



# Personal well-being as part of the quality of life: Is there a difference in the personal well-being of women and men with higher level of anxiety trait regarding their sport activity ?

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## Abstract

Anxiety trait is a relatively stable personality trait, which refers to the differences between individuals in terms of their tendency to experience state anxiety in response to the anticipation of a threat. Regular sport activity may influence some aspects of emotional adjustment in positive way and so on an individual's well-being. The aim of the study is to find out the possible differences in the level of separate dimensions of personal well-being of men and women with increased anxiety trait level, regarding their sport activity. The research sample consists of 74 respondents in late adolescence (30 men: athletes n=12, nonathletes n=18; 44 women athletes n=18, nonathletes n=26). We have used the standardized STAI questionnaire to determine the level of anxiety trait and standardized BDP questionnaire to determine the level of personal well-being (with respect to its two positive dimensions and three negative dimensions). The results have showed that male athletes demonstrated a significant higher level of positive attitude towards life ( $p=0.01$ ) and a significantly lower level of awareness of problems ( $p=0.04$ ) and depressive mood ( $p=0.03$ ) as male nonathletes. Female athletes demonstrated a significant higher level of positive attitude towards life ( $p=0.02$ ) and selfevaluation ( $p=0.00$ ) while a significant lower level of depressive mood ( $p=0.04$ ) as female nonathletes. Our findings indicate that regular sport activity can be a suitable instrument to increase personal well-being (in some aspects of well-being) of women and men with higher level of anxiety trait.

**Keywords:** well-being, quality of life, anxiety trait, sport activity, late adolescence

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## INTRODUCTION

The expert and general public place great emphasis on the quality of life of individuals in the sense of prevention, and the maintaining or enhancing of its level.

The degree of the quality of one's life reflects the subjective assessment of one's own living situation as such. This is one of the reasons that we must look at the aforementioned notion from the aspect of the intersection of several disciplines such as psychology, medicine, sociology and others. From the aspect of psychology, it is the notion of satisfaction that is important, because only the life of an individual who is satisfied is a quality life [1]. Within the concept of quality of life, a certain connection with another notion – subjective well-being, is apparent from the aforementioned emphasis on the experience of an individual's satisfaction. Therefore, we perceive subjective well-being as a certain subcategory of quality of life. It is defined as a long-term emotional state which includes physical, psychological and social aspects and plays a significant role in the overall quality of life. The notion of subjective well-being is usually operationalized as an experience lasting at least for weeks, not moments [2, 3].

The notions of anxiety trait and anxiety state are also definitively connected with subjective well-being. But, from the perspective of their content we must perceive them differently and approach them differently within our research. Anxiety trait is a more permanent subjective feature which includes a permanently increased readiness to experience uncertainty and to display anxiety symptoms [4]. This personality trait causes the frequent and excessive experiencing of anxiety [5].

On the other hand, anxiety state is characterized as a momentary state of discomfort, threat, diffusive worries, helplessness and many other symptoms at the level of an individual's living and behavior. From the perspective of living, we must emphasize that it is an unpleasant emotional state the cause of which cannot be defined more precisely [6].

Typical manifestations of excessive anxiety can be defined based on how they are manifested behaviorally. They are also usually called "safety behaviors" and include avoidance (which leads only to a short-term reduction of anxiety but doesn't give the individual the possibility to find out the difficulty of a stressful situation or the degree of anxiety), hostility (aimed particularly towards others – family, friends, close ones), perfectionism (related not only to anxiety state, but also to anxiety trait as a character trait, it is the effort to be perfect in all ways and clinging to details), and neurotic symptoms which are obvious in times of anxiety, binge eating, binge smoking and binge alcohol abuse [7].

Anxiety trait and anxiety state are significantly interconnected – within the trait anxiety an individual has an elevated subjective predisposition to experience the aforementioned anxiety symptoms to an increased degree.

