

## CHARACTERIZATION OF WOMEN'S GENERAL HEALTH AND PHYSICAL ACTIVITY IN FITNESS

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**Abstract.** *Sedentary life causes very big physical and mental health problems, which also decrease one's life quality. That is why the aim of the research is to evaluate women's involved in fitness interconnection of subjective evaluation of life quality components and their connection to objective parameters of life quality. GHQ-12 was applied to evaluate general health and IPAQ short version was used to state the amount of physical activities. There are several weak and a very weak correlation between general health, amount of physical activities and the objective factors of life quality. To fully evaluate and improve the parameters of life quality subjective and objective character should be taken into account.*

**Keywords:** *life quality, general health, physical activities, IPAQ, GHQ-12*

### Introduction

Nowadays sedentary lifestyle is becoming more and more frequent all over the world, and it causes very big physical and mental health problems. As several researches show, amount of physical activities affects beneficially the level of human life quality (Rejeski & Mihalko, 2001; Rejeski et al., 2006, Napolitano et al., 2011) and there is a connection between mental and physical health and amount of physical activities. However, this connection has not been deeply researched, yet (Sloan et al., 2009). In various researches the correlation between physical activity and mental health is weak, but in many researches there is no correlation at all. On the other hand, it is often emphasized that physical activities can decrease depression, anxiety, stress, as well as raise self-esteem (Brannon & Feist, 1992). In the Latvian National Development Plan 2014 – 2020 'Man's ability to be safe' is mentioned as one of the priorities, and in the chapter 'Healthy and workable man' facilitation of healthy lifestyle as the basis of one's life quality is said to be developed, so it is one of the prior directions in society development.

**The aim of the research** is to evaluate women's involved in fitness interconnection of subjective evaluation of life quality components (general health and amount of physical activities) and their connection to objective parameters of life quality.

### Methods

80 women from 4 fitness clubs were inquired in the research. 22.6% were from 18 till 25 years old, 42.8% - from 26 till 35 years old and 17.8% - from 36 till 58 years old.

To evaluate women's involved in fitness life quality component *general health*, General Health Questionnaire (GHQ-12) was applied in Latvian language (Cekule et al, 2006), where the respondents had to assess their feelings and life during the last 2-3 weeks. GHQ -12 is mostly used all over the world to state psychological load, overload and general mood.

The short version of IPAQ questionnaire was used in Latvian language (Kaupuzs & Larins, 2010), to evaluate amount of physical activities. The respondents marked how many very hard and of moderate intensity physical activities they had done during the last 7 days and how much time they had spent sitting or walking.

Additionally the objective parameters of life quality, such as home, occupation, education level, financial situation, family status, kinds of leisure activities, belonging to some group or club, were stated. The inquiry (questionnaire) and data summarization were made anonymously.

SPSS ver.17.0 data procession program was applied to analyze the data. Descriptive statistics (frequency, mode, mean) was made, Kolmogorov-Smirnov criterion was applied to state whether the data are parametric or non-parametric, and correlation analysis of the non-parametric statistics was made to determine the Spearman Rank Correlation Coefficient.

### **Theoretical framework**

In the 21st century, since the time, when the World Health Organization started to define health not only as a fact that there is no disease, but also as physical, mental and social wellbeing, research concerning life quality has become popular in several research directions all over the world. However, it also shows that the notion of life quality is differently interpreted, corresponding the field of research. In the course of time with the development of life quality researching concepts several different life quality definitions have been made, and various study methods, meant for different society groups, have been developed. But, despite the fact that sometimes the notion *life quality* due to so various interpretations is used inappropriately, studying it contributes greatly in facilitation of the development of individuals and society in general (Claussen C., 2004).

Life quality is linked with an individual's ability to use several resources of society. So, as one of the definitions can be mentioned that life quality is an individual's value, aim and need satisfaction through one's ability or actualization of his/her lifestyle (Emerson, 1985; Schalock & Robert, 2004), what coincides with that man's satisfaction and feeling well depends on the degree an individual's objective situations agree with his/her desires or needs (Felce & Perry, 1995). However, society changes together with resource offer and demand, people's opinion, values, lifestyle change, so also the characterization of life quality notion does.

