($F(1,310) = 31.10$, $p < .001$), neuroticism ($F(1,310) = 3.82$, $p< .05$), lie scale ($F(1,310) = 12.87; p < .001$), depression ($F(1,310) = 5.63$, $p< .05$), vigor ($F(1,310) = 7.45$, $p< .01$) and confusion ($F(1,310) = 5.99$, $p< .05$). The elevated lie scores for non-athletes may be interpreted as an attempt to dissimulate. In line with the suggestions of Eysenck and Eysenck (1975), the low correlation between the lie scale and neuroticism ($r = .12$) provided little indication of motivation to dissimulate and hence afforded no empirical basis for correcting for a response distortion in this sample. Overall then, from a mental health viewpoint, all differences favored the athlete.
Fig. 1. Mean raw scores for the personality variables as a function of athletic participation.

Note. AS = State Anxiety; AT = Trait Anxiety; E = Extraversion; N = Neuroticism; P = Psychoticism; L = Lie Scale; T = Tension; D = Depression; A = Anger; V = Vigor; F = Fatigue; C = Confusion.

Figure 2 presents the mean TMD scores for the total group, males only, and females only, by level of sports participation. TMD scores are presumed to be highly reliable as a single global measure of mood state (McNair et al., 1971) with higher scores reflecting negative mental health. ANOVA's revealed significant differences between athletes and non-athletes for the total group (F(1,308) = 4.30, p< .05) and for males (F(1,182) = 4.85, p < .05) - in both cases, the athlete experienced more positive mental health. Surprisingly, female athletes did not have significantly different TMD scores from non-athletes.
The data was then analyzed by gender, type of sport, and level of success. Figure 3 shows the mean raw scores for the personality variables of male and female athletes. A MANOVA revealed a significant effect for sex (Wilks’ \( \lambda = .73 \), \( F(12,199) = 6.07, p<.001 \)) -- the personality profiles of the male and female athletes were statistically distinct. To describe the relative contributions of each of the traits and states to this sex effect, multiple ANOVA’s were conducted (cf. Huberty & Morris, 1989). Male athletes were significantly less anxious (\( F(1,210) = 5.90, p<.05 \)), less extraverted (\( F(1,210) =6.87, p<.01 \)), less neurotic (\( F(1,210)= 16.99, p<.001 \)), and more psychotic/tough-minded (\( F(1,210) = 27.82, p<.001 \)) than female athletes. Table 2 shows that the sex differences in the personalities of athletes continued through individual (\( p<.001 \)), direct (\( p<.01 \)) and parallel (\( p<.001 \)) sports as
well as at the non-elite (p< .001) and elite (p< .01) levels of competition. These results supported the hypothesis that the personalities of male and female sportspersons would differ.

Fig. 3. Mean raw scores for the personality variables as a function of the athlete's gender.

Note. AS = State Anxiety; AT = Trait Anxiety; E = Extraversion; N = Neuroticism; P = Psychoticism; L = Lie Scale; T = Tension; D = Depression; A = Anger; V = Vigor; F = Fatigue; C = Confusion.

No significant differences were noted for the effect of type of sport on the personality profiles of athletes. Individual and team participants were found to exhibit homogeneous profiles (Wilks’ λ) = .96, F(12,199) = .70, p < .05), as were the direct and parallel competitors (Wilks’ λ) = .92, F(12,199) = 1.46, p > .05). As multiple ANOVA's do not necessarily require a significant multivariate effect to permit analysis (Huberty & Morris, 1989), separate ANOVAs were carried out for the effect of sports type on each of the personality traits and states. The stereotype
of the introverted individual and extraverted team participant was not confirmed. The only significant discriminator between types of sports was for vigor in the direct/parallel contrast (F(1,210) = 4.46, p< .05).

An ANOVA performed on the TMD scores for elite and non-elite athletes showed a significant advantage in mental health for the outstanding performers (F(1,210) = 6.96, p< .01). Figure 4 presents mean raw scores for the six affective states converted to percentile rankings based on the college norms of McNair et al. (1971). Although only depression reached significance (F(1,210) = 8.37, p< .01), all differences are in the anticipated direction. The elite group's response patterns are slightly more congruent with Morgan's (1980) iceberg profile for stressful athletes, notwithstanding the elevated anger scores.