The correlation of an individual's trait anxiety and the level of his/her subjective well-being or quality of life is apparent from available research findings because the degree of trait anxiety contributes to the variability of quality of life values and namely in several of its areas. It is trait anxiety as a subjective characteristic of an individual that is the strongest predictor with a subjective assessment of quality of life in the psycho-social and cognitive areas [8]. According to several research studies, regular sporting activity also seems to be a suitable means to regulate the level of subjective well-being in a positive direction [9-11]. Sporting activity may be examined from the perspective of its narrower or wider meaning. In the narrower meaning the motive of an individual's performance and competitiveness is up front. In sporting activities in a wider meaning it is strengthening or improving of health, physical appearance or coping strategies and experiencing motion as such that are important [12]. Thus, in addition to their health and social significance, sporting activities feature another important dimension – experientiveness [13], which increases the potential of having an impact on subjective well-being.

When building standpoints towards the aforementioned physical activity and sports, as well as in building a healthy lifestyle the years spent at university play a significant role [14], therefore, the study in question focused on this development period.

The aforementioned satisfaction with life arises from the individual's actual awareness of the meaning of life. Since the period of adolescence is connected with searching for values, searching for oneself and one's place in the world, the significance of sporting activity is also growing and has

related benefits in the social, physical, emotional and health areas. Sport activity at any level is also related to quality of life [15-18].

The findings confirming a positive effect of sport activity in this area however arise from research carried out with an ordinary population and among the population of people that are predisposed to experiencing more frequent and intensive anxiety symptoms and this research evidence is lacking.

For this reason, the aim of this study was to establish the degree of subjective well-being (in its individual aspects) of young men and women carrying out sport activities and who demonstrate an elevated degree of trait anxiety. Based on theoretical baselines and research findings we queried whether there was any difference in the degree of subjective well-being of men and women showing an elevated degree of trait anxiety in terms of their sport activity.

Considering the benefits of sporting activity in the area of subjective well-being we assume that respondents engaging in sporting activity demonstrate an elevated level of positive aspects of subjective well-being and at the same time a lower level of negative aspects of subjective well-being in comparison with individuals who do not engage in any sport activity.

To formulate this research question and the overall research design we were inspired by research findings concerning the fact that sport activity can correct the degree of trait anxiety of an individual in a positive direction. For example, the research of Aidar et al. [19] in the sample of adult men and women who suffered ischemic strokes indicated that their symptoms of depression, anxiety state and anxiety trait were reduced after a 12 week-training program.

## MATERIAL AND METHODS

### *Participants*

Ensuring a research sample of young men and women demonstrating an elevated degree of anxiety trait as a personality trait was crucial for meeting the goal of our study. We distributed the STAI questionnaire among 207 male and female adolescents in total and from them we selected only those with an elevated degree of trait anxiety. It practically means that their score on the STAI questionnaire had to meet the conditions of inclusion in the 70<sup>th</sup> percentile – thus we included men whose final score was at least 47 points and women whose final score was at least 50 points (according to the STAI questionnaire manual).

Subsequently we divided the respondents according to gender and the sport activity carried out. In the sample of respondents we included the respondents who engaged in sport activity at least three times a week (regardless of the level) were included in the sample of athletes. The respondents who did not engage in any sport activities at all were included in the sample of nonathletes.

After this completion of this selection procedure the research sample consisted of 74 respondents in late adolescence (30 men - athletes:  $n=12$  ( $20.25\pm1.36$  years), nonathletes:  $n=18$  ( $20.83\pm0.99$  years); 44 women - athletes:  $n=18$  ( $20.50\pm2.46$  years), nonathletes:  $n=26$  ( $20.42\pm1.10$  years)).

All of the respondents were students of universities and higher education institutions in Bratislava. In terms of age, all of the male and female respondents were in the period of late adolescence, although from the formal aspect they could be considered adults. Due to this fact in the text of this paper we will use the terms adolescent and man/woman as synonyms.

### *Measures*

In order to establish the degree of anxiety trait, we used a diagnostic instrument known under the acronym STAI. In Slovak conditions it has been standardized by Ruisel et al. [20] and we know it as the State Trait Anxiety Inventory. It is based on the assumption that there is a measurable difference between a temporary, transitional state and a relatively permanent predisposition.