The term *life quality* or more precisely *life quality oriented towards health* consists of physical, psychological and social domains which depend on man's experience, belief, hope and perception (Sorensen et al., 2008; Brook et al., 1983). Basing on the research by Ferrell, it can be said that life quality is feeling of comfort determined by four domains: physical, psychical, social and mental feeling of comfort (Ferrell, 1995). The life quality notion defined in Latvia also includes physical and mental health altogether with leisure and how it is spent ("Attīstība", 2000). Oort, Visser and Sprangers emphasizes in their research that life quality is a wide concept, which is influenced by one's health, psychological condition, one's opinion, social relations and most essential environmental factors (Oort et al., 2005).

The way how physical activities affect the parameters of life quality is broadly researched. Physical activities help improve social, mental and physical components (Mammen & Faulkner, 2013). To be in a good physical condition means to be healthy, as well as it is not possible to be healthy if one is not in a good physical condition. Physical activity can be defined as any movement by the body, executed by the help of skeletal muscles by using energy (Caspersen & Powell, 1985), but an exercise is a subgroup of physical activities, which can be defined as a planned and structured body movement that can be repeated and is performed to improve some of components of physical condition (Napolitano et al., 2011). Sedentary life means insufficient amount of physical activities. Which are executed to strengthen and improve one's health (National Institute of Health. Physical activity and cardiovascular health. NIH consensus statement, 1995). In this articles physical activities include both everyday activities and the planned exercises.

In 1995 the Center of Disease Control and Prevention together with American Sport Medicine College suggested every USA citizen to do moderate physical activities at least 30 minutes a day (Pate et al., 1995). Similar recommendations concerning the amount of physical activities in health improvement process were given by American heart Association and the USA Surgeon Association in their reports in the National Institute Health Solidarity Conference in 1996 (NIH Consensus Development Panel on Physical Activity and Cardiovascular Health, 1996; US Department of Health and Human Services, 1996). However, the USA Medicine Institute in its report recommends to do moderate physical activities at least 60 minutes daily, they think that 30 minutes of moderate physical activities are not enough to receive all health benefits and struggle with excess weight (Schmitz et al., 2000).

In 2007 the recommendations of 1995 concerning the amount of physical activities were supplemented, and it was published that in order to facilitate and maintain health every adult aged 18 – 65 needed aerobic (endurance) physical activities of moderate intensity of at least 30 minutes five days a week or of high intensity aerobic physical activities at least 20 minutes three times a week (Haskell et al., 2007). One more recommendation can be mentioned that people

should be involved in strength, endurance and flexibility physical activities at least 2 times a week, which will improve one's physical qualities and provide active lifestyle, as well as improve life quality (Presented at the ASNS/ASCN Public Information Committee Symposium, 2004).

Health similar to life quality is explained by three great domains – physical health, mental health and social wellbeing condition (Edward et al., 1998; Powell & Pratt, 1996; Francis, 1996; World Health Organization, 2010; Kiess et al., 2001; Department of Health, 2004). Taking the data of the World Health Organization about European inhabitants' death reasons in 2012 as the basis, it should be said that 80% of death cases is from “non-communicable diseases”, including the problems of the cardio-vascular system (50%), and male cases are more than female ones. Since 1995 the death cases from diabetes have increased up to 25%. The cases of the digestive system diseases have increased up to 30% since 1990 (Health 2020: a European policy framework supporting action across government and society for health and well-being, 2012). So, there are great health problems all over the world, and they affect one's lifestyle, decreasing the level of life quality.

## Results

Having summed up the data, it can be concluded that all respondents' questionnaires were useful for data procession. Out of 80 respondents the most ones (42.8%) are aged 26-35 and the least (17.8%) are aged 36-58. Most respondents have higher education (60%) or higher not finished education (16.3%), which mostly lives in a property with mortgage (25%), in a flat with no hire (25%) or in a flat on hire (21.3%). Most number of respondents are employed, employers (75%) or those who study. 67.5% of the respondents answered that their material situation is satisfactory, 25% mentioned that they can get along, but 7.5% think that their material situation is unsatisfactory. 36.3% of the respondents have relations, 23.8% – are married and have child(-ren), 21.3% of the respondents have the status of free relations.

