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Level of optimism and health behavior in athletes

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Summary

Background: Persons with an optimistic attitude do not give up despite obstacles and failures. Optimistic athletes compete more out of hope for success than out of fear of defeat. The purpose of my research was to determine if optimism also promotes good health behavior in athletes.

Material/Methods: In order to measure the role of optimism in shaping the health behavior of athletes, I examined a group of women (N=147) and men (N=385) who were currently in training for athletic competition. The control group consisted of women (N=262) and men (N=435) who were not and had never been competitive athletes. The "O-P" Attitude Questionnaire was used to measure optimism, while health behavior was measured with the Juczynski Health Behavior Inventory, which measures proper nutrition habits, preventive behavior, positive attitude, and healthy practices.

Results: The level of pessimism in these athletes was average. The female athletes were less pessimistic than the female controls. A similar, highly significant difference occurred between the male athletes and non-athletes. Gender did not differentiate the level of optimism in either group. Among the women, optimism correlated with healthy practices, such as daily sleep and recreation habits, or physical activity. The greater the pessimism increased, positive attitudes declined in the female controls, the female athletes, and the male controls.

Conclusions: The athletes displayed greater optimism than the controls. Among the women, optimism correlated with good health practices.

key words: **pessimism • nutrition habits • preventive behavior • positive attitude • healthy practices • sport**

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Background

It seems obvious that there is a close connection between health and happiness; the feeling of happiness is a natural, though not always possible indication of mental health. And health is an essential precondition for happiness, though it is not the only one [1]. It should be borne in mind, however, that in most cases the evaluation process, for both health and the feeling of happiness, is thoroughly subjective, and can be modified by numerous situational and personal factors characteristic for the evaluator. The very same personal circumstances can be perceived quite differently by different people, producing good or bad feelings. It is not the enjoyment of particularly comfortable living conditions that distinguishes happy people from unhappy ones, or such demographical characteristics as age, gender, and education, or good physical health, or even good luck. Neither is happiness conditional on winning or losing in sports. Happy people have a different personality from unhappy people: they are less neurotic, more extraverted, open, agreeable, and conscientious. The problem is that both the feeling of happiness and the characteristics of personality are to a large extent inherited [2]. In recent years there has been increasing interest among researchers in the subjective feeling of well-being [3]. This feeling is dependent on many factors, which can be divided into two groups: external in relation to the subject (e.g. the historical and economic conditions of the nation in which one lives) and internal (e.g. the state of health, temperament, personality). Thus subjective well-being, in combination with hope and positive expectations for the future, creates personal optimism [4].

Optimism and pessimism consist in a generalized expectation of positive or negative events respectively [5]. Since personal optimism controls the evaluation of particular situations in daily life, it affects the assessment of one's own possibilities and the process of initiating action: in difficult situations pessimists are mostly focused on their own emotions, which optimists to a greater extent create action plans to solve the problem [6].

Persons with an optimistic attitude towards the world around them do not give up in aspiring to achieve their goals, despite obstacles and failures. Optimistic athletes compete more out of the hope of victory than the fear of losing, but even if the competition ends in defeat, they perceive this more as the result of circumstances that can be controlled, as opposed to their own imperfections or inability to cope with competition [7].

It is important to maintain an equilibrium between an optimistic attitude oriented towards the future and a careful, critical approach to the tasks an athlete must face. This equilibrium determines whether or not life in the sports arena will be successful. It is certain that if one of these factors begins to dominate, in the form of euphoria or persistent pessimism and discouragement, disturbances in the structure of the individual's personality will become chronic, preventing a creative life, which can be a burden also for family and friends.

Without a doubt it is hard to look into the future of a sports career without a positive valuation of the effort involved in training. Can we imagine an athlete who from the outset has a negative attitude towards work in the gymnasium or on the ball field? But can that work be evaluated positively without due concern for one's own health? It can be stated with complete certainty that athletes should be healthy, since otherwise their bodies could not endure the effort of training and competition.