The construction of the scale of anxiety trait is oriented on measuring the trait or anxiety tendency and respects individual differences in the tendency to understand the world, dispositions to reply in a specific and predictable manner, individual differences in manifesting special emotional states and the positive correlation between the strength of a personality trait and the intensity of a corresponding emotional state [20]. The final score is the whole number obtained by adding the scale

values (respecting reverse scoring). It has been established that the higher the score, the higher level of trait anxiety. Scores range from 20 to 80.

In order to find out the degree of subjective well-being in its individual dimensions, we used the Bern Subjective Well-Being Questionnaire (BDP). Džuka [21] translated it into Slovak and modified it. The questionnaire consists of 28 questions monitoring individual aspects of subjective well-being. It implicitly features three basic components of subjective well-being, namely habitual psychological well-being, actual psychological well-being and actual physical well-being. The Dimensions of Positive attitudes towards life and Selfevaluation are the positive aspects (dimensions) of subjective well-being, Awareness of problems, Physical problems and Depressive mood are the negative aspects (dimensions) of subjective well-being [21].

The questions in this questionnaire can be divided in five scales or dimensions:

*Dimension 1:* Positive attitude towards life. This includes questions that aim to determine the respondent's attitude towards life events and the confidence that one is living a meaningful life. It is comprised of 7 questions.

*Dimension 2:* Awareness of problems. This dimension includes questions that aim to determine the respondent's level of awareness of the problems in his/her personal and social environment. It is comprised of 7 questions.

*Dimension 3:* Physical problems and reactions. This dimension includes questions that aim to determine the respondent's physical reactions and related problems. It is comprised of 8 questions.

*Dimension 4:* Selfevaluation. This dimension includes questions that aim to determine the respondent's level of self-acceptance, and his/her confidence that he/she is valuable and can achieve something significant. It is comprised of 3 questions.

*Dimension 5:* Depressive mood. This dimension includes questions which in the case of a high score indicate that the respondent is living a joyless and meaningless life. It is comprised of 4 questions.

The respondents were instructed to answer all the questions through a 6-point (dimensions 1, 2, 4, 5) or 4-point Likert scale (dimension 3). The Likert scale is comprised of a continuum from 1 to 6 points where 1 means strongly disagree up to 6 which means strongly agree or a continuum from 1 to 4 points where 1 means not at all up to 4 which means very frequently.

### Procedures

Data were collected from November 2016 to February 2017. The questionnaires were distributed in paper form. The respondents completed all three parts of the questionnaire at the same time. All of the respondents were informed ahead of time of the purpose of the research finding and assured of their anonymity and any questions were answered directly before their participation in the research. The authors of this study participated in collecting the data and all were instructed in the proper manner of doing so.

This study was approved in advance by the Ethics Committee of the Faculty of Physical Education and Sport, Comenius University.

### Statistics

The statistical analysis was carried out through the IBM SPSS statistical program (Version 23 for Windows, IBM). The Shapiro-Wilk test was used for testing data normality. We used the Mann-Whitney U-test to identify differences between the two independent research samples (male athletes and male nonathletes and female athletes and female nonathletes). We reviewed statistical significance at  $p < 0.05$  and  $p < 0.01$ . To calculate effect size we selected the coefficient  $r$  ( $r \geq 0.9$  – very strong relation;  $r = 0.7 - 0.9$  – strong relation;  $r = 0.5 - 0.7$  – medium strong relation;  $r = 0.3 - 0.5$  – weak relation;  $r \leq 0.3$  – very weak relation) [22].

## RESULTS

The goal of our study was to determine the level of subjective well-being (in its individual dimensions) of men and women with an elevated degree of trait anxiety in terms of their sporting activity.