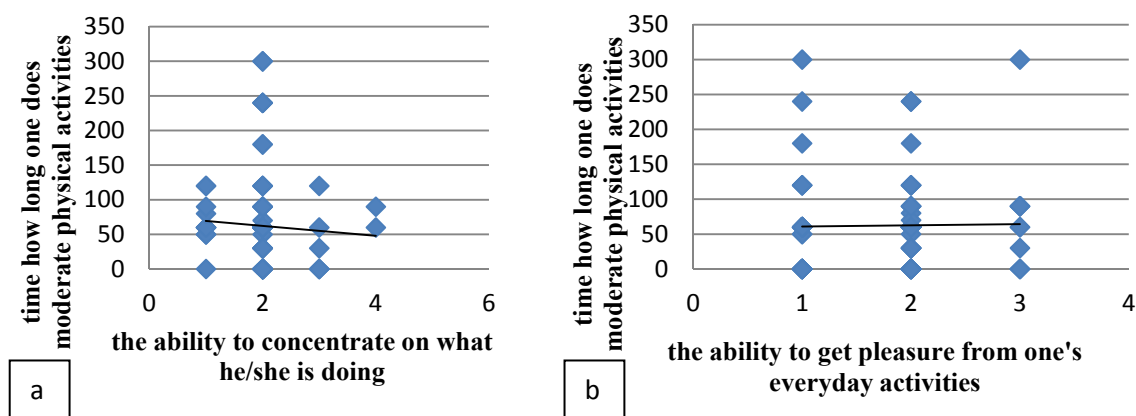
Based on the stated in the questionnaires additional data about the quality of life objective parameters a big number of respondents do not participate in leisure activities mentioned in the questionnaire. For instance, 31.3% of the respondents have not visited any bar or café during the last month, 82.5% ones have not been to any sport events, 77.5% – have not been to a service in a church, 28.8% – have not chatted to acquaintances or neighbors, 25% – have not had a meal out, 45% – have not been to a cinema, 20% – have not visited friends, 15% – have not done physical activities, and 91.3% of the respondents do not belong to a club or society.

With the help of the Kolmogorov-Smirnov criterion it was stated that the data are non-parametric, and the method of non-parametric statistics correlation analysis should be applied.

Having evaluated the obtained Spearman rank correlation coefficients (one-tailed), it can be concluded that there are several weak insignificant connections between the objective factors of life quality, amount of physical activities and parameters of general health ( $0,2 < r_s < 0,49$ ) (Dravnieks, J., 2012).

There are weak connections between amount of physical activities and subjective evaluation of general health (see Fig. 1):

- 1) if a respondent can better concentrate on what he/she is doing, then he/she does more moderate physical activities ( $r_s = -,234, p < 0.05$ );
- 2) the much more respondents than usually have not slept well due worries, the less of them do very hard physical activities ( $r_s = -,264, p < 0.01$ ) and moderate physical activities ( $r_s = -,202, p < 0.05$ );
- 3) if respondents feel that they cannot overcome hardships, then most of them do hard physical activities ( $r_s = ,234, p < 0.05$ ), spending the less time sitting ( $r_s = -,203, p < 0.05$ );
- 4) the more respondents can get pleasure from their everyday activities, the most often they do moderate physical activities ( $r_s = ,263, p < 0.01$ );
- 5) if a respondent has lost his/ her confidence, then he/she thinks that is an unimportant individual and less goes on foot ( $r_s = -,337, p < 0.01$ ).



**Fig.1 Interconnection between the time how long one does moderate physical activities and the ability to concentrate on what he/she is doing (a), and the ability to get pleasure from one's everyday activities (b)**

There are weak connections between the objective factors and general health inquiry statements:

- 1) the higher a respondent's education level is, the less he/she can get pleasure from his/her everyday activities ( $r_s = ,211, p < 0.05$ );
- 2) those who belong to any club or society (for instance, a chairman of a board) feel much more that they cannot overcome hardships ( $r_s = ,260, p < 0.01$ ).