With increasing frequency in recent years the holistic model, as opposed to the traditional biomedical model, is providing the basis for reflections on health. In the biological model, health is conceived only in its physiological dimension, which is exactly how physicians usually approach the treatment of athletes. This leads, however, to underestimating the impact of non-biological factors on the course of biological processes. Such an approach forces us to concentrate on the physical aspects of disease, precluding any analysis of psychological phenomena, such as a positive, optimistic attitude towards reality. The role of the physician in this model is limited to "repairing" the body as though it were a defective or damaged mechanical device. Thus the object of attention in the medical sciences is often not health, but disease, in its objective manifestations [8].

These constraints have provided good reasons to look for an alternative perspective on health, one that would take in a larger spectrum of phenomena. The holistic model of health, in opposition to the biomedical model, emerges from a systems-based approach to human nature. The essence of the human being is subjectivity, thanks to which we survive and become aware of our own existence, take control of our own lives, and anticipate the future – including a future in sports [9].

In the holistic model, health is perceived multidimensionally, through the interplay of physical, psychological, social, ecological, and economic aspects. Physical illness can be overcome by a positive mental state and good social support, while emotional problems and interpersonal conflicts can cause one's physical resources to be inadequate to maintain the feeling of enjoying good health. A state of physical and mental synchronization with ourselves and the world around us is an essential precondition for the experience of a feeling of well-being. Health should be conceived in the context of developmental processes that realize the individual's innate possibilities, enabling creative adaptation to the challenges of a changing environment [10]. Thus Nietzsche's famous dictum, "Whatever doesn't kill me makes me stronger," seems all the more appropriate, especially for athletes, who will inevitably have to cope with defeat: after all, no one wins all the time.

One important aspect of holistic thinking about health is the departure from the pathogenetic orientation, an essential part of the biomedical paradigm of health, in favor of a pro-health orientation, which focuses, not on disease, but on health. This approach, known as the salutogenic approach, is based on the premise that it is not homeostasis that is the normal state of the organism, but rather chaos, entropy, i.e. the absence of homeostasis [11]. The athlete and the environment are constantly subject to change, since motion, dynamism, and variability are the immanent attributes of health. In this context health is an ideal state, and we find ourselves at any given moment somewhere on the continuum between idealized health at one end and illness at the other.

The purpose of my research was to address two questions: at what level do health behaviors occur in athletes, and how does optimism affect this?

Material and Methods

In order to answer these questions, I examined a group of female (N=147) and male (N=385) athletes currently in training for active competition for a period from 2 to 21 years (M=8.9; SD=4.3). These subjects ranged in age from 16 to 30 years (M=21.8; SD=3.8), i.e. in the age bracket when optimum performance is usually achieved in sports. They were involved in team games (soccer football, handball, basketball, ice hockey, N=286), individual sports (figure skating, artistic and athletic gymnastics, N=124), and combat sports (kickboxing, taekwondo, karate, and fencing, N=125).

The control group consisted of women (N=262) and men (N=435) who were not athletes and never had been, ranging in age from 16 to 30 years (M=21.4; SD=4.5). The control subjects were chosen in such a way as to guarantee that the groups did not differ in respect to age or educational level. This last condition was fulfilled in order to control for the effect of education on the dependent variables.

In order to test health behaviors, I used Juczynski's Health Behaviors Inventory (Polish: Inwentarz Zachowań Zdrowotnych) [12]. This instrument contains 24 statements describing behaviors associated with health, The subjects report how often they engage in a given health behavior, on a scale from 1 to 5, where:
1 = almost never;
2 = seldom;
3 = from time to time;
4 = often;
5 = almost always.

The questions cover four categories: proper nutrition habits, preventive behavior, positive attitude, and healthy practices.

The second instrument was the O-P Attitude Questionnaire [13], which serves to examine optimistic and pessimistic inclinations. The test contains 33 statements pertaining to optimism and pessimism; a high score indicates a higher degree of pessimism.

Results

My results indicated that the level of pessimism in these athletes was average (for the women, M=5.0; SD=1.7; for the men, M=5.3; SD=1.9). The female athletes were less pessimistic than the non-athlete female controls (M=5.7; SD=2.1; t=3.7; p=0.000). A similar difference occurred between the male athletes and non-athletes (M=6.0; SD=2.2; t=4.3; p=0.000). Gender did not differentiate the level of optimism within either the group of athletes or the non-athletic controls (Figure 1).