Our results showed the differences in individual subjective well-being dimensions. We recorded a statistically significant difference in the men's samples at the level of 1% of statistical significance regarding positive attitude towards life, which we classify as one of the positive aspects of subjective well-being. Male athletes achieved a significantly higher score than male nonathletes ( $U = 48.00$ ;  $p = 0.01$ ;  $r = 0.46$ ), thus we classified them as having a higher level of positive attitude to life. The difference at the 5% level of statistical significance was also shown between the male samples in terms of their sport activity in two negative dimensions of subjective well-being – awareness of problems and depressive mood. In these two dimensions we recorded a higher score among male nonathletes; in other words, male nonathletes showed a higher degree of problem awareness ( $U = 60.50$ ;  $p = 0.04$ ;  $r = 0.37$ ) and a higher degree of depressive mood ( $U = 57.50$ ;  $p = 0.03$ ;  $r = 0.39$ ) than athletes. Differences in the degree of self-evaluation at the level of experiencing physical problems were not statistically significant in the male sample in terms of their sport activity (Table 1).

We also detected the level of individual aspects of subjective well-being (through dimensions) between the female samples in terms of their sporting activity. In this sample we recorded a significantly different degree of self-evaluation ( $U = 93.50$ ;  $p = 0.00$ ;  $r = 0.51$ ), and recorded a higher level of self-evaluation among female athletes. We also recorded a similar trend in favor of female athletes in the second of the positive dimensions of subjective well-being (positive attitude towards life), but the difference was at the 5% level of statistical significance ( $U = 137.00$ ;  $p = 0.02$ ;  $r = 0.35$ ).

There was also a significant difference between women in terms of their sport activity in one of the negative dimensions of subjective well-being, namely depressive mood ( $U = 149.50$ ;  $p = 0.04$ ;  $r = 0.31$ ). We recorded a higher level of depressive mood among female nonathletes. Differences in the level of awareness of problems and the level of experiencing physical problems were not statistically significant in the women's sample in terms of their sport activity (Table 2).

Based on our findings, we can conclude that sport activity of at least three training units per week has benefits not only for the ordinary population, but also for the population with an elevated degree of anxiety trait.

In general, our results showed a higher degree of positive aspects of subjective well-being among athletes regardless of gender and a lower degree of negative aspects of subjective well-being among nonathletes regardless of gender (although not in all cases).

We recorded a higher degree of positive attitude to life among male athletes in comparison with male nonathletes; in other words, we registered only one significant difference between male athletes and male nonathletes in positive dimensions of subjective well-being. However, we recorded two significant differences in negative dimensions of subjective well-being. Male nonathletes showed a higher degree of problem awareness and higher degree of depressive mood.

In terms of positive subjective well-being dimensions we recorded a higher degree of positive attitude towards life and self-evaluation in the group of female athletes, while female nonathletes scores significantly higher than female athletes only in the level of depressive mood.

Table 1. The mean values ( $\pm$  standard deviation) of male score in individual dimensions of well-being

Sport activity	Positive attitude	Awareness of problems	Physical problems	Self-evaluation	Depressive mood
nonathletes	3.39 $\pm$ 1.08	3.42 $\pm$ 1.44	2.57 $\pm$ 1.09	3.65 $\pm$ 1.39	3.97 $\pm$ 1.30
athletes	4.53 $\pm$ 1.36	2.36 $\pm$ 1.37	3.09 $\pm$ 1.14	3.85 $\pm$ 1.31	2.76 $\pm$ 1.47
p-value	0.01*	0.04*	0.27	0.63	0.03*

\* statistical significance  $p < 0.05$

Table 2. The mean values ( $\pm$  standard deviation) of female score in individual dimensions of well-being

Sport activity	Positive attitude	Awareness of problems	Physical problems	Self-evaluation	Depressive mood
nonathletes	3.69 $\pm$ 1.03	2.83 $\pm$ 1.04	2.32 $\pm$ 1.03	3.59 $\pm$ 1.11	3.11 $\pm$ 1.16
athletes	4.37 $\pm$ 1.20	3.34 $\pm$ 1.11	2.30 $\pm$ 1.04	4.70 $\pm$ 1.28	2.28 $\pm$ 1.23
p-value	0.02*	0.14	0.83	0.00**	0.04*