The objective factors and physical activities also showed some weak and very weak correlations:

- 1) the higher a respondent's education level is, the much more hours he/she spends sitting ( $r_s = ,202, p < 0.05$ );
- 2) if a respondent is employed or an employer, he/she spends longer time sitting ( $r_s = -,203, p < 0.05$ );
- 3) the more satisfactory a respondent's financial situation is, the less hours he/she spend doing moderate physical activities ( $r_s = -,227, p < 0.05$ ) less goes on foot ( $r_s = -,264, p < 0.01$ );
- 4) those, who have the status of free relations, more often do hard physical activities ( $r_s = -,207, p < 0.05$ ), more often goes on foot ( $r_s = -,262, p < 0.01$ ) than those, who are married and have children (See Fig.2).

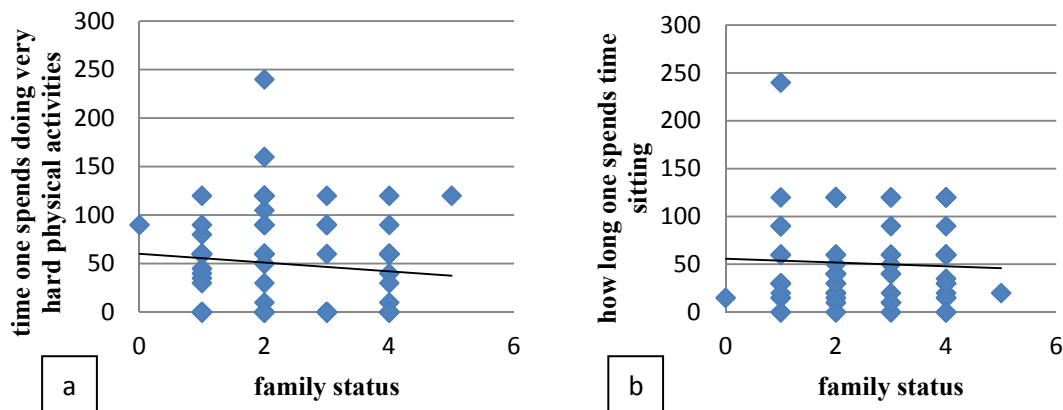


Fig. 2 Interconnection between family status and time one spends doing hard physical activities (a) and how long one spends time sitting (b)

There are some weak connections between the habits of spending leisure and the subjective evaluation of general health:

- 1) the most often a respondent eats out, the more than usual he/she can solve his/her problems ( $r_s = -,298, p < 0.01$ );
- 2) the most often a respondent visits his/her friends or acquaintances, the better he/she can solve his/her problems ( $r_s = -,286, p < 0.01$ ), the less he/she feels unhappy and sad ( $r_s = -,210, p < 0.05$ ), does not feel like he/she has lost self-confidence ( $r_s = -,234, p < 0.05$ );
- 3) the more a respondent do sport or exercises in his/her leisure, then better than usual he/she can concentrate on what he/she is doing ( $r_s = -,242, p < 0.05$ ), does not feel that has not slept well due worries ( $r_s = -,251, p < 0.05$ ) (See Fig. 3).

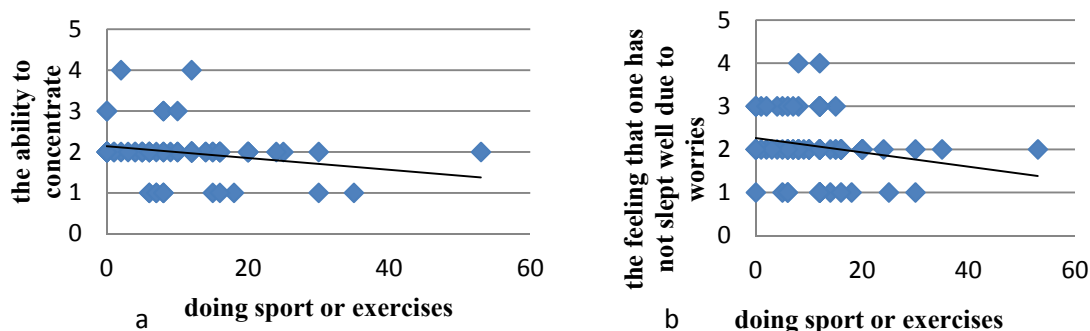


Fig. 3 Interconnection between doing sport or exercises and ability to concentrate on what one is doing (a), and the feeling that one has not slept well due worries (b)