Pessimism did not correlate with age or the length of time during which the athletes had been in competition. The non-athletic female controls, however, became less pessimistic with age (r=–0.34; p=0.000). There was a similar, but weak correlation in the non-athletic male controls (r=–0.26; p=0.000).

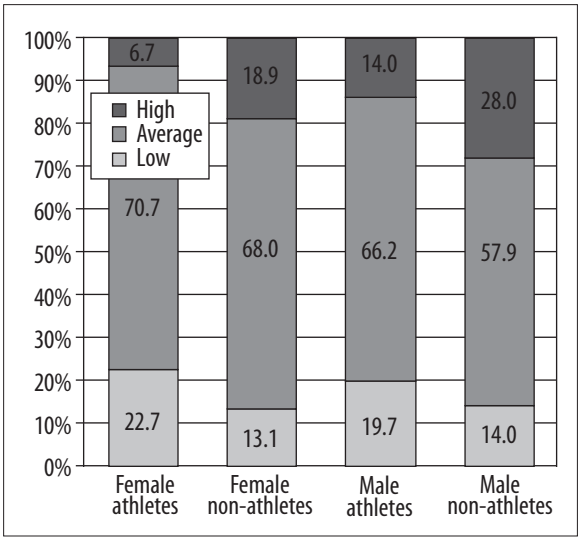

Figure 1. Percentage of persons with various levels of pessimism.

When health behaviors were analyzed, it turned out that the athletes had better scores than the controls in the area of proper nutrition habits, both female (for the athletes, M=5.8; SD=1.9; for the non-athletes, M=5.2; SD=1.8; t=2.9, p=0.004) and male (for the athletes, M=5.6; SD=1.9; for the non-athletes, M=5.0; SD=1.9; t=4.3, p=0.000). The women did not differ from the men in respect to proper nutrition habits, either among the athletes or the controls. It is perhaps obvious that persons with a high level of physical activity, such as athletes, must be very strict in observing dietary rules, and often consult dieticians. It has frequently been demonstrated that the appropriate choice of diet or supplementation markedly improves performance. For example, in research on young judo competitors it was demonstrated that a standard diet enriched with soy protein brought about improved adaptation to the physical challenges entailed by several weeks of intensive training [14].

Much more surprising were the results for preventive behaviors: there were no differences between the athletes and non-athletes. The mean value of 5.2 does not indicate a very high level of concern for health among athletes and non-athletes. Athletes, probably more than others, should undergo health check-ups very often. This results especially from the frequency with which athletes challenge their physical limits of exertion. Preventive behaviors involve the observation of health recommendations, and obtaining information about health and disease [12]. It should be added that risk behavior, such as the lack of attention to preventive behavior, is associated with certain features of temperament, such as strong inclination to sensation-seeking [15].

The next dimension of health behaviors was a positive attitude. This was strongest in the male athletes (M=6.1, SD=1.8), who had higher scores in this respect than male non-athletes (M=5.2, SD=2.2; t=6.2, p=0.000) and female athletes (M=5.5, SD=1.8; t=3.8, p=0.000). The female athletes did not differ from the non-athletic female controls in this respect. It can be concluded, then, that a positive mental attitude is a typical characteristic of male athletes. A positive mental attitude is the individual's predisposition to avoid overly strong emotions, stress and pressure, and situations

with a strong negative effect [12]. Athletic competition is naturally characterized by constant competition, and this in turn is accompanied by strong emotions. For the most part we are dealing here with the motivation to achieve, while constantly exceeding the standards of training and competition. Of course, one cannot always win, so sadness or disappointment is a natural emotional reaction.

The next aspect to be analyzed was health practices, which include daily habits in respect to sleep and recreation, as well as physical activity. It would be reasonable to assume that this would be at a very high level in athletes. It came as no small surprise, then, to find an average result (M=5.3; SD=1.8), with no difference as compared to the level of health practices in the non-athletes (M=5.3; SD=2.1). Nor were there any differences between women and men in either the athletes or the controls.