![Mood profiles for the elite and non-elite athletes. Note. T = Tension; D = Depression; A = Anger; V = Vigor; F = Fatigue; C = Confusion.](image-url)
Discussion

The present investigation sought to identify psychological profiles related to participation in sport, choice of different types of sport, and exceptional sports performance. Both trait and state measures were used to maximise information and to gain more insight into the total personality picture -- the most efficacious approach (Morgan, 1979). The underlying personality constructs were then examined to further isolate the relationships between personality and sport. The premise that athletes can be differentiated from non-athletes in personality structure has gained support from this study. In line with past research (e.g., Cooper, 1969; Morgan, 1974), individuals who engaged in competitive sporting activities were found to be less anxious, neurotic, depressed, and confused, and more extraverted and vigorous. The notion that athletes possess greater positive mental health (Morgan, 1980) was supported with lower scores on all negative traits and states and a significantly lower total mood disturbance profile. Athletes were found to have fewer symptoms of psychopathology and a greater feeling of vigor (high energy). However, sports participants comprise such a diverse group of individuals with respect to sex, sports specificity, and success level that omnibus comparisons with non-athletes are problematic. Differences within the sporting population were evaluated to further delineate the personality profiles of athletes.

Our results confirmed that gender differences did exist in the personality profiles of athletes. Males and females exhibited distinctly different personalities at the participation level, for each type of sport, and at each level of success. The general findings that male athletes are less anxious, extraverted and neurotic, and more psychotic/tough-minded support the conclusion of Colley et al. (1985) and Kirkcaldy (1982). However, this picture also reflects the well-documented gender
differences in the normal population (Eysenck & Eysenck, 1975; Spielberger et al., 1971).

While it was hypothesized (and perhaps was intuitively appealing) that athletes in individual vs. team and direct vs. parallel sports should possess different personality profiles, this was not borne out by our results. The findings support those of Cratty (1986) and Kirkcaldy (1982) and agree that a set of unique distinguishing characteristics for each type of sport seems untenable. The only personality variable found to discriminate any type of sport was greater vigor for the direct athlete - a result that would meet scant approval from parallel sports persons such as volleyballers and tennis players where a high energy level would seem to be a necessary prerequisite. The very nature of team sports requires participants to be extraverted (sociable, talkative, not interested in doing things alone), but extraversion did not differentiate those persons from individual athletes. Perhaps, as Eysenck et al. (1982) suggested, it may not be sufficient to compare one sport type with another - quite specific detail within a given sport (e.g., position) may be needed to discern personality differences.

Elite athletes were found to have significantly greater positive mental health than non-elite athletes. Positive mental health is characterized by scores below the population mean for tension, depression, anger, fatigue, and confusion (negative affective states) and above the population mean for vigor (positive affective state) - the iceberg profile (see Figure 4). This profile seems beneficial from a mental health viewpoint (Hagberg et al., 1979); advantageous to the elite athlete as compared with the general population. Presumably, those who have excelled in a particular port would have a higher than average ability to come to terms with negative affective states, which appear to have a detrimental effect on performance
(Klavora, 1977). Results also revealed that the mood profile of the national and state representatives in this sample closely resembled those of outstanding athletes in previous studies of distance running (Morgan & Pollock, 1977), rowing (Morgan & Johnson, 1978), soccer (Robinson a Howe, 1987) and weightlifting (Mahoney, 1989). The iceberg profile was slightly distorted by elevated anger scores (similar: to those found by Morgan (1980) with wrestlers). Anger scores were consistent through level of success and across the total sample and may be characteristic of adolescents.

Several theoretical and methodological factors need clarification. Personality research in sport has often been criticized for adopting a trait approach (e.g., Martens, 1975). This approach considers the general source of behavioral variance to reside within the individual and to be consistent across situations. The mental health model of Morgan (1981, 1985), confirmed in this research, neither represents a trait approach, nor its conceptual alternative, a situational paradigm. The model seeks to explain relationships between individuals and their sporting participation and/or success. As such, it accounts for a significant percentage of the variance in participation and/or success level. Indeed, the model can be extended by the adoption of an interactional paradigm, wherein behavioral effects of personality differences and environmental influences are studied concurrently (Martens, 1975).