There are weak correlations between the habits of spending leisure and the amount of physical activities:

- 1) the more a respondent visits cafes, the more he/she do sports or exercises ( $r_s = ,225$ ,  $p < 0.05$ ), however, he/she spends more hours sitting ( $r_s = ,205$ ,  $p < 0.05$ ).
- 2) the more a respondent visits sports events, the more he/she do hard physical activities ( $r_s = ,203$ ,  $p < 0.05$ ), and more goes on foot ( $r_s = ,201$ ,  $p < 0.05$ );
- 3) the more a respondent eats out, the more minutes he/she do in hard physical activities ( $r_s = ,206$ ,  $p < 0.05$ ) and in moderate physical activities ( $r_s = ,208$ ,  $p < 0.05$ ).

There is an average close correlation between the times one eats out and the times he/she visits his/her friends and acquaintances ( $r_s = ,528$ ,  $p < 0.01$ ).

There are also weak non-significant correlations between the objective factors and habits of spending leisure:

- 1) the lower a respondent's education level is, the more often he/she chats with neighbors or acquaintances ( $r_s = -,211$ ,  $p < 0.05$ );
- 2) if a respondent is employed or an employer, then he/she more eats out tad ( $r_s = -,207$ ,  $p < 0.05$ ).

There are also weak correlations between amount of physical activities and the kind and the time spent sitting:

- 1) the more time one spends doing very hard physical activities, the less time he/she spends sitting ( $r_s = -,248$ ,  $p < 0.05$ ), the same refers to the interconnection between moderate physical activities and sitting ( $r_s = -,232$ ,  $p < 0.05$ );
- 2) the more hours one spends doing very hard physical activities, the more hours he/she does moderate physical activities ( $r_s = ,202$ ,  $p < 0.01$ ).

## Discussion

Having compared the obtained research results to other studies of physical activity connection with health (in our case – mental) and other parameters of

life quality, it can be concluded that several researches have pointed out, that there is a connection.

In 1998 Craft and Landers proved that physical activities have connection with mental health, namely, with the decrease of depression development risk, and that the effect from physical activities is the same as from psycho-therapeutic interference ( $r = -0.72$ ) (Craft & Landers, 1998). Spence and Poon have found connection between physical activities and self-esteem, but this connection was weak ( $r = 0.22$ ) (Spence & Poon, 1997).

In 1999 in the research about the connection between life quality, invalidity and physical activities by people having the back injuries correlation was not seen between the subjective factors of life quality and physical activities (Patricia & Karen, 1999).

The correlation of the amount of physical activities and psycho-social factors was shown in the research of children aged 10 – 16, where sedentary lifestyle and moderate physical activities had average negative correlation ( $p < 0.01$ ), however, very hard physical activities showed correlation with self-perception ( $p < 0.01$ ) and with social inclusion ( $p < 0.05$ ). High level physical activities show correlation with high self-confidence level ( $p < 0.05$ ) (Strauss et. al., 2001).

In 2003 the research was carried out about physical activity, body structure and health oriented life quality of elderly people, where it was concluded that even irregular physical activities and irregular diet when living normal life when physical condition gradually improved could improve the parameters of life quality (Stewart et al, 2003).

In the research in 2007 about physical activities there was an average positive correlation between physical activities and the parameters of health oriented life quality ( $p < 0.01$ ) (Bize et al, 2007). In 2006 the research about life quality and physical activities had shown negative correlation, and this means that physical activities affect self-perception, physical and mental health what in their turn positively affect life quality (Edward et al., 2006).