The basic research problem for the present study was to search for dependencies between an optimistic disposition and health behaviors. It turns out that the higher the pessimism in the non-athletic female controls, the less positive the mental attitude (r=–0.45; p=0.000), which was also true for the female athletes (r=–0.37; p=0.000) and the non-athletic male controls (r=–0.36; p=0.000). These correlations are hardly surprising. In the case of the male athletes, however, there was no such correlation, which may perhaps result from the low variability and the high level of positive mental attitude in this group.

In addition to correlation analysis, I also grouped the subjects into high (8^{th} to 10^{th} decile), average, and low (1^{st} to 3^{rd} decile) levels of pessimism. In all four research groups, the optimists (i.e. low pessimism) showed a higher level of positive mental attitude, which was to be expected. Among the men, athletes and non-athletes, the optimists did not differ from the pessimists in terms of health behaviors. The results were different, however, in the case of the women. The optimists (o)among the female athletes more often applied healthy practices than their pessimistic (p) colleagues (Mo=5.1, SDo=1.5; Mp=3.2, SDp=2.1; t=3.1, p=0.003). A similar tendency occurred among the non-athletic female controls (Mo=6.2, SDo=2.0; Mp=4.3, SDp=2.2; t=4.1, p=0.000). The conclusion would appear to be that among women, but not men, optimism correlates with healthy practices, such as daily habits pertaining to sleep and recreation, as well as physical activity.

Discussion

In both the athletes and the non-athletic controls, gender did not differentiate the level of optimism. These results are in accordance with research performed in a Polish population (N=814) [16]: both sexes similarly perceive the world and the events that transpire within it. Women do achieve somewhat higher scores for optimism, a fact which Stach [16] explains in sociobiological terms: the female, as the mother of the species, must find support primarily within herself and her own activities. In the non-athletic female controls, pessimism declines with age, which may be associated with self-evaluation [17]. Self-evaluation in turn is often associated with physical attractiveness: with the passing of years, there may be greater acceptance of unfavorable changes in the body. Age appears to be a mitigating factor: the self-image becomes more realistic, while the effects achieved by procedures to improve the figure and less susceptibility to the influence of advertising increase women's acceptance of their own appearance and its real or imagined imperfections [18]. This happens differently in the case of female athletes: there the correlation does not occur, which may lead us to infer that athletic training, and especially the positive self-evaluation that comes from success in sports, allows optimism to be maintained on a constant level. The same explanation may apply to the difference in the level of optimism between athletes and non-athletes, at the expense of the latter.

A high level of optimism is associated with good functioning of the immune system: optimism strengthens it [19], and thus improves health, which is dependent on this system. Moreover, both optimism and a strong immune system are helpful in coping with sports-related stress [20]. My own research does not indicate that optimism is associated with health behaviors, either in athletes or in non-athletes. Juczynski [21] has stated that such a correlation exists, but in both his study and my own the correlations are very weak, though statistically significant. This may result from differences in the population sampled in each study. Paradoxically, the positive statement that "everything is going to be OK" could convey the conviction that there is no need to worry about one's health. Other research has shown that health behaviors do not correlate with the motor activity of persons who are not athletes, which may point to a low level of awareness in the Polish population as to the beneficial effects of movement on the process of controlling proper body mass [22]. The only correlation I found in this context was between the level of optimism and a positive mental attitude, a result which is consistent with those reported by other authors [4,18,23,24]. My results indicate that a higher score for healthy practices can be found only in women with high levels of optimism; it can be inferred that the expectation of success goes hand in hand with action, while the lack of faith in success supports giving up on directed activities [5]. The general conclusion suggests itself that one should cultivate a positive, optimistic view of the future. Optimism directs the evaluation of particular situations from daily life, and affects the assessment of one's own possibilities and the process of taking action. In difficult situations pessimists concentrate more on their own emotions, while optimists to a greater extent form plans of action in order to solve the problem.

Conclusions

1. Both female and male athletes display a higher degree of optimism.
2. Optimism correlates with healthy practices, such as daily habits in respect to sleep and recreation, as well as physical activity, but only in the case of women.
3. Greater pessimism correlates with a less positive mental attitude in female athletes and non-athletes, and in male non-athletes.

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