Normative POMS data for samples of senior high school students has not yet been published, while both the STAI and EPQ factors have significant age-effects - state and trait anxiety (Spielberger et al., 1971) and extraversion, neuroticism, and psychoticism (Eysenck & Eysenck, 1975) all diminish with advancing age. Comparisons with normative data from college samples may
therefore be problematic. Further, Geron et al. (1986) suggested that various sports attracted athletes from different sociocultural and sociodemographic backgrounds. Although scores on the POMS and EPQ (excluding the lie scale) are affected little by background variables, nevertheless, a technique of matching subjects and groups on relevant sociodemographic factors may be necessary in sports research.

Personality dimensions are increasingly seen as very important as attempts are made to understand and explain sporting behavior. This study has adopted the approach of Morgan and Pollock (1977) and the sport classification model of Schurr et al. (1977) to provide some consistency and conformity for the findings. Eventually, a model with reliable and predictive accuracy may provide sport psychologists, coaches and athletes alike with the information needed to assist individual performances. Ultimately, the ability to understand and apply the knowledge of sporting personalities should benefit sports participants.

**Résumé**

L'étude de la personnalité est un domaine d'importance croissante en psychologie du sport où des efforts sont réalisés pour comprendre, expliquer et prédire les niveaux d'engagement et de réussite. Afin de mieux appréhender ces relations, 312 étudiants de 17 ans ont complété une batterie d’inventaire de personnalité et d’état de l’humeur: STAI, EPQ et POMS. Ils ont ensuite été répartis dans des groupes en fonction de leur participation sportive, du type de sport pratiqué et du niveau de pratique. La MANOVA indique que les sportifs ont des profils de personnalité significativement différents des non pratiquants. Les tests univariés montrent que les participants sont davantage extravertis et actifs, moins anxieux, névrotiques, déprimés et confus. Des différences liées au sexe apparaissent
quant au type de sport et au niveau de pratique. Les sportifs d'élite ont un profil d'humeur significativement différent des athlètes de moindre niveau et correspondent bien au profil “iceberg” décrit par Morgan (1980). Ces résultats confirment l'idée selon laquelle la pratique sportive est associée à une bonne santé mentale.

**Resumen**

En la psicología deportiva la personalidad representa una área de búsqueda que sigue levantando un enorme interés. Al mismo tiempo mucha atención se endereza a la comprensión, explicación y predicción de los niveles de implicación deportiva y de buen éxito. Para comprender de manera más ahondada estas informaciones, 312 estudiantes han llevado a cabo unos cuestionarios concernientes la personalidad y la condición del humor que comprendía lo STAI, EPQ, POMS y además, fueron divididos segíln la participación al deporte, al modelo deportivo, y al nivel de buen éxito obtenido. De la MANOVA se evidenció que los atletas que practican el deporte, respeto a los no practicantes tienen un perfil de personalidad diferente. Las pruebas han evidenciado que los practicantes resultan más extraver-sos y presentan mucha fuerza, tienen menor ansiedad, neurosis, depresión y confusión. Entre los practicantes se han puesto en evidencia diferencias de genero relacionadis al modelo deportivo y al nivel de buen éxito. Los atletas de élite presentaron un perfil del humor particularmente diferente de los atletas no de élite, pero homogéneo con el perfil del "ice-berg" de Morgan (1980). Los resultados confirman la hipótesis que la participación deportiva está junta con una positiva salud mental.
Zusammenfassung


Riassunto

Nella psicologia dello sport la personalità è un'area di ricerca che sta suscitando notevole interesse e nello stesso tempo inolta attenzione viene rivolta alia comprensione, spiegazione e predizione dei livelli di coinvolgimento sportive e di successo. Per comprendere in modo più approfondito queste relazioni 312 studenti hanno completato una batteria di questionari di personalità e relativi allo
stato dell'umore che comprendeva lo STAI, l'EPQ e il POMS e inoltre, essi sono stati distinti in funzione della partecipazione allo sport, al tipo di sport e all'livello di successo ottenuto. Dalla MANOVA è emerso che coloro che praticano sport, rispetto al non praticanti, hanno un profilo di personalità differente. I test-univariati hanno mostrato che i praticanti sono più estroversi e mostrano più vigore, sono meno ansiosi, nevrotici, depressi e confusi. Fra i praticanti sono state evidenziate differenze di genere in relazione al tipo di sport e al livello del successo. Gli atleti di elite hanno mostrato un profilo dell'umore significativamente differente dagli atleti non di elite e relativamente omogeneo con il «profile dell'iceberg» di Morgan (1980). I risultati confermano l'ipotesi che la partecipazione sportiva è associata con una positiva salute mentale.

References


Psychology, 11, 38-49.