\* statistical significance  $p < 0.05$ , \*\* statistical significance  $p < 0.01$

## DISCUSSION

Research oriented on the level of subjective well-being of men and women with an elevated degree of anxiety trait is not currently available; however, we have many partial findings at our disposal. We based our evaluation on the hypothesis that benefits of regular sport activity may become obvious not only among individuals with a regular degree of anxiety trait but also among individuals with an elevated degree of anxiety trait. Since the level of anxiety trait as such also determines the degree to which the symptoms of state anxiety and depressive mood are manifested, we consider it to be a significant factor with the potential to affect the overall experiencing of subjective well-being. Our assumption is based on the research which showed the positive effects of regular sport activity on the degree of anxiety trait and manifesting its symptoms among men and women [23-25]. Several researchers have reached the same conclusions. De la Cruz-Sanchez, Moreno-Contreras, Pino-Ortega and Martinez-Santos [9] studied the relationship between leisure time sport activity and subjective well-being in a sample of more than 29 000 men and women in Spain. The authors concluded that leisure time sporting activity was related to a lower incidence of negative indicators in mental health (such as depressive mood, depression and anxiety symptoms).

Our findings showed the difference between athletes and nonathletes (regardless of gender) in the dimension of depressive mood. A similar trend was also indicated by the results of extensive research conducted by Hassmén, Koivula and Uutela [26]. The authors focused on finding the relationship between the frequency of sport activity and selected aspects of subjective well-being among 3,403 men and women in Finland. The results of this research showed a negative association relation between the level of subjective well-being and frequency of sport activity. The respondents who engaged in a sport activity 2 to 3 times a week showed a lower degree of studied psychological variables such as depression and stress in comparison with respondents who did not engage in any sport activity.

Ensel and Lin [27] conducted a study involving American respondents and stated that the more an individual engaged in sport the less he/she manifested negative psychological and somatic symptoms. However, our results only partially correspond with these findings – our findings did not show any difference in the perception of physical problems between athletes and nonathletes regardless of gender.

The relationship between regular sport activity and the degree of subjective well-being was also studied by Cramer, Nieman and Lee [28]. The results of their research showed that engaging in sport enhances the level of subjective well-being among female respondents. Fox [29] also reached the same conclusion in his study. He showed the positive effect of sporting activity on the subjective well-being of men and women. The research studies showed the positive effect of sport activity among men and women on the positive aspects of subjective well-being [10,30,31]. Weyerer and Kupfer [11] found that physical activity enhances the level of subjective well-being and even has a preventive effect.

The results of our research also correspond with the aforementioned findings. Thus, we can assume that regular sport activity may have the potential to enhance the level of subjective well-being among young people, not only among the ordinary population, but also among individuals with a higher level of anxiety trait.

Moreover, findings regarding the negative aspects of subjective well-being are thus complemented by findings regarding the positive aspects of subjective well-being. Taken together, they complete the image of the subjective well-being of young athletes and nonathletes with an elevated degree of anxiety trait.

Despite this study's interesting findings in the area of personal wellbeing in context of elevated degree of anxiety trait, it has several limitations that should be acknowledged. Firstly, the size of the research group of male and female athletes and non-athletes of our research was relatively small. For this reason we consider our research as a pilot study.

We assume that the level of personal wellbeing of male and female athletes and nonathletes with higher level of anxiety trait is in general lower than level of wellbeing of male and female with normal level of anxiety trait. However, we cannot confirm this state-ment without further research.

## CONCLUSION

In the sample of respondents with an elevated degree of anxiety trait our findings showed a higher degree of positive aspects of subjective well-being among athletes (level of positive attitude towards life in the male and female samples and level of self-evaluation only in the female sample) and a higher level of negative aspects of subjective well-being among nonathletes (level of depressive mood in the male and female samples and degree of awareness of problems only in the male sample).

We believe that the study broadened the area of research of the benefits arising from sport activity in the area of subjective well-being of young men and women and outlines possibilities for studying these areas not only in terms of the ordinary population but also among the population of young people with an elevated degree of trait anxiety.

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