However, the data about the connection between life quality and physical activities are different, and it shows that researches are various and topical. Not in all researches correlation is high what can be connected with the fact that life quality evaluation often consists of only subjective factors, and each respondent understands it differently. In our research we evaluated both objective and subjective parameters of life quality.

### **Conclusions**

The research showed that there is number of weak insignificant connection for women in fitness between physical activities and subjective evaluation of general health, for example the time one spends doing moderate physical activities and the ability to concentrate ( $r_s = -,234$ ,  $p < 0.05$ ), sleep and worries ( $r_s = -,201$ ,  $p < 0.05$ ), the ability to get pleasure from one's everyday activities ( $r_s = 0,263$ ,  $p < 0.01$ ); the time one spends doing very hard physical activities and



sleep and worries ( $r_s = -,264$ ,  $p < 0.01$ ), the ability to overcome hardships ( $r_s = ,234$ ,  $p < 0.05$ ); time of walking and self-confidence, self-significance ( $r_s = -,337$ ,  $p < 0.01$ ); the time spent sitting and the ability to overcome hardships, hard physical activities ( $r_s = -,203$ ,  $p < 0.05$ ). Whereas subjective evaluation of general health has a number of weak insignificant connections with:

- 1) the objective factors, for example: education level and the ability to get pleasure from one's everyday activities ( $r_s = ,211$ ,  $p < 0.05$ ); belonging to some club or society and feeling that one cannot overcome hardships ( $r_s = ,260$ ,  $p < 0.01$ );
- 2) the habits of spending leisure: eating out and the ability to solve one's problems ( $r_s = -,298$ ,  $p < 0.01$ ); visiting one's friends and acquaintances and being able to solve one's problems ( $r_s = -,286$ ,  $p < 0.01$ ), being less unhappy and sad ( $r_s = -,210$ ,  $p < 0.05$ ), does not feel like having lost self-confidence ( $r_s = -,234$ ,  $p < 0.05$ ); doing sport or exercises in one's leisure and the ability to concentrate on what is doing ( $r_s = -,242$ ,  $p < 0.05$ ), the feeling that has not slept due worries ( $r_s = -,251$ ,  $p < 0.05$ ).

The amount of physical activities also has few weak insignificant correlations with:

- 1) objective factors, for example: education level and the number of hours one spends sitting ( $r_s = ,202$ ,  $p < 0.05$ ); occupation and the time spent sitting ( $r_s = -,203$ ,  $p < 0.05$ ); financial situation, the number of moderate physical activities ( $r_s = -,227$ ,  $p < 0.05$ ) and the time spent sitting ( $r_s = -,264$ ,  $p < 0.01$ ); family status, very hard physical activities ( $r_s = -,207$ ,  $p < 0.05$ ) and walking ( $r_s = -,262$ ,  $p < 0.01$ );
- 2) the habits of spending leisure: visiting cafes and how often one do sports or exercises ( $r_s = ,225$ ,  $p < 0.05$ ), the number of hours one spends sitting ( $r_s = ,205$ ,  $p < 0.05$ ); attending of sport competitions, very hard physical activities ( $r_s = ,203$ ,  $p < 0.05$ ) and how often one walks ( $r_s = ,201$ ,  $p < 0.05$ ); eating out, very hard physical activities ( $r_s = ,206$ ,  $p < 0.05$ ) and moderate physical activities ( $r_s = ,208$ ,  $p < 0.05$ ), however, average close correlation is between times when eating out and how often one visits one's friends and acquaintances ( $r_s = ,528$ ,  $p < 0.01$ ).
- 3) number of physical activities and kind and the time spent sitting: very hard physical activities and the time spent sitting ( $r_s = -,248$ ,  $p < 0.05$ ), moderate physical activities ( $r_s = ,202$ ,  $p < 0.01$ ); moderate physical activities and sitting ( $r_s = -,232$ ,  $p < 0.05$ ).

The results of the research show that in order to fully evaluate and improve the parameters of life quality not only the subjective character (for instance, evaluating of one's health, stating of the amount of physical activities) should be taken into consideration, but also the objective factors (for instance, one's life conditions).

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